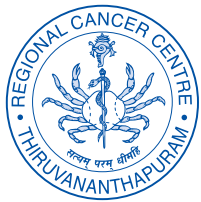


# OVER THREE DECADES OF CHANGING LIVES



REGIONAL  
CANCER  
CENTRE  
THIRUVANANTHAPURAM INDIA

Annual Report 2019-20



# REGIONAL CANCER CENTRE

THIRUVANANTHAPURAM INDIA

- Established as per Govt. of India letter No. T. 20012/5/79-R of October 1980 as one among 6 such Centres in India.
- Government of India letter No. T. 20012/5/79-R Dtd 31 January 1981 as an autonomous centre.
- Registered under Travancore Cochin Literary Scientific and Charitable Societies Registration Act 1955 vide No. 567/81 dated 02.09.1981.
- Designated as a Science & Technology Centre in health sector by State Government as per G. O. (Rt) No. 1521/85/11 H & FWD dated 18.11.1985.

## VISION

To emerge as a global leader in cancer control.

## MISSION

- Deliver highest quality cancer care at affordable cost.
- Create cancer awareness among public and health professionals.
- Generate trained manpower in cancer control.
- Organize outreach programmes in cancer control.
- Conduct focused cancer research relevant to our society.
- Lead cancer control activities in the state.

# ANNUAL REPORT 2019-2020



REGIONAL CANCER CENTRE  
THIRUVANANTHAPURAM - 695 011, KERALA, INDIA.

## REGIONAL CANCER CENTRE

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Published by  
Director, Regional Cancer Centre, Thiruvananthapuram

# CONTENTS

	Page
I Director's review	vii
II RCC Profile at a Glance	x
III Departments & Divisions	1
01. Radiation Oncology	2
02. Surgical Services	4
03. Medical Oncology	6
04. Paediatric Oncology	7
05. Pathology	8
06. Radiodiagnosis	10
07. Anaesthesiology	11
08. Nuclear Medicine	12
09. Radiation Physics	13
10. Clinical Laboratory Services	15
11. Microbiology	17
12. Transfusion Medicine	18
13. Palliative Medicine	19
14. Dental Care	20
15. Nursing Services	21
16. Clinical Services & Medical Records	22
17. Community Oncology	24
18. Cancer Epidemiology & Biostatistics	26
19. Cancer Research	32
20. Library & Information Services	36
21. Information Systems	37
IV Outreach Centres	
E.C.D.C., Ernakulam	38
E.C.D.C., Palakkad	38
N.B.R.R., Karunagappally	39
V Multidisciplinary Clinics	
'A' Clinic (Haematological, Lymphoreticular, Bone & Soft tissue Sarcoma)	41
'B' Clinic (Head & Neck)	42
'C' Clinic (Breast & Central Nervous System)	43
'D' Clinic (Gynaec. Genitourinary & Others)	44
'E' Clinic (Chest & Gastrointestinal)	45
'F' Clinic (Paediatric Oncology)	46
'G' Clinic (Thyroid)	47
VI Public Relations Activities	48
VII Honours, Awards and Recognitions Received	49
VIII Functions, Workshops & Conferences Organised	51
IX Distinguished visitors/Talks delivered	51
X Gallery	52
XI Conferences Attended and Papers Presented	53
XII Ongoing Research Projects	63
XIII Publications	75
XIV Administration, Standing Committees & Right to Information Act	85
XV Accounts	99
XVI Abbreviations used	116
XVII Acknowledgements	117

# GOVERNING BODY

1	Shri. Pinarayi Vijayan Hon'ble Chief Minister of Kerala	Chairman
2	Smt. K.K.Shailaja Teacher Hon'ble Minister for Health and Social Justice Government of Kerala	Vice-Chairperson
3	Shri. Rajiv Sadanandan, IAS (till 31.05.2019) Additional Chief Secretary to Government, Health & Family Welfare Department Government of Kerala	Alt.Vice-Chairman
	Shri. Rajan N. Khobragade, IAS (from 01.06.2019) Principal Secretary to Government, Health & Family Welfare Department Government of Kerala	Alt.Vice-Chairman
4	Shri. Manoj Joshi, IAS Additional Chief Secretary to Government, Finance Department, Government of Kerala	Member
	Shri. Rajesh Kumar Singh, IAS Additional Chief Secretary to Government, Finance Department, Government of Kerala	Member
5	Dr. A. Jayathilak, IAS Principal Secretary to Government, Planning & Economic Affairs Department Government of Kerala	Member
6	Smt. Preeti Sudan, IAS Secretary to Government, Ministry of Health and Family Welfare Government of India	Member
7	Dr. S.Venkatesh (till 11.07.2019) Director General of Health Services, Ministry of Health and Family Welfare Government of India	Member
	Dr. Sanjay Tyagi (till 31.12.2019) Director General of Health Services, Ministry of Health and Family Welfare Government of India	Member
	Dr. Rajiv Garg (from 01.01.2020) Director General of Health Services, Ministry of Health and Family Welfare Government of India	Member
8	Dr. Asha Kishore Director, Sree Chitra Tirunal Institute for Medical Sciences & Technology Thiruvananthapuram	Member
9	Dr. S.C. Gupta 'Vidya', Pulayanarkotta Road, Thiruvananthapuram	Member
10	Dr. Remla Beevi Director of Medical Education, Government of Kerala	Member
11	Dr. Thomas Mathew (till 01.11.2019) Principal, Government Medical College, Thiruvananthapuram	Member
	Dr. M.K. Ajayakumar (from 01.11.2019) Principal, Government Medical College, Thiruvananthapuram	Member
12	Dr. Rekha A. Nair Director, Regional Cancer Centre, Thiruvananthapuram	Convener

# EXECUTIVE COMMITTEE

1	Shri. Rajiv Sadanandan, IAS (till 31.05.2019) Additional Chief Secretary to Government Health & Family Welfare Department Government of Kerala	Chairman
	Shri. Rajan N. Khobragade, IAS (from 01.06.2019) Principal Secretary to Government Health & Family Welfare Department Government of Kerala	Chairman
2	Shri. Manoj Joshi, IAS Additional Chief Secretary to Government Finance Department Government of Kerala	Member
	Shri. Rajesh Kumar Singh, IAS Additional Chief Secretary to Government Finance Department Government of Kerala	Member
3	Dr. A. Jayathilak, IAS Principal Secretary to Government Planning & Economic Affairs Department Government of Kerala	Member
4	Dr. Remla Beevi Director of Medical Education Government of Kerala	Member
5	Dr. Thomas Mathew (till 01.11.2019) Principal, Government Medical College Thiruvananthapuram	Member
	Dr. M.K. Ajayakumar (from 01.11.2019) Principal, Government Medical College Thiruvananthapuram	Member
6	Dr. Rekha A. Nair Director, Regional Cancer Centre Thiruvananthapuram	Convener



Dr. Rekha A. Nair  
Director



## DIRECTOR'S REVIEW

Regional Cancer Centre, Thiruvananthapuram (RCC), is an autonomous scientific institution sponsored jointly by the Government of Kerala and the Government of India receiving financial assistance from both. We have completed the 39th year of excellence and this significant longevity is a testament to our vision, foresightedness and the service rendered by our dedicated staff. We started facing the Covid-19 pandemic towards the end of this report period and it created major dilemmas for our cancer care delivery systems. It required preparedness and difficult choices, but we did with firm steps.

The Centre registered 15574 new cases and seen 251875 review cases during the period. A number of 6628 new patients availed treatment worth of 24.46 crores through various patient welfare schemes such as Cancer Suraksha Scheme, Chis Plus, KASP – PMJAY Scheme, Karunya Benevolent Fund (KASP Rate), Thalolam, Scheduled Tribe Patient Fund, Snehasanthwanam for Endosulfan Victims, Prime Minister's Relief Fund and Health Minister's Cancer Patient Fund (HMCPF-CSR) Scheme.

We have added state-of-the-art diagnostic and treatment facilities as part of strengthening our institutional infrastructure. The new isotope-based teletherapy system at the Department of Radiation Oncology provided advanced treatment techniques along with reduced treatment time. While a Cavitron Ultrasonic Surgical Aspirator (CUSA) for Liver Surgery and an Integrated Bipolar Ultrasonic Cutting and Coagulation Unit were acquired by the Department of Surgical Services, an Automatic Immunohistochemistry Stainer and Thinprep Liquid Based Cytology system were added for the diagnostic efficiency of Pathology department. The Diagnostic imaging services were upgraded by adding a Radiofrequency Ablator and a High End Colour Doppler Ultrasound Machine. Anaesthesiology department acquired ICU ventilators with air compressors, Peripheral nerve stimulators, Fingertip portable pulse oximeters with Pleth variability index and an EV 1000 non-invasive cardiac output monitor. Microbiology and Cancer Research divisions added a Cartridge Based Nucleic Acid Amplification System (GeneXpert) and two Real Time PCR systems respectively.

The Centre started a new innings to provide our expertise and infrastructural facilities in bettering cancer care in the Republic of Maldives. It was in the backdrop of the Memorandum of Understanding between the Government of India, Government of Kerala and the Government of Maldives regarding the cooperation in the field of health. As part of this tripartite agreement, RCC extends support to this island nation in cancer diagnostics, treatment facilities, implementation of cancer prevention and control strategies and setting up of a cancer registry. As planned, the doctors, nurses, pharmacists and laboratory staff of Maldivian health centres are to be provided with special training at RCC.

RCC has been playing a key role in generating trained manpower through trainer-trainee programmes and academic programmes at superspeciality, postgraduate, post-doctoral, fellowship, graduate and diploma levels. Two new superspeciality programmes, viz. MCh in Head & Neck Surgery and MCh in Gynaecological Oncology were added during the period. National Medical Commission (NMC) has increased the number of seats in DM Medical Oncology course and a total number of 93 residents were engaged under various academic programmes at the Centre.

The Centre has been maintaining a good track record in the conduct of extramural, pharma sponsored and in-house research projects since its inception. Out of the 216 ongoing research studies, 51 received extramural funding. As part of community based cancer control activities, we conducted 290 cancer detection programmes and 158 cancer education programmes in various parts of the State.

The Centre hosted a variety of programmes, lectures, and workshops for oncologists, other health-care professionals and researchers. The department of Radiation Oncology organised International Workshop on Precision Radiotherapy (IWPR), Hands-on Contouring Workshop on Gastrointestinal & Genitourinary malignancies and also conducted FRCR course for Part II exam in association with Kent Oncology Centre, Maidstone Hospital, UK. The Pathology department conducted a CME on Head and Neck Tumour Pathology. A CME on Therapeutic Apheresis was organised by the division of Transfusion Medicine and a two-day academic event titled 'Trivandrum Update in Palliative Medicine' was organised by the division of Palliative Medicine. The legal aspects in nursing and effective communication skills were the topics of discussion in the Continuing Nursing Education programme. An Indo-Swedish Seminar on 'Analytical Cell Biology and Machine Learning in Cancer Research', and trainings and sessions on techniques for rapid generation of gene targeted mouse models, multi-omic analysis in cell biology, migration and invasion in prostate and breast cancers and non-coding RNA biomarkers in gastrointestinal cancers were organised by the Cancer Research division. As part of the Kerala Cancer Control Strategy to augment cancer prevention and control activities, Community Oncology division organised eight proactive training programmes titled, 'LEADership-LEAD 2019-2020: Training Programmes for Medical Professionals' in eight districts for Medical Professionals of Kerala State Health Services.

I congratulate the faculty, staff and students who continued to bring laurels to the Institute in the form of awards and honours. I am awarded the US Patent for 'Biomarkers useful for detection of types, grades and stages of human breast cancer'. Mr. Shaiju VS, Assistant Professor, Radiation Physics division was awarded a provisional patent for 'PMMA head phantom for the dosimetric evaluation of radiotherapy treatment plans'. Ms. Sunitha Kumari R, Head Nurse, received National Florence Nightingale Award (2019), sponsored by National Press Council of India Charitable trust and the Newspaper Association of Karnataka. Dr. Francis V. James, Professor, Radiation Oncology received AROI Kirloskar Fellowship for training at Medical University Hospital, Vienna, Austria. Ms. Archana V. Nair, MD Anaesthesiology student, secured second rank in the MD Anaesthesiology exam (2019) of the Kerala University of Health Sciences. Furthermore, at least 10 professionals in our academic spectrum had won travel fellowships, prizes in academic quiz competitions and best paper awards.

We shared a good number of scientific publications to a broader audience, as a testimony of our academic and research activities. A number of 200 publications during the period covered 94 journal articles, 55 conference papers (abstracts in journals + papers in conference volumes), and a share of chapters in books, academic dissertations and theses. Out of the total journal articles published, 98% were appeared in peer reviewed indexed journals. The Centre also released a training manual on cancer prevention and control, which formed part of a State wide programme on Cancer Control Strategy in Kerala.

Mr. Abdulla Ameen, Hon'ble Minister for Health, the Republic of Maldives; Prof. (Dr.) Christopher A. Booth, Medical Oncologist, Canada Research Chair in Population Cancer Care, Queen's University, Canada; Dr. Jamboor K. Vishwanatha, Regents Professor and Vice-President, Centre for Health Disparities, University of North Texas Health Science Center, USA; Dr. Ajay Goel, Professor and Chair, Dept. of Molecular Diagnostics, Therapeutics and Translational Oncology, Beckman Research Institute, USA; Dr. Andrew MacDonald, University of Alabama, USA; Dr. Joaquin J. Garcia, Mayo Clinic, Rochester, USA; Dr. Munita Bal and Dr. Shubadha Kane former Professors, Department of Pathology, TMH, Mumbai; Dr. Ananthalakshmy Sundararaman, School of Biochemistry, University of Bristol, UK; Prof. Anupam Chatterjee, Department of Biotechnology, North Eastern Hill University and Dr. Prof. Peter Hoskin, Professor of Radiation Oncology, Christie Hospital, Manchester University, UK being the notable names in list of distinguished visitors during the period.

Our crusade against cancer is incomplete without the support of philanthropic organisations and donors. Thanks are due to the RCC-based charity services of Asraya, Care Plus and Kanivu.

I am pleased to present the annual report of various departments, divisions, multidisciplinary clinics, outreach centres and the audited accounts of RCC during the period 2019-20.



Dr. Rekha A. Nair  
Director

# RCC Profile at a Glance

- 15574 new cases
- 251875 review cases
- 891 daily average patient visits
- 11397 in-patient admissions
- 55279 pathology reports
- 63883 imaging studies
- 72006 nuclear medicine studies
- 461174 clinical laboratory investigations
- 32191 microbiology investigations
- 37279 units blood products issued
- 3365 cytogenetics, FISH & RT-PCR based diagnostic studies
- 6298 patients were treated with external radiotherapy
- 1616 brachytherapy procedures
- 6075 surgical and 2719 endoscopic procedures
- 12323 patients were administered chemotherapy
- 33 bone marrow transplantations
- 41 residents in Medical Oncology, Paediatric Oncology, Surgical Oncology, Head and Neck Surgery and Gynaecological Oncology superspeciality courses
- 42 residents in Anaesthesia, Pathology and Radiotherapy postgraduate courses
- 10 residents in Head & Neck Surgical Oncology, Gynaecologic Surgical Oncology, Breast Surgical Oncology and Oncopathology Fellowship programmes
- 30 PhD scholars
- 290 cancer detection programmes and 158 cancer education programmes
- 216 research projects
- Hospital Based Cancer Registry
- Population Based Cancer Registry (Thiruvananthapuram, Kollam, Alappuzha and Pathanamthitta districts)

## Major Diagnostic & Treatment Facilities

### DIAGNOSTIC FACILITIES

#### Pathology

- Surgical pathology
- Cytopathology
- Haematopathology
- Molecular pathology: Flow cytometry, FISH, PCR, RT-PCR

#### Radiodiagnosis

- MRI
- Multidetector CT
- Full field digital mammography
- Prone breast biopsy table with stereotactic facility
- Ultrasound machines
- Xray units
- Computed radiography system

- Picture Archiving and Communication System
- Dexa Scan
- Digital Radiography and Fluoroscopy system
- Supersonic USG machine with Elastography

## Nuclear Medicine

- PET/CT Scan
- SPECT Dual Head Gamma Camera
- SPECT CT
- Chemiluminescence assay system

## Clinical Laboratory

- Vitros XT 7600 with IM middleware integrated system
- Beckman coulter LH 750 5-part haematology analyser
- LH 780 Fully automated 5-part haematology analyser
- VITROS 5600 integrated system
- VITROS 5.1 FS chemistry system
- Helena SAS /SAS 4 fully automated electrophoretic system
- Amax destiny plus fully automated coagulation analyser (TCoag)
- ABL flex blood gas analyser (Radiometer)
- Shimadzu HPLC system
- Thermo Fisher Scientific Megafuge I 6R refrigerated centrifuge
- Thermo Fisher Scientific Sorvall ST -I 6R refrigerated centrifuge
- Deep freezers
- IEC Centra MP 4R refrigerated centrifuge
- Helmer refrigerator

## Transfusion Medicine

- NACO approved fully automated blood bank
- Blood irradiator
- Cryofuge
- Platelet apheresis
- Plasma thaw bath
- Automatic component extractor T-ACE, for preparation of leucoreduced products.
- Fully automated testing for transfusion transmissible diseases
- Hemonetics cell separator
- Leucofiltered blood products

## Microbiology

- Automated blood culture system (BacT/Alert)
- Automated identification and sensitivity testing (VITEK)
- Enzyme Linked Fluorescent Assay (VIDAS)
- Microscopy, routine culture & sensitivity tests, fungal culture, AFB culture, Surveillance culture

## Cancer Research

- Cytogenetic studies
- FISH, RT-PCR

## TREATMENT FACILITIES

### Radiation Oncology

- Linear accelerators
- Telecobalt unit
- IGRT, IMRT/Rapid Arc, SRS/SRT, SBRT, 3D conformal RT & portal imaging
- Total Body Irradiation (TBI), Total Skin Electron Therapy (TSET)
- Image guided brachytherapy
- Digital simulator & CT simulator
- Treatment planning systems
- HDR brachytherapy
- Quality assurance equipment

### Surgical Services

- Seven modern operation theatres
- Operating microscope & video endoscopes
- Minimally invasive surgery
- Limb salvage surgery
- Sentinel lymph node biopsy
- State of the art ICU
- Mobile C arm image intensifier
- Laser for microlaryngeal surgery
- Precision drill & saw system
- Rigid video endoscope for head and neck cancers
- High definition laparoscopic unit

### Medical Oncology

- Facilities to administer chemotherapy for all types of cancers
- Four bedded bone marrow transplantation unit
- High dependency chemotherapy ward

### Paediatric Oncology

- 50 bedded exclusive Paediatric Oncology ward
- A four bedded state-of-the-art ICU

### Palliative Medicine

- Availability of oral morphine in liquid and capsule forms
- Inpatient service and hospice care
- Home care service, rehabilitation, support groups
- Networking of palliative care services throughout Kerala

## DIAGNOSTIC & TREATMENT FACILITIES ADDED DURING THE PERIOD

### Anaesthesiology

- ICU ventilators with air compressors
- Peripheral nerve stimulators
- Fingertip portable pulse oximeters with Pleth variability index
- EV 1000 non-invasive cardiac output monitor

### Cancer Research

- RealTime PCR system

### Microbiology

- GeneXpert: Cartridge Based Nucleic Acid Amplification System

### Pathology

- Ventana-Roche Benchmark XT Automatic Immunohistochemistry Stainer
- Thinprep 2000 HOLOGIC Liquid Based Cytology

### Radiodiagnosis

- Radiofrequency Ablator System
- High End Colour Doppler Ultrasound Machine

### Radiation Oncology

- Isotope based Teletherapy System

### Surgical Oncology

- Cavitron Ultrasonic Surgical Aspirator (CUSA) for Liver Surgery
- Integrated Bipolar Ultrasonic Cutting and Coagulation Unit

## PATIENT WELFARE SCHEMES

RCC has implemented several schemes for providing economic assistance, free food, free drugs and various rehabilitation facilities for patients and their families through programmes supported by Central and State governments and non-governmental agencies. Patients received assistance from schemes such as Prime Minister's Relief Fund, Health Minister's Cancer Patient Fund, Cancer Suraksha Scheme, Comprehensive Health Insurance Scheme (CHIS Plus), Karunya Arogya Suraksha Padhathi-Pradhan Mantri Jan Arogya Yojana (KASP-PMJAY), Karunya Benevolent Fund, Thalolam, Scheduled Tribe Patient Fund and Snehasanthwanam for Endosulfan Victims. These schemes provided benefit to 6628 new patients to avail treatment worth Rs. 2446 Lakhs during the period under report. In addition, patients got benefitted from schemes initiated by RCC such as Cancer Care for Life (CCL) scheme, Free Drug Bank, and Free Food scheme ('Akshayapatram') and also the financial support from Indian Cancer Society.

### State and Central Government Schemes (1 April 2019 to 31 March 2020)

Scheme	Patients enrolled during the period (New cases)	Amount spent during the period (Lakhs)	Total no. benefited up to 31 March 2020	Total Amount Spent (Lakhs)
<b>State Government Schemes</b>				
Cancer Suraksha Scheme	500	488.13	5932	5312.70
CHIS Plus	591	80.67	41920	10244.03
Karunya Benevolent Fund (Old Scheme)	05	Nil	23120	15370.17
KASP – PMJAY Scheme	4580	1343.08	4580	1343.08
Karunya Benevolent Fund – KASP Rate	740	388.00	1224	734.61
Sukrutham	Nil	Nil	8607	4952.25
Thalolam	14	03.29	117	35.38
Scheduled Tribe Patient Fund	36	24.22	424	276.95
Snehasanthwanam for Endosulfan Victims	01	01.52	61	46.70
<b>Central Government Schemes</b>				
Prime Minister's Relief Fund	136	111.44	2056	1690.19
Health Minister's Rashtriya Arogya Nidhi (RAN)	Nil	Nil	2109	872.13
Health Minister's Discretionary Fund	Nil	Nil	25	10.54
Health Minister's Cancer Patient Fund (HMCPF-CSR Scheme)	25	05.70	92	81.55
<b>Total</b>	<b>6628</b>	<b>2446.05</b>	<b>90267</b>	<b>40970.28</b>

## RCC Initiatives

In addition to the Government supported schemes, RCC provides support to patients and families through various other schemes as detailed below:

### 1. Cancer Care for Life (CCL) Scheme

161 patients under the scheme reported for treatment during the period. The scheme stopped enrolling new members in August 2014.

### 2. Free Drug Bank

The Free Drug Bank functions according to specific guidelines and is monitored by a committee constituted by the Director, RCC. The drug bank provided full or partial help to 2344 patients during the reporting period.



### 3. Free Food ('Akshayapatram')

Free food was provided to 5016 patients belonging to low socio-economic status during the report period. This was possible due to funds donated by many philanthropic organisations and individuals.

### Indian Cancer Society Support Scheme

RCC was selected for receiving financial support from the Indian Cancer Society for treatment of cancer. During the report period, 27 new patients received support worth Rs.28.95 lakhs.

## HUMAN RESOURCE DEVELOPMENT

RCC has been playing a key role in generating trained manpower in cancer control through conducting superspeciality, postgraduate, post-doctoral, fellowship, graduate and diploma level academic programmes. Over 600 post graduate medical and life science students from different institutions all over the country came for rotation postings and project training as part of their curriculum.

Course name	Intake capacity	Duration
MCh (Surgical Oncology)	6	3 Yrs
MCh (Head & Neck Surgery)	2	3 Yrs
MCh (Gynaecological Oncology)	2	3 Yrs
DM (Medical Oncology)	8	3 Yrs
DM (Paediatric Oncology)	2	3 Yrs
MD (Radiotherapy)	8	3 Yrs
MD (Anaesthesia)	6	3 Yrs
MD (Pathology)	2	3 Yrs
Fellowship in Head and Neck Clinical Oncology	2	1 Yr
Fellowship in Head and Neck Surgical Oncology	2	2 Yrs
Fellowship in Breast Surgical Oncology	2	2 Yrs
Fellowship in Gynae-surgical Oncology	1	2 Yrs
Fellowship in Haematooncology	4	1 Yr
Fellowship in Oncopathology	4	1 Yr
Fellowship in Oncologic Imaging	4	1 Yr
Fellowship in Oncosurgical Anaesthesia	2	1 Yr
Post MSc Diploma in Radiological Physics	4	2 Yrs
Doctoral Research Programme	30	--
Quality Excellence Programme in Pathology	6	1 Yr
Advanced Training in Diagnostic Imaging	2	1 Yr
Post-basic Diploma in Oncology Nursing	20	1 Yr
Cytotechnologist	4	1 Yr
Advanced Training in Clinical Laboratory Technology	8	1 Yr
Advanced Training in Blood Banking & Transfusion Technology	4	1 Yr
Advanced Training in Microbiology	5	1 Yr
Histotechnology	6	9 Months
Cytotechnician	6	6 Months
Medical Documentation Training Programme	10	1 Yr





# DEPARTMENTS & DIVISIONS

# DEPARTMENT OF RADIATION ONCOLOGY

Ramadas K

Professor & Head

**Professors:** Francis V. James, Beela Sarah Mathew

**Additional Professors:** Aswin Kumar, Sivanandan CD, Rejnish Kumar R, Susan Mathews, Kainickal CT, Asha Arjunan, Sajeed A

**Associate Professors:** Arun Sankar S, Roshni S, Malu Rafi, Rajeev KR

**Assistant Professors:** Geethi MH, John Joseph, Priya Balakrishnan, Lijeesh AL, Aparna MP (temporary), Lekha M. Nair (temporary), Geethu Babu (temporary)



The Department of Radiation Oncology is one of the largest departments in RCC and the faculty are highly experienced in the non-surgical care (radiotherapy and systemic therapy) of all adult solid tumors. They also serve as radiotherapy consultants for paediatric and adult haemato-oncology, bone & connective tissue cancer treatments. Evidence based patient tailored clinical decisions are being carried out. The

Department has 5 Linear Accelerators, one Tele-cobalt Unit, and one HDR Ir-192 brachytherapy unit. Most patients receive CT-based precision radiotherapy with MRI/PET-CT fusion, as indicated. Delivery capabilities include 3DCRT, IMRT/IGRT, SRS, SBRT, and Image guided Brachytherapy. The Department also delivered specialized services such as Total Skin Electron Therapy (TSET) and extracorporeal irradiation.

## Clinical services

Included external radiotherapy for 6298 patients and 1616 brachytherapy procedures.

Specialised Radiotherapy Services	
Services	Number
CT based MLC planning & 3DCRT	3781
IGRT/IMRT	645
SRS+SRT	23
SBRT	09
TSET	04
Extra-corporeal radiation	11
Total brachytherapy procedures	1616

## Academic activities

- MD programme in Radiotherapy with an annual intake of eight seats
- Fellowship in Head and Neck Clinical Oncology with an annual intake of two seats
- Training was imparted to Post graduate students from various Medical Colleges in the State
- Clinical oncology multi-specialty scientific symposia on topics: Role of Molecular markers in Head & Neck Oncology (22 May 2019), Breast Cancer (25 July 2019), Early detection of cancers in India (15 January 2020), and Metastatic Breast Cancer (18 March 2020).
- Conducted FRCR course for Part II exam (05-06 October 2019), in association with Kent Oncology Centre, Maidstone Hospital UK. Faculty: Dr. R. Jyothirmayi, Dr. R. Raman, Dr. J. Brown and Dr. K. Nathan.
- Organised International Workshop on Precision Radiotherapy (IWPR) 2020 on Lymphoma (25-26 January 2020). Faculty: Prof. Peter Hoskin and Dr. T.V. Ajithkumar.
- Organised Radiobiology Course (14-16 February 2020). Faculty: Prof. J. Yarnold and Prof. Rao.
- Hands-on Contouring Workshop on GI & GU malignancies (17-21 February 2020). Faculty: Prof. Rojymon Jacob and Andrew MacDonald, University of Alabama, USA.

# DEPARTMENT OF SURGICAL SERVICES

Shaji Thomas

Additional Professor & Head

**Additional Professors:** Bipin T.Varghese, Paul Augustine, Chandramohan K, Elizabeth Mathew Iype, Balagopal PG (on deputation to Cochin Cancer Research Centre), Rema P, Madhu Muralee, Arun Peter Mathew, Kurian Cherian, Suchetha S

**Associate Professor:** Nebu Abraham George

**Assistant Professors:** Wagh Mira Sudam, Rexeena V. Bhargavan, Siva Ranjith J, Dhanya Dinesh, Bharath VM (Temporary), Deepak Janardhan (Temporary)

**Senior Residents:** Aswathy G. Nath, Saheer Neduvanchery



The Department of Surgical Services provided specialized site wise surgical expertise for primary treatment of majority of solid organ cancers. The department improved patient outcomes by effective utilization of manpower and resources. Site wise organisation of consultants improved the surgical quality and patient care.

## New equipment acquired

- Cavitron Ultrasonic Surgical Aspirator (CUSA) for Liver Surgery
- Integrated Bipolar Ultrasonic Cutting and Coagulation Unit

## Surgical & Endoscopic procedures

### Major Surgical Procedures

Sites	Number
Head and Neck	1330
Breast	1273
Gastrointestinal	692
Gynaecological	487
Genito-Urinary + Skin	159
Bone and Sarcoma	193
Miscellaneous	133
Total	4267

### Minor Surgical Procedures

Procedure	Number
Minor cases	1777
LEEP	31
Total	1808

### Endoscopy Procedures

Procedure	Number
Nasopharyngolaryngoscopy, Nasal & Direct Laryngoscopy	750
Bronchoscopy	148
Oesophagoduodenoscopy	946
Oesophageal dilatation + stenting	02
Colonoscopy	587
Sigmoidoscopy	188
Colposcopy	98
Total	2719



## Academic activities

- MCh programme in Surgical Oncology with an annual intake of six seats
- MCh programme in Gynaecological Oncology with an annual intake of two seats
- MCh programme in Head & Neck Surgery with an annual intake of one seat
- Fellowship in Head and Neck Surgical Oncology with an annual intake of two seats
- Fellowship in Gynae-Surgical Oncology with an annual intake of one seat
- Fellowship in Breast Surgical Oncology with an annual intake of two seats
- Training programme for MS, MD and MDS postgraduate students from various universities across the country.
- Organised CME on Breast Malignancies in August 2019



# DEPARTMENT OF MEDICAL ONCOLOGY

Geetha N

Professor & Head

Additional Professors: Sreejith Nair, Prakash NP

Associate Professor: Anoop TM

Assistant Professors: Lakshmi Haridas, Rajitha L,

Deepa Susan Joy Philip, Pranab K. Prabhakaran, Rona Joseph, Sugeeth MT

Resident Medical Officer: Lali VS

The Department is responsible for the diagnosis and management of haematological and lymphoreticular malignancies, sarcomas and other solid tumours where intensive chemotherapy is indicated. Medical Oncologists are also responsible for the diagnosis and management of other solid tumours under the C, D and E clinics. Dose intense protocols were used for the treatment of all leukaemias and lymphomas.

Out of the 2432 new cases and 46863 review cases seen in the A-Clinic during the report period, 3/4th underwent chemotherapy. 2815 patients were admitted for the administration of intensive chemotherapy and management of emergencies and complications in A clinic. The Medical Oncology team has seen 805 new cases and 19895 review cases in the C clinic, 720 new cases and 5600 review cases in the D clinic and 620 new cases and 7865 review cases in the E clinic. In the BMT unit, 81 apheresis procedures were performed. Stem cell transplantation following high dose chemotherapy was performed for 33 patients. About 361 cases of solid tumors were admitted for administration of high profile chemotherapy and management of emergencies and complications under C, D and E clinics. Many patients with CML enrolled in the Novartis Patient Assistance (NOVA) programme were given imatinib free of cost.



## Academic Activities

- DM Medical Oncology programme with an annual intake of eight seats
- Fellowship in Haematology with an annual intake of four seats
- Post graduate students in General Medicine, Transfusion Medicine and Radiation Oncology were given training in Medical Oncology. Staff nurses were given training in patient care.



# DEPARTMENT OF PAEDIATRIC ONCOLOGY

Priyakumari T

Professor & Head

Associate Professors: Manjusha Nair, Binitha R

Assistant Professors: Guruprasad CS, Prasanth VR, Anu Ninan (on leave)



The Department provided comprehensive cancer care for childhood malignancies up to the age of 14 years. 561 new cases and 22038 review cases were seen during the report period. A well-equipped paediatric oncology ICU with state-of-the-art facilities provides intensive care to critically ill children. It has two modern ventilators with all advanced facilities, including NAVA (Neurally Adjusted Ventilatory Assist). Procedures like bone marrow studies, lumbar puncture, FNAC, trucut biopsy, intrathecal drug administration and PICC line insertion are done routinely in the department.

## Academic activities

- DM programme in Paediatric Oncology with an annual intake of two seats
- Regular training to the postgraduates of RCC
- Regular training to postgraduate students of other Medical Colleges in Kerala as well as to postgraduate students from SAT Hospital, Thiruvananthapuram and various private Medical Colleges

Patient Statistics	
Cases	Number
Acute lymphoblastic leukaemia	181
Acute myeloid leukaemia	24
Chronic myeloid leukaemia	03
Brain tumour	78
Optic pathway gliomas	02
Osteosarcoma	24
Ewing's sarcoma/Primitive Neuroectodermal Tumor (PNET)	19
Rhabdomyosarcoma	12
Hodgkin's lymphoma	08
Non-Hodgkin's lymphoma	17
Wilms' tumour	16
Neuroblastoma	36
Hepatoblastoma	25
Germ cell tumour	07
Retinoblastoma	06
Soft tissue sarcoma	06
Langerhans cell histiocytosis	14
Thyroid	08
Miscellaneous	29
Non malignant	46
<b>Total</b>	<b>561</b>

# DEPARTMENT OF PATHOLOGY

Jayasree K

Professor & Head

**Additional Professors:** Rekha A. Nair, Anitha Mathews, Thara Somanathan, Nileena Nayak, Preethi TR

**Associate Professors:** Anila KR, Renu S, Priya Mary Jacob

**Assistant Professors:** Jayasudha AV, Neelima Radhakrishnan, Sindhu Nair P, Rari PMony, Simi CM

**Senior Residents:** Lakshmi K, Rani R, Deepthy B, Sherin Susheel

The Department provided diagnostic services such as Surgical Pathology, Cytopathology and Haematopathology along with advanced tests such as immunohistochemistry, FISH, flow cytometry and frozen section diagnosis. Second opinion was provided for tissue samples referred from all over Kerala and neighbouring States. Faculty and students of the department were actively engaged in community oriented cancer control programmes including screening and early detection of cancers.

## Achievements during the period

- Started Molecular diagnosis-EGFR, as patient service.
- Liquid based cytology (LBC-Thinprep) installed, standardized and started doing a project to compare conventional smears with LBC in gynaec cytology.

## New equipment acquired

- Automatic Immunohistochemistry Stainer
- Thinprep Liquid Based Cytology System



## Diagnostic Services

Surgical pathology	Cytopathology	Haematopathology	Total
21646	25522	8111	55279

Immunohistochemistry (Surgical pathology + Cytopathology + Haematopathology)	Frozen section	FISH/ HER-2	Flow cytometry	Molecular	LBC	Total
39349	1623	179	936	47	60	42194

### Surgical Pathology

Specimens from RCC	Specimens for review	Specimens for second opinion
13729	7917	1091

### Cytopathology

FNAC + Fluids	Cervical smear	Sputum	Total
8925	13900	2697	25522

### Haematopathology

Bone marrow	Peripheral smear	Slide review	Total
4000	4013	98	8111

## Academic activities

- MD programme in Pathology with an annual intake of two seats, Fellowship in Oncopathology, Quality Excellence Programme for Technicians, Cytotechnology, Histotechnology and Cytotechnician courses.
- Training given to MCh Surgical Oncology, DM Medical Oncology, DM Paediatric Oncology and MD Radiotherapy students from RCC, MD Pathology students from various Medical Colleges, MDS Pathology students from Dental Colleges, and MSc MLT, BSc MLT and Histotechnology/Immunohistochemistry trainees.
- Conducted CME on Head and Neck Tumour Pathology on 11 January 2020. Faculty: Dr. Joaquin J. Garcia from Mayo Clinic, Rochester, USA, Dr. Shubadha Kane, former Professor and Head, Department of Pathology, TMH, Mumbai and Dr. Munita Bal, Professor, Department of Pathology, TMH, Mumbai. (Organising Chairperson: Anitha Mathews, Organising Secretary: Anila KR)



# DEPARTMENT OF RADIODIAGNOSIS

Venugopal M

Professor & Head

**Additional Professor:** Sumod Mathew Koshy (on leave), Jiji V

**Assistant Professors:** Anitha Sen, Priya A, Jubiee Raj, Renuka G, Rakesh CA (temporary)

**Senior Residents:** Geethu John



The Department has a DR X-ray unit, two 500 mA X-ray machines converted to CR, six portable 60 mA units, three colour doppler ultrasound scanners, Mammography X-ray machines with Stereotaxy, 1.5T MRI scanner with MR spectroscopy, full field digital mammography, prone breast biopsy table with stereotactic facility, DEXA scan, FLURO-DR machine, a state-of-the-art Doppler Ultrasound machine with facility for elastography contrast studies and Picture Archiving and Communication System. The 16 slice MDCT was dismantled and the installation of a Dual Source-Dual Energy 256 slice CT machine is progressing.

## New equipment acquired

- Radiofrequency Ablator System
- High end Colour Doppler Ultrasound Machine

## Academic activities

- Fellowship in Oncologic Imaging with an annual intake of four seats
- One year programme, 'Advanced Training in Diagnostic Imaging' with an annual intake of two seats



## Diagnostic & Interventional Studies

Investigations	Number
Plain X-rays	28336
Barium studies	250
Ultrasound scans	11100
Ultrasound guided intervention (FNA +Biopsy)	2200
Ultrasound guided prostatic biopsy	195
Doppler studies	462
Digital mammography	6055
Stereotactic biopsy	05
CT scans	11084
CT guided aspiration (FNA)	189
MRI scans	3717
Fluoroscopy	290
<b>Total</b>	<b>63883</b>

# DEPARTMENT OF ANAESTHESIOLOGY

Rachel Cherian Koshy  
Professor & Head

**Additional Professors:** Mary Thomas, Venugopal A, Mallika Balakrishnan, Sudha P, Viji S. Pillai

**Associate Professor:** Deepthi J. Prabhu, Bhagyalakshmi Ramesh, Rajasree O, Subha R

**Assistant Professors:** Frenny Ann Philip, Radhikadevi B  
**Intensivist:** Karthika Asokan (Temporary)

**Senior Residents:** Hally T, Shalina

Besides providing good quality anaesthesia for all major oncosurgical and emergency cases, the department provided anaesthesia for minor therapeutic and diagnostic procedures such as MRI, Radiotherapy, Brachytherapy, and CT guided biopsies. The Department provided acute pain service for post-operative patients and played a lead role in the teaching and practice of cardiopulmonary resuscitation.

- Advanced Cardiovascular Life Support (ACLS) training was given to the 2019 batch postgraduate students of RCC (23.10.2019). (Co-ordinator: Subha R)

## Equipment acquired

Equipment	Number
ICU ventilators with air compressors	4
Peripheral nerve stimulators	4
Fingertip portable pulse oximeters with Pleth variability index	5
EV 1000 non-invasive cardiac output monitor	1

## Academic activities

- MD programme in Anaesthesia with an annual intake of six seats
- Fellowship in Oncosurgical Anaesthesia with an annual intake of two seats
- Basic Life Support (BLS) training were given to 58 participants from in and outside the Centre through three programmes conducted on 01.06.2019, 04.12.2019 and 06.02.2020. (Co-ordinator: Subha R)
- Basic Life Support (BLS) and Compression Only Life Support (COLS) training were given to 16 participants from in and outside the Centre on the World Anaesthesiology Day - World Restart A Heart Day (16.10.2019). (Co-ordinator: Subha R)

Anaesthetic Services	
Pre-anaesthesia Clinic	
New cases	4890
Review cases	8611
Total	13501
Anaesthesia Techniques	
Total Intravenous Anaesthesia	464
GA+Epidural	1135
GA+Controlled Ventilation	3508
GA+Spontaneous Ventilation	132
Epidural block	16
Combined spinal + epidural	117
Subarachnoid Block	126
Monitored Anaesthesia Care	48
Endotracheal tubes	2668
Supraglottic airway devices	1164
Plexus & other blocks	26
GA + Block	134
Anaesthesia for children (MRI, Radiation therapy, CT simulation)	435
Anaesthesia for brachytherapy	31
Anaesthesia for OGD scopy	02
Central venous access (Non-surgical patients)	20
Surgical ICU	
Number of patients ventilated	249
Total ventilator days	520
Acute pain service	
Number of patients with epidural catheters	1268
Number of epidural days	3700

# DIVISION OF NUCLEAR MEDICINE

Pradeep VM

Professor & Head

Additional Professor: Sreekumar A



Nuclear Medicine Division provided therapeutic and diagnostic services involving open radioactive sources. The Division has facilities for imaging (PET-CT, Dual head SPECT Gamma camera and SPECT CT) as well as for therapy (thyrotoxicosis and high dose therapy for thyroid cancer).

## Diagnostic & Clinical Services

Investigations/Therapy	Number
PET Scan	1578
SPECT Gamma camera	1903
SPECT CT	2168
Radio immunoassay	72462
Thyroid cancer therapy	680
Thyrotoxicosis therapy	215

# DIVISION OF RADIATION PHYSICS

Thayal Singh Elias  
Professor & Head

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Additional Professors: Raghu Kumar P, Saju B

Assistant Professors: Zhenia Gopalakrishnan, Debjani Phani,  
Shaiju VS, Sharika V. Menon, Sarin B

Activities of the Division included calibration and quality assurance of radiotherapy equipment, treatment planning and quality assurance for 3DCRT, IMRT, IGRT, SRS, SRT, SBRT, dose computation, radiation safety in Radiation Oncology, Radiodiagnosis and Nuclear Medicine departments, participation in intercomparison and external verification

of dose output of treatment machines using TLD in BARC/ IAEA/Equal ESTRO programmes, daily maintenance, checking and repair of all teletherapy and brachytherapy equipment, CT/MRI guided conformal brachytherapy treatments such as intracavitary, intraluminal and mould brachytherapy using Microselectron (V3) HDR.



## Patient Services

Treatment given	Number
<b>External Beam Radiotherapy</b>	
CT Based Planning	1731
Conventional Planning	1825
3DCRT	2050
IMRT+IGRT	645
SRS+SRT	23
SBRT	09
TSET	04
ECRT	11
<b>Total</b>	<b>6298</b>
<b>Brachytherapy Procedures (Microselectron HDR)</b>	
Gynaecologic (Total treatments)	1610
Oesophagus	02
Ca Lip	02
Others	02
<b>Total</b>	<b>1616</b>
<b>Simulation</b>	
CT simulation	6299
Conventional simulation	6796
<b>Total</b>	<b>13095</b>

## Academic activities

- Two year programme, 'Post MSc Diploma in Radiological Physics' with an annual intake of four seats.
- Providing class room and onsite training to medical/paramedical students from various medical colleges, private institutions and from within various departments of RCC.

<b>Ongoing Doctoral Research Programmes</b>		
Research Scholar	Title of Study/University	Guide
Zhenia Gopalakrishnan	Evaluation of radiotherapy treatment planning systems and different dose calculation algorithms for the management of cancer/University of Kerala	Dr. Raghu Ram K. Nair
Shaiju VS	Design and fabrication of a head phantom for dosimetric evaluation of radiotherapy treatment plans/Meenakshi Academy of Higher Education and Research	Dr. Raghu Ram K.Nair
Debjani Phani	Design and development of quality assurance protocol for ultrasound imaging/Meenakshi Academy of Higher Education and Research	Dr. Raghu Ram K.Nair
Sharika V. Menon	Dosimetric evaluation of small fields used in intracranial stereotactic treatments using an indigenously developed phantom (Title change)/Bharathiar University, Coimbatore	Dr. Raghukumar P
Sarin B	Application of Monte Carlo simulation in radiotherapy/Noorul Islam University (NIU)	Prof. Bindhu



# DIVISION OF CLINICAL LABORATORY SERVICES

Raveendran Pillai K

Additional Professor & Officer in Charge



The Division offers comprehensive clinical laboratory services in high volume chemistry, haematology and coagulation, serology for infectious diseases, therapeutic drug monitoring, blood gas analysis, automated serum and urine electrophoresis and immunofixation electrophoresis. Phlebotomy section is handling an average 600 outpatients per day and tests are reported with appreciable turnaround time of 60 minutes or less. Immunosuppressant drug monitoring for bone marrow transplant patients, Methotrexate drug level, 24-hour urine protein estimations and more than 100 different test assays were also provided. The laboratory also provided services for therapeutic drug monitoring for various drugs and serology for HIV and hepatitis.

The laboratory processed 2,55,010 haematology samples, 1,97,252 biochemistry samples, 8,912 urine samples and has reported 2.75 million tests in the period under report.

## Quality assurance

The division has been a participant in the External Quality Assurance Services (EQAS) of Bio-Rad Laboratories, USA. Daily internal quality control is also carried out for Haematology, Clinical Chemistry and Coagulation parameters. The biochemistry analysers are integrated with an Instrument Manager (IM) middleware system for streamlined operation to increase quality of test results, optimize labour, and cost.

Investigations done	
Investigations	Number
Biochemistry	1380766
Haematology	1275050
Coagulation parameters	26738
Urinalysis	42362
Cerebrospinal Fluid (Sugar & Protein)	652
HbA1c	307
Lipid profile	792
Creatinine clearance test	1447
24 hour urine protein	1291
Methotrexate assay	1897
Cyclosporin assay	120
Serum Immunoglobulin Assay (IgG, IgA & IgM)	8769
Free Kappa	2735
Free Lambda	2734
Serum electrophoresis	2415
Immunofixation electrophoresis	2923
Blood gas (ABG)	2154
Serology	
HIV	13837
HBsAg	14226
HCV	13953

## Academic activities

- One year programme, 'Advanced Training in Clinical Laboratory Technology' with an annual intake of eight seats
- Short term student training programmes for undergraduates and postgraduates of Biochemistry, Biotechnology, Biomedical and Medical Laboratory Technology

Training provided	
Trainees	Number trained
MD Biochemistry	04
MSc MLT (Biochemistry)	04
BSc MLT	133
BSc Medical Microbiology	03
BTech Biomedical Engineering	08

# DIVISION OF MICROBIOLOGY

Swapna R. Nath

Additional Professor & Head

Assistant Professor: Sagila SG

The Division continued to provide services in Bacteriology, Mycology, Parasitology, Mycobacteriology and Serology, in addition to supporting the laboratory needs of infection control programmes in RCC. BacT/ALERT- automated blood culture system, VITEK 2- automated identification and sensitivity systems, VIDAS- Enzyme Linked Fluorescent Assay system, Fluorescent Microscopy for detection of acid fast bacilli, are a few of the facilities available. The division is also a Designated Microscopy Centre for detection of acid fast bacilli under the Revised National Tuberculosis Control Programme (RNTCP).

## New equipment acquired

- GeneXpert, a Cartridge Based Nucleic Acid Amplification System.

It is a highly specific, fully automated real time PCR system for detection of tuberculosis from both pulmonary and extra pulmonary specimens. Results of TB detection and rifampicin resistance are available within 2 hrs which has markedly reduced the turnaround time.

## Academic activities

- One year programme, 'Advanced training in Microbiology' with an annual intake of five seats
- Classes for doctors and staff nurses on infection control
- Observership for BSc/MSc (Microbiology) students



Investigations done	
Culture, Sensitivity & Other tests	Number
Blood	11496
Exudate	2509
Urine	3687
Throat swab	2094
Sputum	1661
Aspirate	428
Stool	720
Surveillance culture	836
Cerebrospinal fluid	106
Acid Fast Bacilli culture	30
Fungus	57
Widal test	04
Serology (Procalcitonin, Troponin-I, Anti HblgM, Anti Hbc total)	6433
Microscopy (Gram stain, AFB stain, KOH mount, etc.)	1902
CB-NAAT	183
Bone marrow	45

# DIVISION OF TRANSFUSION MEDICINE

Vijayalakshmi K  
Additional Professor & Head

Resident Medical Officer: Rajesh R. Chandran

The Division is a National AIDS Control Organisation recognised Regional Blood Transfusion Centre. The Division conducted in house and outreach blood collection camps and awareness classes for blood donor motivation. The total blood collection during the period was 17377 units of whole blood. All collected units were separated into components, most of which were used up by patients in RCC, and the rest were issued to patients in hospitals in Thiruvananthapuram city. The Division employs automated procedures for blood group, cross match and infectious disease serology. Our additional services include plateletpheresis, provision of leucoreduced blood components and blood irradiation. The Division is a nodal training centre for staff members from Health Services Department.



Blood components issued	
Components	Number
Irradiation done	1478
Apheresis done	1949
Packed Red Cells	12108
Platelet concentrate	17201
Fresh Frozen Plasma	4471
Cryoprecipitate	72

## Academic activities

- One year programme, 'Advanced Training in Blood Banking and Transfusion Technology' with an annual intake of four seats
- Provided training to students of MD Pathology, BSc MLT, DMLT and BSc Nursing
- Organised 'Training for Lab Technicians' (29-31 August 2019), CME on 'Therapeutic Apheresis' (22 October 2019) and 'Training for Bloodbank Nurses' (14-16 November 2019)



# DIVISION OF PALLIATIVE MEDICINE

Cherian M. Koshy (till 31.05.2019)

Additional Professor & Head

Madhu Muralee (from 01.06.2019)

Deputy Medical Superintendent (Officer in Charge)

Resident Medical Officer Gr. I: Prasanth CV

Resident Medical Officer: Manju Achamma Varghese



The Division of Palliative medicine continued to provide pain and symptom care to all patients referred to RCC. There has been a significant increase in the number of patients seeking care from the division in the last one year. In addition to the daily outpatient clinics, the other activities undertaken by the division were:

- Home care for patients registered or discharged from RCC within the District of Thiruvananthapuram through the NGO 'Care Plus'
- Consultations for patients of other clinics admitted in different wards of RCC

## Patient services

Cases	Number
New	4356
Review	14232
<b>Total</b>	<b>18588</b>

## Training programmes

- Organised Two day CME on 'Trivandrum Update in Palliative Medicine' at Regional Cancer Centre (22-23 February 2020).
- Short term training in basics of palliative care for MCh Surgical Oncology, DM Medical and Paediatric Oncology, MD Radiation Oncology & MD Anaesthesia Post Graduates
- Postgraduate students from other Medical Colleges were given training in basics of pain and palliative care

# DIVISION OF DENTAL CARE

Divya Raj

Assistant Professor

The scope of the Division is to minimize oral and dental complications throughout cancer treatment by eliminating all focus of infections in the oral cavity. Oral care of cancer patients begin immediately following cancer diagnosis and before starting up of any oncologic management. Various activities in this division include pre and post treatment dental checkup, counselling of patients on oral care during and after treatment of head and neck cancers, dental prophylaxis, post radiation dental care with fluoride application, odontoplasty, and management of trismus.

Clinical Services	
Cases	Number
Total patient visits	9515
In patient consultation	20
Pre-treatment dental check up	3457
BMT/Stem cell therapy consultation	40
Dental extraction	50
Dental prophylaxis	362
Management of trismus	70
Sodium fluoride gel application	4988
Odontoplasty	30

# DIVISION OF NURSING SERVICES

Sreelekha R  
Chief Nursing Officer

The Division with a team of 319 registered nurses rendered patient care in wards, day care services, out-patient departments, high dependency units, operation theatres and speciality units. Nurse-driven speciality clinics such as the Head and Neck rehabilitation clinic, Lymphoedema clinic, Stoma care clinic and Central Venous Access Device clinic were continued functioning. As part of improving nursing care practices, National Early Warning Score (NEWS) and Paediatric Early Warning Score (PEWS) were included in the daily nursing assessment and all staff were given training. In order to improve the functioning of the stoma care clinic, one of the Staff Nurses received clinical training in stoma care nursing from CMC, Vellore.

## Clinical services

Service	Patient visits
Chemotherapy administration (OP)	74,015
Central Venous Access Device Clinic	23,105
Lymphoedema Clinic	4,701
Stoma Clinic	6,685
Head & Neck Rehabilitation Clinic	10,547
Brachytherapy Counseling	1,652

## Academic activities

Organised a CNE on 'Legal Aspects in Nursing' (11 May 2019) and a Workshop on 'Effective Communication Skills' (20 July 2019)



## Training provided for Nurses from outside institutions

Training	Number
Cancer chemotherapy	07
CVAD insertion and care	06
Operating room nursing	02
Lymphoedema care	01
BSc Nursing	1410
MSc Nursing	77

# DIVISION OF CLINICAL SERVICES & MEDICAL RECORDS

Chandrika D

Medical Records Officer-I

Assistant Administrative Officer

(Clinical Services): Sreekumar B

Medical Records Officer-II: Anilkumar K

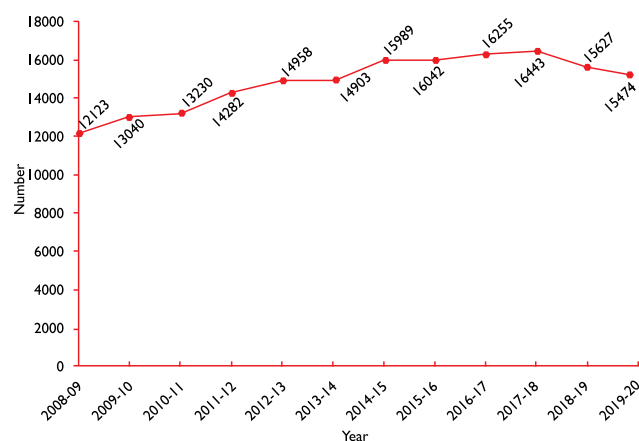
This Division is responsible for maintenance of medical records and management of follow-up appointments, co-ordination of inter-clinic referrals, arranging admissions and issuance of certificates and railway concessions to patients.

Patient Statistics	
Item	Number
New cases	15474
Review cases*	251875
Total patient visits	267349
Daily average	891
In-Patient admissions	11397
In-Patient bed**	301
Total bed occupancy	90419
Average bed occupancy	248
Bed occupancy rate	83
Average patient stay (in days)	07
Hospital death	781
Peripheral Centres Consultation	1048

\* Follow- up of palliative care consultation from various clinics and review during treatment not included

\*\* Day care chemo ward and radio iodine ward admissions for overnight not included

Figure 1: New cases registered (2008-09 to 2019-20)



Patient categories at the time of registration		
Category	Number	%
F	5150	33.29
M	6347	41.01
O	3977	25.70
Total	15474	100.00

F - Minimum payment, M - Subsidised payment, O - Ordinary



Patients were grouped into categories according to their socio-economic status and payment capacities.

Distribution of patients under different categories		
Category	Number	%
F	3048	19.69
M	5988	38.70
O	3650	23.60
P	41	00.26
R	807	05.22
S	443	02.86
C	106	00.69
K	1391	08.98
<b>Total</b>	<b>15474</b>	<b>100.00</b>

M - Subsidised payment; O - Normal rate; P - Private; R - Reimbursable; S - Cancer Suraksha Scheme; C - Comprehensive Health Insurance Scheme (CHIS +) K - Sukrutham Kerala

New cases and Review cases (Speciality clinic wise)				
Clinic	New Cases		Review Cases	
	No.	%	No.	%
A	2432	15.72	46863	18.60
B	2334	15.08	36071	14.32
C	2601	16.81	55965	22.22
D	2788	18.01	35655	14.16
E	3654	23.61	40728	16.17
F	561	03.62	22038	08.75
G	1104	07.13	14555	05.78
<b>Total</b>	<b>15474</b>	<b>100.00</b>	<b>251875</b>	<b>100.00</b>

A – Haematological, Lymphoreticular, bone and soft tissue sarcoma  
 B – Head & Neck  
 C – Breast & Central Nervous System  
 D – Gynaec, Genitourinary & others  
 E – Chest & Gastrointestinal  
 F – Paediatric (Patients upto the age of 14 years)  
 G – Thyroid

## Referral System

RCC is a tertiary level referral hospital and patients were referred from other government and private hospitals.

Referred cases		
Referred from	Number	%
Teaching hospitals	4304	27.81
PHCs/District/General Hospitals	1978	12.78
Other Government Hospitals	627	04.05
VSSC/ESI/CGHS/ Railway Hospitals	394	02.55
ECDC and Peripheral Centres	151	00.98
Other Cancer Centres	161	01.04
Private Doctors	575	03.72
Private Hospitals	5592	36.14
Self/RCC	1692	10.93
<b>Total</b>	<b>15474</b>	<b>100.00</b>

## Training provided

Training in medical records and patients services was given to Master of Applied Science & Medical Documentation and MA/MSW students from various universities.

# DIVISION OF COMMUNITY ONCOLOGY

Ramani S.Wesley (till 31.08.2019)

Professor & Head

Gigi Thomas (from 01.09.2019)

Additional Professor & Head

Associate Professor: Jayakrishnan R

The Community Oncology Division gives emphasis on primary and secondary prevention of cancers and also takes key initiatives for cancer control activities through human resource development programmes. The Division conducted trainer-trainee programmes, community oriented cancer awareness/education programmes and cancer detection camps on a regular basis. Along with this, an Early Cancer Detection Clinic (ECDC) is also run by the division. In the period under report, 10,552 people were examined as part of the cancer screening/early detection programmes. This included community based cancer screening (5613 persons) and those reported at the Early Cancer Detection Clinic (4909 persons). A total number of 418 cancers, 1580 pre-cancers and 327 HPV infections were detected through these screening programmes.

## Human Resource Development

- **International School of Colposcopy:** 30 doctors were given hands on training, 91 BSc (MLT) students and 15 nurses were given one day orientation on low cost cervical screening strategies like VIA, VILI and Pap smear.
- **Trainer-Trainee Programmes:** Trainer-trainee programmes were conducted for health care providers which included doctors (from DHS and other non-governmental institutions), post graduate medical students and paramedical staff from governmental and non-governmental institutions, Community volunteers, etc.

## Trainer-Trainee programmes

Categories of Trainees	Number trained
Doctors	335
Nurses and paramedicals	104
Community Volunteers (NSS, ASHA workers)	319
Others	725
<b>Total</b>	<b>1483</b>

## Early cancer detection clinics (Breast cancer screening, Oral dysplasia & Colposcopy)

During the period under report, 4909 persons attended the Early Cancer Detection Clinic of the Division. 391 cancers and 1392 precancers were detected through screening. In the oral dysplasia clinic, 82 cases of leukoplakia, 46 cases of oral submucous fibrosis and 94 other lesions/conditions were detected. Oral biopsy was done for 22 persons. The details of cancers and precancers detected in the ECDC and the activities of the colposcopy clinic are given in the following tables.

## Cancers and Precancers detected

Site	Cancers	Precancers/benign lesions
Oral	123	182
Breast	60	485
Cervix	32	725
Others	176	--
<b>Total</b>	<b>391</b>	<b>1392</b>

Colposcopy clinic	
Procedures done	Number
Colposcopy	900
Colpodirected biopsy	42
Visual inspection using acetic acid and Lugol's iodine	900
Pap smear	1025

### Cancer Outreach Programmes

72 cancer detection camps were conducted in various parts of the State in which 5613 people underwent screening. 12 oral cancers, 11 breast cancers, 01 cervical cancers and 03 cancers of other sites were detected. 160 oral pre-cancers, 28 cervical pre-cancers, 341 benign breast lesions and 314 HPV infections were also detected. Through 31 cancer awareness programmes, 3125 people were sensitized in cancer control activities. 20 camps were conducted as part of the bi-weekly cervical cancer detection clinic for the women residing in the control area of the ongoing Breast Cancer Screening project at Mangalapuram in Thiruvananthapuram district. Of the 140 women screened, 01 cervical cancer, 10 cervical pre-cancers and 13 HPV infections were detected.

### Tobacco Cessation Clinic (TCC)

86 tobacco users attended the Clinic for tobacco cessation assistance. They were given behavioral counseling and for patients with severe nicotine dependence, nicotine replacement therapy was also given. In addition to this, the clinic offered training to doctors and students of Azeezia Dental College, Kollam and PMS Dental College, Vattapara, Thiruvananthapuram to establish Tobacco Cessation Clinics.

### Other activities

#### World No Tobacco Day (31 May 2019)

World No Tobacco Day observed at Theviarukunnu, a tribal settlement colony in Vithura, Thiruvananthapuram district, which was attended by 140 volunteers.

#### House Surgeons' Training Programme (13th & 18th July 2019)

Organised training programmes on cancer prevention and control for the House Surgeons of Govt. Medical College, Thiruvananthapuram, in which 67 house surgeons participated.

#### National Cancer Awareness Day (7 November 2019)

As part of the Kerala Cancer Control Strategy to augment cancer prevention and control activities, eight proactive training programmes titled, 'LEADership-LEAD 2019-2020: Training Programmes for Medical Professionals of Kerala State Health Services in Cancer Prevention and Control' were conducted in eight districts. The State wide programme was inaugurated at RCC on World Cancer Day by Dr. Rekha A. Nair, Director, RCC, in which she released a training manual on cancer prevention and control by handing over a copy to Dr. Bipin Gopal, Nodal Officer, Non-communicable Diseases, Kerala State. 335 doctors were trained through these programmes.

#### World Cancer Day (4 February 2020)

A panel discussion on the topic 'Cancer Prevention and Control' conducted at RCC for National Service Scheme students of University of Kerala, was inaugurated by eminent poet and writer Dr. George Onakkoor. 220 students attended the programme and had interactive sessions with experts in Oncology.

# DIVISION OF CANCER EPIDEMIOLOGY & BIOSTATISTICS

Aleyamma Mathew  
Professor & Head

Additional Professors: Jayalekshmi P, Preethi Sara George

Associate Professor: Kalavathy MC

Assistant Professors: Padmakumary Amma G (till 30.09. 2019),  
Jagathnath Krishna KM

The Division runs the Hospital and Population Based Cancer Registries (HBCR & PBCR), conducts cancer surveillance programmes (Hospital-based pattern of care and cancer survival studies and Population-based cancer survival studies), cancer epidemiologic studies (six numbers), biostatistics studies (six numbers), provide cancer awareness classes to the lay public and screening programmes.

The Division prepared Hospital Based Cancer Registry annual

report for the year 2016 and Population Based Cancer Registry annual report for the year 2018. During this period PBCR area expanded to Pathanamthitta and Alappuzha districts with financial support from ICMR. The division teaches biostatistics to RCC students, provides training in cancer registry operations and conducts doctoral programmes in Epidemiology & Biostatistics. The division also provided 185 statistical consultancy services.

**Figure 2: System-wise distribution: HBCR, RCC, Thiruvananthapuram (2019-2020)**

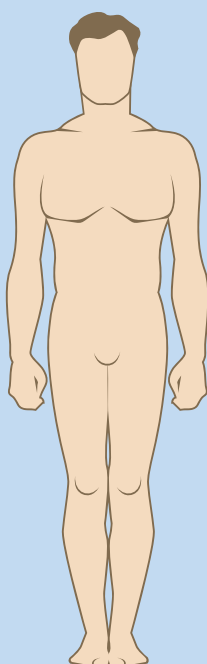
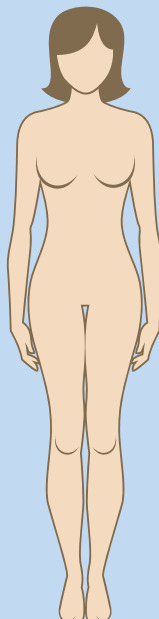
	N = 6607 %	System (Total invasive cases=13552)	N = 6945 %	
	2.7	Brain & Nervous System	2.0	
19.9	Oral Cavity & Pharynx	6.0		
3.4	Thyroid	12.3		
16.7	Respiratory System	3.9		
0.3	Breast	29.4		
8.7	Oesophagus & Stomach	3.1		
14.6	Other Digestive Organs	7.8		
4.2	Urinary Tract	1.0		
6.5	Reproductive System	18.2		
4.5	Bone, Conn. tissue & Skin	3.2		
7.2	Leukaemia & Myeloma	5.4		
6.6	Lymphoma	4.5		
4.9	All Others	3.2		

Figure 3: Geographical Distribution of New Patient Registration (2019-2020)

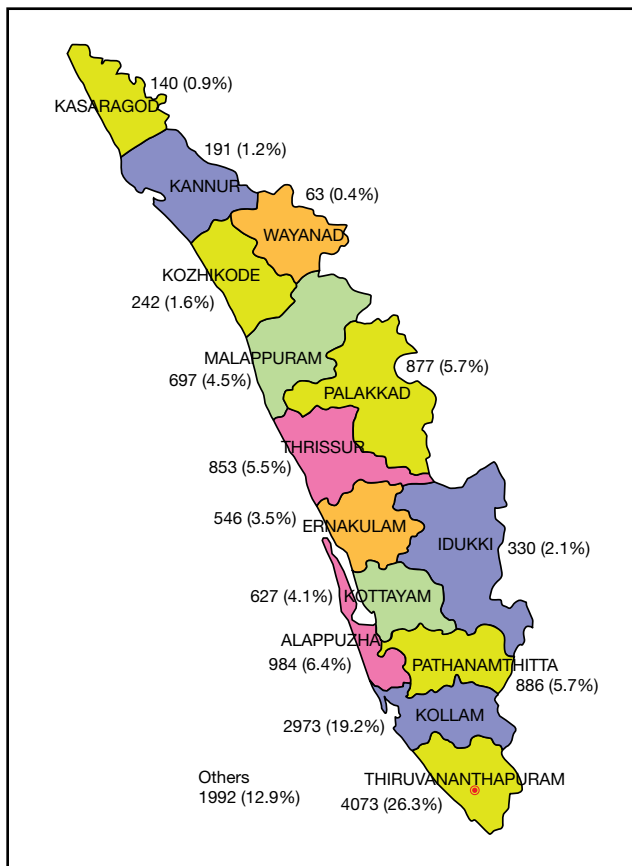
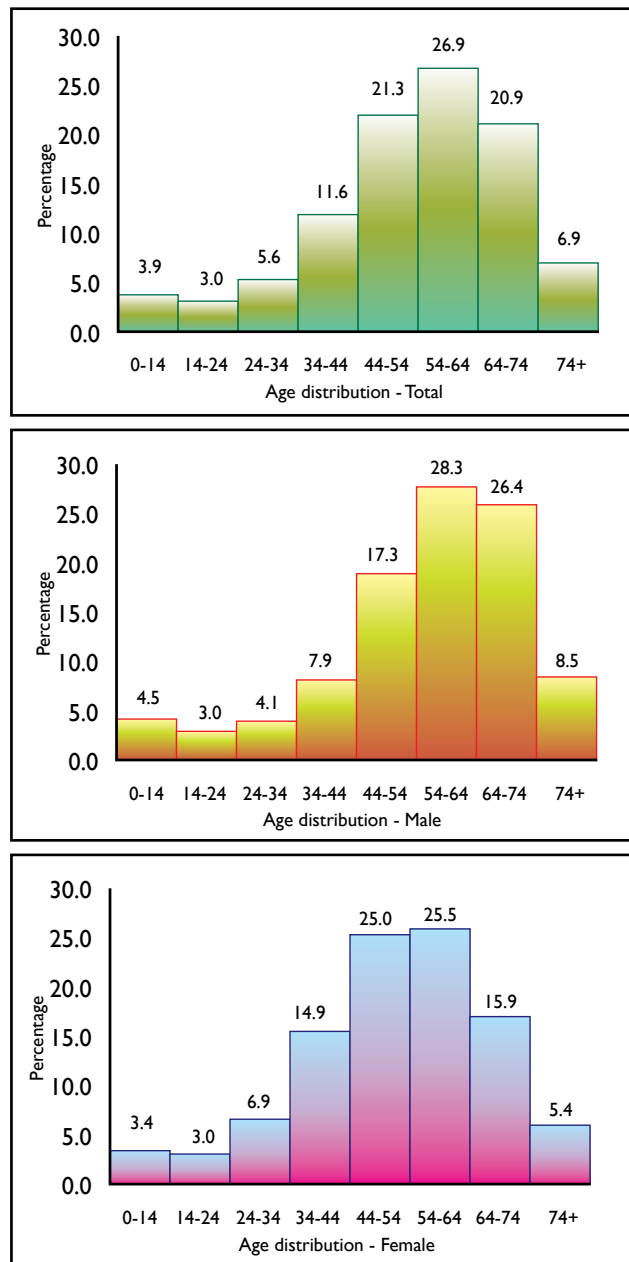


Figure 4: Age-wise Distribution of New Patient registration (2019-2020)



Hospital Based Cancer Registry (HBCR), Regional Cancer Centre, Thiruvananthapuram (2019-2020): Site-wise distribution of patient registration by gender

ICD-10	Site	Male		Female		Total	
		No.	%	No.	%	No.	%
C00	Lip	9	0.1	6	0.1	15	0.1
C01	Base of tongue	28	0.4	1	0.0	29	0.2
C02	Tongue	414	6.3	155	2.2	569	4.2
C03	Gum	105	1.6	64	0.9	169	1.2
C04	Floor of mouth	83	1.3	9	0.1	92	0.7
C05	Palate	52	0.8	16	0.2	68	0.5
C06	Other mouth	264	4.0	90	1.3	354	2.6
C07	Parotid gland	26	0.4	22	0.3	48	0.4
C08	Salivary gland	14	0.2	8	0.1	22	0.2
C09	Tonsil	31	0.5	6	0.1	37	0.3
C10	Oropharynx	143	2.2	7	0.1	150	1.1
C11	Nasopharynx	37	0.6	10	0.1	47	0.3
C12	Pyriiform sinus	49	0.7	4	0.1	53	0.4
C13	Hypopharynx	54	0.8	16	0.2	70	0.5
C14	Pharynx unspecified	4	0.1	3	0.0	7	0.1
C15	Oesophagus	262	4.0	78	1.1	340	2.5
C16	Stomach	311	4.7	139	2.0	450	3.3
C17	Small intestine	18	0.3	9	0.1	27	0.2
C18	Colon	196	3.0	139	2.0	335	2.5
C19	Rectosigmoid colon	39	0.6	27	0.4	66	0.5
C20	Rectum	269	4.1	160	2.3	429	3.2
C21	Anus & anal canal	7	0.1	12	0.2	19	0.1
C22	Liver	269	4.1	65	0.9	334	2.5
C23	Gall bladder	15	0.2	21	0.3	36	0.3
C24	Other biliary tract	31	0.5	26	0.4	57	0.4
C25	Pancreas	118	1.8	79	1.1	197	1.5
C26	Other digestive organs	0	0.0	2	0.0	2	0.0
C30	Nasal cavity	14	0.2	5	0.1	19	0.1
C31	Accessory sinus	12	0.2	7	0.1	19	0.1
C32	Larynx	249	3.8	19	0.3	268	2.0
C33	Trachea	0	0.0	1	0.0	1	0.0
C34	Lung	807	12.2	234	3.4	1041	7.7
C37	Thymus	2	0.0	1	0.0	3	0.0

C38	Heart & mediastinum	20	0.3	2	0.0	22	0.2
C40	Bone of limbs	56	0.8	41	0.6	97	0.7
C41	Other bone	43	0.7	23	0.3	66	0.5
C43	Skin Melanoma	3	0.0	4	0.1	7	0.1
C44	Skin other	97	1.5	75	1.1	172	1.3
C47	Peripheral nerves	6	0.1	3	0.0	9	0.1
C48	Retroperitoneum	6	0.1	11	0.2	17	0.1
C49	Connective tissue	90	1.4	73	1.1	163	1.2
C50	Breast	18	0.3	2044	29.4	2062	15.2
C51	Vulva	0	0.0	12	0.2	12	0.1
C52	Vagina	0	0.0	21	0.3	21	0.2
C53	Cervix uteri	0	0.0	431	6.2	431	3.2
C54	Corpus uteri	0	0.0	362	5.2	362	2.7
C55	Uterus, nos	0	0.0	43	0.6	43	0.3
C56	Ovary	0	0.0	392	5.6	392	2.9
C57	Oth. Female genital org.	0	0.0	6	0.1	6	0.0
C60	Penis	30	0.5	0	0.0	30	0.2
C61	Prostate	355	5.4	0	0.0	355	2.6
C62	Testis	42	0.6	0	0.0	42	0.3
C63	Other & unspecified male genital organs	1	0.0	0	0.0	1	0.0
C64	Kidney	118	1.8	41	0.6	159	1.2
C65	Renal pelvis	1	0.0	1	0.0	2	0.0
C66	Ureter	5	0.1	1	0.0	6	0.0
C67	Urinary bladder	155	2.3	26	0.4	181	1.3
C68	Other urinary organs	1	0.0	2	0.0	3	0.0
C69	Eye	11	0.2	7	0.1	18	0.1
C70	Meninges	1	0.0	0	0.0	1	0.0
C71	Brain	178	2.7	140	2.0	318	2.3
C72	Spinal cord	1	0.0	0	0.0	1	0.0
C73	Thyroid gland	224	3.4	854	12.3	1078	8.0
C74	Adrenal gland	31	0.5	14	0.2	45	0.3
C75	Other endocrine gland	6	0.1	6	0.1	12	0.1
C76	Ill-defined sites	0	0.0	5	0.1	5	0.0
C77	Secondary lymph node	45	0.7	22	0.3	67	0.5
C78	Sec. resp.& digestive	14	0.2	7	0.1	21	0.2
C79	Secondary Other sites	15	0.2	4	0.1	19	0.1

C80	Primary unknown	42	0.6	28	0.4	70	0.5
C81	Hodgkin's disease	88	1.3	55	0.8	143	1.1
C82	Follicular NHL	73	1.1	53	0.8	126	0.9
C83	Diffuse NHL	177	2.7	128	1.8	305	2.3
C84	T-cell lymphoma	38	0.6	27	0.4	65	0.5
C85	Other NHL	37	0.6	30	0.4	67	0.5
C88	Malig. Immunoprolif.	3	0.0	0	0.0	3	0.0
C90	Multiple myeloma	148	2.2	115	1.7	263	1.9
C91	Leukaemia, lymphoid	211	3.2	127	1.8	338	2.5
C92	Leukaemia, myeloid	166	2.5	167	2.4	333	2.5
C93	Leukaemia, monocytic	48	0.7	43	0.6	91	0.7
C94	Other specif. leukaemia	7	0.1	0	0.0	7	0.1
C95	Leukaemia, unspecified	43	0.7	39	0.6	82	0.6
C96	Oth. lymphoid neopl.	21	0.3	19	0.3	40	0.3
	<b>Total (Invasive)</b>	<b>6607</b>	<b>100</b>	<b>6945</b>	<b>100</b>	<b>13552</b>	<b>100</b>
	Benign tumours	85	10.7	240	21.3	325	16.9
	Borderline malignancy	76	9.6	129	11.4	205	10.7
	In-situ	14	1.8	58	5.1	72	3.7
	Non-neoplastic (pre-malig. Cond. & others)	250	31.4	321	28.5	571	29.7
	Diagnosis not confirmed	370	46.5	379	33.6	749	39.0
	<b>Total (non-invasive)</b>	<b>795</b>	<b>100</b>	<b>1127</b>	<b>100</b>	<b>1922</b>	<b>100</b>
	<b>Total number of patients</b>	<b>7402</b>	<b>100</b>	<b>8072</b>	<b>100</b>	<b>15474</b>	<b>100</b>

**Population Based Cancer Registry (PBCR), Thiruvananthapuram District (2018): Number (#), Crude Incidence Rate (CR), and Annual Age-adjusted Incidence Rate (AAR) per 100,000 persons of leading cancer sites**

ICD-10	Site	Male			Female		
		#	CR	AAR	#	CR	AAR
C00-C06	Oral cavity	334	21.0	15.3	126	7.1	4.9
C01 -C02	Tongue	181	11.4	8.3	62	3.5	2.4
C03 -C06	Mouth	147	9.2	6.8	58	3.3	2.3
C09- C14	Pharynx	78	4.9	3.5	19	1.1	0.7
C15	Oesophagus	87	5.5	4.1	28	1.6	1.1
C16	Stomach	108	6.8	5.0	45	2.6	1.8
C18	Colon	100	6.3	4.7	85	4.8	3.5
C19 -C21	Rectum	137	8.6	6.3	144	8.2	5.8
C22	Liver	155	9.7	7.4	41	2.3	1.6
C25	Pancreas	56	3.5	2.6	41	2.3	1.7
C32	Larynx	121	7.6	5.6	6	0.3	0.2



C33 -C34	Lung	374	23.5	17.3	134	7.6	5.4
C40 -C41,49	Bone & Conn.Tissue	44	2.8	2.3	44	2.5	2.2
C43 -C44	Skin	61	3.8	2.8	37	2.1	1.5
C50	Breast	25	1.6	1.1	995	56.4	40.3
C53	Cervix Uteri	-	-	-	172	9.8	6.6
C54	Corpus Uteri	-	-	-	179	10.2	7.2
C56	Ovary	-	-	-	157	8.9	6.8
C61	Prostate	248	15.6	11.3	-	-	-
C64 - 66,68	Kidney etc.	53	3.3	2.5	27	1.5	1.3
C67	Urinary bladder	89	5.6	4.1	25	1.4	1.1
C70 -C72	Brain & other CNS	67	4.2	3.7	34	1.9	1.5
C73	Thyroid	79	5.0	4.1	326	18.5	14.9
C81 -C85,C96	Lymphoma	135	8.5	6.6	95	5.4	4.3
C90	Multiple Myeloma	74	4.6	3.4	66	3.7	2.6
C91 - 95	Leukemia	106	6.7	6.4	61	3.5	3.3
<b>C00 -96</b>	<b>All sites</b>	<b>2967</b>	<b>186.4</b>	<b>140.9</b>	<b>3250</b>	<b>184.4</b>	<b>135.2</b>

## Cancer screening programmes

- Conducted 41 cancer detection programmes and 21 cancer awareness programmes for the general public in Thiruvananthapuram, Kollam and Kottayam districts, and 84 hospital cervical cancer screening programmes
- As part of 'LEADership training programme for doctors in cancer prevention and control (LEAD 2019-2020)', training in breast and cervical cancer screening was provided to 234 doctors from Kerala Government Health Services
- Provided orientation for 63 para medical staff from Kerala Government Health Services

### Cancers & pre-cancers detected in screening programmes

Cases	Cancer Detection Camps	Hospital-based Screening Programmes
Oral cancer	3	--
Breast cancer	4	--
Cervix cancer	1	2
Cervical pre-cancer	4	6

## Academic activities

### Ongoing doctoral research programmes

No.	Research scholar	Title of study/University	Guide
1	Kavitha Chandran C	Effect of multilateral health care strategies on metabolic profile among prediabetics/University of Kerala	Dr.Aleyamma Mathew
2	Sreelekha KR	Bayesian modelling and posterior inference for breast cancer survival data in Kerala/Mahatma Gandhi University	Dr. Preethi Sara George

# DIVISION OF CANCER RESEARCH

Kannan S

Professor & Head

Additional Professors: Sujathan K, Lakshmi S, Hariharan S

Associate Professor: Sreelekha TT

Assistant Professor: Guruvayoorappan C

The following six research laboratories are working in this Division.

***The Laboratory of Cell Cycle Regulation and Molecular Oncology*** aims to elucidate the main molecular genetic pathways involved in oral carcinogenesis and how these alterations can be translated to identification of biomarkers for diagnosis and disease prognosis. Currently we are delineating the functional role of two signature miRNAs in oral cancer. The lab also initiated studies on the metabolomics of oral cancer to formulate a salivary metabolomic signature for oral cancer patients. Another study evaluates the potential of liquid biopsy in diagnosis and prognosis of oral cancer. Besides oral cancer, molecular studies on functional validation of miRNA signature identified for uterine cervical cancer and the biology of BRAF and TERT gene mutations in thyroid cancer are also initiated.

***The Laboratory of Molecular Cytopathology and Proteomics*** taking forward early cancer detection as the prime endeavor

by setting up cost effective screening platforms and novel biomarker panels primarily for cervical and lung cancers. Currently we are in the wake of stepping up the system into a fully automated echelon and validation of the same in a multicentric manner with three other National Cancer Centers. Spectral cytological tactics are commissioned to set apart a differential Raman spectrum for abnormal cells on Pap smear to aid screening. The lab is also working on developing a multiplexing platform for simultaneous detection of multiple proteins in a single tissue section. We are also doing multiplexing for breast cancer markers with the aid of different pitches such as quantum dots, SERS platform etc.

***The Laboratory of Molecular Medicine*** has been undertaking studies on the elucidation of cellular and molecular mechanisms in the development of breast cancer. Currently a study on the genetic and epidemiological factors involved in breast cancer is progressing in collaboration with AIIMS, National Institute



of Pathology and National Institute of Cancer Prevention and Research, New Delhi. Another multi-institutional research involving Rajiv Gandhi Centre for Biotechnology to understand the biology of TNBC is also carrying out. Post-doctoral studies, which analyze the therapeutic potential of natural plant products and studies on the significance of circulating DNA in ovarian cancer patients and the PDL1 expression in breast cancer, are also going on.

**Laboratory of cytogenetics and molecular Diagnostics** is mainly working on leukemia cytogenetics and molecular markers. The lab identified chromosomal abnormalities specific to some specific types of leukaemias. Mutation studies on various genes were performed and correlated with treatment response and survival in AML-NC patients. Cytogenetic and molecular studies on paediatric leukemia, imatinib resistance in CML, molecular mechanism in advanced stages of CML, drug resistance in AML, cytogenetic and molecular studies among inhabitants of high natural background radiation areas of Karunagappally, Kerala are also going on. A new study was initiated on the development of a new software for karyotyping, in collaboration with Govt. Engineering College, Karunagappally.

**The Laboratory of Biopharmaceuticals & Nanomedicine** is focusing on the theranostic applications of polysaccharides nano-constructs in cancer management. Biopolymer based metal conjugated nanocarrier system was established for imaging, targeted drug delivery and photothermal therapy. Receptor mediated drug targeting using folic acid/antibody conjugated nanoconjugates and RNA interference (RNAi) based approaches with the targeted inhibition of gene expression at the post-transcriptional level with specific mRNA are another area of study. Another area focuses on polysaccharide based scaffolds for 3D culture, mesenchymal stem cell differentiation, local drug delivery and wound healing applications.

**The Laboratory of Immunopharmacology and Experimental Therapeutics** is devoted to the development of novel, targeted therapeutic agents for cancer drug delivery. The research work in this laboratory is focused on three research domains. The first domain works on inflammatory bowel disease and its

relation with cancer progression, the second domain works on mitigation of radiation esophagitis using natural products with an objective to improve the quality of life of cancer patients receiving thoracic radiation and the third domain works on development of aptamer tagged functionalized liposomes for targeted drug delivery of therapeutic drugs.

## New Equipment Acquired

Equipment	Number
Real Time PCR Machines (Thermo)	2
Gel Documentation Systems (Vilber)	1
Mini Trans- Blot Apparatus (Bio-Rad)	1
Spectrophotometer (Epoch)	1
Lyophilizer (Martin Christ)	1
Inverted Microscope (Ckx53) With Magcam (Olympus)	1

Diagnostic services provided	
Services	Number
Karyotype analysis	
Bone marrow samples	992
Peripheral blood samples	16
Fluorescent In Situ Hybridization (BCR-ABL, AML-ETO, PML-RARA, inv(16), XY)	989
Quantitative RT-PCR for bcr-abl	745
Qualitative RT-PCR for bcr-abl & pml-rara	623
<b>Total</b>	<b>3365</b>

Training provided	
Trainees	Number trained
MD/MS/DM students (Dissertation work)	42
MSc (Biotech)/Life Science students (3/6 months project work)	76
MSc (MLT) students	26
BSc (MLT) students	370

## Academic activities

Seminars organised		
SI No	Name of the programme/Speaker	Date
1	National Technology Day 2019: Lecture Series on 'Technological Advances in Cancer Research and Diagnosis'	10-11 May 2019
2	Indo-Swedish Seminar on 'Analytical Cell Biology and Machine Learning in Cancer Research'	13 May 2019
3	Seminar on 'TurboKnockout and CRISPR: Techniques for rapid generation of gene targeted mouse/rat models. Speaker: Dr. Steve Yu, Cyagen Biosciences Inc., China.	05 August 2019
4	Seminar on 'Phenotypic plasticity in anchorage independent survival and angiogenesis'. Speaker: Dr. Ananthlakshmy Sundararaman, School of Biochemistry, University of Bristol, UK.	19 August 2019
5	Seminar on 'Improving lives by delivering on the NGS promise: Introducing the GeneReader NGS system'. Speaker: Dr. Sathish Nagarajan, Qiagen India Pvt. Ltd., New Delhi.	18 September 2019
6	Seminar on 'Redefining single cell biology with multi-omic analysis: Massively parallel single cell protein and RNA profiling'. Speaker: Dr. Sudhadeep Mukherjee, BD Biosciences, Bangalore.	28 November 2019
7	Seminar on 'Oral cancer in North East India continues in epidemic proportion: Evaluation of carcinogenic risks and its early detection'. Speaker: Prof. Anupam Chatterjee, Department of Biotechnology, North Eastern Hill University, Shillong.	03 February 2020
8	Erudite Program in collaboration with University of Calicut: Invited Lecture on 'Migration and invasion in prostate and breast cancer'. Speaker: Dr. Jambhoo K. Vishwanatha, Founding Director, Texas Centre for Health Disparities, Texas, USA	19 February 2020
9	Erudite Program in collaboration with University of Kerala: Invited Lecture on 'Non-coding RNA biomarkers in gastrointestinal cancers: Where do we stand?'. Speaker: Prof. (Dr.) Ajay Goel, Beckman Research Institute, CA, USA.	20 February 2020

Ongoing Doctoral Research Programmes			
Sl. No.	Research scholar	Title of the study/University	Guide
1	Dileep Kumar U	Studies on the biology of carcinoma of buccal mucosa and tongue/University of Kerala.	Dr. Kannan S
2	Joseph Vimal	Biology of metabolic reprogramming in metastatic oral cancer/University of Kerala	Dr. Kannan S
3	Sinto MS	Biology of NFκB and STAT3 transcriptional factors in oral carcinogenesis/University of Kerala.	Dr. Kannan S
4	Manasa VG	Biological significance of miRNAs altered in oral carcinoma/University of Kerala	Dr. Kannan S
5	Iris Himlal	Functional validation of miRNA signature identified for uterine cervical cancer/University of Kerala	Dr. Kannan S
6	Noble T. Baby	Formulation of circulating cell free DNA-RNA signature (CFNAS) and validating the potential of liquid biopsy in diagnosis and prognosis of oral tongue cancer/University of Kerala	Dr. Kannan S
7	Dhanya Krishnan	Biology of BRAF and TERT mutations in Thyroid carcinoma/University of Kerala	Dr. Kannan S
8	Rajesh SV	Study of cell cycle regulatory proteins in thyroid nodules/M.S. University	Dr. Sujathan K

9	Akhil BS	Phytochemical and Biological studies of selected plants of Verbenaceae/ Manipal University	Dr. Sujathan K
10	Jeethi Ram	Galectin driven stem cell regulation in triple negative breast cancers/Manipal University	Dr. Sujathan K
11	Neeraja P	Study of mini-chromosome maintenance Proteins in Lung cancer cells: Its significance in the diagnosis and prognosis of non-small cell lung cancers/ Manipal University	Dr. Sujathan K
12	Shanaz S. Sharaf	Identification of a panel of prognostic markers and development of a multiplex platform for the histoclinical classification of breast cancer/ Manipal University	Dr. Sujathan K
13	Sulfath TP	Exploring eccentric roles of hippo pathway in the progression and survival of triple negative breast cancer (TNBC) to ascertain molecular therapeutic target/University of Kerala	Dr. Lakshmi S
14	Ajeesh BL	Characterization of glucose metabolism in breast cancer and its therapeutic implications/University of Kerala	Dr. Lakshmi S
15	Gisha Rose Antony	Exploring the key regulators of PD-1/PD-L1 pathway in breast cancer and its clinical relevance as therapeutic targets for immunotherapy/University of Kerala	Dr. Lakshmi S
16	Preethi G. Nath	Identification of novel prognostic markers in pediatric leukaemia/ University of Kerala	Dr. Hariharan S
17	Akhila Raj TV	Molecular studies on genes responsible for drug resistance: A study on <b>de novo</b> and relapsed acute myeloid leukaemia patients/ University of Kerala	Dr. Hariharan S
18	Geetha Raj	Cytogenetic abnormalities and Risk stratification of Multiple Myeloma patients by FISH technique/University of Kerala	Dr. Hariharan S
19	Mahitha MS	Clinical significance of Advanced stages of CML patients/ University of Kerala	Dr. Hariharan S
20	Amritha P. Kumar	A study of Cytogenetic and Molecular abnormalities in children with ALL and its clinical significance/University of Kerala	Dr. Hariharan S
21	Unnikrishnan BS	Application of polysaccharide metal nanoconjugates in cancer detection and therapy/ University of Kerala	Dr. Sreelekha TT
22	Preethi GU	Chemotherapeutics loaded polysaccharide scaffold as novel tool to fight against cancer/ University of Kerala	Dr. Sreelekha TT
23	Shiji R	Galactomannan polysaccharide nanoconjugates for imaging and targeted cancer therapy/University of Kerala	Dr. Sreelekha TT
24	Archana MG	Polysaccharide based nanoconstructs facilitated co-delivery of drug and gene for effective cancer therapy/University of Kerala	Dr. Sreelekha TT
25	Abeesh P	Liposome encapsulation of phytochemicals from Ashwagandha ( <b>Withania somnifera</b> L.) for improved bioavailability and its potential application in lung cancer treatment by targeting EGFR, STAT3 and NF- $\kappa$ B signaling pathways/ University of Kerala	Dr. Guruvayoorappan C
26	Vishnu Walsan	Investigation of radioprotective effect of mangroves and its potential application in mitigating radiation-induced esophagitis/University of Kerala	Dr. Guruvayoorappan C
27	Drishya Sudarsanan	Antitumour and radioprotective effect of medicinal plants and its possible therapeutic application to mitigate detrimental effect of radiotherapy/ University of Kerala	Dr. Guruvayoorappan C
28	Dhanisha SS	Investigation of the immunomodulatory efficacy of medicinal plants and its potential application in preventing cancer metastasis/University of Kerala	Dr. Guruvayoorappan C

# DIVISION OF LIBRARY AND INFORMATION SERVICES

Vishnu V

Librarian cum Information Officer Gr. I

The Division carried out a wide range of services to support the clinical, academic and administrative requirements of the Centre. Institution wide and remote based full text access to the subscribed content from ScienceDirect, Wiley Online Library, Oxford University Press, Ovid, Springer Nature, Informa Health, American Society of Clinical Oncology, American Association for Cancer Research, etc. were made available. This is in addition to the journals, E-books and other multimedia resources available through the arrangement with the National Cancer Grid (NCG) library services. Subscription to the campus wide and off campus access to **UpToDate Anywhere** database continued. NCG services were utilized to provide 'Ithenticate' software based plagiarism checking for 25 manuscripts including articles and theses received from staff and students.



Information sources	
Document type	Collection as on 31 March 2020
Books, Monographs and Back Volumes	13,410
Current Journals	137
E-Journals	132
E-Books	144
Reprints	8058

## Web-based information services

Arrangements are in place for the provision of information services through regular updates in library home page. Links were provided to each journal, which enabled direct access to full text of articles. Details of books, RCC publications, reprints, journal holdings, e-books, and previous year university examination question papers of Post graduate/Superspeciality programmes in the Centre were made accessible through various links provided in the library page.

# DIVISION OF INFORMATION SYSTEMS

Sajeed A

Officer in Charge

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Maintenance of Hospital Information System, web, mail and proxy servers, administration of Oracle database, management of LAN and WAN, management of data relating to Cancer Care for Life scheme, maintenance of PCs and trouble shooting, administration and maintenance of telemedicine software and equipment, scanning of case sheets, etc. State-of-the-art mini data centre and disaster recovery site are attached to the division. HIS in RCC, known as TEJHAS (Telemedicine Enabled Java based Hospital Automation System) is a network of computers, used to collect process and retrieve patient care and administrative information on all hospital activities from various departments to satisfy the functional requirement of the users.

The division is equipped with

- Hyper-Converged Infrastructure (HCI), a software-defined IT infrastructure that uses software and x86 servers to combine, compute and networking into a single system and hence reduces complexity and increases scalability and reliability.
- Oracle Database Appliance (ODA), an engineered system which is specifically designed for RDBMS Database software and to run databases and applications on a single, managed appliance with single-vendor support.
- Organization structured network with 40G network fibre optic backbone, which ensures a faster and reliable data transfer speed within the campus network.

# EARLY CANCER DETECTION CENTRE (ECDC)

## ECDC, Ernakulam

Latha A

Cytopathologist

Early Cancer Detection Centre, Kaloor, Ernakulam primarily aims at screening and early diagnosis of cancers through cervical smear examination, oral scrape smear examination, fine needle aspiration cytology, colposcopy and fluid cytology. Follow up clinics were attended by 770 patients during the period. In addition ECDC conducted cancer detection camps and cancer awareness classes in Ernakulam and neighbouring districts.

Screening services	
Services	Number
Awareness classes	36
Cancer detection camps	41
Persons screened	14854
Cancers detected*	324
Pre-cancers detected	139

\*Oral-14, Breast-196, Cervix-7, Lymphoma-10, Thyroid-33, Metastatic lymphnode-62, Others-2

Clinical activities			
Tasks	ECDC	Camp	Total
Cervical smear	1759	1478	3237
Oral smear	83	08	91
Fine Needle Aspiration Cytology	2131	708	2839
Sputum cytology	05	--	05

## ECDC, Palakkad

Rekha SR

Resident Medical Officer

The major activities of this Centre are primary and secondary prevention of cancers through cancer awareness/education programmes organised at the Centre and at the District Hospital, Palakkad. The Centre organised programmes in the rural and urban areas of Palakkad, Malappuram and Thrissur districts with assistance from governmental and non-governmental organisations. Short course chemotherapy and other minor procedures like CVAD dressing, pump removal, ascitic tapping, and pleural tapping referred from RCC were also done. Screening for cervical cancer and its precursors were done on all Fridays at District Hospital, Palakkad. Follow up clinics were conducted every three months and 400 patients attended. Palliative care for terminally ill patients was provided on random basis and few house visits were done.

Screening services	
Services	Number
Awareness classes	52
Cancer detection camps	43
Persons screened	10214
Cancers detected*	49
Pre-cancers detected	60

\*Oral-3, Breast-24, Cervix-5, Thyroid-4, Others-13

Clinical activities			
Tasks	ECDC	Camp	Total
Cervical smear	651	1355	2006
Oral smear	17	05	22
Fine Needle Aspiration Cytology	114	87	201
Sputum cytology	03	--	03
Nipple discharge	08	02	10
Fluid cytology	14	--	14



# NATURAL BACKGROUND RADIATION CANCER REGISTRY (NBRR), KARUNAGAPPALLY

Jayalekshmi P

Additional Professor & Officer-in-charge

The Natural Background Radiation Cancer Registry (NBRR) was started to evaluate the health effects of natural radiation present in the sea coast of Karunagappally Taluk, Kollam district of Kerala. The study initiated in 1990 concentrated on complete radiation measurements of the area, assessment of cancer burden, life style and socio demographic factors and also established a radiation cohort to assess the excess relative risk of cancer due to radiation. NBRR carries out radiation epidemiologic studies on cancer and non-cancerous diseases, dosimetric studies, cytogenetic studies and prevalence of other health effects such as cataract and atherosclerosis. Kollam District Cancer Registry and Population Based Survival Studies supported by ICMR, Govt. of India, and Cancer Care Centre supported by Govt. of Kerala are attached with this registry.

## Patient services

The registry conducted review clinics, cancer awareness classes, cancer detection camps, cancer control training programmes, and cancer supportive clinics with day care and home care.

Patient services		
Services	Number	Persons attended
Review clinics	6	478
Cancer supportive clinics with day care (all working days) & home care (weekly 2 days)	---	5680
Cancer awareness classes	18	854
Cancer detection camps	73	5082
Pap smear screening	---	2221
Other cytology investigations	139	---
Cancers detected*	58	---

\*Oral-06, Breast-26, Cervix-08, Thyroid-04, Others-14



# MULTIDISCIPLINARY CLINICS

# 'A' CLINIC

(HAEMATOLOGICAL, LYMPHORETICULAR, BONE & SOFT TISSUE SARCOMA)



'A' Clinic is responsible for the diagnosis and management of haematological and lymphoreticular malignancies, sarcomas and other solid tumors where intensive chemotherapy is indicated. 2815 patients were admitted for the administration of high profile chemotherapy and management of emergencies and complications. In the BMT unit, autologous bone marrow transplantation following high dose chemotherapy was performed in 30 patients. Allogenic bone marrow transplantation for leukaemias was performed in 3 patients. In the BMT unit, 74 stem cell apheresis procedures were done during the reporting period. Clinical training was given to postgraduate students of Radiation Oncology, Surgical Oncology and Medical Oncology of RCC and other Medical Colleges.

## Clinical Services/Procedures Offered

Patients consulted	
Patients	Number
New cases	2432
Review cases	46863
<b>Total</b>	<b>49295</b>

Specialised services				
High dose chemotherapy	Apheresis procedure	Autologous BMT	Allogenic BMT	Chemotherapy
2000	81	30	3	20000

**Major surgical procedures: 193**  
(Sarcoma - 77, Ortho - 93, Lymphoma - 23)

**Radiation treatments: 644**

## Academic activities

CME series: Medical Oncology updates on: Managing the elderly with cancer (10 May 2019), Gynaec and Genitourinary Oncology (14 December 2019).

**Observers/Trainees: 28**

# 'B' CLINIC (HEAD & NECK)



'B' Clinic comprises of a multidisciplinary team of surgical oncologists and clinical oncologists working together for comprehensive evaluation, management, post treatment care and follow-up of patients with head and neck cancers. Daily tumour boards comprising various specialists were conducted for this purpose. The clinic provided state-of-the-art radiotherapy services including IMRT, 3D conformal radiotherapy and remote after loading HDR brachytherapy. There is a closely associated dental division providing pre and post radiotherapy dental care. There is a nurse run rehabilitation service attached to this clinic to improve quality of life of patients undergoing complex surgeries, chemotherapy and radiotherapy. The clinic also provided training to post graduates of Surgery, ENT, Radiation Oncology and various Dental specialties from various colleges across South India.

## Clinical Services/Procedures Offered

Patients consulted	
Patients	Number
New cases	2334
Review cases	36071
<b>Total</b>	<b>38405</b>

Radiotherapy Procedures			Palliative
Radical			
3D CRT	IMRT + IGRT	2D Planning	
09	116	976	314

Surgical Procedures				
Oral cancer	Laryngo-pharyngeal	Salivary glands	Sino-nasal	Miscellaneous
721	37	58	16	163

## Chemotherapy

Concurrent Chemo-Radiotherapy	270
Neoadjuvant Chemotherapy	330

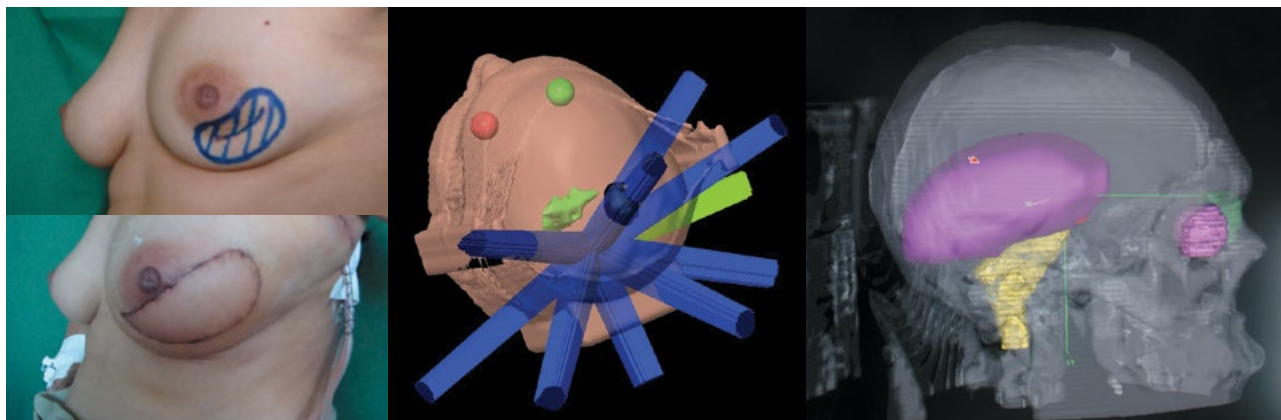
## Academic activities

One year Fellowship programme in Head and Neck Clinical Oncology, with an annual intake of two seats

**Observers: Surgical Oncology – 92; Radiation Oncology - 36**  
**Visitors: 4**

# 'C' CLINIC

(BREAST & CENTRAL NERVOUS SYSTEM)



'C' Clinic deals with the treatment of cancers arising in the breast and central nervous system. The clinic also caters to paediatric patients who need radiotherapy for central nervous system tumours. The services provided include conservative and reconstructive surgeries for breast cancer; sentinel lymph node biopsy procedures, modern radiotherapy treatments such as 3D conformal radiotherapy, IMRT/IGRT, SRS/SRT and all forms of systemic treatments such as chemotherapy, endocrine therapy and targeted therapy. Services include nurse driven counselling on treatment side effects, post treatment physiotherapy, rehabilitation and management of lymphoedema. Training in breast and neuro-oncology is provided for postgraduate and super-specialty students of RCC and other medical colleges. Regular multi-disciplinary tumour board discusses various treatment programmes for each patient. Breast cancer awareness month in October 2019 was observed and 610 women benefited the screening programme.

## Clinical Services/Procedures Offered

Patients consulted	
Patients	Number
New cases	2601
Review cases	55965
<b>Total</b>	<b>58566</b>

### Radiotherapy procedures

Radical				Palliative
Conformal	Conventional	IMRT	Stereotactic Radiosurgery/ SRT	
1320	160	156	18	295

### Surgical Procedures

Mastectomy +/- Reconstruction	Breast conservation & Oncoplasty
584	438

**Chemotherapy:** Most of the chemotherapy is delivered on an out-patient basis. In the reported year over 15,000 patients received chemotherapy.

# 'D' CLINIC

(GYNAEC, GENITOURINARY & OTHERS)



'D' Clinic manages patients with gynecological and urological cancers, skin cancers and cancers of unknown primary. This clinic consists of radiation oncologists, gynecologic cancer surgeons, medical oncologists, post graduate students in radiation oncology, medical oncology, surgical oncology and gynecology and nursing staff. Patients were treated with precision radiotherapy (IGRT, IMRT and 3D conformal RT), surgery, chemotherapy, targeted and hormonal therapies. Surgical oncology services range from extensive pelvic surgery to minimally invasive laparoscopic procedures. For gynecological malignancies, 1610 brachytherapy applications including 2 MUPIT were done. Clinical training was given to postgraduate students from Radiation Oncology, Surgical Oncology, Medical Oncology, Gynecologic Oncology and Gynecology.

## Clinical Services/Procedures Offered

Patients consulted	
Patients	Number
New cases	2788
Review cases	35655
<b>Total</b>	<b>38443</b>

### Radiotherapy procedures

3DCRT	Radical		Palliative	Brachytherapy
	IMRT/IGRT	2D Planning		
46	151	373	308	1610

### Surgical Procedures

<b>Gynaecological cancers</b>	Ovarian	271
	Endometrial	169
	Cervical	20
<b>Urological cancers</b>	Nephrectomy	39
	Penectomy	21
	Bladder	17
<b>Skin</b>		18
<b>Others</b>		73
<b>Minor cases</b>		297
LEEP		31
Colposcopy		98
<b>Total</b>		<b>426</b>

Concurrent Chemo-Radiotherapy: 250

Neoadjuvant Chemotherapy/Hormone Therapy: 2400

# 'E' CLINIC (CHEST & GASTROINTESTINAL)



'E' Clinic caters for patients with cancers of lung, mediastinum, gastro-intestinal tract and hepato-biliary tract. The multidisciplinary team consisting of well-trained surgical oncologists, radiation oncologists and medical oncologists offers comprehensive state-of-the-art surgery, radiotherapy, and chemotherapy services. Image guided and respiration gated radiotherapy and stereotactic body radiotherapy (SBRT) are being practiced where clinically indicated. Inter-sphincteric resections were done when clinically and oncologically appropriate. There was also an increase in the number of surgeries for stomach cancers. The department has started using chemoports for patients who require chemotherapy. Clinical training was given to postgraduate students of Radiation Oncology, Surgical Oncology and Medical Oncology of RCC and other Medical Colleges.

## Clinical Services/Procedures Offered

Patients consulted	
Patients	Number
New cases	3654
Review cases	40728
<b>Total</b>	<b>44382</b>

### Radiotherapy procedures

Conformal	Radical				Palliative
	IMRT	CT/2D Plan	Brachytherapy	SRS/SBRT	
349	199	15	15	9	1002

### Surgical procedures

Esophagus	Stomach	Hepatobiliary and Pancreas	Colorectal	Thoracic	Others
34	113	43	305	35	230

### Chemotherapy

The clinic provided both day care as well as inpatient chemotherapy services. Chemotherapy infusion regimens were given through infusion pumps using PICC line as part of daycare chemotherapy, thereby avoiding inpatient admissions.

# 'F' CLINIC

## (PAEDIATRIC ONCOLOGY)



'F' Clinic managed childhood malignancies up to the age of 14 years. Children from the state of Kerala, southern Tamil Nadu, southern Karnataka, Andamans, Maldives and Lakshadweep attended the clinic for medical care. The clinic provided outpatient and inpatient services including ICU care with ventilatory support. Supportive care, psychosocial counseling, nutritional support, informal education and cultural programs for patients and parents were also provided. Among the new cases reported, acute lymphoblastic leukaemia and brain tumour were the most common malignancies. A total of 1633 children were admitted in the paediatric oncology ward during the period.

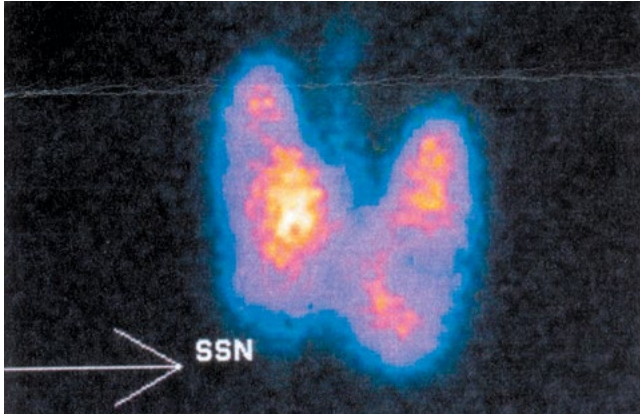
### Clinical Services/Procedures Offered

Patients consulted	
Patients	Number
New cases	561
Review cases	22038
<b>Total</b>	<b>22599</b>

Procedures	
Intrathecal medications	2412
Lumbar puncture	594
Bone marrow aspiration/biopsy	801
PICC line insertion	19
PICC line resuturing	26
Trucut biopsy	39
FNAC	41
Pleural/ascitic tapping	09
Chest tube insertion	03
Ventilator support	36
Wound C&D, aspiration for C&S	29



# 'G' CLINIC (THYROID)



'G' Clinic is a multidisciplinary clinic comprising experts from Nuclear Medicine, Surgical Oncology and Radiation Oncology divisions. The clinic managed both thyroid cancer as well as non-malignant cases.

## Clinical Services/Procedures Offered

Patients consulted	
Patients	Number
New cases	1104
Review cases	14555
<b>Total</b>	<b>15659</b>

Nuclear Medicine services			
Immunoassays	PET-CT Scan	SPECT Gamma camera	SPECT CT
72462	1578	1903	2168

Radio-iodine therapy	
Thyroid Cancer	Thyrotoxicosis
680	215

Surgical Procedures		
Total Thyroidectomy	Hemi Thyroidectomy	Revision/ Completion Thyroidectomy
192	6	46

# Public Relations Activities

Public Relations Officer Sr. Gr.

Surendran Nair V

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The Public Relations wing dealt with information counter, media relations, public functions, co-ordination of volunteers, poor patients' welfare fund campaign, conduct of cancer awareness programmes, Cancer Care for Life scheme, Interest Free Medical Advance (IFMA), complaint redressal, receptionist training programme, preparation of brochures, articles, documentaries and other media publicity materials. Weekly meetings of the CCL committee to review and sanction treatment were organized. 241 IFMA files from H & FW Department, Govt. of Kerala were processed and submitted. Fund raising campaign to promote contribution to the poor patients welfare fund (Akshayapatram) has been organised with the help of several individuals and philanthropic organisations. Contribution received from 858 donors during this period, has been utilised for food, medicine, and rehabilitation of patients who were not covered under any patient welfare schemes. 551 patients availed financial assistance from this fund, including those patients not included

under any welfare schemes and patients from Tamil Nadu. This fund was also utilized for 'free food' to the patients in general wards. Awareness classes on various welfare schemes were conducted in different parts of the State. Cancer awareness programmes were also conducted through various audio-visual media. Opinion survey had conducted among patients and bystanders to determine quality of service. As per the feedback, majority of the patients were satisfied with the quality of service. The complaints lodged by the patients and bystanders were documented and forwarded to Medical Superintendent.

Certificates were issued to the 7th batch of Receptionist Trainees (8 seats per batch), who successfully completed one year of training. Public relations and communication orientation classes were conducted for students of Master of Social Work, Master of Health Administration and Master of Business Administration.

# Honours, Awards and Recognitions Received

## Faculty and other Staff

### Patent

**Rekha A. Nair (Director)**, awarded the US Patent for 'Biomarkers useful for detection of types, grades and stages of human breast cancer'. (Patent No. US10208353B2, Year: 2019)

### Provisional Patent

**Shaiju VS (Assistant Professor, Radiation Physics)**, awarded provisional patent for 'PMMA head phantom for the dosimetric evaluation of radiotherapy treatment plans'. (Provisional patent reference No. 201941035043, Year: 2019).

### Awards/Honours

**Aleyamma Mathew (Professor, Cancer Epidemiology & Biostatistics)**, received Fellowship for attending the Combined Conference of North American Association of Central Cancer Registries (NAACCR) and International Association of Cancer Registries (IACR) 2019, Vancouver, British Columbia, Canada. (June 2019).

**Chandramohan K (Additional Professor, Surgical Services)**, received best paper awards: 1. 'Prospective observational study of lymph node harvest in nonfixed wet specimen of rectal malignancy', and 2. 'Pattern of care of peripheral soft tissue sarcoma: Experience from a tertiary cancer centre' at ASICON 2019: Annual National Meeting of Association of Surgeons of India, Bhubaneswar. (18-21 Dec. 2019).

**Gigi Thomas (Additional Professor, Community Oncology)**, received best paper award for 'A randomized double blind placebo controlled trial of curcumin in oral leukoplakia', at the National Conference of Indian Academy of Oral Medicine and Radiology, Amritsar. (15-17 Nov. 2019).

**Guruvayoorappan C (Assistant Professor, Cancer Research)**, received Shri. K. N. Narasimhaiah Award instituted by Society of Biotechnologists of India (SBTI), for the best original paper presentation in Cancer Biology. (28 Sept. 2019).

**Francis V. James (Professor, Radiation Oncology)**, received AROI Kirloskar Fellowship. Medical University Hospital, Vienna, Austria. (19th August - 06th Sept. 2019).

**Jagathnath Krishna KM (Assistant Professor, Cancer Epidemiology & Biostatistics)**, received R@ISA Scholarship, from International Indian Statistical Association (IISA) for presenting the paper, 'Simulation study using R for comparing Kaplan-Meier method with weighted Kaplan-Meier methods'. (Dec. 2019).

**Lakshmi Haridas K (Assistant Professor, Medical Oncology)**, won Molecular Oncology Grant competition in 41st ICON Conference, Ahmedabad. (Sept. 2019).

**Neelima Radhakrishnan (Assistant Professor, Pathology)**, won 2nd prize for the poster 'Sarcomatoid change in a mucinous tubular and spindle cell carcinoma of the kidney' at the CME on Genitourinary Pathology (GUPATH), Hyderabad. (Nov. 2019).

**Preethi Sara George (Additional Professor, Cancer Epidemiology & Biostatistics)**, received Fellowship for attending the Combined Conference of North American Association of Central Cancer Registries (NAACCR) ) and International Association of Cancer Registries (IACR) 2019, Vancouver, British Columbia, Canada. (June 2019).

**Ramadas K (Professor, Radiation Oncology)**, received Dr. Rangi Prasad Memorial Lecture award at the 41st Annual Conference of AROI, Ahmedabad. (Dec. 2019).

**Simi CM (Assistant Professor, Pathology)**, won 2nd prize for the poster 'Flow cytometry in chronic T cell lymphoproliferative disorder: Study from a tertiary oncology centre in South India' at the 12th Annual Meeting of the Cytometry Society: Advanced workshop on Flow cytometry in Hematopathology, Lucknow. (Oct. 2019).

**Siva Ranjith J (Assistant Professor, Surgical Services)**, awarded Fellowship of the Indian Association of Gastrointestinal Endo Surgeons (FIAGES) for Minimal Access Surgery. (09 Feb. 2020).

**Sunitha Kumari R (Head Nurse, Nursing Services)**, received National Florence Nightingale Award 2019, sponsored by National Press Council of India Charitable trust and the Newspaper association of Karnataka.

**Veena VS (Cytotechnologist Sel. Gr., Pathology)**, received Dr. Panna Choudhury Memorial Award for the article 'Immunocytochemistry on sputum samples predicts prognosis of lung cancer', published in Journal of Cytology Vol. 36: 38-43, 2019.

## Trainees

### Aswathy G. Nath (Senior Resident, Surgical Services )

- Received 1st prize for the Video presentation at the ISCCP National Conference, Visakhapatnam. (April 2019)
- Received 2nd prize for paper presentation and 3rd prize for quiz competition at AOGIN 2019: Asia-Oceania Research Organisation in Genital Infection and Neoplasia, Kochi. (Dec. 2019).

**Ajeesh BL (Research Scholar, Cancer Research)**, received best paper award for 'Role of glucose transporter (Glut-1) as a potential target for breast cancer therapy', at the 8th International Translational Cancer Research Conference on Role of Inflammation and Immune System for Cancer Prevention and Treatment, at Banaras Hindu University, Varanasi. (13-16 Feb. 2020).

**Archana V. Nair (MD Anaesthesiology student)**, secured second rank in the MD Anaesthesiology exam conducted by Kerala University of Health Sciences. (2019).

**Divya Gladstone and Anila Basheer (MD Anaesthesiology students)**, received National Travel Fellowship awarded by Indian Society of Anaesthesiologists.

### Nandini Devi (DM Medical Oncology student)

- received 2nd prize for best paper presentation at Indian Society of Oncology-Indian Society of Medical & Pediatric Oncology Conference (ISMPO), Indore. (1 Nov. 2019).
- received 2nd prize for best poster presentation at RGCON Hematooncology Update, New Delhi. (7 Feb. 2020).

**Nandini Devi, Anju Anna Abraham, Unnikrishnan (DM Medical Oncology students)**, won 3rd place in ICON Best Oncology PG Institutes, at the 41st ICON, Ahmedabad. (Sept. 2019).

**Raghvesh Ranjan (DM Paediatric Oncology student)**, won 1st prize in difficult case discussion session at INSIGHT 2019: Orthopedic Conference, Thiruvananthapuram. (July 2019).

**Rahul Rajagopal and Rebecca George (MD Pathology student)**, won 1st prize in the quiz competition conducted by Kerala chapter of IAPM. (Feb. 2020).

**Rebecca George (MD Pathology student)**, won 1st prize for the case presentation in Ortho-Radio-Patho (ORP) session at INSIGHT 2019: Orthopedic Conference, Thiruvananthapuram. (July 2019).

**Sheeja K (Post-Doctoral Research Fellow, Cancer Research)**, received best paper award for 'Protective effect of  $\alpha$ -mangostin on oral cancer cell invasion and molecular mechanism of action', at the 40th Annual Conference of Indian Association of Biomedical Scientists (IABMS), held at Chettinad Hospital and Research Institute (CHRI), Kelambakkam, Chennai. (31 October - 2 Nov. 2019).

### Sulfath TP (Research Scholar, Cancer Research)

- Received Sitaram Joglekar Memorial Award 2020 for best oral presentation by young scientist at the 39th Annual Conference of Indian Association for Cancer Research, organized by RGCB, Thiruvananthapuram. Paper: Hippo pathway effector yes associated protein (YAP) mediates tumour aggressiveness in breast cancer cells. (05-07 Feb. 2020).
- Received best award for the paper, 'Verteporfin inhibits proliferation and metastasis in breast cancer cells via regulating YAP activation' at the 8th International Translational Cancer Research Conference, Banaras Hindu University, Varanasi. (13-16 Feb. 2020).

### Unnikrishnan BS (Research Scholar, Cancer Research)

- Received 1st prize for best oral presentation, 'Investigation of sub-cellular responses for the evaluation of the laser-mediated tumour ablation via Raman spectroscopic platform using green synthesized gold nanostars', at the one day Symposium on Targeting Metabolism in Non-Communicable Diseases, SCTIMST, Thiruvananthapuram. (02 Aug. 2019).
- Received 1st prize for best poster presentation, 'Polysaccharide coated iron oxide nanoparticle-mediated macrophage activation as a strategic anti-tumour mechanism', at RBAT VI 2019: Recent Biochemical Approaches in Therapeutics, organised by Department of Biochemistry, University of Kerala, Thiruvananthapuram. (09-11 Dec. 2019).
- Received 1st prize for the best poster, 'Targeted polysaccharide coated iron oxide nanoparticles: a smart nanovector for cancer theranostics', at the 32nd Kerala Science Congress, Palakkad. (25-27 January 2020).

**Vishnu Walsan K (Research Scholar, Cancer Research)**, received award for best oral presentation in Health Sciences section at the 32nd Kerala Science Congress, Palakkad. (25-27 January 2020).

## Functions, Workshops & Conferences organised

Sl. No.	Name of Programme	Date
1	National Technology Day Celebration 2019: Technological Advances in Cancer Research and Diagnosis	10-11 May 2019
2	Indo-Swedish Seminar on Analytical Cell Biology and Machine Learning in Cancer Research	13 May 2019
3	Cancer Care Beyond Borders: Exchange of MoU on Comprehensive Cancer Care between Govt. of Kerala, Regional Cancer Centre and Govt. of Maldives	16 September 2019
4	Workshop on Global Oncology, Research Methodology & Scientific Writing	30 November 2019
5	CME on Pathology of Head and Neck Cancer	11 January 2020
6	International Workshop on Precision Radiotherapy (IWPR) 2020 on Lymphoma	25-26 January 2020
7	Hands-on Contouring Workshop on GI & GU malignancies	17-21 February 2020
8	Trivandrum Update in Palliative Medicine	22-23 February 2020

## Distinguished visitors/Talks delivered

No.	Visitor	Date
1	Prof. Ewert Bengtsson, Uppasala University, Sweden at the Indo-Swedish Seminar on Analytical Cell Biology and Machine Learning in Cancer Research	13 May 2019
2	Mr. Abdulla Ameen, Hon'ble Minister for Health, The Republic of Maldives	16 September 2019
3	Prof. (Dr.) Christopher A Booth, Medical Oncologist, Canada Research Chair in Population Cancer Care, Queen's University, Canada. Talks: 1. Global oncology and value in cancer care. 2. How to write and review a research article?	30 November 2019
4	Prof. Peter Hoskin, Professor of Radiation Oncology at Christie Hospital, University of Manchester, UK	25 January 2020
5	Dr. Jamboor K. Vishwanatha, Regents Professor and Vice-President, Centre for Health Disparities, University of North Texas Health Science Center, USA. Talk: Migration and invasion in prostate and breast cancer.	19 February 2020
6	Dr. Ajay Goel, Professor and Chair, Dept. of Molecular Diagnostics, Therapeutics and Translational Oncology, Beckman Research Institute, City of Hope Comprehensive Cancer Centre in Duarte, USA. Talk: Non-coding RNA biomarkers in gastrointestinal cancers: Where do we stand?	20 February 2020

# GALLERY



Exchange of MoU on Comprehensive Cancer Care between Govt. of Kerala, Regional Cancer Centre and Govt. of Maldives (16 September 2019)



Prof. Ewert Bengtsson, Uppasala University, Sweden at the Indo-Swedish Seminar on Analytical Cell Biology and Machine Learning in Cancer Research (13 May 2019).



National Cancer Awareness Day. Release of Training Manual on Cancer Prevention and Control, by Dr. Rekha A. Nair, Director, RCC (7 November 2019).



Inauguration of World Cancer Day 2020 by Dr. Onakkoor, renowned Malayalam writer and novelist. (4 February 2020)



Smt. K.K. Shailaja Teacher, Hon'ble Minister for Health and Social Justice, Govt. of Kerala inaugurating CME on Trivandrum Update in Palliative Medicine (22 February 2020)

# Conferences, Training Programmes And Meetings Attended & Papers Presented By Staff & Students

## INTERNATIONAL

Sl. No.	Delegate/s	Name of Conference/Meeting. Date & Venue. (Paper/Talk/Poster/Video presented/ Delegate's status).
1	Aleyamma Mathew	Seminar Lecture Series at Division of Cancer Care & Epidemiology. 05-07 June 2019, Queens University, Kingston, Canada. ( <i>Invited Talk</i> ).
2	Aleyamma Mathew, Preethi Sara George	NAACCR-IACR 2019 Conference. 08-11 June 2019, Vancouver, Canada. ( <i>Invited Talk</i> ).
3	Beela Sarah Mathew	San Antonio Breast Cancer Symposium 2019. 10-14 Dec 2019, Texas, USA. ( <i>Poster: Curative hypofractionated radiotherapy for stage I-III breast cancer patients: experience from a tertiary cancer centre in South India</i> ).
4	Chandramohan K	European Federation of Colorectal Surgeons Meeting. 26 Apr 2019, Vienna, Austria. ( <i>Talk: Immunological advantages of laparoscopic colorectal surgery</i> ).
5	Deepak Janardhan	VIIth World Congress of International Academy of Oral Oncology (IAOO). 01-03 Sept 2019, Rome, Italy. ( <i>Talk: 1. IFAB (Island Facial Artery Buccinator flap) on tongue oncoresection defect reconstruction. 2. Mucosal melanomas of oral cavity: A tertiary care centre experience of surgically treated cases. 3. Island NLF of FAMM flap in oral oncoresection defects. Which side of the coin to choose?</i> ).
6	Elizabeth Mathew lype	Excellence in Oncology Care. 17-19 Oct 2019, Dubai. ( <i>Video presentation: Total laryngo pharyngo esophagectomy and gastric pull up</i> ).
7	Francis V. James	International Symposium on Prostate Cancer. 17 May 2019, London, UK. ( <i>Panelist on International MDT</i> ).
		Advanced Prostate Cancer Consensus Conference-3. 29-31 Aug 2019, Basel, Switzerland. ( <i>Delegate</i> ).
		Brachytherapy Training. University Hospital, Vienna. 19 Aug - 06 Sept 2019, Vienna, Austria. ( <i>Fellowship</i> ).
8	Garima Nirmal, Maharshi Trivedi	SIOP 51st Congress. 23-26 Oct 2019, Lyon, France. ( <i>Posters: 1. Prevalance and predictors of overweight and obesity among survivors of childhood acute lymphoblastic leukemia: Experience from tertiary care Centre in India. 2. Clinicopathological features and outcomes of Pediatric differentiated Thyroid carcinoma: Experience from a tertiary cancer centre in India</i> ).
9	Madhu Muralee	Visiting Fellowship in Esophageal and Gastric Cancer Surgery. 11 Nov-06 Dec 2019, National Cancer Centre, Tokyo, Japan. ( <i>Trainee</i> ).
10	Mary Thomas	World Airway Management Meeting (WAMM). 13-16 Nov 2019, Amsterdam, Netherlands. ( <i>Paper: Novel scoring system for predicting difficult airway in apparently normal patients</i> ).
11	Paul Augustine	39th Congress of the European Society of Surgical Oncology. 09-11 Oct 2019, Rotterdam, The Netherlands. ( <i>Poster: Validation of sentinel lymph node biopsy technique in post lumpectomy early breast cancer patients</i> ).
12	Priyakumari T	SIOP ASIA 2019: Pre Conference Workshop. 03 Apr 2019, Abu Dhabi. ( <i>Talk: Local control of paediatric abdominal tumours</i> ).
		SIOPASIA 2019. 04-06 Apr 2019, Abu Dhabi. ( <i>Talk: Paediatric nodular lymphocyte predominant Hodgkin's lymphoma: Success story from a resource limited setting</i> ).

13	Priya Mary Jacob	FRCPath Advanced Histopathology Course in the East of England Deanery. 17-28 Feb 2020, Harlow Resource Centre, Harlow, Essex. ( <b>Delegate</b> ).
		East of England Cytology Course for FRCPath. 02-06 Mar 2020, Harlow Resource Centre, Harlow, Essex. ( <b>Delegate</b> ).
14	Ramadas K, Kainickal CT	ESTRO Head & Neck Multidisciplinary Course. 28-31 Oct 2019, Mexico City, Mexico. ( <b>Delegate</b> ).
15	Rexeena V. Bhargavan	39th Congress of the European Society of Surgical Oncology. 09-11 Oct 2019, Rotterdam, The Netherlands. ( <b>Poster: Level III dissection in locally advanced breast cancer following neoadjuvant chemotherapy: a retrospective study</b> ).
16	Shaji Thomas	Vllth World Congress of International Academy of Oral Oncology (IAOO). 01-03 Sept 2019, Rome, Italy. ( <b>Talk: 1. Doing as little as possible and as much as necessary: oncological efficacy of marginal mandibulectomy in resection of oral cavity cancers. 2. Island nasolabial flap in oral cavity defect reconstruction</b> ).
17	Sheeja K	Vlth World Summit on Cancer Research and Therapy. 19-20 Apr 2019, Dubai, UAE. ( <b>Paper: NLRP3 inflammasome: Emerging target in oral cancer therapy</b> ).
18	Wagh Mira Sudam	Robotics Basic Surgical Skills Certificate Course. 26 Oct 2019, Portsmouth, UK. ( <b>Trainee</b> ).
		Laparoscopic Suture and Stapling Course. 01 Nov 2019, Portsmouth, UK. ( <b>Trainee</b> ).

## NATIONAL

Sl. No.	Delegate/s	Name of Conference/Meeting. Date & Venue. (Paper/Talk/Poster/Video presented/Delegate's status).
1	Ajeesh BL	39th Annual Conference of Indian Association for Cancer Research. 05-07 Feb 2020, RGCB, Thiruvananthapuram. ( <b>Poster: Pharmacological inhibition of glucose transporter (GLUT)-1 in human breast cancer cells inhibits tumour progression and metastasis</b> ).
		8th International Translational Cancer Research Conference. 13-16 Feb 2020, BHU, Varanasi. ( <b>Paper: Role of glucose transporter (GLUT)-1, as a potential target in human breast cancer therapy</b> ).
2	Akhila Raj TV, Geetha Raj, Mahitha MS	National Level Workshop on Biostatistics for Health. 04-05 Oct 2019, MOSC Medical Mission, Kolenchery. ( <b>Delegates</b> )
3	Akhila Raj TV	39th Annual Conference of Indian Association for Cancer Research. 05-07 Feb 2020, RGCB, Thiruvananthapuram. ( <b>Paper: Impact of cytogenetics and molecular markers in refinement of risk group stratification in AML patients</b> ).
4	Aleyamma Mathew	Workshop on Patterns of Care and Survival Studies (POCSS) on Cancers in Childhood, Lymphoid and Haematopoietic Malignancies, Other Gynecological Malignancies. 27-28 Aug 2019, NCDIR, Bengaluru. ( <b>Talk delivered</b> )
5	Aleyamma Mathew, Preethi Sara George, Jagathnath Krishna KM	International Conference on Statistics for Twenty first Century-2019. 18-20 Dec 2019, Dept. of Statistics, University of Kerala, Thiruvananthapuram. ( <b>Invited talk</b> ).
6	Aleyamma Mathew	39th Annual Conference of Indian Association of Cancer Research. 05-07 Feb 2020, RGCB, Thiruvananthapuram. ( <b>Invited talk</b> ).
		Expert Committee Meeting of Breast Cancer Task Force Study, 26 Feb 2020, IRCH-AIIMS, New Delhi. ( <b>Invited talk</b> ).
7	Anila KR	Workshop cum CME: An Update on Surgical Pathology 2019. 12-13 Oct 2019, Dr.B.Borooah Cancer Institute, Guwahati. ( <b>Talks: 1. Grossing techniques of head and neck specimens: Mandibulectomy, tongue. 2. Updates in head and neck pathology. 3. Differentiated thyroid carcinoma: updates</b> ).
		XXVIII National Conference of Indian Association of Oral and Maxillofacial Pathologists. 01-03 Nov 2019, Thiruvananthapuram. ( <b>Talk: Update on HPV associated oropharyngeal carcinoma</b> ).



## Conferences

8	Anitha Mathews, Anila KR	International Update in Head and Neck Pathology 2020. 19 Jan 2020, Tata Medical Center, Kolkata. ( <b>Faculty</b> )
9	Anju Anna Abraham, Unnikrishnan, Mintu Mathew Abraham	COG updates from ASCO 2019. 09 June 2019, Kochi. ( <b>Delegates</b> ).
10	Anju Anna Abraham	41st ICON Conference. 13-15 Sept 2019, Ahmedabad. ( <b>Paper: Clinical profile and treatment outcome of chronic myeloproliferative disorders other than CML</b> ).
11	Anju Anna Abraham, Unnikrishnan, Mintu Mathew Abraham, Arun V	2nd Mid Year Gastro Intestinal Oncology Conference. 21-22 Sept 2019, Ahmedabad. ( <b>Delegates</b> ).
12	Anju Anna Abraham	ISO ISMPO Joint Conference. 01-03 Nov 2019, Indore. ( <b>Poster: A prospective study to correlate the neutrophil lymphocyte ratio and treatment outcome in patients with multiple myeloma</b> ).
13	Anoop T M	International Course on Surveying and Evaluating Ethical Reviews Practices. 18-21 Aug 2019, RGCB, Thiruvananthapuram. ( <b>Delegate</b> ) 7th Preceptorship Programme on Lung Cancer. 08-09 June 2019, TMH, Mumbai. ( <b>Delegate</b> ).
14	Anoop T M, Rona Joseph P	Precision Oncology and International breast cancer conference. 11-13 Oct 2019, Jaipur. ( <b>Delegates</b> ).
15	Archana MG	8th International Translational Cancer Research Conference. 13-16 Feb 2020, BHU, Varanasi. ( <b>Poster: Doxorubicin endowed polysaccharide capped gold nanoparticles as novel agents for cancer therapy</b> ).
16	Arun Peter	Asia Pacific Gastroesophageal Cancer Congress. 06-08 Feb 2020, Sri Ramachandra Institute of Higher Education and Research, Chennai. ( <b>Talk: Bleeding after gastrectomy</b> ).
17	Arun Sankar S	33 <sup>rd</sup> AROI-ICRO teaching course on Pediatric Malignancies. 12-13 Oct 2019, Lucknow. ( <b>Talk: Ewing's sarcoma: adjuvant indications &amp; role of radiation in unresectable tumors</b> ).
18	Asha Lekshmi	39 <sup>th</sup> Annual Conference of Indian Association of Cancer Research. 05-07 Feb 2020, RGCB, Thiruvananthapuram. ( <b>Paper: Decisive prognostic implication of TP53 expression profile and mutation hierarchy in TNBC</b> ).
19	Aswathy G. Nath	ISCCP, National Conference 2019. 19-22 Apr 2019, Visakhapatnam. ( <b>Poster: Comparison and correlation of Swede score and IFPC score with histopathology in VIA positive patients</b> ). AGOICON 2019: National Conference of Gynaecologists of India. 14-16 Nov 2019, CMC, Vellore. ( <b>Poster: 1. Quality of life assessment after pelvic exenteration for gynaecological malignancy. 2. Survival outcome of patients undergoing lymphadenectomy as a part of surgical staging for cancer endometrium</b> ). AOGIN 2019: Asia-Oceania Research Organisation in Genital Infection and Neoplasia. 13-15 Dec 2019, Kochi. ( <b>Paper: Prospective study to evaluate the correlation between colposcopic scoring with histopathology in VIA positive patients</b> ).
20	Beela Sarah Mathew	2nd Navigating Clinical Conundrums in Breast Cancer 2019. 26-28 April 2019, Mumbai. ( <b>Expert Panelist: Consensus panel for HR+ Breast Cancer: Risk stratification and making right choice</b> ). Controversies to Consensus 2019. 16-17 Aug 2019, Tata Medical Centre, Kolkata. ( <b>Invited Speaker: Avoiding radiotherapy after breast conservation</b> ). 5th Year-in-Review: Breast Cancer Meeting. 18-19 Jan 2020, TMH, Mumbai. ( <b>Invited Speaker: Critical Review: 1. Local therapy for brain metastases</b> (Churilla T et. al. JAMA Oncology Feb 2019) 2. <b>IMRT APBI vs WBI</b> (Meattini I et. al. SABCS 2019 presentation).
21	Bhagyalekshmi R	ISACON 2019. 18-20 Oct 2019, Thrissur. ( <b>Talk: Anaesthesia for HIPEC surgery</b> ).
22	Binitha R, Guruprasad CS, Prasanth VR, Garima Nirmal, Maharshi Trivedi, Raghvesh Ranjan, Harish Varma	INSIGHT 2019: Orthopedic Conference. July 2019, Thiruvananthapuram. ( <b>Delegates</b> )
23	Binu O, Saraswathy Amma P	Asian Oncology Nursing Society Conference. 13-15 Nov 2019, Mumbai. ( <b>Delegates</b> )

24	Bipin T. Varghese	<p>Examiner cum visiting Faculty for the fellowship Head and neck surgery at the Department of ENT and Head and Neck surgery (Head and Neck Unit), CMC, Vellore. 13 July 2019, CMC, Vellore. (<b>Talk: Indian (ICMR) guidelines in the management of larynx and hypopharynx cancer</b>).</p> <p>Head and Neck Surgery and Laser Workshop. 19-21 July 2019, Manipal. (<b>Talk: 1. Algorithmic approach to surgical management of larynx and hypopharynx cancers. 2. Management of post laryngectomy pharyngocutaneous fistula</b>).</p> <p>IFHNOS 2019: Annual Conference of Foundation of Head and Neck Oncology and International Federation of Head and Neck Oncology Societies. 10-13 Oct 2019, Chennai. (<b>Talk: Submental artery island flaps in head and neck reconstruction</b>).</p> <p>19th Meet of the Foundation of Head &amp; Neck Oncology (FHNO). 10-13 Oct 2019, Chennai. (<b>Paper: Conservation laryngectomy and bi-institutional project on voice prosthesis development in the free paper session. Poster: 1. Quality of life of surgically treated laryngeal cancers. 2. Staples in laryngectomy: personal experience and update. 3. FAMM flaps in head and neck reconstruction</b>).</p> <p>Annual Conference of Association of Otolaryngologists of India. 10-12 Jan 2020, Nagpur, Maharashtra. (<b>Faculty</b>).</p> <p>Thyroid Master Class Organized by Dept of Endocrine Surgery. 06-07 Feb 2020, CMC Vellore. (<b>Panelist: Session on poorly differentiated papillary cancers. Chaired session: Role of TKIs, Present and future directions in thyroid cancer diagnostics</b>).</p>
25	Chandramohan K	<p>ASICON 2019: Annual National Meeting of Association of Surgeons of India. 18-21 Dec 2019, Bhubaneswar: Moderated Panel Discussion: Training pathways in cancer surgery. (<b>Talks: 1. Updates in rectal cancer surgery. 2. Prospective observational study of lymph node harvest in nonfixed wet specimen of rectal malignancy. 3. Pattern of care of peripheral soft tissue sarcoma: Experience from a tertiary cancer centre</b>).</p> <p>Asia Pacific Gastroesophageal Cancer Congress. 06-08 Feb 2020, Sri Ramachandra Institute of Higher Education and Research, Chennai. (<b>Video presentation: Salvage esophagectomy</b>).</p> <p>Indian Association of Surgical Oncology: IASO 2020 Midcon. 28 Feb-01 Mar 2020, Tirupati. (<b>Moderated Panel Discussion: Laparoscopy for gastric cancer surgery</b>).</p>
26	Chandrika D	<p>MEDRECON 2020: 20<sup>th</sup> Annual National Health Information Management Conference organized by Health Records Association of India. 07-08 Feb 2020, Kochi. (<b>Delegate</b>).</p>
27	Debjani Phani	<p>32nd Kerala Science Congress. 25-27 Jan 2020, Palakkad. (<b>Delegate</b>).</p>
28	Dhanisha SS	<p>29th Swadeshi Science Congress. 27-29 Feb 2020, CPCRI, Kasargod and Central University, Kasargod. (<b>Paper: Cancer chemotherapy associated side effects: Mitigation using novel therapeutic molecules rich underutilised fruits of Pithecellobium dulce for improving the QOL (quality of life): an in vivo study</b>).</p>
29	Dhanya Dinesh, Suchetha S, Lakshmi Haridas K	<p>AGOICON 2019: National Conference of Gynaecologists of India. 14-16 Nov 2019, CMC, Vellore. (<b>Delegates</b>).</p>
30	Dhanya Dinesh	<p>Annual Conference of Asia-Oceania Research Organization on Genital Infection and Neoplasia. 13-15 Dec 2019, AIMS, Kochi. (<b>Surgical Video presentation: Pelvic and para aortic node dissection</b>).</p>
31	Divya Raj	<p>XXVIII IAOMP National Conference. 01-03 Nov 2019, Thiruvananthapuram. (<b>Organising committee member</b>).</p>
32	Drishya Sudarsanan	<p>29th Swadeshi Science Congress. 27-29 Feb 2020, CPCRI, Kasargod and Central University, Kasargod. (<b>Paper: Black cardamom based therapeutic molecules for mitigating tumour burden and increasing the life span and QOL (quality of life) during cancer: an in vivo study</b>).</p>
33	Elizabeth Mathew Iype	<p>IFHNOS 2019: Annual Conference of Foundation of Head and Neck Oncology and International Federation of Head and Neck Oncology Societies. 10-13 Oct 2019, Chennai. (<b>Panel discussion: Palliative care in head and neck cancer</b>).</p>
34	Francis V. James	<p>41st AROICON 2019. 28 Nov-01 Dec 2019, Ahmedabad. (<b>Panelist</b>).</p> <p>Uro oncology Conference. 22-23 Feb 2020, Chennai. (<b>Speaker: Role of radiotherapy for prostate cancer</b>).</p> <p>XVIII Annual Meeting on Evidence Based Management of Cancers In India. 28 Feb-01 Mar 2020, TMH, Mumbai. (<b>Speaker: Radiotherapy for seminoma</b>).</p>

## Conferences

35	Frenny Ann Philip, Radhika Devi	Advanced Airway Management Workshop 2020 approved by Difficult Airway Society (DAS), UK & All India Difficult Airway Association (AIDAA). 20 Jan 2020, Kochi. ( <b>Delegates</b> ).
36	Garima Nirmal, Maharshi Trivedi	PHOCON 2019: National Conference of the Paediatric Haemato-oncology chapter of Indian Academy of Paediatrics. 06-09 Sept 2019, Varanasi. ( <b>Delegate</b> ).
37	Geetha Raj	32nd Kerala Science Congress. 25-27 Jan 2020, Palakkad. ( <b>Paper: Prognostic impact of FLT3-ITD mutations in de novo AML patients</b> ).
38	Gigi Thomas	National Conference of Indian Academy of Oral Medicine and Radiology. 15-17 Nov 2019, Amritsar. ( <b>Paper: A randomized double blind placebo controlled trial of curcumin in oral leukoplakia</b> ). 73rd National Conference of Indian Dental Association. 24 Jan 2020. Thiruvananthapuram. ( <b>Invited speaker</b> ). 18th National Triple 'O' Symposium and 4th International Oral Precancer and Cancer Congress. 06-08 Mar 2020, New Delhi. ( <b>Faculty</b> ).
39	Gisha Rose Antony	Indo-US Symposium on New Insights into the Inflammation, Immunity and Pathobiology of Diseases. 03-08 Dec 2019, Port Blair. ( <b>Poster: Role of PD-L1 in regulation of proliferation and metastasis in breast cancer cells</b> ). 39th Annual Conference of Indian Association for Cancer Research. 05-07 Feb 2020, RGCB, Thiruvananthapuram. ( <b>Paper: Knockdown of PD-L1 in human breast cancer cells inhibits tumour progression and metastasis</b> ). 8th International Translational Cancer Research Conference. 13-16 Feb 2020, BHU, Varanasi. ( <b>Poster: Expression of PD-L1 in breast cancer promotes tumour progression and epithelial mesenchymal transition</b> ).
40	Guruprasad CS	PHOCON 2019: National Conference of the Paediatric Haemato-oncology chapter of Indian Academy of Paediatrics. 06-09 Sep 2019, Varanasi. ( <b>Talk: Best management of paediatric APML</b> ). 10th Kerala PHOCON: 06 Oct 2019, MCC, Thalassery. ( <b>Talk: FNP: Evolving concepts in management</b> ).
41	Guruvayoorappan C	National Conference on Biotechnology Innovations: Interdisciplinary Approach to Agriculture, Food, Health, Environment and Sustainable Development. 27-28 Sep 2019, Shri. Ramswaroop Memorial University, Lucknow. ( <b>Talk: Improving the quality of life during thoracic radiation therapy induced esophagitis using promising therapeutic molecules from marine mangroves: an in vivo study</b> ). 4th International Conference on Nutraceuticals and Chronic Diseases (INCD). 23-25 Dec 2019, Indian Institute of Technology (IIT), Guwahati, Assam. ( <b>Talk: Mangrove derived nutraceuticals as immunomodulators for mitigating radiation induced esophagitis during thoracic radiation therapy for cancer</b> ). 39th Annual Conference of Indian Association for Cancer Research. 05-07 Feb 2020, RGCB, Thiruvananthapuram. ( <b>Talk: Promising therapeutic molecules from marine mangroves for mitigating radiation induced esophagitis during thoracic radiation therapy for cancer: an in vivo study to improve the quality of life (QOL) during radiation esophagitis</b> ).
42	Guruvayoorappan C, Akhil BS, Abeesh P, Vishnu Walsan K, Dhanisha SS, Drishya Sudarsanan	Severity Classification and Harm Benefit Analysis in Animal Experimentation. 18 Feb 2020, SCTIMST, Thiruvananthapuram. ( <b>Delegates</b> ).
43	Hariharan S	Hands on Training on Next Generation Sequencing Analysis. 04-08 Nov 2019, KUFOS, Kochi. ( <b>Delegate</b> ).
44	Hariharan S, Sreelekha TT, Guruvayoorappan C, Sinto MS, Noble T. Baby	32nd Kerala Science Congress. 25-27 Jan 2020, Palakkad. ( <b>Delegates</b> ).
45	Hariharan S, Saritha VN	39th Annual Conference of Indian Association for Cancer Research. 05-07 Feb 2020, RGCB, Thiruvananthapuram. ( <b>Delegates</b> ).
46	Iris Himall	2nd UK-India Cancer Bioinformatics Workshop. 31 Oct-02 Nov 2019, ACTREC, Mumbai. ( <b>Delegate</b> ). Artificial Intelligence: Approaches in Digital Pathology. 02 Nov 2019, ACTREC, Mumbai. ( <b>Delegate</b> ).
47	Jagathnath Krishna KM	R Conference and IISA-2019 Conference. 26-30 Dec 2019, IIT, Mumbai. ( <b>Contributory talk</b> ).

48	Jayakrishnan R	CANQUER 2019: National Conference. 08-10 Nov 2019, KINFRA Biotechnology Park, Kochi. ( <i>Invited speaker</i> ).
		73rd National Conference of Indian Dental Association. 24 Jan 2020. Thiruvananthapuram. ( <i>Invited speaker</i> ).
49	Jayasree K	INSIGHT 2019: Orthopedic Conference. July 2019, Thiruvananthapuram. ( <i>Faculty</i> ).
50	Jayasudha AV	Advances in Clinical Flow Cytometry. Workshop on Minimal Residual Disease. 16-17 Apr 2019, CMC Vellore. ( <i>Delegate</i> ).
		12th Annual TCS Conference and Flow Cytometry Workshop 2019. 09-12 Oct 2019, SGPGI, Lucknow. ( <i>Talk: Hepatosplenic T-cell lymphoma</i> ).
51	Joseph Vimal	Workshop on Integrated OMICS II (Genomics, Metabolomics and Bioinformatics). 16-20 Dec 2019, National Center for Biological Sciences, Bengaluru. ( <i>Delegate</i> ).
52	Jubie Raj	Hepatobiliary Imaging and Intervention. 08 Dec 2019, Thiruvananthapuram. ( <i>Talk: Paediatric liver tumour</i> ).
53	Kainickal CT	Best of ASTRO. 04-05 May 2019, Kolkata. ( <i>Speaker: Head &amp; Neck Abstracts</i> ).
		AROI-ICRO post MD teaching program. 08-09 June 2019, Shillong. ( <i>Talks: 1. HPV positive Ca oropharynx: Current status of deintensification strategies. 2. Management of salivary gland tumours: Radiation oncologists perspective</i> ).
		Evidence based conference in Head & Neck Oncology. 29 Sept 2019, Thiruvananthapuram. ( <i>Speaker: 1. Role of systemic therapy in LAHNSCC. 2. Multidisciplinary management of Salivary gland tumours</i> ).
		Radiation Oncology workshop. 10 Oct 2019, Apollo proton cancer Centre, Chennai. ( <i>Speaker: Head &amp; Neck Cancer: IMRT plan evaluation: Critical issues, Faculty for the panel discussion</i> ).
		Federation of Head and Neck Oncologists annual meeting. 11 Oct 2019, Chennai. ( <i>Speaker: Role of Induction Chemotherapy in LAHNSCC: a debate</i> ).
		41st AROICON 2019. 28 Nov-01 Dec 2019, Ahmedabad. ( <i>Moderator of Panel discussion: Controversies in the management of Ca oral cavity</i> ).
		Apollo Cancer Conclave. 15 Feb 2020, Hyderabad. ( <i>Speaker: role of induction chemotherapy in locally advanced Ca nasopharynx</i> ).
54	Kannan S	IAOMP 2019: 28th National Conference. 01-03 Nov 2019, Thiruvananthapuram. ( <i>Key Note Lecture: Impact of microRNA on the biology and clinical management of oral cancer</i> ).
		32nd Kerala Science Congress. 25-27 Jan 2020, Palakkad. ( <i>Chairperson: Technical session on health sciences</i> ).
55	Lakshmi Haridas K	Year in Review: Gynecologic Oncology Colorectal cancer and 3rd International Course Workshop and Conference on Peritoneal Surface Malignancies. 19- 21 April 2019, TMH, Mumbai. ( <i>Delegate</i> ).
		MVR CANCON 2019. 28 Aug - 01 Sept 2019, Kozhikode. ( <i>Delegate</i> ).
		41st ICON Conference. 13-15 Sept 2019, Ahmedabad. ( <i>Winner of Molecular Oncology Grant Competition</i> ).
		17th Annual Conference of Women's Cancer Initiative: Great debate in Gynecological Oncology. 18-20 Oct 2019, TMH, Mumbai. ( <i>Delegate</i> ).
56	Lakshmi S	32nd Kerala Science Congress. 25-27 Jan 2020, Palakkad. ( <i>Talk: Role of circulating cell free DNA as a predictive biomarker for ovarian cancer patients</i> ).
		39th Annual Conference of Indian Association for Cancer Research. 05-07 Feb 2020, RGCB, Thiruvananthapuram. ( <i>Invited Lecture: Alternate routes for targeting tumour immune response: role of hipposignaling components in PDL1 regulation in triple negative breast cancer</i> ).
57	Madhu Muralee	MVR CANCON. 06 Apr 2019, Kozhikode. ( <i>Delegate</i> ).
		KASICON. 27-28 Apr 2019, Kozhikode. ( <i>Delegate</i> ).
		NATCON IASO. 20-22 Sept 2019, Kolkata. ( <i>Delegate</i> ).
		ASI Annual CME. 05 Oct 2019, Kollam. ( <i>Delegate</i> ).
		ASICON 2019: Annual National Meeting of Association of Surgeons of India. 18-21 Dec 2019, Bhubaneswar. ( <i>Delegate</i> ).
		Indian Association of Surgical Oncology: IASO 2020 Midcon. 28 Feb-01 Mar 2020, Tirupati. ( <i>Delegate</i> ).

## Conferences

58	Mallika Balakrishnan, Viji S.Pillai, Deepthi J.Prabhu	AORA INDIA 2019: 9th National Conference of the Academy of Regional Anaesthesia of India. 04-07 July 2019, Coimbatore. ( <b>Delegates</b> ).
59	Malu Rafi	YROC 2020: National conference of Young Radiation Oncologists of India. 18 Jan 2020, Kovai Medical Centre, Coimbatore. ( <b>Talk: Adaptive radiotherapy for head and neck cancers</b> ).
60	Manasa VG, Sinto MS	Carcinogenesis 2019: Integrated Approaches to Understand and Cure Cancer. 27-29 Sept 2019, Gujarat University, Ahmedabad. ( <b>Delegates</b> ).
61	Manjusha Nair	IAP Childhood Cancer Day 2020. 04 Feb 2020, SATH, Thiruvananthapuram. ( <b>Talk: Approach to paediatric solid tumours</b> ). Trivandrum Update in Palliative Care. 22-23 Feb 2020, RCC, Thiruvananthapuram. ( <b>Organising committee member, Panelist: Cancer and palliative care</b> ).
62	Mary Thomas	2nd National Conference on Anaesthesia and Perioperative Care. 29 Aug 2019, Hyderabad. ( <b>Talk: Pre-operative opioids for cancer pain: postoperative challenges</b> ). Advanced Airway Management Workshop 2020 approved by Difficult Airway Society (DAS), UK & All India Difficult Airway Association (AIDAA). 20 Jan 2020, Kochi. ( <b>Talk: 1. Ultrasound in airway management. 2. Blind nasal intubation</b> ).
63	Mintu Mathew Abraham, Arun V	Young Medical Oncologists Program. 14-15 Nov 2019, Visakhapattanam. ( <b>Delegates</b> ).
64	Nandini Devi R, Anju Anna Abraham, Mintu Mathew Abraham, Gayatri Gopan	SPEAK Conference on Lymphoma. 08 Dec 2019, Nagpur. ( <b>Delegates</b> ).
65	Neelima Radhakrishnan	GUPATHCON 2019: National Conference of Genito Urinary Pathologists. 08-09 Nov 2019, Indo-American Cancer Hospital and Research Institute, Hyderabad. ( <b>Poster: Sarcomatoid change in a mucinous tubular and spindle cell carcinoma of the kidney</b> ).
66	Neeraja P	39 <sup>th</sup> Annual Conference of Indian Association of Cancer Research. 05-07 Feb 2020, RGCB, Thiruvananthapuram. ( <b>Poster: DNA replication licensing proteins as biomarkers for non-invasive detection of lung cancer</b> ).
67	Prasad PP	National Conference of ISRT. 11-12 Oct 2019, Jaipur. ( <b>Paper: MR Imaging of prostate</b> ).
68	Prasanth VR	10th Kerala PHOCON. 06 Oct 2019, MCC, Thalassery. ( <b>Talk: Paediatric ALL: recent advances</b> ). IAP Childhood Cancer Day 2020. 04 Feb 2020, SATH, Thiruvananthapuram. ( <b>Talk: Approach to paediatric leukaemias</b> ).
69	Preethi Sara George	Workshop on Patterns of Care and Survival Studies (POCSS) on Cancers in Childhood, Lymphoid and Haematopoietic Malignancies, Other Gynecological Malignancies. 27-28 Aug 2019, NCDIR, Bengaluru. ( <b>Delegate</b> ) 39 <sup>th</sup> Annual Conference of Indian Association of Cancer research. 05-07 Feb 2020. RGCB, Thiruvananthapuram. ( <b>Talk delivered</b> ). Annual Meeting of Population Based Cancer Survival. 11-12 Feb 2020, NCDIR, Bengaluru. ( <b>Delegate</b> ).
70	Preethi TR	Amrita Annual Pathology Update. July 2019, AIMS, Kochi. ( <b>Delegate</b> ).
71	Priya A	SCIICON 2019: Annual Conference of Society of Chest Imaging and Interventions. 12-13 Apr 2019, CMC, Vellore. ( <b>Poster: Template reporting of carcinoma lung based on multidisciplinary team perspective</b> ). EBCON 2019: Head and Neck Oncology Conference. 29 Sept 2019, Thiruvananthapuram. ( <b>Talk: Role of imaging in carcinoma oral cavity</b> ). KMCT RADCON. 03 Nov 2019, Kozhikode. ( <b>Talks: 1. Challenges in the tumour response assessment (Post RT/CT). 2. Imaging of mediastinum and pleura</b> ).
72	Priyakumari T	National Cancer Grid 1st Research Guidelines Meeting. 26-27 Sep 2019, TMH, Mumbai. ( <b>Member</b> ).
73	Rachel Cherian Koshy	Gancon 2019 Anaesthesiology CME: Anaesthetic Management of Elderly: Regional versus General Anaesthesia. 16 June 2019, Sree Gokulam Medical College, Thiruvananthapuram. ( <b>Panelist</b> ).

74	Raghukumar P, Saju B, Zhenia Gopalakrishnan, Sharika V. Menon	IWPR 2020: 4 <sup>th</sup> International Workshop on Precision Radiotherapy. 25-26 Jan 2020, Thiruvananthapuram. ( <b>Delegates</b> ).
75	Rajasree O	Certificate Course in Research Methodology, as part of faculty training organised by KUHS. May 2018 to April 2019, Thrissur. ( <b>Trainee</b> ).
76	Rajeev KR	ANKURA 2019: Joint CME of Govt. of Kerala & Govt. Ayurveda College, Thiruvananthapuram. 02 July 2019, Thiruvananthapuram. ( <b>Talk: Current concepts in the evaluation and management of breast cancer</b> ). YROC 2020: National conference of Young Radiation Oncologists of India. 18 Jan 2020, Kovai Medical Centre, Coimbatore. ( <b>Talk: Year in review 2019 for breast cancer radiotherapy</b> ). Evidence Based Management: Neuro Oncology Workshop. 28 Feb-01 Mar 2020, TMH, Mumbai. ( <b>Delegate</b> ).
77	Rajesh R. Chandran	11 <sup>th</sup> Annual CME of Cochin Haematology Group. 25 Aug 2019. Kochi. ( <b>Delegate</b> ). 8 <sup>th</sup> National Conference of Indian Society of Transfusion Medicine. 09-11 Jan 2020, Mumbai. ( <b>Delegate</b> ).
78	Ramadas K	Seminar on Health economics in Cancer Care. 27 July 2019, Kozhikode. ( <b>Invited speaker</b> ). Sensitization workshop on clinical health economics. 27 Aug 2019, Thiruvananthapuram. ( <b>Invited speaker</b> ). 41 <sup>st</sup> AROICON 2019. 28 Nov-01 Dec 2019, Ahmedabad. ( <b>Rangi Prasad Oration</b> ).
79	Rari P. Mony	CYTOCON 2019: 49 <sup>th</sup> Annual Conference of Indian Academy of Cytopathologists. 07-10 Nov 2019, PGIMER, Chandigarh. ( <b>Delegate</b> ).
80	Raveendran Pillai K	21 <sup>st</sup> Meeting of Research Advisory Committee of Women Scientists Division & 6 <sup>th</sup> Group Monitoring Workshop of Back to Lab projects. 04-05 July 2019, KSCSTE, Thiruvananthapuram. ( <b>Member of Research Advisory Committee</b> ).
81	Rema P	CANQUER 2019: National Conference. 08-10 Nov 2019, CCRC, Kochi. ( <b>Talk: HPV vaccination</b> ). AGOICON 2019: National Conference of Gynaecologists of India. 14-16 Nov 2019, CMC, Vellore. ( <b>Talk: Working with the Government to reduce India's burden of gynaecologic cancers</b> ). AOGIN 2019: Asia-Oceania Research Organisation in Genital Infection and Neoplasia. 13-15 Dec 2019, Kochi. ( <b>Talk: Ablative procedures for cervical intra epithelial neoplasia</b> ). AKCOG 2020: All Kerala Congress of Obstetrics and Gynaecology. 04-16 Feb 2020, Kottayam. ( <b>Video presentation: Colposcopy</b> ).
82	Renu S	KASO Midterm Conference 2019: Update on upper GI malignancies. 18 Aug 2019, Thiruvananthapuram. ( <b>Talk: Upper GI cancers: Pathologist's perspective</b> ). APCON 2019: 68 <sup>th</sup> Annual Conference of Indian Association of Pathologists and Microbiologists. 05-08 Dec 2019, PGIMER, Chandigarh. ( <b>Paper: Haematolymphoid neoplasms in effusion cytology: subclassification, distribution and role of ancillary techniques: A 3-year retrospective study of 75 cases</b> ).
83	Rona Joseph P, Unnikrishnan, Mintu Mathew Abraham, Arun V, Steffi Chacko	5 <sup>th</sup> Year in Review: Breast Cancer Conference. 18-20 Jan 2020, TMH, Mumbai. ( <b>Delegates</b> ).
84	Sagila SG	Infectious Diseases and their impact on Public Health. 13 Dec 2019, Hyderabad. ( <b>Delegate</b> ). Clinical Microbiology: Diagnostic Approach to Infectious Disease Syndromes. 29 Feb 2020, SCTIMST, Thiruvananthapuram. ( <b>Delegate</b> ).
85	Saheer N	Onco-Surg 2019. 29 Nov-01 Dec 2019, TMH, Mumbai. ( <b>Delegate</b> ).
86	Sarin B	XVII <sup>th</sup> Annual TMH Radiotherapy Practicum on Implementation of Code of Practice (CoP) for Dosimetry of Small Field. 20-21 Sept 2019, Mumbai. ( <b>Delegate</b> ).
87	Shajju VS	32 <sup>nd</sup> Kerala Science Congress. 25-27 Jan 2020, Palakkad. ( <b>Paper: Effects of artefacts with Onyx embolization material in clinical practice during SRS/SRT planning</b> ).
88	Shanavas A	Slide Screening Workshop in Cytopathology. 12 Oct 2019, Tata Memorial Hospital, Mumbai. ( <b>Delegate</b> ).

## Conferences

89	Sheeja K	40th Annual Conference of Indian Association of Biomedical Scientists. 31 Oct-02 Nov 2019, Chettinad Hospital and Research Institute, Chennai. ( <b>Paper: Protective effect of <math>\alpha</math>-mangostin on oral cancer cell invasion and molecular mechanism of action.</b> ) Indo-US Symposium on New Insights into the Inflammation, Immunity and Pathobiology of Diseases. 03-08 Dec 2019, Port Blair. ( <b>Poster: Role of PD-L1 in regulation of proliferation and metastasis in breast cancer cells.</b> )
90	Sheela Rodriguez	Science of Terminal Disinfection. 16-20 Sep 2019, NIHW, Delhi. ( <b>Delegate</b> ).
91	Shiji R	39th Annual Conference of Indian Association for Cancer Research. 05-07 Feb 2020, RGCB, Thiruvananthapuram. ( <b>Paper: Bio-fabricated superparamagnetic iron oxide nanoparticles for reduction sensitive methotrexate delivery and magnetic resonance imaging in solid tumours.</b> )
92	Simi CM	12th Annual Meeting of the Cytometry Society: Advanced workshop on Flow cytometry in Haematopathology. 09-12 Oct 2019, SGPGI, Lucknow. ( <b>Poster: Flow cytometry in chronic T cell lymphoproliferative disorder: Study from a tertiary oncology centre in South India.</b> ) UAKON 2019: 33rd Annual Conference of Urological Association of Kerala. 19 Oct 2019, Thiruvananthapuram. ( <b>Panelist: Symposium on carcinoma urinary bladder.</b> )
93	Sindhu Nair P	GUPATHCON 2019: National Conference of Genito Urinary Pathologists. 08-09 Nov 2019, Indo-American Cancer Hospital and Research Institute, Hyderabad. ( <b>Delegate</b> ).
94	Siva Ranjith	International Update on Uro-Oncology 2020 organised by Cancer Institute, Chennai and Stanford University. 22-23 Feb 2020, Chennai. ( <b>Delegate</b> ). Evidence Based Medicine: Urological Cancers: A Decade of Transformation. 28 Feb-01 Mar 2020, TMH, Mumbai. ( <b>Delegate</b> ). MVR CANCON 2020. March 2020, Kozhikode. ( <b>Surgical Video Presentation: Laparoscopic para-aortic lymph node dissection.</b> )
95	Sreelekha R	Asian Oncology Nursing Society Conference. 13-15 Nov 2019, Mumbai. ( <b>Talk: Post-surgical management of patients undergoing thoracic cancers.</b> )
96	Sreelekha TT	One day National Seminar on Emerging Trends in Novel Drug Delivery Strategies for Treatment and Diagnosis of Cancer. 31 Aug 2019, The Dale View College of Pharmacy and Research Centre, Thiruvananthapuram. ( <b>Talk: Drug loaded polysaccharide metal nanoparticles: A theranostic system for cancer management.</b> ) 39th Annual Conference of Indian Association for Cancer Research. 05-07 Feb 2020, RGCB, Thiruvananthapuram. ( <b>Delegate</b> ). 8th International Translational Cancer Research Conference. 13-16 Feb 2020, BHU, Varanasi, Uttar Pradesh. ( <b>Delegate</b> ).
97	Sreekutty J	6 days National Workshop to Study Tissue Regeneration using Zebrafish and Echinoderms as Alternative Animal models. 25-30 Nov 2019, Dept. of Zoology, University of Kerala, Thiruvananthapuram. ( <b>Delegate</b> ).
98	Suchetha S	CANQUER 2019: National Conference. 08-10 Nov 2019, CCRC, Kochi. ( <b>Panelist: Cervical cancer early detection and prevention.</b> ) AOGIN 2019: Asia-Oceania Research Organisation in Genital Infection and Neoplasia. 13-15 Dec 2019, Kochi. ( <b>Talk: Circling the cervix: Surgico-anatomical update on the paracervical tissue.</b> )
99	Sujathan K, Neeraja P	Training on Next Generation Sequencing and Analysis. 04-07 Nov 2019, Kerala University of Fisheries and Ocean Studies, Kochi. ( <b>Delegates</b> ).
100	Sujathan K	39th Annual Conference of Indian Association of Cancer Research. 05-07 Feb 2020, RGCB, Thiruvananthapuram. ( <b>Talk: Cervical cancer control in India: Search for alternative screening techniques.</b> )
101	Sulfath TP	39th Annual Conference of Indian Association for Cancer Research. 05-07 Feb 2020, RGCB, Thiruvananthapuram. ( <b>Paper: Hippo pathway effector yes associated protein (YAP) mediates tumor aggressiveness in breast cancer cells.</b> ) 8th International Translational Cancer Research Conference. 13-16 Feb 2020, BHU, Varanasi. ( <b>Poster: Verteporfin inhibits proliferation and metastasis in breast cancer cells via regulating YAP activation.</b> )
102	Syama HP	39th Annual Conference of Indian Association for Cancer Research. 05-07 Feb 2020, RGCB, Thiruvananthapuram. ( <b>Paper: Bio-fabrication of polysaccharide-silver nanoparticles and evaluation to apprehend the antitumor potential.</b> )

103	Swapna R. Nath	INDIACLEN: National Workshop on Application of Artificial Intelligence and Machine Learning in Medicine. 10 Aug 2019, Dept. of Clinical Epidemiology, Medical College, Thiruvananthapuram. ( <b>Delegate</b> ). WHONET Training Workshop for Kerala Antimicrobial Surveillance Network (KARSNET). 17-19 Sept 2019, AIMS, Kochi. ( <b>Delegate</b> ). Clinical Microbiology: Diagnostic Approach to Infectious Disease Syndromes. 29 Feb 2020, SCTIMST, Thiruvananthapuram. ( <b>Talk: Infections in neutropenic cancer patients: Challenges in diagnosis &amp; management</b> ).
104	Unnikrishnan	41st ICON Conference. 13-15 Sept 2019, Ahmedabad. ( <b>Paper: Primary NHL of the Kidney: A case series of 3 cases</b> ). ISO ISMPO Joint Conference. 01-03 Nov 2019, Indore. ( <b>Paper: A prospective study on early treatment failure to standard dose Imatinib and the efficacy of escalated dose of imatinib on second line Tyrosine kinase inhibitor in chronic myeloid leukemia patients showing treatment failure</b> ). RGCON 2020: Hemato oncology updates. 07-09 Feb 2020, New Delhi. ( <b>Poster: Distribution of common BCR-ABL fusion transcripts and their impact on treatment response in Imatinib treated CML patients</b> ).
105	Unnikrishnan BS	One day Symposium on Targeting Metabolism in Non-Communicable Diseases. 02 Aug 2019, SCTIMST, Thiruvananthapuram. ( <b>Paper: Investigation of sub-cellular responses for the evaluation of the laser-mediated tumor ablation via Raman spectroscopic platform using green synthesized gold nanostars</b> ). Vth National Seminar on Recent Biochemical Approaches in Therapeutics. 09-11 Dec 2019, University of Kerala, Thiruvananthapuram. ( <b>Paper: Polysaccharide coated iron oxide nanoparticle-mediated macrophage activation as a strategic anti-tumor mechanism</b> ). 32nd Kerala Science Congress. 25-27 Jan 2020, Palakkad. ( <b>Paper: Targeted polysaccharide coated iron oxide nanoparticles: a smart nano vector for cancer theranostics</b> ).
106	Venugopal A	Workshop on Long term Central Venous Access organized as part of SOAPCON 2019. 21 Sept 2019, Hyderabad. ( <b>Delegate</b> ). 2nd Annual Conference of the Society of Oncoanaesthesia and Perioperative care (SOAPCON 2019). 21-22 Sept 2019, Hyderabad. ( <b>Delegate</b> ).
107	Venugopal M	EBCON 2019: Head and Neck Oncology Conference. 29 Sept 2019, Thiruvananthapuram. ( <b>Talk: Ca larynx</b> ).
108	Viji S. Pillai, Bhagyalakshmi R, Frenny Ann Philip, Radhika Devi	KEPCON 2019: Annual State Conference of Pain Physicians. 13-14 Dec 2019, Thiruvananthapuram. ( <b>Delegates</b> ).
109	Vineetha C	39th Annual Conference of Indian Association for Cancer Research. 05-07 Feb 2020, RGCB, Thiruvananthapuram. ( <b>Paper: Cytogenetic profiling of adult ALL patients from a tertiary care centre: a five year study</b> ).
110	Vishnu Walsan K	32nd Kerala Science Congress. 25-27 Jan 2020, Palakkad. ( <b>Paper: Improving the quality of life during thoracic radiation induced esophagitis using natural products from marine mangroves: an in vivo study</b> ).
111	Wagh Mira Sudam	KASO Midterm Conference 2019: Update on upper GI malignancies. 18 Aug 2019, Thiruvananthapuram. ( <b>Video presentation: VATS esophagectomy with two field lymphadenectomy</b> ).



# ONGOING RESEARCH PROJECTS

## EXTRAMURAL

Sl. No.	Principal Investigator: Project Title. Funded by. (Status)
<b>BREAST</b>	
1	Rajeev KR.ADD-ASPIRIN:A phase III, double blind, placebo-controlled, randomized trial assessing the effects of aspirin on disease recurrence and survival after primary therapy in common non-metastatic solid tumours. <i>MRC, UK Cancer Research, NHS, NCRI and TMH, Mumbai.</i> (Ongoing). <b>22 patients registered and 19 randomized.</b>
2	Ramadas K. Randomised controlled evaluation of clinical early detection in the control of breast cancer in low-and medium-resource settings. <i>International Agency for Research on Cancer, Lyon, France.</i> (Ongoing).
<b>CHEST &amp; GASTRO-INTESTINAL</b>	
3	Sajeed A. Aspirin for Dukes C and High Risk Dukes B colorectal cancers:An international, multi-centre, double blind, randomised placebo controlled Phase III trial. <i>Singapore Clinical Research Institute.</i> (Ongoing). <b>15 patients enrolled.</b>
<b>GYNAEC &amp; GENITO-URINARY</b>	
4	Lakshmi Haridas K. Prognostic significance of p53 mutation in metastatic prostate cancer. <i>ICON.</i> (Ongoing).
<b>HEAD &amp; NECK</b>	
5	Bipin T.Varghese. Development of an indigenous voice prosthesis for rehabilitation of laryngectomies and its clinical evaluation. <i>Kerala State Council For Science, Technology &amp; Environment, Govt. of Kerala.</i> (Ongoing). <i>Developed few novel valve designs for voice prosthesis of which one is filed for patent. Developed 3 anterograde and 1 retrograde inserter mechanism. (Prototype Testing of these mechanism is ongoing)</i>
6	Ramadas K. Estimation of tobacco attributable mortality in Kerala. <i>International Agency for Research on Cancer, Lyon, France.</i> (Completed).
7	Ramadas K. Biomarkers of Oral Cancer Risk Prediction. <i>Department of Biotechnology, Govt. of India.</i> (Ongoing).
8	Ramadas K. Role of human papillomavirus infection and other co-factors in the aetiology of head and neck cancer in India. <i>Indian Council of Medical Research, Govt. of India.</i> (Completed).
<b>CANCER EPIDEMIOLOGY</b>	
9	Rekha A. Nair: Comparative study of genetic, clinical and epidemiological factors of breast cancer in Indian population. <i>Indian Council of Medical Research, Govt. of India.</i> (Ongoing). <i>It is a multi-centric epidemiological study to evaluate the risk factors and genomic basis of breast cancer in India with the specific objective to determine life-style, clinical, hormonal and other factors associated with breast cancer &amp; to identify the mutational landscape of breast cancer (exome &amp; transcriptome with validation).</i>
10	Aleyamma Mathew. Pattern of care and survival studies in cancers of cervix, female breast and head and neck. <i>Indian Council of Medical Research, Govt. of India.</i> (Ongoing). <i>Hospital based cancer survival rates are used to evaluate the care provided in the hospital and it is named as, Pattern of Care and Survival Studies (POCSS). Systematic data abstraction on patterns of care and survival in cancers of the uterine cervix, breast and head and neck cancer patients reporting to the RCC has been started since 2006 in collaboration with the NCRP of ICMR and expanded to obtain survival of ovarian cancer by the NCRP in 2017. On an average 30,000 patient data is abstracted &amp; follow up information is updated regularly.</i>
11	Aleyamma Mathew. Hospital-based cancer registry. <i>Indian Council of Medical Research, Govt. of India.</i> (Ongoing). <i>HBCR of RCC, Thiruvananthapuram is in its 37th year under the network of National Cancer Registry Programme (NCRP), Indian Council of Medical Research (ICMR), Govt. of India.</i>
12	Aleyamma Mathew. Population Based Cancer Survival studies (PBCSS). <i>Indian Council of Medical Research, Govt. of India.</i> (Ongoing). <i>Population based cancer survival (PBCS) provides an idea of the effectiveness of the overall cancer control strategy in the registry area. It gives a baseline on impact of cancer and its treatment on the population and help plan health services facilities for improvement of survival. Population Based Cancer Survival Study on Cancers of the Breast, Cervix, Head &amp; Neck, started in the division in 2017 in collaboration with NCRP of ICMR.</i>

13	<p>Aleyamma Mathew. Population based cancer registry, Thiruvananthapuram. <i>Indian Council of Medical Research, Govt. of India.</i> (Ongoing).</p> <p><i>PBCR, Thiruvananthapuram covering the entire district (3.3 million populations) is in its 8th year under the network of NCRP (ICMR) in 2020. In this year PBCR area expanded to Pathanamthitta &amp; Alappuzha districts with the funding support from Indian Council of Medical Research (ICMR). The Crude cancer incidence rate (186.4 and 184.4 per 100,000 males and females respectively for the year 2018).</i></p>
14	<p>Preethi Sara George &amp; Aleyamma Mathew. Assessment of cancer density maps for cancer control in Trivandrum, South India. <i>New India Assurance Company LTD.</i> (Ongoing).</p> <p><i>The objective of this study is to obtain density maps of cancer patients by using Global Positioning System (GPS) and examine the relationship between cancer incidences and its land cover as well as elevation of Trivandrum district. The company donated a 5-seater vehicle and the GPS systems for doing the work. This kind of spatial analysis by utilizing sophisticated mapping techniques and cancer registry data was first of its kind in India.</i></p>
15	<p>Kalavathy MC. Pap-smear screening programme among women attending peripheral cancer detection campaigns in Thiruvananthapuram. <i>Thiruvananthapuram Corporation, Jilla Panchayats &amp; NGOs.</i> (Ongoing).</p>
16	<p>Kalavathy MC. Pap-smear screening programme among women with gynecological problems reported in a hospital. <i>Thiruvananthapuram Corporation &amp; Panchayats.</i> (Ongoing).</p>
<b>CANCER RESEARCH</b>	
17	<p>Kannan S. Delineate the biological significance of miRNAs altered in oral carcinoma. <i>Dept. of Biotechnology, Govt. of India.</i> (Ongoing).</p> <p><i>The present study aims to validate the miRNA signature obtained in established oral cancer cell lines, to unravel the biological significance of altered miRNAs in oral carcinogenesis and hence to delineate the associated pathways using various in vitro techniques. The results demonstrate a potential tumour suppressive role of miR-144/451 and miR-1237-3p in oral cancer. The target genes of these miRNAs identified from NGS analysis was validated by qRT-PCR and Western blotting. Further on, we intend to carry out Dual luciferase assays to confirm the direct relationship of these genes with miR-1237.</i></p>
18	<p>Kannan S. Utilization of salivary metabolites in prognosis and diagnosis of oral and tongue cancer. <i>Indian Council of Medical Research, Govt. of India.</i> (Ongoing).</p> <p><i>The objectives of this study are to identify the differentially secreted metabolites in the saliva of oral tongue cancer patients by comparing with the salivary metabolomics profiles of age sex and oral habits matched normal persons. Then evaluation of biological significance of the differentially secreted metabolites using in vitro experiments with tongue cancer cell lines. Finally formulation of salivary metabolic signature for OTC with biologically and functionally significant metabolites.</i></p>
19	<p>Sujathan K. CerviSCAN: Image analysis for reliable and cost effective cancer detection. <i>Swedish Research Link, Govt. of Sweden.</i> (Ongoing).</p> <p><i>Subtle morphological changes occurring cytologically normal cells due to their proximity to a tumour. Recognition of these changes applying machine learning methods is being tried in computerized Pap smear analysis system.</i></p>
20	<p>Sujathan K. Nano biosensors and microfluidics for health care. <i>Council for Scientific and Industrial Research, Govt. of India.</i> (Ongoing).</p> <p><i>A portable hand-held Raman spectroscope has been developed by the CSIR NIIST for the multiplex detection of breast and lung cancer biomarkers. Validation of the system using tissue samples is on progress.</i></p>
21	<p>Sujathan K. Development of multiplexing detection platform for breast cancer biomarkers by non-invasive Surface Enhanced Raman Scattering Nanoprobe. <i>Dept. of Science and Technology, Govt. of India.</i> (Ongoing).</p> <p><i>The ability to gauge the abundance of multiple proteins precisely and simultaneously is an important recent advance for static and dynamic, as well as descriptive and predictive, biological research. A multiplexing system using Surface enhanced Raman spectroscopy is being validated in tissue samples are in progress.</i></p>
22	<p>Sujathan K. Quantum dots based fluorescent multiplexing platform for histoclinical classification of breast cancers. <i>Dept. of Biotechnology, Govt. of India.</i> (Ongoing).</p> <p><i>Quantum Dots have emerged as a promising multifunctional tool in biomedical applications. The potential of QD for multiplex immunohistochemistry is being tried for the histoclinical classification of breast cancer.</i></p>
23	<p>Sujathan K. Development of a low cost automated screening system for cervical cancer (Cervi-SCAN-II). <i>Ministry of Electronics and Information Technology &amp; Dept. of Health Research.</i> (Ongoing).</p> <p><i>Computerized Pap smear screening system developed in collaboration with CDAC, Trivandrum is being validated in a multi-centric way.</i></p>
24	<p>Sujathan K. Nano biosensors and microfluidics for health care. <i>Council for Scientific and Industrial Research, Govt. of India.</i> (Ongoing).</p> <p><i>A portable hand-held Raman spectroscope has been developed by the CSIR NIIST for the multiplex detection of breast and lung cancer biomarkers. Validation of the system using tissue samples is on progress.</i></p>

## Ongoing Research Projects

25	<p>Lakshmi S. Comparative study of genetic, clinical and epidemiological risk factors of breast cancer in Indian population. <i>Indian Council of Medical Research, Govt. of India.</i> (Ongoing).</p> <p><i>Aim of this project is to evaluate the risk factors and genomic basis of breast cancer in India. Total 84 tissue samples (Tumor tissues, adjacent normal tissues &amp; blood samples) were collected. Among the 84 samples, 44 samples belongs to HR positive &amp; Her2 negative group, 20 samples belongs to triple positive group, 12 samples belongs to triple negative group and 8 samples belongs to HR negative &amp; Her2 positive group. DNA isolated from 83 samples, RNA isolated from 42 samples Tumor and adjacent normal tissue and blood samples from breast cancer patients are collected from patients will be used for exome and transcriptome analysis.</i></p>
26	<p>Lakshmi S. Mutation analysis of EGFR, KRAS, and BRAF genes in non-small cell lung cancer in Indian population. <i>Kerala State Council for Science, Technology &amp; Environment, Govt. of Kerala.</i> (Completed).</p> <p><i>Samples for the study are collected prospectively from newly diagnosed patients with adenocarcinoma. PCR Amplification of EGFR (Exon 18, 19, 29, 21) gene, EGFR Exon Sequencing and Mutation Analysis is being carried out from DNA isolated from these samples. Of the 79 patients analysed for EGFR mutations, 46% of patients (EGFR wild-type, 43/79) showed no mutation, while 54% of patients (EGFR mutant, 36/79). EGFR mutation were observed in the exon 18 (5%), exon 19 (20%), exon 20 (36%), and exon 21 (39%). Real time PCR analysis was done on 33 samples using the "Easy® KRAS" Kit which detects mutations in 3 out of 33 samples (9.09%).</i></p>
27	<p>Lakshmi S. Global high through put methylome and transcriptome profiling for the identification of novel therapeutic targets in TNBC and experimental validation. <i>Dept. of Biotechnology, Govt. of India.</i> (Ongoing).</p> <p><i>The role of Hippo pathway effector YAP in progression and survival of breast cancer cells was studied in vitro. We observed increase in apoptosis in YAP silenced cells compared to the control cells. The cell cycle analysis revealed that, silencing of YAP caused a significant accumulation of cells in the sub G0 phase of cell cycle. Absence of YAP delayed wound healing process as observed in scratch assay. Results of the study shows that YAP act as a proapoptotic gene and its transient silencing promoted apoptosis and inhibited proliferation and metastasis. Further validations in both upstream and downstream components of Hippo pathway are to be done for substantiation and characterization of YAP.</i></p>
28	<p>Hariharan S. Clinical relevance of molecular and gene expression signatures in AML patients with normal cytogenetics for a prognostically prioritized molecular classification. <i>Kerala State Council for Science, Technology &amp; Environment, Govt. of Kerala.</i> (Ongoing).</p> <p><i>Two to three ml peripheral blood / bone marrow samples were collected from 82 AML patients after obtaining a written informed consent. Personal details and other epidemiological details related to the patient and disease were also collected and recorded. Cytogenetic investigations were carried out in all the samples, FISH analysis was carried out to check the recurrent abnormalities. Identified 50 patients with Normal cytogenetics (AML NC). Samples with Normal Cytogenetics will be studied for molecular parameters. DNA isolated from the AML NC patients and kept in the freezer for molecular studies.</i></p>
29	<p>Hariharan S. Development of indigenous software for karyotyping and chromosome abnormality detection. <i>Kerala State Council for Science, Technology &amp; Environment, Govt. of Kerala.</i> (Ongoing).</p> <p><i>This project is aimed to develop indigenous low cost cytogenetic software for karyotyping. The metaphase images were used for developing the software, in collaboration with College of Engineering, Karunagappally. Currently the software available is imported from foreign countries and is very costly. The work is going on.</i></p>
30	<p>Sreelekha TT. Preparation and biological evaluation of galactoxyloglucan based scaffolds for stem cell differentiation and tumor reduction. <i>Kerala State Council for Science, Technology &amp; Environment, Govt. of Kerala.</i> (Ongoing).</p> <p><i>Three scaffolds were developed using polysaccharide, galactoxyloglucan (PST001). These scaffolds surface functionalized with silver nanoparticles presented appealing wound healing capacity as compared with the commercially available wound healing materials, which was employed as the positive control for the study. Furthermore, detailed toxicological investigations through the histopathology and Masson's trichrome stained wound sections, the possibility of any trace off-target effects were also ruled out.</i></p>
31	<p>Sreelekha TT. Development of antimicrobial porous polymeric bandage for skin tissue regeneration. <i>Board of Research in Nuclear Sciences, Govt. of India.</i> (Ongoing).</p> <p><i>The present study, compared scaffolds made by four different techniques, electrospinning, gamma radiation technique, porous scaffold via cryotropic, and chemical cross-linking methods with glutaraldehyde followed by lyophilization. All the scaffolds showed good properties like porosity, good strength, and swelling property. The scaffolds were incorporated with antimicrobial agents as silver NPs and copper which showed good results against E.coli, S. aureus, and S. epidermidis. The porous scaffold loaded with stem cells showed good viability, metabolic rate and wound healing.</i></p>

32	<p>Sreelekha T.T. Engineering intelligent theranostic nanocarrier for targeted therapy and diagnosis of cancer. <b>Science and Engineering Research Board, Dept. of Science and Technology, Govt. of India.</b> (Ongoing).</p> <p><i>In this study, a theranostic nanoprobe built on an NIR nanostar which was synthesized by a ultragreen procedure with a native immunomodulatory polysaccharide conjugated with doxorubicin (DOX). The nanoprobe exhibits excellent heat dissipation in aqueous phantoms using 635 nm laser which indicated the significantly reduced IC50 value. The molecular events during cell death from a single cell to the nucleic acid level were analyzed through the Raman fingerprints which showed significant changes in protein degradation and DNA fragmentation in subcellular level.</i></p>
33	<p>Guruvayoorappan C. Mitigation of radiation induced esophagitis by Pyrazole (1,2, Diazole) from <i>Rhizophora apiculata</i> and its potential application as an effective radioprotector. <b>Science and Engineering Research Board, Dept. of Science and Technology, Govt. of India.</b> (Ongoing).</p> <p><i>Phase I study and Phase II study shows that Pyrazole (1,2, Diazole) from Rhizophora apiculata could significantly inhibit experimental esophagitis in experimental animal models as evidenced by tissue morphology and histopathology results. Treatment with Pyrazole (1,2, Diazole) from Rhizophora apiculata significantly inhibited experimental esophagitis compared with standard drug.</i></p>
34	<p>Guruvayoorappan C. Significant use of fold scope as a potential bench side research tool for in vitro cytotoxicity and cell morphology studies and tumour cell apoptosis and its large scale application in cancer research. <b>Dept. of Biotechnology, Govt. of India.</b> (Completed).</p> <p><i>Fold scope is an origami based microscope which was used to study the effect of a battery of compounds on in vitro cytotoxicity and apoptosis in cancer cell lines.</i></p>
35	<p>Guruvayoorappan C. Targeting inflammatory mediators at the transcriptional level and protection of colon integrity during ulcerative colitis by umbelliferone. <b>Kerala Biotechnology Commission, Govt. of Kerala.</b> (Ongoing).</p> <p><i>In the Phase I study it was observed that umbelliferone could significantly inhibit the progression of ulcerative colitis in experimental animals and could regulate the expression of proinflammatory cytokines. This was confirmed by histopathology and immunohistochemistry studies.</i></p>
<b>CANCER RESEARCH (Post-doctoral projects)</b>	
36	<p>Sheeja K. Role of NOD-Like Receptor Protein 3 (NLRP3) on metastasis and angiogenesis of human melanoma. <b>Dept. of Science &amp; Technology, Govt. of India.</b> (Ongoing).</p> <p><i>The main objective of the study is to analyse the role of NLRP3 protein on metastasis and angiogenesis of human melanoma. In the initial phase of the project, protein-protein interaction (PPI) network analysis were carried out using various bioinformatics software. Analysis by STRING showed 61 seed genes along with their interaction partners. The validation of these observations in in vitro system using human melanoma cell lines is in progress.</i></p>
37	<p>Sreeja Purushothaman. <i>In vitro</i> assessment of the anti-cancer property of Amalaki Rasayanam in triple negative breast cancer and delineation of its molecular mechanism of action. <b>Kerala State Council for Science, Technology &amp; Environment, Govt. of Kerala.</b> (Ongoing).</p> <p><i>The study sought to evaluate the anticancer properties of Amalaki Rasayana (AR) along with the delineation of the underlying molecular mechanism of action in TNBC cell line. The extracts showed selective cytotoxicity towards the cancer cells, induced cell cycle arrest at S phase and apoptosis, inhibited cell migration and invasions by inhibition of MMP2 and 9, VEGF and its receptors. Extracts downregulated NF-κB expression and its DNA binding activity and AR extract was found to be more potent compared to PE possibly due to the enrichment of Phytochemical entities with NF-κB inhibition potential.</i></p>
38	<p>Vineetha M. Cytogenetic and molecular studies in adult acute lymphoblastic leukemia. <b>Kerala State Council for Science, Technology &amp; Environment, Govt. of Kerala.</b> (Ongoing).</p> <p><i>The main objectives of the study are to identify the cytogenetic and molecular abnormalities associated with ALL targeting mutations in IKZF1, NOTCH-1, CRLF2, Ras signaling and Janus kinases, to evaluate the effect of combination of imatinib and dasatinib through in vitro cell culture study (MOLT-4) and also in the primary cells isolated from patient samples.</i></p>
39	<p>Syama HP. NPDF Antitumor and antimicrobial properties of polysaccharide-silver nanoparticles for biomedical applications. <b>Science and Engineering Research Board, Dept. of Science and Technology, Govt. of India.</b> (Ongoing).</p> <p><i>This study investigates the wound healing and anticancer activity of silver nanoparticles conjugated with galactomannan polysaccharide (PSP001), isolated from the fruit rind of Punica granatum. The antitumor efficacy of PSP001 and PSP@AgNP was proved in EAC solid tumor mouse models. PSP@AgNP also exhibited significant antimicrobial property against S.aureus and C.albicans. Punch wound model studies conducted in Balb/c mice also revealed that PSP-SNP to be effective in healing the wound after 14 days. The overall results suggest that biogenic silver nanoconjugates have the potential to be developed as an anticancer as well as wound healing agent.</i></p>

## Ongoing Research Projects

COMMUNITY ONCOLOGY	
40	Jayakrishnan R. Cancer prevention and control among the tribal population of Kerala State. <i>Kerala State Tribal Development Department, Government of Kerala.</i> (Ongoing).
41	Jayakrishnan R. 'LEADership training programme for doctors in cancer prevention and control (LEAD 2019-2020)'. <i>National Health Mission, Kerala State.</i> (Ongoing).
NATURAL BACKGROUND RADIATION CANCER REGISTRY	
42	Rekha A. Nair: India- Japan co-operative research programmes on health effects of natural radiation in Karunagappally, Kerala. <i>Health Research Foundation, Japan.</i> (Ongoing). <i>Radiation Epidemiologic studies, cytogenetic and clinical studies ongoing; concentrating on the radiation cohort comprising 4 lakhs population</i>
43	Jayalekshmi P. Radiation epidemiologic studies, Karunagappally, Kerala, India. <i>Health Research Foundation, Japan.</i> (Ongoing). <i>Follow up of the residents of HBRA. Mortality and Cancer Incidence survey undertaken covering 4 lakh population periodically.</i>
44	Rekha A. Nair. Prevalence of cataract in HBRA, Karunagappally. <i>Health Research Foundation, Japan.</i> (Ongoing). <i>The project aims to evaluate the prevalence of cataract and lens opacity among the residents of high and low background area. 900 females have undergone eye examination using slit lamp by ophthalmologist and analysis is now ongoing.</i>
45	Rekha A. Nair. Prevalence of atherosclerosis in HBRA, Karunagappally. <i>Health Research Foundation, Japan.</i> (Ongoing). <i>The project evaluates the prevalence of atherosclerosis among the residents. Data collection CAVI, IMT measurements and biochemical investigations completed. Data processing and analysis ongoing.</i>
46	Rekha A. Nair. District Cancer Registry. <i>Indian Council of Medical Research, Govt. of India.</i> (Ongoing). <i>District Cancer Registry supported by NCDIR, ICMR provides incidence and pattern of cancer in Kollam District. 3970 incident cancer cases &amp; 1610 cancer mortality cases were registered during 2018. The major sites among males were 620 mortality cases were registered.</i>
47	Rekha A. Nair. Population based survival studies of head and neck, breast & cervix cancers in Kollam District, Kerala. <i>Indian Council of Medical Research, Govt. of India.</i> (Ongoing). <i>The study aims to estimate the survival rates of the cases registered with the above sites during 2012 to 2016 in District Cancer Registry. The survival information collection for estimating survival probabilities was undertaken during the reporting period</i>
48	Hariharan S. Cytogenetic studies on the effects of chronic low level radiation in the residents of high background radiation areas (HBRA) in Kerala, India. <i>Health Research Foundation, Japan.</i> (Ongoing). <i>Cytogenetic studies were undertaken to estimate the translocations of chromosomes among high background radiation area (HBRA) residents. Molecular signature of thyroid cancers was also undertaken.</i>
49	Jayalekshmi P. Prevention & cancer control projects – 14 Nos. <i>Grama, Block Panchayats, Karunagappally, Kollam &amp; Harippad Block Panchayat.</i> (Completed). <i>5082 subjects underwent cancer detection in the rural areas of Kollam district.</i>
RADIATION PHYSICS	
50	Thayal Singh Elias. Design and development of indigenous integrated brachytherapy simulator for cancer treatment. <i>Dept. of Science and Technology, Govt. of India.</i> (Ongoing).
51	Shaiju VS. Design and fabrication of a head phantom for dosimetric verification of radiotherapy treatment plans. <i>Kerala State Council for Science, Technology &amp; Environment, Govt. of Kerala.</i> (Ongoing). <i>Analysis of a commercially available phantom material, using advanced methods like Thermogravimetric analysis, Differential scanning calorimeter tests, Raman Spectroscopy, Energy dispersive X - ray spectroscopy (EDS or EDX), formulation of indigenous polymer based phantom material comprising of Poly-Styrene with some non-polymeric additives.</i>

## PHARMA/INDUSTRY SPONSORED

Sl. No.	Principal Investigator. Project Title. Funded by. (Status)
<b>BREAST</b>	
1	Beela Sarah Mathew. ALTTO (Adjuvant Lapatinib and/or Trastuzumab Treatment Optimisation) study. A randomised, multi-centre, open-label, phase III study of adjuvant lapatinib, trastuzumab, their sequence and their combination in patients with HER2/ErbB2 positive primary breast cancer. <b>Glaxo Smith Kline.</b> (Ongoing). <b>9 patients randomized , 7 patients are on follow up and 2 patients died</b>
<b>CHEST &amp; GASTRO-INTESTINAL</b>	
2	Roshni S. A Phase II randomized, multi-center, double-blind, global study to determine the efficacy and safety of durvalumab plus olaparib combination therapy compared with durvalumab monotherapy as maintenance therapy in patients whose disease has not progressed following standard of care platinum-based chemotherapy with durvalumab in first-line stage iv non-small cell lung cancer (ORION). <b>Astra Zeneca.</b> (Completed.)
<b>GYNAEC &amp; GENITO-URINARY</b>	
3	Francis V. James. A single arm, multicentric, open label, efficacy and safety study of Docetaxel Lipid Suspension for Injection of Intas Pharmaceuticals Limited, India in patients with metastatic castration resistant prostate cancer. <b>Lambda Therapeutic Research Limited.</b> (Ongoing).
4	Aswin Kumar. Multicentre, randomized, open label, active-controlled, 2 parallel groups, phase 3 study to compare efficacy and safety masitinib at 7.5 mg/kg/day to dacarbazine in the treatment of patients with non resectable or metastatic stage 3 or 4 melanoma carrying a mutation in the juxta membrane domain of c-kit. <b>AB Sciences.</b> (Ongoing).
5	Aswin Kumar. A prospective, multicenter, randomized, double blind, placebo-controlled, 2-parallel groups, phase 3 study to compare the efficacy and safety of masitinib in combination with docetaxel to placebo in combination with docetaxel in first line metastatic Castrate Resistant Prostate Cancer (mCRPC). <b>AB Sciences.</b> (Ongoing).
<b>HAEMATOLOGICAL, LYMPHORETICULAR, BONE &amp; SOFT TISSUE</b>	
6	Geetha N. A phase II study of dasatinib therapy in children and adolescents with newly diagnosed chronic phase chronic myelogenous leukaemia or with Ph+ leukaemias resistant or intolerant to imatinib. <b>Bristol Myers Squibb.</b> (Ongoing).
7	Sreejith Nair. A randomized, controlled, double-blind phase III trial to compare the efficacy, safety and pharmacokinetics of GP2013 plus cyclophosphamide, vincristine and prednisone vs. MabThera® plus cyclophosphamide, vincristine, prednisone, followed by GP2013 or MabThera® maintenance therapy in patients with previously untreated, advanced stage follicular lymphoma. <b>Novartis.</b> (Ongoing).
8	Anoop TM. A randomized, open-label, phase III study of abemaciclib combined with standard adjuvant endocrine therapy versus standard adjuvant endocrine therapy alone in patients with high risk, node positive, early stage, hormone receptor positive, human epidermal receptor 2 negative, breast cancer: I3Y-MC-JPC. <b>Eli Lilly.</b> (Ongoing).
9	Rona Joseph P. A randomized, open-label, phase 3 study of abemaciclib combined with standard adjuvant endocrine therapy versus standard adjuvant endocrine therapy alone in patients with high risk, node positive, early stage, hormone receptor positive, human epidermal receptor 2 negative, breast cancer: I3Y-MC-JPCF. <b>Eli Lilly.</b> (Ongoing).
<b>HEAD &amp; NECK</b>	
10	Rejnish Kumar R. A phase III, open label, randomised, multi-centre study of the effects of leukocyte interleukin injection [Multikine] plus standard of care (surgery + radiotherapy or surgery + concurrent chemoradiotherapy) in subjects with advanced primary squamous cell carcinoma of oral cavity/soft palate versus standard of care only. <b>Cell Science.</b> (Partial closure done, Awaiting close down).
11	Rejnish Kumar R. Prospective single arm post marketing phase IV study to assess the safety and efficacy of lenvatinib in subjects with locally recurrent or metastatic, progressive, radioiodine refractory differentiated thyroid cancer. <b>EISAI Pharmaceuticals India Pvt. Ltd.</b> (Ongoing).
<b>RADIODIAGNOSIS</b>	
12	Venugopal M. Thermolytix in breast screening. <b>Niramai, Bangalore.</b> (Ongoing). <b>Artificial intelligence incorporated in thermographic imaging is Thermolytix. It's efficacy in breast screening is evaluated, making use of mammogram, USG and histopathology.</b>

# Ongoing Research Projects

## IN-HOUSE PROJECTS

Sl. No.	Principal Investigator. Project Title. (Status)
<b>ANAESTHESIOLOGY</b>	
1	Rachel Cherian Koshy. Comparison of ease of endotracheal intubation and laryngeal view between sniffing and ramped positions: a prospective observational study. (Completed).
2	Rachel Cherian Koshy. Predictive model for difficult intubation using computed tomographic and clinical parameters in head and neck oncosurgeries: a prospective observational study. (Ongoing).
3	Mary Thomas. Accuracy of stroke volume variation compared with pleth variability index to predict fluid responsiveness in mechanically ventilated patients undergoing major surgery. (Ongoing).
4	Mary Thomas. Pre-operative shuttle walk test for morbidity and mortality prediction in elective major colorectal surgery. (Completed).
5	Venugopal A. Ultrasonographic measurement of IVC diameter and collapsibility index to predict hypotension following induction of general anaesthesia: A prospective observational study. (Ongoing).
6	Venugopal A. Direct laryngoscopy versus video laryngoscopy for nasotracheal intubation in head & neck surgery: A prospective observational study. (Completed).
7	Mallika Balakrishnan. Correlation between specific craniofacial features and difficulty of intubation in non-obese patients with anticipated difficult intubation. (Ongoing).
8	Sudha P. Intravenous and intratracheal lignocaine on airway and hemodynamic response during emergence and extubation following general anaesthesia. (Completed).
9	Sudha P. Comparison of POCD following inhalation and intravenous anaesthesia in gynaecologic and gastrointestinal malignancy. (Ongoing).
10	Viji S. Pillai. Preprocedural ultrasound assisted landmark identification for epidural catheterisation: prospective observational study. (Ongoing).
11	Viji S. Pillai. Comparison of nebulized lignocaine and nebulized ketamine as an adjunct to General Anaesthesia in attenuating stress response to intubation and in reducing the incidence of post-operative sore throat. (Ongoing).
12	Bhagyalekshmi R. Ultrasonographic measurement of IVC diameter and collapsibility index to predict hypotension following induction of general anaesthesia: A prospective study. (Ongoing).
13	Deepthi J. Prabhu. Comparison of nebulized lignocaine and ketamine as an adjunct to general anaesthesia in attenuating stress response to intubation and in reducing the incidence of postoperative sore throat. (Ongoing).
14	Deepthi J. Prabhu. Accuracy of stroke volume variation compared with pleth variability index to predict fluid responsiveness in mechanically ventilated patients undergoing major surgery. (Ongoing).
15	Subha R. Correlation between specific craniofacial features and difficulty of intubation in non-obese patients with anticipated difficult intubation. (Ongoing).
16	Subha R. Pre-operative shuttle walk test for morbidity and mortality. (Ongoing).
17	Rajasree O. Predictive model for difficult intubation using computed tomographic and clinical parameters in head and neck oncosurgeries: a prospective observational study. (Ongoing).
18	Rajasree O. Intravenous and intrathecal lignocaine on airway and hemodynamic response during emergence and extubation following general anaesthesia. (Completed).
19	Frenny Ann Philip. Comparison of POCD following inhalation and intravenous anaesthesia in gynaecologic and gastrointestinal malignancy. (Ongoing).
20	Frenny Ann Philip. Comparison of ease of endotracheal intubation and laryngeal view between "sniffing" and "ramped" positions- a prospective observational study. (Completed).
21	Radhika Devi B. Ultrasonography: an effective tool in airway assessment: a pilot study. (Completed).
22	Radhika Devi B. Validation of CCI in predicting comorbidity adjusted life expectancy in oral cancer. (Completed).
23	Radhika Devi B. Randomised control trial to study the effect of Gowgates block on visibility of surgical field and hemodynamic response in patients with carcinoma tongue. (Completed).
<b>BONE &amp; SOFT TISSUE</b>	
24	Paul Augustine. Functional outcome of biological reconstruction technique: ECRT in lower limb tumour surgery. (Ongoing).

25	Paul Augustine. Review of bone sarcoma presentation in a tertiary care cancer centre. (Ongoing).
26	Rexeena V. Bhargavan. Role of surgical margins on the outcome of truncal soft tissue sarcoma: A prospective study. (Ongoing).
27	Rexeena V. Bhargavan. Role of surgical margins on the outcome of extremity soft tissue sarcoma: A prospective study. (Ongoing).
<b>BREAST &amp; CENTRAL NERVOUS SYSTEM</b>	
28	Beela Sarah Mathew. Clinical validation of IHC 4 as a predictor of outcome for early stage hormone positive HER 2 negative low grade breast cancer. (Ongoing).
29	Asha Arjunan. Clinical outcome of adjuvant radiotherapy in early stage breast cancer with 1 to 3 positive axillary lymph nodes: A single institution experience. (Completed).
30	Asha Arjunan. Clinical validation of IHC 4 as a predictor of outcome for early stage hormone positive HER 2 negative low grade breast cancer. (Ongoing).
31	Asha Arjunan. Clinical outcome of stage I-III hormone receptor positive HER 2 negative breast cancer: A single institution study. (Ongoing).
32	Rajeev KR. Evaluation of cardiac morbidity with adjuvant hypo fractionated radiotherapy and concurrent trastuzumab in patients with HER 2 positive stage I- III breast cancer. (Ongoing).
33	Rajeev KR. Treatment and outcome of male breast cancer: A retrospective analysis. (Ongoing).
34	Paul Augustine. Prevalence, characteristics and effect on QoL of post mastectomy pain syndrome. (Ongoing).
35	Paul Augustine. Efficiency of endofacial axillary lymphadenectomy in reducing axillary drain output among women with breast cancer undergoing breast conservation surgery in Regional Cancer Centre Thiruvananthapuram. (Completed).
36	Paul Augustine. Clinico-pathological profile and survival outcome among patients with bilateral breast cancers in a tertiary cancer care centre in Kerala. (Completed).
37	Paul Augustine. Validation of the Malayalam version of body image scale and assessment of the impact of breast cancer surgery on body image. (Ongoing).
38	Paul Augustine. Locoregional recurrence and survival outcome in patients with carcinoma breast. (Ongoing).
39	Paul Augustine. Evaluation of the metastatic status of lymph nodes identified using axillary reverse mapping in breast cancer. (Ongoing).
40	Paul Augustine. Role of sentinel lymph node biopsy using single tracer technique in predicting the nodal status of axilla in neoadjuvant setting in carcinoma breast. (Ongoing).
41	Paul Augustine. Tumor resection volumes in breast conservation surgery: A prospective analysis. (Ongoing).
42	Paul Augustine. Role of intraoperative ultrasound in breast conservation surgery for non-palpable residual disease after neoadjuvant chemotherapy: A pilot study. (Ongoing).
43	Kurian Cherian. Comparison of clinicopathological and survival outcomes in patients with carcinoma breast who were diagnosed at or less than 40 years of age with more than 40 years. (Completed).
44	Kurian Cherian. Low axillary sampling in predicting nodal status of post chemotherapy axilla in carcinoma breast. (Ongoing).
45	Kurian Cherian. Correlation of circulating tumor cells and clinicopathological factors in patients with locally advanced breast cancer and oligometastases undergoing neoadjuvant chemotherapy followed by surgery. (Ongoing).
46	Rexeena V. Bhargavan. Role of locoregional treatment of the primary site in de novo oligometastatic breast cancer: A prospective observational study. (Ongoing).
47	Rexeena V. Bhargavan. Prevalence of androgen receptor positivity in breast cancer patients and its prognostic implications. (Ongoing).
48	Rexeena V. Bhargavan. Role of frailty in predicting postoperative outcomes in cancer surgeries. A prospective cohort study. (Completed).
49	Rexeena V. Bhargavan. The role of level III dissection in locally advanced breast cancer following neoadjuvant chemotherapy: A prospective study. (Ongoing).
<b>CANCER EPIDEMIOLOGY</b>	
50	Aleyamma Mathew. Some generalized Weibull models and their applications in cancer research. (Ongoing).
51	Aleyamma Mathew. The Impact of Socio-economic Status (SES) on Stage and Survival of Gastrointestinal Cancer: A Comparative Study of Canada and South India. (Ongoing).
52	Jagathnath Krishna KM. Joint frailty modeling of longitudinal time-to-event data in cancer survival. (Ongoing).



## Ongoing Research Projects

CHEST & GASTRO-INTESTINAL	
53	Chandramohan K. Prospective evaluation of pattern of care and quality of life in patients undergoing esophagectomy at regional cancer centre. (Ongoing).
54	Chandramohan K. LARS after rectal cancer surgery. (Ongoing).
55	Chandramohan K. Pattern of care of stomach cancer in RCC. (Ongoing).
56	Chandramohan K. Change in QOL after rectal surgery. (Ongoing).
57	Chandramohan K. Lymphnode harvesting in colonic cancers after surgery. (Ongoing).
58	Chandramohan K. Diagnostic lap for stomach cancer. (Ongoing).
59	Madhu Muralee. Predictive value of serum and molecular markers in assessing response to neoadjuvant treatment and short term outcome in adenocarcinoma of esophagogastric junction and stomach: Prospective observational Study. (Ongoing).
60	Madhu Muralee. Prospective observational study on the impact of prognostic nutritional index as an indicator of short-term morbidity and mortality in patients undergoing surgery for gastric and esophagogastric junction carcinoma. (Ongoing).
61	Arun Peter Mathew. Pattern of sarcopenia in patients with gastric cancer and its effect on postoperative outcome.
62	Sivanandan CD. A retrospective analysis of clinical outcome in patients treated with short course radiotherapy followed by surgery for operable adenocarcinoma of rectum. (Ongoing). Enrolled 40 patients.
63	Sivanandan CD. Dosimetric comparison of 3DCRT and IMRT in radical chemoradiotherapy of squamous cell carcinoma esophagus. (Completed). <i><b>IMRT avoids areas of excessive irradiation within the PTV, improves the homogeneity &amp; dose conformity to the target volume. The cardiac dose is significantly reduced with IMRT. The mean lung dose remains similar to 3DCRT.</b></i>
64	Sajeed A. Treatment response in patients undergoing stereotactic body radiotherapy in non-small cell lung cancer: a single institutional prospective observational study. (Completed). <b>Enrolled 7 patients.</b>
65	Sajeed A. Outcomes and Prognostic factors of extensive stage small cell lung carcinoma – retrospective study. (Ongoing).
66	Roshni S. Prospective observational study of preoperative short course radiation followed by delayed surgery in operable and locally advanced adenocarcinoma rectum. (Ongoing). <b>Enrolled 20 patients.</b>
67	Arun Sankar S. Evaluation of acute toxicities and outcome of pre-op chemoradiation and surgery in esophageal squamous cell carcinomas: experience from Regional Cancer Centre: a prospective study. (Ongoing). Screened 7 patients.
GYNAEC & GENITOURINARY	
68	Francis V. James. Toxicity assessment of moderate hypofractionated radiotherapy in localized prostate cancer: A prospective observational study. (Ongoing).
69	Francis V. James. Utrecht applicator for combined intracavitary /interstitial brachytherapy in locally advanced cancer cervix: Feasibility and plan comparison. (Ongoing).
70	Francis V. James. Prospective study of the level of Programmed death ligand 1 (PD-L1) expression in carcinoma cervix patients. (Completed).
71	Francis V. James. Prognostic factors and outcomes of non-seminomatous germ cell tumours of testis. (Completed).
72	Aswin Kumar. Role of PET-CT in staging and treatment planning of carcinoma cervix stage IIB-III B. (Completed).
73	Aswin Kumar. Outcome of consolidation radiotherapy in advanced Hodgkin disease. (Ongoing).
74	Rema P. Life after exenteration: Quality of life assessment in patients after exenteration for gynaecological cancers. (Ongoing).
75	Rema P. Prospective study to evaluate the correlation between colposcopic scoring with histopathology in VIA positive patients. (Ongoing).
76	Rema P. Significance of TGF beta signaling alterations in endometrial cancer. (Ongoing).
77	Rema P. Interval cytoreduction in advanced stage epithelial ovarian cancer -Survival outcome and surgical morbidity analysis. (Ongoing).
78	Rema P. Implementation of Enhanced Recovery After Surgery (ERAS) in patients undergoing Laparotomy for Gynaecologic Malignancies. (Ongoing).
79	Rema P. Evaluation of circulating cell free DNA levels in predicting operability during interval cytoreduction for advanced ovarian cancers. (Ongoing).

80	Suchetha S. Prognostic significance of chemotherapy response score in patients undergoing interval debulking surgery for high grade serous tubal and ovarian carcinoma. (Ongoing).
81	Suchetha S. Validation of QLQ-EN24. (Ongoing).
82	Siva Ranjith J. Laparoscopic sentinel lymph node mapping using indocyanine green dye. (Recruitment to be started).
83	Dhanya Dinesh. Risk factor patterns in epithelial ovarian cancers. (Ongoing).
<b>HAEMATOLOGICAL &amp; LYMPHORETICULAR</b>	
84	Geetha N. Estimation of Plasma Epstein Barr virus DNA in patients with Hodgkin's lymphoma and its correlation with treatment response. (Completed).
85	Geetha N. A prospective study of Revised International Staging system (R-ISS) in multiple myeloma and its prognostic significance. (Ongoing).
86	Geetha N. Serum Cystatin C as prognostic marker in multiple myeloma. (Ongoing).
87	Geetha N. Prognostic significance of absolute lymphocyte count/Absolute monocyte count ratio in classical Hodgkin's lymphoma and its correlation with PET response: a prospective study. (Ongoing).
88	Geetha N. Evaluation of the profile and risk factors for toxicity of high dose methotrexate. (Ongoing).
89	Geetha N. Prognostic significance of serum ferritin in acute myeloid leukemia. (Ongoing).
90	Geetha N. Efficacy and Toxicity of dose adjusted EPOCH Rituximab chemotherapy in high grade lymphoma. (Ongoing).
91	Geetha N. The pattern and outcome of healthcare associated infections in patients with acute myeloid leukemia. (Ongoing).
92	Geetha N. Clinical profile and complications of newly diagnosed acute leukemia patients with hyperleucocytosis. (Ongoing).
93	Sreejith Nair. A prospective study to evaluate association between normalization of free light chains and outcome in patients with multiple myeloma. (Completed).
94	Sreejith Nair. A prospective observational study to correlate the association of neutrophil lymphocyte ratio and treatment response in patients with multiple myeloma. (Completed).
95	Sreejith Nair. Prognostic significance of beta 2 microglobulin and absolute lymphocyte monocyte ratio in patients with DLBCL treated with RCHOP. (Ongoing).
96	Sreejith Nair. Prognostic significance of serum ferritin levels in Hodgkin's lymphoma and its correlation with end of treatment PET response. (Ongoing).
97	Prakash NP. Clinical spectrum and outcome of carbapenem resistant infections in patients with acute leukaemia. (Completed).
98	Prakash NP. An observational study to evaluate the efficacy of escalated dose of imatinib or a second line tyrosine kinase inhibitor in chronic myeloid leukaemia patients showing treatment failure to standard dose imatinib. (Completed).
99	Prakash NP. Role of inflammatory markers in predicting response to treatment in patients with non-metastatic osteosarcoma: a prospective observational study. (Ongoing).
100	Prakash NP. Prognostic significance of CD 200 expression in acute myeloid leukemia. (Ongoing).
101	Prakash NP. Impact of BCR-ABL transcript type on response to treatment with Imatinib in chronic myeloid leukemia-chronic phase patients. (Ongoing).
102	Anoop TM. Serum carcinoembryonic antigen as a prognostic biomarker in metastatic breast cancer. (Ongoing).
103	Anoop TM. A prospective study to evaluate the role of cell free DNA integrity index in assessing the response to neo adjuvant chemotherapy in patients with carcinoma breast. (Ongoing).
<b>HEAD &amp; NECK</b>	
104	Rejnish Kumar R. Dosimetric evaluation of increasing number of arcs in head and neck IMRT-a prospective observational study. (Completed).
105	Rejnish Kumar R. Outcome of early glottis cancer treated with radical radiotherapy-single institution experience. (Ongoing).
106	Kainickal CT. Clinical profiles and treatment outcomes of patients treated with induction chemotherapy for locally advanced carcinoma of oral tongue: a retrospective analysis. (Ongoing).
107	Kainickal CT. Clinical profile and treatment outcomes of carcinoma buccal mucosa: retrospective analysis. (Completed).
108	Kainickal CT. Clinical outcomes of locally advanced Ca Larynx treated with definitive chemo-RT/RT-a retrospective analysis. (Ongoing).

## Ongoing Research Projects

109	Malu Rafi. Dosimetric impact of neoadjuvant chemotherapy in locally advanced carcinoma nasopharynx treated with IMRT technique. (Ongoing).
110	Malu Rafi. Treatment outcomes of carcinoma of the parotid gland-a single institution experience. (Ongoing).
111	Malu Rafi. Single Institution experience of treating MUO neck-a retrospective study. (Ongoing).
112	Shaji Thomas. Predictability of prognosis using Brandwein – Gensler’s Risk Scoring System in early squamous cell carcinoma of tongue. (Ongoing).
113	Shaji Thomas. Association between pattern of invasion and epithelial mesenchymal transition and its prognostic impact on early squamous cell carcinoma of tongue. (Ongoing).
114	Shaji Thomas. Oncological safety of marginal mandibulectomy in resection of oral cavity cancers: A retrospective study. (Ongoing).
115	Shaji Thomas. Thyroid carcinoma arising from thyroglossal duct cyst: A tertiary care centre experience. (Ongoing).
116	Shaji Thomas. Surgically treated parapharyngeal tumours: An institutional experience. (Ongoing).
117	Shaji Thomas. Island nasolabial flap: a versatile option in reconstruction of oral defects – a retrospective analysis. (Ongoing).
118	Bipin T.Varghese. Matched pair study of free flaps Vs conventional flaps in head and neck reconstruction. (Ongoing).
119	Bipin T.Varghese. Prospective comparative study of watch and wait policy versus elective neck dissection in early superficial squamous cell carcinoma of tongue. (Ongoing).
120	Bipin T.Varghese. Dual Baseline Imaging with ultrasonogram (USG) and Contrast Enhanced CT (CECT) scan for precision mapping in thyroid cancer surgery. (Ongoing).
121	Bipin T.Varghese. Salivary neoplasms: therapeutic and functional outcome: a retrospective study. (Ongoing).
122	Bipin T.Varghese. Treatment outcomes of medullary carcinoma of thyroid. (Ongoing).
123	Bipin T.Varghese. Treatment outcomes of poorly differentiated carcinoma of thyroid. (Ongoing).
124	Bipin T.Varghese. Study of tonicity of pharyngo-esophageal segment of laryngectomies using surface EMG. (Ongoing).
125	Bipin T.Varghese. Study of pharyngocutaneous fistulae among laryngectomies. (Ongoing).
126	Bipin T.Varghese. Study of outcomes of near total laryngectomy for advanced larynx and hypopharynx cancers. (Ongoing).
127	Elizabeth Mathew lype. Ten year survival of patients with well differentiated thyroid cancers: A retrospective analysis. (Ongoing). 3 year data collection over.
<b>PAEDIATRIC ONCOLOGY</b>	
128	Priyakumari T. Insulin resistance among long term survivors of childhood leukemia. (Ongoing).
129	Priyakumari T. Evaluation of hearing and renal function in children treated with platinum compounds. (Ongoing).
130	Priyakumari T. Dynamics of nutritional status during induction chemotherapy in childhood acute lymphoblastic leukemia and their effects on the course of induction therapy. (Ongoing).
131	Priyakumari T. Serum immunoglobulin levels in children of acute lymphoblastic leukaemia during maintenance chemotherapy and its correlation with intensity of treatment and infection. (Ongoing).
132	Priyakumari T. Cardio-metabolic complications in long term survivors of childhood leukaemia. (Ongoing).
133	Priyakumari T. Evaluation of toxicity profile of high dose methotrexate therapy in childhood acute lymphoblastic leukemia. (Ongoing).
134	Priyakumari T. The dynamics of Anti-HBs titre in children during maintenance phase chemotherapy for acute lymphoblastic leukemia. (Ongoing).
<b>PATHOLOGY</b>	
135	Jayasree K. Pathology of chondroid neoplasm of bone-A 10 year Retrospective study. (Ongoing).
136	Jayasree K. Clinical characteristics and treatment outcome of Ewing’s sarcoma in adolescents and adults: Retrospective study. (Ongoing).
137	Anitha Mathews. Comparison of expression pattern of HR and HER2/neu protein in primary breast carcinoma and synchronous LN metastasis. (Ongoing).
138	Preethi TR. Prospective study of the level of Programmed cell death ligand I (PD- L1) expression in locally advanced cervical cancer patients. (Completed).
139	Anila KR. Prevalence of BRAF, RAS, RET/PTC and PTEN proto-oncogene mutations in recurrent and aggressive thyroid cancers. (Ongoing).

140	Anila KR. Utility of fascin over-expression as a marker of aggressiveness in squamous cell carcinoma of tongue. (Ongoing).
141	Sindhu Nair P. Clinicopathological profile and Pattern of P53 expression in lung adenocarcinoma in smokers and nonsmokers.
142	Rari P Mony. Histological grading of prostatic cancer using convolution neural network in tissue images. (Ongoing).
143	Rari P Mony. A comparative study of liquid-based cytology to conventional cytology for diagnosis of cervical lesions in tertiary care centre. (Ongoing)
144	Jayasudha AV. Prognostic significance of double-expresser status in diffuse large B-cell lymphoma. (Ongoing).
145	Neelima Radhakrishnan. Utility of frozen section in the assessment of margins and its impact on local recurrence in squamous cell carcinoma of tongue. (Ongoing).
<b>RADIATION PHYSICS</b>	
146	Raghukumar P. A study on the variation of overlapping factor with patient geometry and spoiler thickness in Total Skin Electron Beam Therapy. (Ongoing).
147	Zhenia Gopalakrishnan. Dosimetric evaluation of the two dose reporting modes of Acuros XB dose calculation algorithm using Electronic Portal Imaging Device (EPID) in Volumetric Modulated Arc Therapy. (Ongoing).
148	Debjani Phani. Dosimetric analysis of volumetric modulated arc therapy plans for flattened and unflattened 6 Mv photon beams in small targets. (Ongoing).
149	Sharika V. Menon. Correlation of bladder and rectal point doses and volume doses in optimised and un-optimised treatment plans of patients treated with high dose rate brachytherapy for uterine cervix carcinoma: An institutional specific study. (Ongoing).
150	Sharika V. Menon. Dosimetric validation of Analytical Anisotropic Algorithm (AAA®) and AcurosXB® algorithms in arc-based intensity-modulated stereotactic radiosurgery (IMSRS) plans using portal dosimetry. (Ongoing).
<b>RADIODIAGNOSIS</b>	
151	Jiji V. Unearthing contralateral breast malignancy: Screening mammography as a tool. (Ongoing).
152	Anitha Sen. Radiation dose measurement in mammography using OSLD (Optically Stimulated Luminescence Dosimeters). (Ongoing).
153	Anitha Sen. Diffusion weighted magnetic resonance imaging in assessing bone marrow of pelvic bones. (Completed).

# PUBLICATIONS

## Journal Articles

1	Aditi M, Arya TD, Baral I, Pallavi CV, Mukherjee A, Lakshmi S, <b>Geetha N</b> , Dutta D. 'Histone chaperone HIRA dictate proliferation vs. differentiation of chronic myeloid leukemia cells'. <i>FASEB BioAdvances</i> . 2019/1(9): 525-37.
2	<b>Amita R, Vijayalakshmi K</b> . 'Prevalence and haemolytic significance of red cell antibodies among dangerous universal donors in a tertiary care hospital in south India'. <i>International Journal of Medical Laboratory</i> . 2019/6(4): 234-40.
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# Administration, Standing Committees & Right to Information

## a. ADMINISTRATION

Director	:	Dr. Rekha A. Nair
Additional Director (Academic)	:	Dr. N. Geetha
Medical Superintendent	:	Dr. Sajeed A
Deputy Medical Superintendent	:	Dr. Madhu Muralee

## b. STAFF STRENGTH

Type of Staff	Permanent		Temporary/ Contract	Daily wages	Deputation		Consultants engaged	Total
	Existing	New Recruits			In	Out		
Academic	124	--	03	--	--	--	06	133
Non-Academic	736	32	88	30	05	02	--	893
<b>Total</b>	<b>860</b>	<b>32</b>	<b>91</b>	<b>30</b>	<b>05</b>	<b>02</b>	<b>06</b>	<b>1026</b>

## c. ACADEMIC STAFF STRENGTH

Professors-13, Additional Professors-45, Associate Professors-19, Assistant Professors-42

## d. NON-ACADEMIC STAFF

### Administrative Office

Mahesh B (Sri)	Administrative Officer (till 31.05.2019)
Shibu Issac (Sri)	Administrative Officer (from 20.06.2019)
Jumailathu Beevi KM (Smt)	Office Assistant Sel.Gr.
Remila CK (Smt)	Office Assistant Sel.Gr.
Snehalatha HB (Smt)	Office Assistant Sel.Gr.
Kalpana Soni S (Smt)	Office Assistant
Girija K (Smt)	Office Assistant
Padmarajan R (Sri)	Typist
Ajitha S (Smt)	Clinical Records Assistant
Senan S (Sri)	Senior Helper

### Anaesthesiology

Abin Issac (Sri)	Operation Theatre Technician Sr. Gr.
Rajendran Nair P (Sri)	Operation Theatre Technician
Manju RS (Smt)	Operation Theatre Technician
Kirankumar (Sri)	Operation Theatre Technician
Santhosh S (Sri)	Operation Theatre Technician
Sindhuma I VA (Smt)	Operation Theatre Technician
Beenamma Chacko (Smt)	Operation Theatre Technician
Surabhi Chandran (Smt)	Operation Theatre Technician
Krishnakumar GK (Sri)	Operation Theatre Technician (joined on 25.10.2019)
Shemnad A (Sri)	Operation Theatre Technician (joined on 20.01.2020)
Presanth P (Sri)	Operation Theatre Technician (joined on 20.01.2020)

### Cancer Epidemiology & Bio-statistics

Asha NM (Smt)	Clerk Gr.I
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### Cancer Research

Hareendran NK (Sri)	Research Assistant Sr. Gr.
Vinoj Kumar B (Sri)	Animal House Keeper
Sreekumaran Nair P (Sri)	Driver Sel.Gr.

### Clinical Laboratory

Helen B (Smt)	Technical Officer (Lab)
Rajesh KR (Sri)	Technical Officer (Lab)
Renuka P (Smt)	Technical Officer (Lab)
Ajaya Kumar R (Sri)	Lab. Technician Sel.Gr.
Jaya Kumar B (Sri)	Lab. Technician Sel.Gr.
Riyad RA (Sri)	Lab. Technician Sel.Gr.
Saneela S (Smt)	Lab. Technician Sel.Gr.
Sindhumony S (Smt)	Lab. Technician Sel.Gr.
Sini LS (Smt)	Lab. Technician Sel.Gr.
Sreelekha VK (Smt)	Lab. Technician Sel.Gr.
Trophy S (Sri)	Lab. Technician Sel.Gr.
Veena Devi Thankachy VS (Smt)	Lab. Technician Sel.Gr.
Beena Rani AS (Sri)	Lab. Technician
Anil Kumar R (Sri)	Senior Helper
Gopa Kumar (Sri)	Senior Helper

### Clinical Services & Medical Records

Chandrika D (Smt)	Medical Records Officer-I Gr. I
Sreekumar B (Sri)	Assistant Administrative Officer (CS)
Anil Kumar K (Sri)	Medical Records Officer -II
Sreelatha S (Smt)	Clerk Sel. Gr.

Jaya Kumar P (Sri)	Clerk Gr. I
Thankamony Amma P (Smt)	Clerk Gr. I
Bindu Sadasivan (Smt)	Clerk Gr. I
Kumari Bindu PK (Smt)	Clerk Gr. I
Ambily O (Smt)	Clerk Gr. I
Nikhil S. Baiju (Sri)	Clerk
John S (Sri)	Clerk (MRT) Gr. I
Girija R (Smt)	Clerk (MRT)
Geetha O (Smt)	Clerk (MRT)
Siju R. Nair (Smt)	Clerk (MRT)
Jayalekshmi P (Smt)	Coding Clerk Gr. I
Gireesh S (Sri)	Clinical Records Assistant
Liji S (Smt)	Clinical Records Assistant
Kaladevi S (Smt)	Clinical Records Assistant
Savitha VM (Smt)	Clinical Records Assistant
Praveen J. Nair (Sri)	Clinical Records Assistant
Jinson K. Paul (Sri)	Physiotherapist
Premachandran Nair S (Sri)	Driver Sr. Gr.
Anil Kumar TT (Sri)	Driver
Balachandran BK (Sri)	Driver
Rajeendran GC (Sri)	Driver
Ajitha Kumari RB (Smt)	Hospital Attender
Mariamma Varghese (Smt)	Hospital Attender
Hari C (Sri)	Dark Room Asst. Gr. I

### Community Oncology

Jeena Joseph N (Smt)	Protocol Nurse
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### Director's Office

Sajeesh CK (Sri)	Clinical Records Assistant
Antony P (Sri)	Despatcher

### ECDC, Ernakulam

Latha A (Dr)	Cytopathologist
James Thomas M (Sri)	Technical Officer (Cyto)
Jolly GS (Smt)	Cytotechnologist
Lijo TV (Sri)	Lab. Technician Sel. Gr.
Renjini Thomas (Smt)	Lab. Technician Sel. Gr.
Resmi V (Smt)	Staff Nurse Sr. Gr.
Laiby V. Elizabeth (Smt)	Staff Nurse
Letha B (Smt)	Typist Gr. I
John Evidus P P (Sri)	Hospital Assistant

### ECDC, Palakkad

Rekha SR (Dr)	Resident Medical Officer
Sanil PN (Sri)	Cytotechnologist Sr. Gr.
Shanavas A (Sri)	Cytotechnologist
Nirmala KC (Smt)	Staff Nurse Sel. Gr.
Ajila MS (Smt)	Staff Nurse Gr. I

### Engineering Wing

Giri Purushothaman (Sri)	Assistant Professor & Head
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Renjith R (Sri)	Maintenance Engineer (Mechanical)
Rajendran KR (Sri)	Supervisor (Electrical) Sel. Gr.
Venugopalan Nair VR (Sri)	Supervisor (Electrical) Gr. I
Giji PS (Sri)	Supervisor (Electrical)
Jayakumar P (Sri)	Supervisor (Electrical)
Rajmohan MB (Sri)	Electrician Sel. Gr.
Suresh Kumar G (Sri)	Electrician Gr. I
Sunil Kumar R (Sri)	Electrician
Deepu SS (Sri)	Electrician
Sivarajan L (Sri)	Electronic Technician Sr. Gr.
Jayanthy JK (Smt)	Data Entry Operator Sel. Gr.
Santhosh Kumar MS (Sri)	Electronic Technician Sr. Gr.
Jayabalan Nair B (Sri)	Plumber Gr. I
Shalin Raj R (Sri)	Plumber
Sanjayan S (Sri)	Plumber
Rajan P C (Sri)	Senior Helper

### Finance & Accounts

Suresh Kumar S (Sri)	Controller of Finance (till 31.07.2019)
Gopakumar KR (Sri)	Controller of Finance (from 01.08.2019)
Sunil VS (Sri)	Accounts Officer (till 17.03.2019)
Reshmy BN (Smt)	Accounts Officer (from 18.03.2019)
Sheela Kumari R (Smt)	Asst. Accounts Officer
Johnson X (Sri)	Cashier Cum Receptionist Sr. Gr.
Vijayan S (Sri)	Office Assistant Sr. Gr.
Veena CL (Smt)	Office Assistant Sr. Gr.
Shajkumar KR (Sri)	Office Assistant Sr. Gr.
Girija Kumari LS (Smt)	Office Assistant Sr. Gr.
Nandakumaran T (Sri)	Office Assistant
Vindhya Sugathan (Smt)	Office Assistant
Pradeep Chandran (Sri)	Junior System Analyst
Prabhavathi Devi AK (Smt)	Clerk Gr. I
Ambili S (Smt)	Clerk Gr. I
Sheena Saju (Smt)	Cashier
Sreejit S (Sri)	Clerk
Aswathi Bai AL (Smt)	Clerk

### Information Systems

Neelima N (Smt)	Systems Manager
Rajesh P (Sri)	System Analyst
Shaji J (Sri)	System Analyst
Basil Varghese (Sri)	Junior System Analyst
Suseela Devi B (Smt)	Data Entry Operator Sel. Gr.

### Library & Information Services

Vishnu V (Dr)	Librarian cum Information Officer Gr. I
Saji S. Nair (Dr)	Assistant Librarian
Haseena K (Smt)	Library Assistant
Rahul LR (Sri)	Library Assistant
Ganga AP (Smt)	Clerk Gr. I
Jayasree R (Smt)	Helper



## Medical Oncology

Lali VS (Dr) Resident Medical Officer Gr.I

## Microbiology

Kumar TN (Sri) Lab Technician

## Nuclear Medicine

Joe D'Cruz A (Sri) Technical Officer (Radiation)

Bindu B (Smt) Technical Officer (RIA)

Minyamma K (Smt) Technical Officer (RIA)

Sindhu P (Smt) Technical Officer (RIA)

Sheeja S R (Smt) Technical Officer

Sibi KS (Smt) Radiation Technologist Sr. Gr.

Sunitha S (Smt) Radiation Technologist Sr. Gr.

Salini PS (Smt) Radiation Technologist

Jayakumar J (Sri) Radiation Technologist

Chinju G (Smt) Radiation Technologist

Deepthi Chandran (Smt) Radiation Technologist

Ananda Kumar K (Sri) R I A Technician Sel. Gr.

Usha R (Smt) Data Entry Operator Gr.I

## Nursing Services

Sreelekha R (Smt) Chief Nursing Officer

Sheela Rodriguez (Smt) Nursing Supervisor

Geetha Kumari BS (Smt) Nursing Supervisor

Prasanna Kumari S (Smt) Head Nurse Sr. Gr.

Rajila Beegum (Smt) Head Nurse Sr. Gr.

Sunitha Kumari R (Smt) Head Nurse Sr. Gr.

Vijayalekshmy Ammal (Smt) Head Nurse Sr. Gr.

Jaya TS (Smt) Head Nurse Gr. I

Jikki M (Smt) Head Nurse Gr. I

Sheeba SV (Smt) Head Nurse Gr. I

Shobha S (Smt) Head Nurse Gr. I

Vijaya AK (Smt) Head Nurse Gr. I

Aniamma Joseph (Smt) Head Nurse Gr. I

Shema C (Smt) Head Nurse

Sindhu S (Smt) Head Nurse

Saraswathy Amma P (Smt) Head Nurse

Bensamma Varghese (Smt) Head Nurse

Sindhu GS (Smt) Head Nurse

Siva Kumari PR (Smt) Head Nurse

Elsamma Joseph (Smt) Head Nurse

Indu VS (Smt) Head Nurse

Ajitha TL (Smt) Staff Nurse Sel.Gr.

Anila Kumari S (Smt) Staff Nurse Sel.Gr.

Indira Devi G (Smt) Staff Nurse Sel.Gr.

Jessy Thomas (Smt) Staff Nurse Sel.Gr.

Kumari Sindhu S (Smt) Staff Nurse Sel.Gr.

Ranichandra V (Smt) Staff Nurse Sel.Gr.

Sajitha S (Smt) Staff Nurse Sel.Gr.

Sherly M (Smt) Staff Nurse Sel.Gr.

Shijikumary NG (Smt)

Suma PV (Smt)

Swapna CR (Smt)

Mareena Silas (Smt)

Sindhumul MG (Smt)

Sophiya Lilly (Smt)

Sindhu G (Smt)

Laly Joseph (Smt)

Mangalam S (Smt)

Chandrika P (Smt)

Ilin William (Smt)

Indulekha (Smt)

Marykutty Mathew (Smt)

Rethidevi GS (Smt)

Abraham Shini (Smt)

Ajitha S (Smt)

Anitha Kumary PV (Smt)

Bindhu M (Smt)

Bini A (Smt)

Binu O (Smt)

Joby Paul (Smt)

Leemol Mathew (Smt)

Moly MT (Smt)

Rosamma Joseph (Smt)

Nisha Vidyadhar R (Smt)

Sheeba P (Smt)

Jainamma Standal (Smt.)

Sheeja DB (Smt)

Sheeja Samuel (Smt)

Rajani RV (Smt)

Simmy Panicker S (Smt)

Sindhu K (Smt)

Aleyamma Chacko (Smt)

Bindhu PD (Smt)

Geetha Kumari D (Smt)

Jyothilekshmi D (Smt)

Sherry M (Smt)

Shiny P Thankappan (Smt)

Sindhu L (Smt)

Sindhu V (Smt)

Sreeja AP (Smt)

Sreeja S (5233) (Smt)

Sreekala T (Smt)

Sreekumaran Pillai V (Sri)

Sreelatha CS (Smt)

Sukanya Kumari SR (Smt)

Lizy Varkey (Smt)

Sindhu G (Smt)

Ajitha S (Smt)

Staff Nurse Sel.Gr.

Staff Nurse Sel.Gr.

Staff Nurse Sel.Gr.

Staff Nurse Sel.Gr.

Staff Nurse Sel.Gr.

Staff Nurse Sel.Gr.

Staff Nurse Sel.Gr.

Staff Nurse Sel.Gr.

Staff Nurse Sel.Gr.

Staff Nurse Sr.Gr.

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Amrutha L Raj (Smt) Staff Nurse Gr. I  
 Annamma EJ (Smt) Staff Nurse Gr. I  
 Anupama B (Smt) Staff Nurse Gr. I  
 Anupama Susmitha (Smt) Staff Nurse Gr. I  
 Archana M. Nair (Smt) Staff Nurse Gr. I  
 Ariya Sreedharan B (Smt) Staff Nurse Gr. I  
 Aswathy MR (Smt) Staff Nurse Gr. I  
 Beena KG (Smt) Staff Nurse Gr. I  
 Bency Varghese (Smt) Staff Nurse Gr. I  
 Biji PR (Smt) Staff Nurse Gr. I  
 Bincy Lukose (Smt) Staff Nurse Gr. I  
 Bindhu Rani PV (Smt) Staff Nurse Gr. I  
 Bindu Kumari TC (Smt) Staff Nurse Gr. I  
 Bini R (Smt) Staff Nurse Gr. I  
 Cherupushpam M (Smt) Staff Nurse Gr. I  
 Chithra VG (Smt) Staff Nurse Gr. I  
 Deepa R (Smt) Staff Nurse Gr. I  
 Divya Das S (Smt) Staff Nurse Gr. I  
 Girija L (Smt) Staff Nurse Gr. I  
 Gracy Sebastian (Smt) Staff Nurse Gr. I  
 Jayasree CG (Smt) Staff Nurse Gr. I  
 Jeeja Rajan (Smt) Staff Nurse Gr. I  
 Kavitha SG (Smt) Staff Nurse Gr. I  
 Kochuthresia PV (Smt) Staff Nurse Gr. I  
 Kumari Sobha D (Smt) Staff Nurse Gr. I  
 Linsa George (Smt) Staff Nurse Gr. I  
 Manju VP (Smt) Staff Nurse Gr. I  
 Preetha S (Smt) Staff Nurse Gr. I  
 Preethi PR (Smt) Staff Nurse Gr. I  
 Priya KL (Smt) Staff Nurse Gr. I  
 Rajesh Kumar S (Sri) Staff Nurse Gr. I  
 Rani Thomas (Smt) Staff Nurse Gr. I  
 Preetha A (Smt) Staff Nurse Gr. I  
 Maya SS (Smt) Staff Nurse Gr. I  
 Reena P Stanley (Smt) Staff Nurse Gr. I  
 Remya R Chandran (Smt) Staff Nurse Gr. I  
 Roja S. Anand (Smt) Staff Nurse Gr. I  
 Saji GS (Smt) Staff Nurse Gr. I  
 Sandhya V. Nair (Smt) Staff Nurse Gr. I  
 Sandhyamol KS (Smt) Staff Nurse Gr. I  
 Sangeetha KS (Smt) Staff Nurse Gr. I  
 Saritha SS (Smt) Staff Nurse Gr. I  
 Sheeba P.Varghese (Smt) Staff Nurse Gr. I  
 Sheeba VL (Smt) Staff Nurse Gr. I  
 Suma V (Smt) Staff Nurse Gr. I  
 Suma John (Smt) Staff Nurse Gr. I  
 Suma K (Smt) Staff Nurse Gr. I

Suma PS (Smt) Staff Nurse Gr. I  
 Suni Mathew (Smt) Staff Nurse Gr. I  
 Sunitha L (Smt) Staff Nurse Gr. I  
 Swopna K (Smt) Staff Nurse Gr. I  
 Thara SS (Smt) Staff Nurse Gr. I  
 Vasanthakumari R (Smt) Staff Nurse Gr. I  
 Ambika T B (Smt) Staff Nurse Gr. I  
 Nisha KN (Smt) Staff Nurse Gr. I  
 Abdul Jaseer E (Sri) Staff Nurse  
 Aradhana S (Smt) Staff Nurse  
 Bajjudeen B (Sri) Staff Nurse  
 Bindhu KG (Smt) Staff Nurse  
 Bindu B (Smt) Staff Nurse  
 Daisy A (Smt) Staff Nurse  
 Deepa AS (Smt) Staff Nurse  
 Deepa TP (Smt) Staff Nurse  
 Ducakis S (Smt) Staff Nurse  
 Fathima S (Smt) Staff Nurse  
 Fathima Suhra M (Smt) Staff Nurse  
 Georgia George (Smt) Staff Nurse  
 Gigi Mol Chacko (Smt) Staff Nurse  
 Jaichitra MV (Smt) Staff Nurse  
 Jasna PK (Smt) Staff Nurse  
 Jesna R (Smt) Staff Nurse  
 Jijimol S J (Smt) Staff Nurse  
 Julie Mariam Jacob (Smt) Staff Nurse  
 Karthika Raj KS (Smt) Staff Nurse  
 Ligi Das RS (Smt) Staff Nurse  
 Lija K (Smt) Staff Nurse  
 Preetha Thomas (Smt) Staff Nurse  
 Rajaram SK (Sri) Staff Nurse  
 Raji KR (Smt) Staff Nurse  
 Manjusha GS (Smt) Staff Nurse  
 Manoj GS (Sri) Staff Nurse  
 Maya N. Nair (Smt) Staff Nurse  
 Mayadevi L (Smt) Staff Nurse  
 Niza A. Khalam (Smt) Staff Nurse  
 Preeja S (Smt) Staff Nurse  
 Preetha P. Nair (Smt) Staff Nurse  
 Reena A (Smt) Staff Nurse  
 Rejani Mole A (Smt) Staff Nurse  
 Renjini RS (Smt) Staff Nurse  
 Renjini SR (Smt) Staff Nurse  
 Resmi V (Smt) Staff Nurse  
 Rugmini MD (Smt) Staff Nurse  
 Saloma PS (Smt) Staff Nurse  
 Sandhya G (Smt) Staff Nurse

Sheeja BT (Smt)	Staff Nurse	Shiyas SR (Sri)	Staff Nurse (resigned 11.08.2019)
Sheeja H (Smt)	Staff Nurse	Kavitha GS (Smt)	Staff Nurse
Sheeja Kumari G (Smt)	Staff Nurse	Mohammad Sajin N (Sri)	Staff Nurse
Shijitha KS (Smt)	Staff Nurse	Ashwathi JC (Smt)	Staff Nurse
Shiny George (Smt)	Staff Nurse	Kavitha Mohan L (Smt)	Staff Nurse
Sindhu P 5377 (Smt)	Staff Nurse	Geethu Karun (Smt)	Staff Nurse
Sindhu P.Nair (Smt)	Staff Nurse	Keerthi R. Pillai(Smt)	Staff Nurse
Sindhu R (Smt)	Staff Nurse	Tania Raj K (Smt)	Staff Nurse
Smitha S. Nair (Smt)	Staff Nurse	Bibin K. Mathew (Sri)	Staff Nurse
Soni John (Smt)	Staff Nurse	Neelima G (Smt)	Staff Nurse
Sreeja MS (Smt)	Staff Nurse	Anu Priya VM (Smt)	Staff Nurse
Sreekala NS (Smt)	Staff Nurse	Asha S (Smt)	Staff Nurse
Sreekala P (Smt)	Staff Nurse	Divya VJ (Smt)	Staff Nurse
Sreelekha S (Smt)	Staff Nurse	Neethu Sasi (Smt)	Staff Nurse
Sumam L (Smt)	Staff Nurse	Susan John (Smt)	Staff Nurse
Sumathy P (Smt)	Staff Nurse	Sajitha S (Smt)	Staff Nurse
Sithara Balakrishnan (Smt)	Staff Nurse	Pratheeksha R (Smt)	Staff Nurse
Archana CS (Smt)	Staff Nurse	Sajana K. Badusha (Smt)	Staff Nurse
Sahiya VV (Smt)	Staff Nurse	Riti Merin Abraham (Smt)	Staff Nurse
Jafna N (Smt)	Staff Nurse	Ansha P.Jyothy (Smt)	Staff Nurse
Arathy SR (Smt)	Staff Nurse	Lekshmi Mohan (Smt)	Staff Nurse
Aparna A (Smt)	Staff Nurse	Anu KS (Smt)	Staff Nurse (resigned 23.09.2019)
Manju Punnen (Smt)	Staff Nurse	Preetha B (Smt)	Staff Nurse
Reshmi V P K (Smt)	Staff Nurse (resigned 30.10.2019)	Sankar MG (Smt)	Staff Nurse
Ajith Clement C (Sri)	Staff Nurse (resigned 31.08.2019)	Gireeshkumar S (Sri)	Staff Nurse
Resmi VR (Smt)	Staff Nurse	Anu K. Avirah (Smt)	Staff Nurse
Gayathri Devi KS (Smt)	Staff Nurse	Remya KB (Smt)	Staff Nurse
Keerthy MS (Smt)	Staff Nurse	Mini MS (Smt)	Staff Nurse
Lekshmi P. Nair (Smt)	Staff Nurse	Shinoj P (Sri)	Staff Nurse
Asha A (Smt)	Staff Nurse	Soumya CS (Smt)	Staff Nurse
Harish Nair M (Sri)	Staff Nurse	Aparna J (Smt)	Staff Nurse
Divya Pauly (Smt)	Staff Nurse	Midhun Raj PT (Sri)	Staff Nurse
Bismi NS (Smt)	Staff Nurse	Shafna Ashraff (Smt)	Staff Nurse
Jamsheena EM (Smt)	Staff Nurse	Abhilash P (Sri)	Staff Nurse
Aswathy S (Smt)	Staff Nurse	Shameer AM (Sri)	Staff Nurse
Rosamma PT (Smt)	Staff Nurse	Praveena U (Smt)	Staff Nurse
Ajeesh K (Sri)	Staff Nurse	Deepa M (Smt)	Staff Nurse
Dhanya Krishnan MG (Smt)	Staff Nurse	Atheena Jinu AJ (Smt)	Staff Nurse
Soumya TL (Smt)	Staff Nurse	Lekshmy MS (Smt)	Staff Nurse
Abhilash Michael (Sri)	Staff Nurse	Rosily Thomas (Smt)	Staff Nurse
Aishwarya PG (Smt)	Staff Nurse	Juby Baby (Smt)	Staff Nurse
Vishnu Prasad VS (Sri)	Staff Nurse	Mukesh M (Sri)	Staff Nurse
Arya P (Smt)	Staff Nurse	Ansa AR (Smt)	Staff Nurse
Binson Baby (Sri)	Staff Nurse	Suby A (Smt)	Staff Nurse
Sajisha ES (Smt)	Staff Nurse	Anju Krishnan (Smt)	Staff Nurse
Sandhya Rapheal (Smt)	Staff Nurse (resigned 19.10.2019)	Sajeena B (Smt)	Staff Nurse
Dhanya AS (Smt)	Staff Nurse	Anila Mohan (Smt)	Staff Nurse
		Binila TA (Smt)	Staff Nurse

Asha Prakash (Smt)	Staff Nurse	Usha L (Smt)	Nursing Assistant
Aswathy Raj R (Smt)	Staff Nurse	Jaya Kumari R (Smt)	Nursing Assistant
Anjaly VN (Smt)	Staff Nurse	Reeja AS (Smt)	Nursing Assistant
Aneesh Kumar RP (Sri)	Staff Nurse	Sreekumari M (Smt)	Nursing Assistant
Seema MB (Smt)	Staff Nurse	Jessy Xavier (Smt)	Nursing Assistant
Syama MG (Smt)	Staff Nurse	Subhadra TK (Smt)	Nursing Assistant
Salini Krishnan SK (Smt)	Staff Nurse	Hendit Florin SD (Smt)	Nursing Assistant
Remya RB (Smt)	Staff Nurse	Mary Helen S (Smt)	Nursing Assistant
Amitha S (Smt)	Staff Nurse	Deepthi SS (Smt)	Nursing Assistant
Nada K (Smt)	Staff Nurse (resigned 19.09.2019)	Sherly PK (Smt)	Nursing Assistant
Jesly Kurian P (Smt)	Staff Nurse	Rema K (Smt)	Nursing Assistant
Anisha S (Smt)	Staff Nurse	Felcy Jesslet A (Smt)	Nursing Assistant
Gopika Lekshmi SR (Smt)	Staff Nurse (joined 12.12.2019)	Ambika V (Smt)	Nursing Assistant
Mahesh M. Mukund (Sri)	Staff Nurse (joined 13.12.2019)	Bigimol Dominic (Smt)	Nursing Assistant
Thushara Thulasidharan (Smt)	Staff Nurse (joined 16.12.2019)	Shaija K (Smt)	Nursing Assistant
Ajitha P. Sebastian (Smt)	Staff Nurse (joined 16.12.2019)	Geetha S (Smt)	Nursing Assistant
Athira Prasad (Smt)	Staff Nurse (joined 16.12.2019)	Sneha Latha S (Smt)	Nursing Assistant
Lekshmi SR (Smt)	Staff Nurse (joined 18.12.2019)	Suja Kuruvilla (Smt)	Nursing Assistant
Geethu K (Smt)	Staff Nurse (joined 18.12.2019)	Laly VJ (Smt)	Nursing Assistant
Febinal KP (Smt)	Staff Nurse (joined 18.12.2019)	Suja V (Smt)	Nursing Assistant
Anuja SR (Smt)	Staff Nurse (joined 18.12.2019)	Sajini John (Smt)	Nursing Assistant
Althaf AS (Sri)	Staff Nurse (joined 19.12.2019)	Jessy Philipose (Smt)	Nursing Assistant
Shemeena KS (Smt)	Staff Nurse (joined 20.12.2019)	Shyni John (Smt)	Nursing Assistant
Lekshmi C (Smt)	Staff Nurse (joined 20.12.2019)	Sheeba PK (Smt)	Nursing Assistant
Anjali S. Kumar (Smt)	Staff Nurse (joined 20.12.2019)	Priya S (Smt)	Nursing Assistant
Remya C (Smt)	Staff Nurse (joined 20.12.2019)	Sudha S (Smt)	Nursing Assistant
Varsha VV (Smt)	Staff Nurse (joined 23.12.2019)	Bindu AB (Smt)	Nursing Assistant
Sindhumole PM (Smt)	Staff Nurse (joined 01.01.2020)	Sithalekshmi VS (Smt)	Nursing Assistant
Divya SS (Smt)	Staff Nurse (joined 10.01.2020)	Mariamamma Joseph (Smt)	Nursing Assistant
Sreelekshmi SS (Smt)	Staff Nurse (joined 20.01.2020)	Geetha PK (Smt)	Nursing Assistant
Nishad N (Sri)	Staff Nurse (joined 01.01.2020)	Bindhu S (Smt)	Nursing Assistant
Jyothi G. John (Smt)	Staff Nurse (joined 21.01.2020)	Sali Varughese (Smt)	Nursing Assistant
Athira Raj (Smt)	Staff Nurse (joined 24.02.2020)	Manju I (Smt)	Nursing Assistant
Sini NS (Smt)	Staff Nurse (joined 20.03.2020)	Babitha Beegam R (Smt)	Nursing Assistant
Soumya S. Nair (Smt)	Staff Nurse (joined 25.03.2020)	Sunitha Devi RR (Smt)	Nursing Assistant
Jubilet Malar C (Smt)	Nursing Assistant	Ranjini R (Smt)	Nursing Assistant
Sreekumari N (Smt)	Nursing Assistant	Manju C (Smt)	Nursing Assistant
Kumari Sindhu TS (Smt)	Nursing Assistant	Jayasree S (Smt)	Nursing Assistant
Sheela M (Smt)	Nursing Assistant	Sheeba L (Smt)	Nursing Assistant
Mini AK (Smt)	Nursing Assistant	Subha Moly O (Smt)	Nursing Assistant
Jessy Thomas (Smt)	Nursing Assistant	Sujakumari L (Smt)	Nursing Assistant
Varghese Thomas (Sri)	Nursing Assistant	Sreelatha S (Smt)	Nursing Assistant
Deenamma MJ (Smt)	Nursing Assistant	Manjusha V (Smt)	Nursing Assistant
Sunila RS (Smt)	Nursing Assistant	Sheeja R (Smt)	Nursing Assistant
Smitha D (Smt)	Nursing Assistant	Kala L. K. Nair (Smt)	Nursing Assistant
Ambily TK (Smt)	Nursing Assistant	Sandhyakrishnan L (Smt)	Nursing Assistant
Kumari Prameela RG (Smt)	Nursing Assistant	Sheeja Raj (Smt)	Nursing Assistant
Sheeja Rani G (Smt)	Nursing Assistant	Sari AS (Smt)	Nursing Assistant

Darley Grace AE (Smt)	Nursing Assistant
Minimol SS (Smt)	Nursing Assistant
Sajitha A (Smt)	Nursing Assistant
Mini J (Smt)	Nursing Assistant
Arun AK (Sri)	Nursing Assistant
Nagammal R (Smt)	Nursing Assistant
Roslet Titus S(Smt)	Nursing Assistant
Faseela Beevi H (Smt)	Nursing Assistant
Chithra C (Smt)	Nursing Assistant
Saritha SS (Smt)	Nursing Assistant
Renuka VC (Smt)	Nursing Assistant
Manju K (Smt)	Nursing Assistant
Sheena C (Smt)	Nursing Assistant
Sunitha M (Smt)	Nursing Assistant
Archana VS (Smt)	Nursing Assistant
Anitha V(Smt)	Cleaner
Chandramathi Amma S (Smt)	Cleaner
Chandrasekharan Nair M (Sri)	Cleaner
Ebsiba D (Smt)	Cleaner
Geethakumari K(Smt)	Cleaner
Girija S (Smt)	Cleaner
Gopakumar P (Sri)	Cleaner
Jayanthi D (Smt)	Cleaner
Kala Krishnan (Smt)	Cleaner
Kaladevi B (Smt)	Cleaner
Radha S (Lathika S) (Smt)	Cleaner
Lethakumari K (Smt)	Cleaner
Moly B (Smt)	Cleaner
Pradeep A (Sri)	Cleaner
Prasanna S (Smt)	Cleaner
Premaletha OT (Smt)	Cleaner
Pushpa T (Smt)	Cleaner
Pushpakumari P (Smt)	Cleaner
Rajalakshmy R (Smt)	Cleaner
Raheela N (Smt)	Cleaner
Rajeswari L (Smt)	Cleaner
Remadevi R (Smt)	Cleaner
Remany R (Smt)	Cleaner
Sarojam T (Smt)	Cleaner
Sasikala P (Smt)	Cleaner
Sailaja A (Smt)	Cleaner
Sobhana S (Smt)	Cleaner
Sreelatha P (Smt)	Cleaner
Stalin Bright N (Sri)	Cleaner
Subhashini K (Smt)	Cleaner
Sukumary L (Smt)	Cleaner
Suma L (Smt)	Cleaner
Sunilkumar G (Sri)	Cleaner

Sureshkumar K (Sri)	Cleaner
Syamalakumari S (Smt)	Cleaner
Thanky S (Smt)	Cleaner
Thulasi P (Smt)	Cleaner
Valsala P (Smt)	Cleaner
Valsala TK (Smt)	Cleaner
Vijayakumar S (Sri)	Cleaner

#### **Palliative Medicine**

Prasanth CV (Dr)	Resident Medical Officer
Manju Achamma Varghese (Dr)	Resident Medical Officer
Dennison G (Sri)	Manufacturing Chemist
Sanal AD (Sri)	Skilled Worker

#### **Pathology**

Nataraj A (Sri)	Technical Officer (Lab)
Brinda TP (Smt)	Technical Officer (Lab)
Saina A (Smt)	Technical Officer (Lab)
Sulochana S (Smt)	Technical Officer (Lab)
Veena VS (Smt)	Cytotechnologist Sel.Gr.
Jayalal KS (Sri)	Cytotechnologist Sel.Gr.
Mani KS (Sri)	Cytotechnologist Sel.Gr.
Anitha S (Smt)	Cytotechnologist Sr. Gr.
Lathamalathy L (Smt)	Lab.Technician Sel.Gr.
Jayasree PS (Smt)	Lab.Technician Sel.Gr.
Jiju JS (Sri)	Lab.Technician Sel.Gr.
Arya CS (Smt)	Lab.Technician
Rejitha VS (Smt)	Data Entry Operator
Sheena Rani GS (Smt)	Typist
Krishnankutty R (Sri)	Senior Helper

#### **Pharmacy & Store**

Suresh G (Sri)	Stores Officer
Dinesh PS (Sri)	Pharmacist Gr. I
Shaji SS (Sri)	Pharmacist
Mini KL (Smt)	Pharmacist
Krishnapriya V (Smt)	Pharmacist
Saritha SS (Smt)	Pharmacist
Jalaja Kumari VS (Smt)	Pharmacist
Sreeja T. Nair (Smt)	Pharmacist
Vimal Kumar YS (Sri)	Helper

#### **Project Cell**

Vijayakumar G (Sri)	Project Assistant Sr. Gr.
Thrivikraman Nair MG (Sri)	Clerk Gr. I

#### **Purchase**

Ramaprasad P (Sri)	Assistant Purchase Officer
Ajitha OS (Smt)	Office Assistant Sr. Gr.
John Joseph (Sri)	Office Assistant Gr. I
Vijayaprasad B (Sri)	Office Assistant
Sheeja SS (Smt)	Office Assistant

Jayaprakash V (Sri)	Clerk
<b>Radiation Physics</b>	
Ramabhadran P (Sri)	Technical Officer (Radiation)
Anitha C (Smt)	Technical Officer (Radiation)
Radhakrishnan Nair T (Sri)	Technical Officer (Radiation) (under suspension w.e.f. 26.03.2020)
Sherif J S (Sri)	Technical Officer (Radiation)
Sreekala R (Smt)	Technical Officer (Radiation)
Sreekala D (Smt)	Technical Officer (Mould)
Geethamma K (Smt)	Technical Officer (Radiation)
Sunil Kumar S (Sri)	Technical Officer (Radiation)
Sheeba DR (Smt)	Technical Officer (Radiation) (rejoined 23.08.2018)
Premeela Devi T (Smt)	Technical Officer (Radiation)
Jayasree CG (Smt)	Technical Officer (Radiation)
Ambily Govind K (Smt)	Technical Officer
Geetha P (Smt)	Technical Officer
Santhan H (Sri)	Technical Officer
Vididiul Latha PA (Smt)	Technical Officer
Maheswari J (Smt)	Technical Officer
Rojas K. Jose	Medical Physicist
Midhun Sajeev (Sri)	Medical Physicist
Deepa MV (Smt)	Medical Physicist
Mini VL (Smt)	Radiotherapy Technologist Sel.Gr.
Rajesh PR (Sri)	Radiotherapy Technologist Sel.Gr.
Sindhu SS (Smt)	Radiotherapy Technologist Sel.Gr.
Saritha VS (Smt)	Radiotherapy Technologist Sel.Gr.
Sunitha Kumari UP (Smt)	Radiotherapy Technologist Sr.Gr.
Abhilash Sudh SS (Sri)	Radiotherapy Technologist Sr.Gr.
Asa Rani KS (Smt)	Radiotherapy Technologist Sr.Gr.
Lal K Nair (Sri)	Radiotherapy Technologist Sr.Gr.
Manju PM (Smt)	Radiotherapy Technologist Sr.Gr.
Maya M (Smt)	Radiotherapy Technologist Sr.Gr.
Seena CS (Smt)	Radiotherapy Technologist Sr.Gr.
Sheena J (Smt)	Radiotherapy Technologist Sr.Gr.
Shinu RS (Sri)	Radiotherapy Technologist Sr.Gr.
Vinod SL (Sri)	Radiotherapy Technologist Sr.Gr.
<b>Radiodiagnosis</b>	
Sathyalekha SI (Smt)	Technical Officer (Radiation)
Shailesh Kumar KN (Sri)	Technical Officer (Radiation)
Udayakumar KR (Sri)	Technical Officer (Radiation)
Pradeep S (Sri)	Technical Officer (Radiation)
Suja BR (Smt)	Technical Officer (Radiation)
Prasad PP (Sri)	Technical Officer
Asha S (Smt)	Radiation Technologist Sr.Gr.
Binoy BG (Sri)	Radiation Technologist Sr.Gr.
Jayakumar P (Sri)	Radiation Technologist Sr.Gr.
Sreelekha LD (Smt)	Radiation Technologist Sr.Gr.
Veena RR (Smt)	Radiation Technologist Sr.Gr.

Anees KN (Sri)	Radiation Technologist
Chitrakleha AR (smt)	Radiation Technologist
Saritha BS (Smt)	Radiation Technologist
Santhosh Kumar C S (Sri)	Hospital Assistant

#### **Security**

Satheeshkumar KS (Sri)	Tel.Operator cum Receptionist Gr. I
Sreekumar C (Sri)	Tel.Operator cum Receptionist
Sukumaran Nair R (Sri)	Security Guard
Ajikumar SL (Sri)	Security Guard

#### **Supporting Services**

Surendran Nair V (Sri)	Public Relations Officer Sr. Gr.
Mini N (Smt)	Dietician Sr. Gr.
Krishna Mohandas (Smt)	Assistant Dietician

#### **Surgical Services**

Jayasree S (Smt)	Typist Gr. I
Viswakumar N (Sri)	Typist Gr. I
Shirly K. Ninan (Smt)	Data Entry Operator Sr. Gr.
Suresh PS (Sri)	Technician CSSD

#### **Transfusion Medicine**

Rajesh R. Chandran (Dr)	Resident Medical Officer
Renukadevi V (Smt)	Technical Officer
Bindu AP (Smt)	Scientific Assistant
Asha SR (Smt)	Lab.Technician Sel.Gr.
Mini SP (Smt)	Lab.Technician Sel.Gr.

#### **e. Dismissals/Retrenchments: Nil**

#### **f. Retirements**

Seethalakshmi PS (Smt)	Despatcher (30.04.2019)
Vijayakumaran Nair R (Sri)	Audio-visual Operator Sr. Gr. (30.04.2019)
Dr. Cherian M. Koshy	Additional Professor (31.05.2019)
Lalitha B (Smt)	Assistant Administrative Officer (31.05.2019)
Sasikumar K (Sri)	Assistant Internal Audit Officer, Gr I (31.05.2019)
Sarala Devi PG (Smt)	Assistant Accounts Officer (31.05.2019)
Geetha S (Smt)	Nursing Superintendent (31.05.2019)
Balachandran KG(Sri)	Senior Helper (31.05.2019)
Vikraman Nair K (Sri)	Senior Animal House Keeper (31.05.2019)
Sarojam D (Smt)	Cleaner (31.05.2019)
Sobhana S (Smt)	Cleaner (31.05.2019)
Newton C (Sri)	Cleaner (30.06.2019)
Dr. Ramani S. Wesley	Professor (31.08.2019)
Padmakumary Amma G (Smt)	Assistant Professor (30.09.2019)

Usha J (Smt) Technical Officer (30.11.2019)  
 Thomas Rajasekharan (Sri) Hospital Attender (31.01.2020)

### g. Obituary

Prasanthkumar RK (Sri) Data Entry Operator Sr Gr

## Standing Committees

### a. Scientific Committee

1	Dr. Asha Kishore Director, SCTIMST, Thiruvananthapuram	Chairperson
2	Dr. Rekha A. Nair Director, RCC, Thiruvananthapuram	Alternate Chairperson
3	Dr. G.K. Rath Chief, BRA-IRCH AllMS, New Delhi	Member
4	Dr. Rajendra A. Badwe Director, Tata Memorial Centre, Mumbai	Member
5	Dr. M. Vijayakumar Director, Kidwai Memorial Institute of Oncology Bengaluru	Member
6	Dr. M. Radhakrishna Pillai Director, Rajiv Gandhi Centre for Biotechnology Thiruvananthapuram	Member
7	Dr. T. Rajkumar Prof. and Head, Dept. of Molecular Oncology Cancer Institute (WIA), Chennai	Member
8	Dr. Nirmala A. Jambhedkar Prof. & Head, Dept. of Pathology, Tata Memorial Centre, Mumbai	Member
9	Dr. K. Ramadas, Prof. & Head, Dept. Radiation Oncology Regional Cancer Centre, Thiruvananthapuram	Convener

### b. Institutional Review Board

1	Dr. Rekha A. Nair Director, RCC, Thiruvananthapuram	Chairperson
2	Dr. N. Geetha, Professor & Head, Dept. of Medical Oncology, RCC, Thiruvananthapuram	Vice Chairperson
3	Dr. K. Ramadas, Prof. & Head, Dept. of Radiation Oncology RCC, Thiruvananthapuram	Member
4	Dr. Francis V. James, Professor, Dept. of Radiation Oncology, RCC, Thiruvananthapuram	Member

5	Dr. Rachel Cherian Koshy, Professor & Head, Dept. Of Anaesthesiology, RCC, Thiruvananthapuram	Member
6	Dr. Priyakumari T, Professor and Head, Dept. of Paediatric Oncology, RCC, Thiruvananthapuram	Member
7	Dr. Shaji Thomas, Additional Professor & Head, Dept. Of Surgical Services, RCC, Thiruvananthapuram	Member
8	Dr. K. Jayasree, Professor & Head, Dept. of Pathology, RCC, Thiruvananthapuram	Member
9	Dr. Venugopal M, Professor & Head, Dept. of Radiodiagnosis, RCC, Thiruvananthapuram	Member
10	Dr. S. Kannan, Professor & Head, Division of Cancer Research, RCC, Thiruvananthapuram	Member
11	Dr. Beela Sarah Mathew, Professor, Dept. of Radiation Oncology, RCC, Thiruvananthapuram	Member
12	Dr. Aleyamma Mathew, Professor & Head, Division of Cancer Epidemiology & Biostatistics, RCC, Thiruvananthapuram	Convener

### c. Ethics Committee

1	Dr. M. Narendranathan, 'Sreenilayam', Veerabhadra Gardens, Pottakuzhi, Pattom P.O., Thiruvananthapuram.	Chairman
2	Dr. V. Ramankutty, Professor, Achuthamenon Centre, SCTIMST, Thiruvananthapuram.	Member
3	Dr. Jayasree RS, Scientist, BMT Wing, SCTIMST, Poojappura, Thiruvananthapuram	Member
4	Dr. K.G. Retnavally, 'Lekshmi', House No. 59, Vrindavan Housing Colony, Pattom, Thiruvananthapuram.	Member
5	Adv. Krishnankutty Nair, 'Arathy', T.C. 17/28, JERA- 21, Jagathy, Thiruvananthapuram.	Member
6	Dr. K.T. Cherian Panicker Vice President, Malankara Catholic Higher Education Board, Thiruvananthapuram	Member

- 7 Dr. Sajeev V.Thomas,  
Professor of Neurology, Sree Chitra  
Tirunal Institute for Science & Technology,  
Thiruvananthapuram Member
- 8 Dr. N. Geetha,  
Professor & Head, Dept. of  
Medical Oncology, RCC, Thiruvananthapuram Member
- 9 Dr. Sajeed A,  
Additional Professor & Medical Superintendent,  
RCC, Thiruvananthapuram. (from 14.11.2019) Member
- 10 Fr. Abraham Thomas,  
Matha Mariam Ashramam, Nirmalagiri,  
Powdikonam, Thiruvananthapuram-695588  
(from 14.11.2019) Member
- 11 Smt. Jessy Susan Philip,  
D1, Cliff Valley, TC 4/1458, Kavu Road,  
Kowdiar P.O., Thiruvananthapuram Member
- 12 Dr. Francis V. James,  
Professor, Dept. of Radiation Oncology,  
RCC, Thiruvananthapuram Convener

#### **d. Building Committee**

- 1 Chief Engineer,  
PWD (Buildings & Local Works),  
Govt. of Kerala Chairman
- 2 Chief Architect, PWD, Govt. of Kerala Member
- 3 Director of Medical Education,  
Govt. of Kerala Member
- 4 Principal, Govt. Medical College,  
Thiruvananthapuram Member
- 5 Director,  
RCC, Thiruvananthapuram Member
- 6 Controller of Finance,  
RCC, Thiruvananthapuram Member
- 7 Head, Engineering Division,  
RCC, Thiruvananthapuram Convener

#### **e. Medical Record Review Committee**

1. Dr. Sajeed A, Medical Superintendent Chairman
2. Dr. Madhu Muralee,  
Deputy Medical Superintendent Member
3. Dr. Rajeevan V,  
Administrative Medical Officer Member
4. Dr. K. Ramadas,  
Head, Dept. of Radiation Oncology Member
5. Dr. Beela Sarah Mathew,  
Prof. of Radiation Oncology Member
6. Dr. M.Venugopal,  
Head, Dept. of Radiodiagnosis Member

7. Dr. T. Priyakumari,  
Head, Dept. of Paediatric Oncology Member
8. Dr. Shaji Thomas,  
Head, Dept. of Surgical Services Member
9. Dr. Geetha N,  
Head, Dept. of Medical Oncology Member
10. Dr. Aswinkumar,  
Addl. Professor, Radiation  
Oncology/Quality & Safety Officer Member
11. Dr. Swapna R. Nath,  
Head, Division of Microbiology/  
NABH Nodal Officer Member
12. Smt. Sreelekha R,  
Chief Nursing Officer Member
13. Smt. Chandrika D, Medical Records Officer-I Member
14. Sri. Anilkumar K, Medical Records Officer-II Convener

#### **f. Hospital Infection Control Committee**

1. Dr. K. Ramadas,  
Head, Dept. of Radiation Oncology Chairman
2. Dr. Sajeed A,  
Medical Superintendent Member
3. Dr. Madhu Muralee,  
Deputy Medical Superintendent Member
4. Dr. K. Jayasree,  
Head, Dept. of Pathology Member
5. Dr. T. Priyakumari,  
Head, Dept. of Paediatric Oncology Member
6. Dr. Rachel Cherian Koshy,  
Head, Dept. of Anaesthesiology Member
7. Dr. Geetha N,  
Head, Dept. of Medical Oncology Member
8. Dr. Shaji Thomas,  
Head, Dept. of Surgical Services Member
9. Dr. Aswin kumar, Addl. Professor,  
Dept. of Radiation Oncology/  
Quality & Safety Officer Member
10. Dr. Binitha R,  
Associate Professor, Department of Paediatric  
Oncology/Infection Control Doctor Member
11. Dr. K. Vijayalekshmi,  
Head, Transfusion Medicine Division Member
12. Dr. Swapna R. Nath,  
Head, Division of Microbiology/  
Infection Control Officer Member
13. Smt. Sreelekha R, Chief Nursing Officer Member
14. Sri. Giri Purushothaman,  
Head, Engineering Division Member



15. Smt. Mini N, Dietician	Member	13. Dr. Malu Rafi, Associate Professor, Dept. of Radiation Oncology	Member
16. Smt. Indu, Head Nurse, Operation Theatre	Member	14. Dr. Priya Mary Jacob, Associate Professor, Dept. of Pathology	Member
17. Smt. Gracy George, Head Nurse, In Charge, Laundry	Member	15. Dr. Sivaranjith, Assistant Professor, Dept. of Surgical Services	Member
18. Sri. P. Ramaprasad, Assistant Purchase Officer	Member	16. Dr. Deepthi Prabhu, Associate Professor, Dept. of Anaesthesiology	Member
19. Smt. Jaya TS, In-charge, Housekeeping	Member	17. Dr. Lijeesh, Assistant Professor, Dept. of Radiation Oncology	Member
20. Smt. Sunithakumari, Head Nurse, CVAD Clinic	Member	18. Smt. Chandrika D, Medical Records Officer-I	Member
21. Smt. Ajitha S, Infection Control Nurse	Member	19. Smt. Sreelekha R, Chief Nursing Officer	Member
22. Smt. Arya Sreedharan, Infection Control Nurse	Member	20. Sri. Prasad PP, Technical Officer	Member
23. Smt. Rajani RV, NABH Co-ordinator	Member	21. Smt. Sini LS, Lab Technician	Member
24. Smt. Sheela Rodriguez, Nursing Supervisor	Convener	22. Smt. Mini N, Dietician	Member

#### **g. Internal Audit Committee**

1. Dr. Paul Augustine, Additional Professor, Dept. of Surgical Services	Chairman
2. Dr. K. Ramadas, Head, Dept. of Radiation Oncology	Member
3. Dr. Madhu Muralee, Deputy Medical Superintendent	Member
4. Dr. Beela Sarah Mathew, Professor, Dept. of Radiation Oncology	Member
5. Dr. T. Priyakumari, Head, Dept. of Paediatric Oncology	Member
6. Dr. Anila KR, Associate Professor, Dept. of Pathology	Member
7. Dr. Roshni S, Associate Professor, Dept. of Radiation Oncology	Member
8. Dr. Saju B, Additional Professor, Radiation Physics Division	Member
9. Dr. Sudha P, Additional Professor, Dept. of Anaesthesiology	Member
10. Dr. Swapna R. Nath, Head, Microbiology Division	Member
11. Dr. Rajeev KR, Associate Professor, Dept. of Radiation Oncology	Member
12. Dr. Arun Sankar, Associate Professor, Dept. of Radiation Oncology	Member

#### **h. Quality Improvement Committee**

1. Dr. Rekha A. Nair, Director	Chairperson
2. Dr. Madhu Muralee, Deputy Medical Superintendent	Member
3. Dr. Rajeevan V, Administrative Medical Officer	Member
4. Dr. T. Priyakumari, Head, Dept. of Paediatric Oncology	Member
5. Dr. K. Ramadas, Head, Dept. of Radiation Oncology	Member
6. Dr. Rachel Cherian Koshy, Head, Dept. of Anaesthesiology	Member
7. Dr. Geetha N, Head, Dept. of Medical Oncology	Member
8. Dr. Shaji Thomas, Head, Dept. of Surgical Services	Member
9. Dr. M. Venugopal, Head, Dept. of Radiodiagnosis	Member
10. Dr. V.M. Pradeep, Head, Nuclear Medicine Division	Member
11. Dr. Gigi Thomas, Head, Community Oncology Division	Member

12. Dr. K. Jayasree, Head, Dept. of Pathology	Member
13. Dr. K. Vijayalekshmi, Head, Transfusion Medicine Division	Member
14. Dr. Swapna R. Nath, Head, Microbiology Division	Member
15. Dr. Thayal Singh Eliyas, Head, Radiation Physics Division	Member
16. Dr. Aleyamma Mathew, Head, Cancer Epidemiology & Biostatistics Division	Member
17. Dr. Raveendran Pillai K, Additional Professor, Clinical Laboratory Services	Member
18. Smt. Sreelekha R, Chief Nursing Officer	Member
19. Sri. Giri Purushothaman, Head, Engineering Division	Member
20. Sri. Surendran Nair V, Public Relations Officer	Member
21. Smt. Chandrika D, Medical Records Officer-I	Member
22. Sri. Sreekumar B, Assistant Administrative Officer (CS)	Member
23. Smt. Sheela Rodriguez, Infection Control Convener	Member
24. Smt. Mini N, Dietician	Member
25. Dr. Sajeed A, Medical Superintendent	Convener

#### **i. Drug Committee**

1. Dr. Rekha A. Nair, Director	Chairperson
2. Dr. Sajeed A, Medical Superintendent	Member
3. Dr. Madhu Muralee, Deputy Medical Superintendent	Member
4. Dr. K. Ramadas, Head, Dept. of Radiation Oncology	Member
5. Dr. T. Priyakumari, Head, Dept. of Paediatric Oncology	Member
6. Dr. Rachel Cherian Koshy, Head, Dept. of Anaesthesiology	Member
7. Dr. Geetha N, Head, Dept. of Medical Oncology	Member
8. Dr. Shaji Thomas, Head, Dept. of Surgical Services	Member
9. Dr. Aswin Kumar, Additional Professor, Dept. of Radiation Oncology	Member

10. Dr. Asha Arjunan, Additional Professor, Dept. of Radiation Oncology	Member
11. Dr. Anoop TM, Associate Professor, Dept. of Medical Oncology	Member
12. Sri. Suresh G, Stores Officer	Member
13. Sri. K.R. Gopakumar, Controller of Finance	Member
14. Sri. P. Ramaprasad, Assistant Purchase Officer	Convener

#### **j. Hospital Transfusion Committee**

1. Dr. Sajeed A, Medical Superintendent	Chairman
2. Dr. K. Ramadas, Head, Dept. of Radiation Oncology	Member
3. Dr. T. Priyakumari, Head, Dept. of Paediatric Oncology	Member
4. Dr. Rachel Cherian Koshy, Head, Dept. of Anaesthesiology	Member
5. Dr. Shaji Thomas, Head, Dept. of Surgical Services	Member
6. Dr. Sreejith G. Nair, Additional Professor, Dept. of Medical Oncology	Member
7. Dr. Rajesh, Resident Medical Officer, Transfusion Medicine Division	Member
8. Smt. Sreelekha R, Chief Nursing Officer	Member
9. Smt. Bindu, Scientific Officer, Transfusion Medicine Division	Member
10. Dr. K. Vijayalekshmi, Head, Transfusion Medicine Division	Convener

#### **k. Hospital Safety Committee**

1. Dr. Sajeed A, Medical Superintendent	Chairman
2. Dr. Madhu Muralee, Deputy Medical Superintendent	Member
3. Dr. Rajeevan V, Administrative Medical Officer	Member
4. Dr. K. Ramadas, Head, Dept. of Radiation Oncology	Member
5. Dr. Swapna R. Nath, NABH Nodal Officer	Member
6. Dr. Geetha N, Head, Dept. of Medical Oncology	Member

7. Dr. Prasanth CV,  
Resident Medical Officer,  
Palliative Medicine Division Member
8. Dr. Saju B,  
Additional Professor; Radiation  
Physics Division Member
9. Sri. Giri Purushothaman,  
Head, Engineering Division Member
10. Smt. Sheela Rodriguez,  
Infection Control Convener Member
11. Smt. Sreelekha R,  
Chief Nursing Officer Member
12. Smt. Mini N, Dietician Member
13. Sri.V. B. Ramesh Kumar; Security Officer Member
14. Dr. Aswin Kumar,  
Addl. Professor; Dept. of Radiation  
Oncology/Quality & Safety Officer Convener

#### **I. Mortality/Morbidity Review Committee**

1. Dr. Sajeed A,  
Medical Superintendent Chairman
2. Dr. K. Ramadas,  
Head, Dept. of Radiation Oncology Member
3. Dr. Aswin Kumar,  
Addl. Professor; Dept. of Radiation Oncology/  
Quality & Safety Officer Member
4. Dr. Geetha N,  
Head, Dept. of Medical Oncology Member
5. Dr. T. Priyakumari,  
Head, Dept. of Paediatric Oncology Member
6. Dr. Swapna R. Nath,  
NABH Nodal Officer Member
7. Dr. Rema P,  
Additional Professor;  
Dept. of Surgical Services Member
8. Dr. Bipin T. Varghese,  
Additional Professor;  
Dept. of Surgical Services Member
9. Dr. Asha Arjunan,  
Additional Professor;  
Dept. of Radiation Oncology Member
10. Dr. Roshni S,  
Associate Professor;  
Dept. of Radiation Oncology Member
11. Dr. Lali VS,  
Resident Medical Officer;  
Dept. of Medical Oncology Member
12. Dr. Wagh Mira Sudham,

- Assistant Professor; Dept. of Surgical Services Member
13. Dr. Madhu Muralee,  
Deputy Medical Superintendent Convener

#### **m. Code Blue Committee**

1. Dr. Viji S. Pillai,  
Additional Professor;  
Dept. of Anaesthesiology Chairperson
2. Dr. Sajeed A,  
Medical Superintendent Member
3. Dr. Madhu Muralee,  
Deputy Medical Superintendent Member
4. Dr. Rajeevan V,  
Administrative Medical Officer Member
5. Dr. K. Ramadas,  
Head, Dept. of Radiation Oncology Member
6. Dr. Rachel Cherian Koshy,  
Head, Dept. of Anaesthesiology Member
7. Dr. Bhagyalakshmi R,  
Associate Professor; Dept. of Anaesthesiology Member
8. Dr. Aswin Kumar,  
Addl. Professor; Dept. of Radiation Oncology/  
Quality & Safety Officer Member
9. Smt. Sreelekha R, Chief Nursing Officer Member
10. Smt. Vijaya AK, Head Nurse Member
11. Sri. Manoj, Staff Nurse Convener

#### **n. Library Committee**

1. Dr. Rekha A. Nair, Director Chairperson
2. Dr. N. Geetha,  
Additional Director (Academic) Member
3. Dr. A. Sajeed,  
Medical Superintendent Member
4. Dr. M. Venugopal,  
Head, Dept. of Radiodiagnosis Member
5. Dr. K. Jayasree,  
Head, Dept. of Pathology Member
6. Sri. Suresh Kumar S,  
Controller of Finance (till 31.07.2019) Member
7. Sri. K.R. Gopakumar,  
Controller of Finance (from 01.08.2019) Member
8. Dr. V. Vishnu,  
Librarian cum Information Officer Gr I Convener

## Right To Information Act

- a. Appellate Authority  
Dr. Geetha N, Additional Director (Academic)
- b. Public Information Officer  
Dr. Sajeed A, Medical Superintendent
- c. Assistant Public Information Officer  
Sri. Sajeesh CK, Clinical Records Assistant
- d. Number of Applications  
Received: 74  
Disposed: 74  
Pending: Nil
- e. Penalties levied for non-supply of information: Nil
- f. Cases pending with State Information Commission: Nil

## Internal Control Mechanism

- a. Staff used exclusively for internal audit: 1
- b. Audit committee meetings: Nil
- c. Monitoring committees set up: Administrative committee consisting of all HODs, Medical Superintendent and Additional Directors with the Director as the Head, meets periodically to evaluate the functioning of the Centre.
- d. Other matters
  - i. Grievance redressal mechanism: Committee for redressal of complaints of sexual harassment against female employees.
  - ii. Official Language Act : Implemented
  - iii. Computerisation : Completed

ACCOUNTS  
2019-2020

# REGIONAL CANCER CENTRE SOCIETY, TRIVANDRUM (Reg. No. 567/81)

## BALANCE SHEET AS ON 31st MARCH 2020

Sch.	Liabilities	Current Year (Rs.)	Previous Year (Rs.)	Sch.	Assets	Current Year (Rs.)	Previous Year (Rs.)
I	CAPITAL FUND	3,63,88,44,258.97	3,20,78,36,366.97	VI	FIXED ASSETS	3,53,57,60,221.60	3,24,92,82,308.60
II	SPECIFIC FUNDS	42,98,91,908.26	36,80,17,738.14	VII	INVESTMENTS	1,43,64,93,350.89	1,21,69,33,502.00
	Grant in aid - GOI for State Cancer Institute	2,03,69,01,400	43,08,85,400		<u>CURRENT ASSETS AND LOANS &amp; ADVANCES</u>		
	GRANT FROM GOVT OF KERALA	49,82,69,720	54,69,18,220	VIII	CLOSING STOCK	17,25,57,707.00	15,07,04,465.72
	GRANT IN AID- GOK FOR KARUNAGAPALLY PROJECT	-	5,00,000.00	IX	ADVANCES-OTHERS & OTHER CURRENT ASSETS	13,44,83,458.88	7,85,33,048.53
	CCL FUND	20,94,60,053.00	20,94,60,053.00	X	INVESTIGATION FEES RECEIVABLE	84,85,02,707.13	80,99,37,975.27
III	RADIO THERAPY RESEARCH FUND	7,25,62,100	7,25,62,100	XI	BALANCE WITH BANK	34,78,24,047.79	39,77,42,138.65
	<u>CURRENT LIABILITIES AND PROVISIONS</u>			XII	CASH IN HAND	2,69,27,401	5,77,128.51
IV	CURRENT LIABILITIES -OTHERS	50,22,59,792.33	72,91,11,925.75	XIII	INCOME & EXPENDITURE ACCOUNT	46,40,79,014.13	49,78,80,405.61
V	CREDITORS FOR GOODS SUPPLIED	18,27,59,228.50	13,31,09,551.25				
	PROVISION FOR GRATUITY	-1,65,21,207.00	2,13,68,656.00				
	PROVISION FOR DA ARREARS	80,00,000.00	-				
	PROVISION FOR DOUBTFULL DEBTS	3,60,07,809.24	-				
VI	PROVISION FOR DEPRECIATION	1,92,31,90,605.93	1,72,16,83,024.58				
	<b>Total</b>	<b>6,93,99,69,781.43</b>	<b>6,40,15,90,972.89</b>		<b>Total</b>	<b>6,93,99,69,781.43</b>	<b>6,40,15,90,972.89</b>

As per report of even number dated  
For J Singh & Associates  
Chartered Accountants  
FRN 110266W

Thiruvananthapuram  
18.12.2020

Dr. Rekha A Nair  
(Director)

K R Gopakumar  
(Controller of Finance)

Densil Fernando  
Partner  
M. No. 208859  
UDIN: 20208859AAAAACH4159

# REGIONAL CANCER CENTRE SOCIETY, TRIVANDRUM (Reg.No. 567/81) INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31st MARCH 2020

Sch.	Expenditure	Current Year (Rs.)	Previous Year (Rs.)	Sch.	Income	Current Year (Rs.)	Previous Year (Rs.)
	Opening Stock	15,07,04,465.72	14,66,09,963.17		Grant-in-aid, Govt of Kerala	62,74,23,200.00	57,71,66,000.00
A	Purchases, medicines, chemicals etc	75,09,97,043.50	67,99,56,877.00		Investigation fees	78,60,27,269.78	69,31,23,155.97
B	Salaries and Allowances	91,22,71,964.80	89,42,00,983.00		Medicine Receipts	63,39,34,257.14	63,36,07,151.63
	Uniform and Liveries	9,78,112.00	5,66,860.00	L	Interest Income	4,36,47,685.50	2,29,49,149.05
C	Rent, Rates & Taxes	17,34,006.00	11,05,274.00	M	Training Fees	2,76,91,376.00	2,49,33,125.00
D	Postage, Telephone & Telegram	6,73,920.00	7,79,302.00	N	Miscellaneous Income	1,56,40,541.95	83,73,799.00
E	Travelling Expenses	1,35,135.00	2,73,269.00		Closing Stock	17,25,57,707.00	15,07,04,465.72
F	Printing and Stationery	58,96,360.00	16,27,613.00				
	Advertisement Charges	4,00,294.00	1,89,837.00				
G	Electricity and water Charges	5,83,33,971.00	4,58,83,233.00				
H	Repairs and Maintenance	61,70,416.00	1,91,33,937.00				
I	Service contract Charges	5,91,30,835.00	4,34,07,542.00				
	Audit Fees	9,13,720.00	5,93,220.00				
J	Computer Expenses	9,11,656.00	5,62,238.00				
	Books & Periodicals	19,550.00	8,200.00				
	Investi. charges to RGC Biotechnology	10,97,000.00	27,46,600.00				
	Expenses to NTR	27,98,071.00	52,15,101.00				
K	Miscellaneous Expenses	5,14,57,490.15	4,11,31,770.90				
	Doubtfull debts	3,60,07,809.24					
	Medical Treatment staff & Dependents	3,18,53,608.00					
	Depreciation	20,15,07,581.35	19,43,38,419.00				
	Excess of Income over Expenditure	3,29,29,028.61	3,13,25,887.30				
	<b>Total</b>	<b>2,30,69,22,037.37</b>	<b>2,11,08,56,846.37</b>		<b>Total</b>	<b>2,30,69,22,037.37</b>	<b>2,11,08,56,846.37</b>

Thiruvananthapuram  
18.12.2020

Dr: Rekha A Nair  
(Director)

K R Gopakumar  
(Controller of Finance)

For J Singh & Associates  
Chartered Accountants  
FRN 110266W

Densil Fernando  
Partner  
M.No. 208859  
UDIN: 20208859AAAAACH4159

# REGIONAL CANCER CENTRE SOCIETY, TRIVANDRUM (Reg. No. 567/81)

## SCHEDULE -VI

ITEM	Sch.	Gross Block			Depreciation			Net Block			
		Original cost 01.04.2018	Additions	Deductions	Cost on 31.3.2019	Up to 31.3.2018	Rate %	Additions	Total up to 31.3.2019	As on 31.3.2019	As on 31.3.2018
Air Conditioner	1	7,94,05,201.35	-	-	7,94,05,201.35	4,94,41,357.51	5.00	44,94,576.58	5,39,35,934.09	2,99,63,843.84	2,54,69,267.26
Building	2	60,50,15,273.57	19,42,425.00	-	60,69,57,698.57	25,93,24,106.35	10.00	3,47,63,359.22	29,40,87,465.57	34,56,91,167.22	31,28,70,233.00
Civil Works	3	3,09,1,40.63	-	-	3,09,1,40.63	2,07,464.15	10.00	10,167.65	2,17,631.80	1,01,676.48	91,508.83
Cobalt Unit	4	1,81,23,455.30	-	-	1,81,23,455.30	1,71,57,585.60	15.00	1,44,880.45	1,73,02,466.05	9,65,869.70	8,20,989.25
Hospital Equipments & Other Assets (Projects)	5	7,19,53,412.00	-	-	7,19,53,412.00	5,30,71,381.41	15.00	28,32,304.59	5,59,03,686.00	1,88,82,030.59	1,60,49,726.00
Electrical Installation	6	11,53,75,547.90	5,33,603.00	-	11,59,09,150.90	7,79,41,135.26	15.00	56,95,202.34	8,36,36,337.60	3,74,34,412.64	3,22,72,813.30
Hospital & Lab Equipments	7	1,66,64,34,412.97	2,11,62,590.40	-	1,87,80,60,316.97	99,26,17,837.50	15.06	13,33,13,858.40	1,12,59,31,695.90	67,38,16,575.47	75,21,28,621.07
Assets (Donations)	8	3,70,112.00	-	-	3,70,112.00	3,56,569.97	15.00	2,031.30	3,58,601.27	1,35,420.03	1,15,10.73
Fire Detection	9	1,57,29,590.00	4,80,024.00	-	1,62,09,614.00	85,20,806.58	15.00	11,53,321.11	96,74,1,27.69	72,08,783.42	65,35,486.31
Gas & Cylinder	10	1,03,84,532.05	-	-	1,03,84,532.05	89,24,161.40	15.00	2,19,055.60	91,43,217.00	14,60,370.65	12,41,315.05
Computer Hardware & Software	11	7,24,49,650.80	87,77,195.00	-	8,12,26,845.80	6,90,31,550.57	40.00	48,78,118.09	7,39,09,686.66	34,18,100.23	73,17,177.14
High Energy Linear Accelerator	12	5,29,87,763.00	-	-	5,29,87,763.00	4,83,59,058.29	15.00	6,94,305.71	4,90,53,364.00	46,28,704.71	39,34,399.00
Furniture & Fittings	13	4,03,74,468.48	56,99,403.00	-	4,60,73,871.48	2,24,96,837.20	10.00	23,57,703.43	2,48,54,540.63	1,78,77,631.28	2,12,19,330.85
Land	14	1,000.00	-	-	1,000.00	-	-	-	-	1,000.00	1,000.00
Library Books & Journals	15	10,76,05,415.09	69,23,288.00	-	11,45,28,703.09	6,60,18,359.62	15.00	72,76,551.52	7,32,94,911.14	4,15,87,055.47	4,12,33,791.95
Lift & Elevator	16	2,71,05,560.00	1,60,000.00	-	2,72,65,560.00	1,72,47,223.89	15.00	15,02,750.42	1,87,49,974.31	98,58,336.11	85,15,585.69
Low energy linear accelerator	17	36,11,489.40	-	-	36,11,489.40	30,97,784.81	15.00	77,055.69	31,74,840.50	5,13,704.59	4,36,648.90
Capital Work in Progress	18	32,02,61,960.60	5,03,02,071.00	-	37,05,64,031.60	-	-	-	-	32,02,61,960.60	37,05,64,031.60
Office Equipments	19	79,00,880.43	34,000.00	-	79,34,880.43	36,56,677.45	15.00	6,41,730.44	42,98,407.89	42,44,202.98	36,36,472.54
Solar Power Generation System- M/s ANERT	20	62,08,809.00	-	-	62,08,809.00	24,62,150.10	15.00	5,61,998.84	30,24,148.94	37,46,658.90	31,84,660.06
Telemedicine Projects	21	77,18,623.00	-	-	77,18,623.00	71,27,332.27	15.01	88,755.01	72,16,087.28	5,91,290.74	5,02,535.72
Telephone Equipments	22	66,38,706.00	-	-	66,38,706.00	52,16,257.11	15.00	2,13,367.33	54,29,624.44	14,22,448.89	12,09,081.56
Vehicles	23	67,53,931.60	-	-	67,53,931.60	39,99,549.23	15.00	4,13,157.36	44,12,706.59	27,54,382.37	23,41,225.01
Water Supply & Drainage	24	65,63,373.43	-	-	65,63,373.43	54,07,838.31	15.00	1,73,330.27	55,81,168.58	11,55,535.12	9,82,204.85
TOTAL		3,24,92,82,308.60	28,64,77,913.00	-	3,53,57,60,221.60	1,72,16,83,024.58		20,15,07,581.35	1,92,31,90,605.93	1,52,75,99,284.03	1,61,25,69,615.67

As per report of even number dated  
For J Singh & Associates  
Chartered Accountants  
FRN | 10266W

Densil Fernando  
Partner  
M.No. 208859

UDIN: 20208859AAAAACH4159

As per report of even number dated  
For J Singh & Associates  
Chartered Accountants  
FRN | 10266W

Dr. Rekha A Nair  
(Director)

K R Gopakumar  
(Controller of Finance)

Thiruvananthapuram  
18.12.2020



**REGIONAL CANCER CENTRE SOCIETY, TRIVANDRUM**  
**(Reg. no. 567/81)**  
**CANCER CARE FOR LIFE SCHEME**  
**INCOME AND EXPENDITURE ACCOUNT FOR**  
**THE YEAR ENDED 31st MARCH 2020**

Sch.	Particulars	Current Year (Rs.)	Previous Year (Rs.)	Sch.	Particulars	Current Year (Rs.)	Previous Year (Rs.)
	Reimbursement to Patients	1,64,92,271.13	1,33,55,795.57		Interest on FD & Investments	1,73,64,634.00	2,22,18,480.00
	Excess of Income over Expenditure	8,72,362.87	88,62,684.43				-
	<b>Total</b>	<b>1,73,64,634.00</b>	<b>2,22,18,480.00</b>		<b>Total</b>	<b>1,73,64,634.00</b>	<b>2,22,18,480.00</b>

Thiruvananthapuram  
18.12.2020

Dr. Rekha A Nair  
(Director)

K R Gopakumar  
(Controller of Finance)

For J Singh & Associates  
Chartered Accountants  
FRN 110266W

Densil Fernando  
Partner  
M. No. 208859  
UDIN: 20208859AAAACH4159

# INDEPENDENT AUDITOR'S REPORT

TO THE MEMBERS OF "REGIONAL CANCER CENTRE SOCIETY"

## **Report on the Financial Statements**

We have audited the financial statements of **REGIONAL CANCER CENTRE SOCIETY, Thiruvananthapuram** which comprises the Balance Sheet as at March 31st 2020, the Income and Expenditure Account for the year ended, and a summary of significant accounting policies.

In our opinion, the accompanying financial statement give a true and fair view of the financial position of the entity as at 31st March 2020, and of its financial performance for the year ended in accordance with the accounting standards issued by the Institute of Chartered Accountants of India (ICAI).

## **Basis for Opinion**

We conducted our Audit in accordance with the Standards on Auditing (SAs) issued by ICAI. Our responsibilities under those Standards are further described in the Auditors Responsibilities for the Audit of Financial Statements section of our report. We are independent of the entity in accordance with the Code of Ethics issued by ICAI and we have fulfilled our other ethical responsibilities in accordance with the code of Ethics. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

## **Emphasis of Matter**

Without qualifying our opinion, and to the best of our information and explanation given to the matters came to our notice during the course of audit are provided in **Annexure I** to this report.

## **Responsibilities of Management and those charged with Governance for the Financial Statements**

The Society's management is responsible for the preparation of these financial statements that give a true and fair view of the state of affairs and the results of operations of the society in accordance with accounting principles generally accepted in India. This responsibility includes the design, implementation and maintenance of internal control relevant to the preparation and presentation of the financial statements that give a true and fair view and are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the entity's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of Accounting unless management either intends to liquidate the society or to cease operations or has no realistic alternative but to do so.

Those charged with Governance are responsible for overseeing the society's financial reporting process.

## **Auditor's Responsibilities for the Audit of the Financial Statements**

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Standards on Auditing (SA's) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

Report on other Legal and other regulatory requirements

I) We further report that;

- a. We have obtained all the information and explanations, which to the best of our knowledge and belief were necessary for purposes of audit.
- b. In our opinion, proper books of account have been kept by Society so far as appears from our examination of those books.
- c. The Balance Sheet and the Income and Expenditure account dealt by this report are in the agreement with the Books of Accounts.
- d. In our opinion, the Balance Sheet and the Income and Expenditure Account comply with the Accounting Standards issued by the Institute of Chartered Accountants of India.

Thiruvananthapuram  
18.12.2020

For J Singh & Associates  
Chartered Accountants  
FRN 110266W

Densil Fernando  
Partner  
M. No. 208859  
UDIN: 20208859AAAACH4159

# SCHEDULE – XV

## SIGNIFICANT ACCOUNTING POLICIES

### **1. ACCOUNTING ASSUMPTIONS**

The accounts have been prepared under the historic cost convention on the basis of a going concern, with revenues recognised and expenses accounted on their accrual (except income from investments, treatment expenditure in respect of patients, which is accounted only at the settlement of bills and leave surrender salary which are accounted as and when income/expense is actually received or paid, hostel rent in respect of PG doctors) including provisions / adjustments for committed obligations and amounts determined as payable or receivable during the year.

The Financial Statements are prepared in accordance with Generally Accepted Accounting Principles (GAAP) in India and the Accounting Standards issued by the Institute of Chartered Accountants of India and deviations if any from such standards have been explained in the notes on accounts.

### **2. METHOD OF ACCOUNTING**

The method of accounting followed by the society is “mercantile system” subject to the clause no.1 above.

### **3. INVENTORIES**

Inventories are valued at cost or net realizable value whichever is less. Cost includes freight and other related incidental expenses and is computed in weighted average method.

### **4. FIXED ASSETS**

The “Gross Block” of fixed assets represents cost of acquisition and all other attributable cost of bringing the asset to the working condition for its intended use. Accumulated depreciation is shown separately as Provision for Depreciation.

### **5. DEPRECIATION**

Depreciation is provided on Fixed Assets under written down value method at the rates as per the Fixed Assets Schedule attached. In the case of new assets purchased during the year full depreciation is provided at the rates mentioned above while no depreciation is charged during the year in the case of assets disposed / demolished / discarded or otherwise retired during the year.

### **6. GRANT-IN-AID**

Grant-in-Aid received during the year from the Government, both Central and State, under the plan funds to the extent of the value of additions to fixed assets in the current year is transferred and included under Capital Fund Account and the balance amount is retained under Grant in Aid from the respective Government Account. Grant in Aid received as non-plan funds from the State Government is transferred to Income and Expenditure Account to the extent utilized in the current year for the purpose for which it is received and the amount to the extent not utilized in the current year for the stated purpose, but set apart to be used for the purpose in the subsequent year(s), is retained under Grant-in-Aid from the State Government Account. Capital Grant received from NRHM during the previous years has been included under capital fund account as it represents the fixed assets acquired.

### **7. CAPITAL FUND**

Capital Fund Account balance includes the fund balance at the beginning of the year; Capital Grants to the extent used for acquisition / construction of fixed assets, the value of assets received from the projects at free of cost and the value of assets received as donations.

### **8. INCOME-TAX**

No provision for current or deferred tax is provided as the society is a registered charitable society under Section 12A (a) of the Income-Tax Act, 1961.

### **9. ASSETS RECEIVED FROM PROJECT CELL**

The assets transferred to the society from the projects cell after having fulfilled its intended use in the projects are credited to capital fund account as the Society received these assets as free of cost.

### **10. RETIREMENT BENEFITS**

The liability on account of post-employment benefits in the form of gratuity, as and when it arises, is met from Regional Cancer Centre Employees Group Gratuity Fund set up under a Group Gratuity Scheme administered by the Life Insurance Corporation of India. The premiums paid to the scheme is treated as revenue expenditure and disclosed in the Income and Expenditure Account.

Thiruvananthapuram  
18.12.2020

Dr. Rekha A Nair  
(Director)

K R Gopakumar  
(Controller of Finance)

For J Singh & Associates  
Chartered Accountants  
FRN 110266W

Densil Fernando  
Partner  
M. No. 208859

UDIN:20208859AAAACH4159

## SCHEDULE – XVI NOTES ON ACCOUNTS

1. Had the organization followed the Accounting Standards (AS 12) regarding Government Grant issued by the ICAI and reduced the grant utilized for acquisition of fixed assets from the gross value of such assets, the depreciation debited to Income & Expenditure Account for the year would have been reduced by the quantum of depreciation relating to the value of specific assets acquired out of Grant-in-Aid and there would have been consequent reduction in the deficit for the year. As the organization, has been following the accounting practice, as mentioned under Clause No.6 of the Significant Accounting Policies, for previous years also, the impact of the above deviation from the standard in the current year's deficit could not be quantified precisely.
2. Investigation fees include income from registration fees, ward charges, nuclear medicine, radiotherapy, surgery and lab.
3. There is surplus or profit during the year, according to the society, which is not chargeable to income-tax, as the society has obtained registration under Section 12AA of the Income Tax Act 1961.
4. Contingent liability towards property tax and interest thereon is amounting to Rs.101,67,369/- Non-refund of Grant-in-aid is contingent upon the fulfillment of all the conditions attached to such assistance.
5. The balance in Grant in Aid from Government of Kerala account, includes grant received under Plan Fund of Rs .49,82,697/- and similarly Grant-in-Aid from Government of India of Rs. 2,03,69,014/- represent the unutilized amount of Grant received under Plan from the Central Government.
6. Figures for the previous year have been regrouped and recast wherever necessary to suit the current year lay-out.

Thiruvananthapuram  
18.12.2020

Dr. Rekha A Nair  
(Director)

K R Gopakumar  
(Controller of Finance)

For J Singh & Associates  
Chartered Accountants  
FRN 110266W

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Partner  
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## TO WHOMSOEVER IT MAY CONCERN

1. During the year 2019-20 The Regional Cancer Centre Society, Thiruvananthapuram has received Rs. 2,248.18 lakh under the head of account 2210-05-105-52-36 (NP) Grant in Aid-Non Salary and Rs. 4,026.052 lakh under the head of account 2210-05-105-52-31 (NP) Grant in Aid-Salary from the Govt. Of Kerala. The details of such receipts are as follows:

Installment	G.O.Numbers	Amount (Rs. in Lakhs)
<b>A</b>	<b>Head of Account-2210-05-105-52-36 (NP)- Grant in Aid-Non Salary</b>	
1	GO.(Rt).No.1184/2019/H&FWD dated 20/05/2019	374.696
2	GO.(Rt).No.1878/2019/H&FWD dated 31/07/2019	224.818
3	GO.(Rt).No.2424/2019/H&FWD dated 11/10/2019	224.818
4	GO.(Rt).No.2774/2019/H&FWD dated 20/11/2019	224.818
5	GO.(Rt).No.3050/2019/H&FWD dated 19/12/2019	123.64
6	GO.(Rt).No.355/2020/H&FWD dated 20/02/2020	123.64
7	GO.(Rt).No.615/2020/H&FWD dated 19/03/2020	951.75
	<b>Total</b>	<b>2,248.18</b>
<b>B</b>	<b>Head of Accounts-2210-05-105-31 (NP)-Grant in Aid -Salary</b>	
1	GO.(Rt).No.1184/2019/H&FWD dated 20/05/2019	671.013
2	GO.(Rt).No.1878/2019/H&FWD dated 31/07/2019	671.013
3	GO.(Rt).No.2424/2019/H&FWD dated 11/10/2019	671.013
4	GO.(Rt).No.2774/2019/H&FWD dated 20/11/2019	671.013
5	GO.(Rt).No.3050/2019/H&FWD dated 19/12/2019	335.50
6	GO.(Rt).No.180/2020/H&FWD dated 24/01/2020	335.50
7	GO.(Rt).No.355/2020/H&FWD dated 20/02/2020	335.50
8	GO.(Rt).No.615/2020/H&FWD dated 19/03/2020	335.50
	<b>Total</b>	<b>4,026.052</b>
	<b>Grand Total (A+B)</b>	<b>6,274.232</b>

2. The amount was used during the year 2019-20 for the following purposes:

Sl.No	Purpose	Amount (Rs.in Lakhs)
1	Operational expenditure including salary	6,274.232
	<b>Total</b>	<b>6,274.232</b>

3. That the utilization mentioned above is true and correct as disclosed by the Books of accounts of the Society.

Thiruvananthapuram  
18.12.2020

Dr. Rekha A Nair  
(Director)

K R Gopakumar  
(Controller of Finance)

For J Singh & Associates  
Chartered Accountants  
FRN 110266W

Densil Fernando  
Partner  
M. No. 208859  
UDIN: 20208859AAAACH4159

**T.AJITH KUMAR B.Com, FCA**  
**CHARTERED ACCOUNTANT**

Chaitaniya,  
T.C. 54/2214-2  
Sreedharan Pillai Road  
Pappanamcode P.O.  
Thiruvananthapuram 695 018  
Telephone: 0471-2495939  
Mobile: 9349990489  
E-mail: ajithkumarca@yahoo.com

## AUDITOR'S REPORT

I have audited the accounts of the Foreign Contribution for Research Projects of the Regional Cancer Centre Society, registered as per T.C. Literary, Scientific and Charitable Societies Regulation Act XII of 1955 (Reg.No.567/81) with registered office at Medical College P.O., Thiruvananthapuram-695011, Kerala State for the year ended 31st March 2020 and examined all relevant books and vouchers and certify that according to the audited accounts.

1. The brought forward foreign contribution at the beginning of the financial year 2019-2020 was Rs.5,94,67,473.32
2. Foreign contribution worth Rs.68,51,682.36 was received by the Association during the year ended 31st March 2020.
3. Interest accrued on foreign contribution and other income derived from foreign contribution or interest thereon of worth Rs. 37,42,021.25 was received by the Association during the financial year 2019-20.
4. The balance in foreign contribution account together with interest earned thereon at the end of the financial year 2019-2020 was Rs.6,28,09,887.66
5. Certified that the Association has maintained the accounts of foreign contribution and records relating thereto in the manner specified in section 19 of the Foreign Contribution (Regulation) Act, 2010 (42 of 2010) read with Rule 17 of the Foreign Contribution (Regulation) Rules, 2011.
6. The information furnished above and in the Balance Sheet and statement of Receipts and Payments is correct, as checked by me.
7. The association has utilized the foreign contribution received for the purpose(s) it is registered or granted prior permission under Foreign Contribution (Regulation) Act, 2010

**THIRUVANANTHAPURAM**  
28th September 2020

**T.AJITH KUMAR B.Com, FCA**  
**CHARTERED ACCOUNTANT**  
MEM. NO: 209348

**REGIONAL CANCER CENTRE SOCIETY, TRIVANDRUM**  
**(Reg. No.567/81)**  
**Foreign contribution for Research Projects**  
**Balance Sheet as at 31st March 2020**

							Amount INR
Previous Year As on 31/03/2019	LIABILITIES		Current Year As on 31/03/2020	Previous Year As on 31/03/2019	PROPERTY & ASSETS		Current Year As on 31/03/2020
	CAPITAL FUND		-		FIXED ASSETS	-	
39,552,706	<b>RESEARCH FUND (Sch.1)</b>		42,969,661	-	-		
				53,092,616	<b>INVESTMENTS</b>		57,350,967
19,914,767	FC PROJECT FUND (Sch.2)		19,840,227		(Schedule 3 attached)		
	-			-	<b>CURRENT ASSETS &amp;</b>		
	<b>CURRENT LIABILITIES</b>			-	<b>LOANS AND ADVANCES</b>		
15,120	Salary Recovery	-		3,256	Cash in Hand	8,604	
				2,263,905	Cash at Bank	866,099	
285,667	Payable to Research Project account	<u>292,744</u>	292,744		(SBI A/c No.57036240199)		
				3,767,854	Interest Accrued but not due	4,236,333	
				613,629	Tax Deducted at Source	613,629	
				7,000	Imprest	7,000	
				20,000	Rent Deposits	<u>20,000</u>	5,751,665
59,768,260	<b>TOTAL</b>		<b>63,102,632</b>	59,768,260	<b>TOTAL</b>		<b>63,102,632</b>

Vide my report of even date attached.

**THIRUVANANTHAPURAM**  
28th September 2020

**FINANCE MANAGER**  
(Projects)

**DIRECTOR**

**T.AJITH KUMAR B.Com, FCA**  
CHARTERED ACCOUNTANT  
MEM. NO: 209348

**REGIONAL CANCER CENTRE SOCIETY, TRIVANDRUM**  
**(Reg. No.567/81)**  
**Foreign contribution for Research Projects**  
**Receipts and Payments Account for the**  
**year ended on 31st March 2020**

RECEIPTS	Amount (Rs)	PAYMENTS	Amount (Rs)
To Opening Balance:-		By Project Expenses:-	
Cash in Hand	3,256	Revenue Expenses paid	6,958,545
Cash at Bank	2,263,905	Capital Expenses paid	-
Receipts-Research Funds	-	Other expenses paid	70,268
Foreign Receipts ( Sch.2)	6,851,683	Salary Recovery Account	148,727
Recovery from Salary	133,607	Other Advances paid	99,000
Other Advance Recovered	99,000	Paid to Research Projects	285,667
Tax Recoveries	14,250	Taxes paid	14,250
Term Deposit SBI	1,500,000	Term Deposits	2,500,000
Interest Received	85,459		
		To Closing Balance	
		Cash in Hand	8,604
		Cash at Bank	866,099
<b>TOTAL</b>	<b>10,951,160</b>	<b>TOTAL</b>	<b>10,951,160</b>

Vide my report of even date attached.

**THIRUVANANTHAPURAM**  
28th September 2020

**FINANCE MANAGER**  
(Projects)

**DIRECTOR**

**T.AJITH KUMAR B.Com, FCA**  
CHARTERED ACCOUNTANT  
MEM. NO: 209348



## INDEPENDENT AUDITOR'S REPORT

### To the Management

### Report on the Financial Statements

#### Opinion

I have audited the accompanying Standalone financial statements of The Project Cell of RCC ("the Project Cell") which comprises the Balance Sheet as at 31st March 2020, the Statement of Income & Expenditure and other notes to the financial statements, including policies and other explanatory information.

In my opinion and to the best of my information and according to the explanations given to me, the aforesaid standalone financial statements give a true and fair view, of the financial position of the Project Cell as at 31st March 2020, and of its financial performance for the year then ended in accordance with the Accounting Standards issued by the Institute of Chartered Accountants of India (ICAI).

#### Basis for Opinion

I conducted my audit in accordance with the Standards on Auditing (SAs) issued by ICAI. My responsibilities under those Standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of my report. I am independent of the entity in accordance with the Code of Ethics issued by the Institute of Chartered Accountants of India together with the ethical requirements that are relevant to my audit of the financial statements, and I have fulfilled my other ethical responsibilities in accordance with these requirements and the Code of Ethics. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

#### Responsibility of Management for the Financial Statements

The management is responsible for the preparation and fair presentation of the financial statements in accordance with the accounting standards and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the entity's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the entity or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the entity's financial reporting process

#### Auditor's Responsibility for the Audit of the Financial Statements

My objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error; and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with SAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

**THIRUVANANTHAPURAM**

28th September 2020

**T.AJITH KUMAR B.Com, FCA**

CHARTERED ACCOUNTANT

MEM. NO: 209348

**REGIONAL CANCER CENTRE SOCIETY, TRIVANDRUM**  
**(REG. No. 567/81)**  
**PROJECT CELL**  
**(Financial Assistance received from**  
**National Agencies for Research Projects)**  
**Balance Sheet as on 31st March 2020**

Previous Year As on 31/03/2019	LIABILITIES		Current Year As on 31/03/2020	Previous Year As on 31/03/2019	PROPERTY & ASSETS		Current Year As on 31/03/2020
9,963,578	CAPITAL FUND		9,963,578	126,276	FIXED ASSETS		118,142
					(Schedule-5)		
-	EARMARKED FUNDS						
112,090,910	R&D Fund (Sch.1)	127,530,292		238,047,923	INVESTMENTS		239,501,110
25,379,182	Training Fund (Sch.2)	25,181,500			(Schedule-6)		
2,208,865	Internal Project Fund (Sch.3)	1,315,548					
56,993,858	Project Fund (Sch.4)	46,639,350	-				
2,500,000	Grant in aid-Infosys	2,500,000	-		CURRENT ASSETS &		
50,000,000	Endowment Fund-Infosys	50,000,000	253,166,690		LOANS & ADVANCES		
-	-			59,037	Cash in Hand - Sch-7	152,593	
-	OTHER CURRENT LIABILITIES			9,936,740	Cash at Bank - Sch-8	5,318,025	5,470,618
250,044	Security Deposits	250,044			Other Current Assets and		
67,651	EPF Recovery	0		14,732,255	Loans & Advances		21,711,654
49,795	Goods & Service Tax	0			(Schedule-9)		
138,871	Sundry creditors -Others	96,821					
3,259,477	Int. on Endowment-Infosys	3,324,391	3,671,256				
262,902,231			266,801,524	262,902,231			266,801,524

THIRUVANANTHAPURAM  
28th September 2020

FINANCE MANAGER  
(Projects)

DIRECTOR

T.AJITH KUMAR B.Com, FCA  
CHARTERED ACCOUNTANT  
MEM. NO: 209348

**PROJECT CELL**  
**REGIONAL CANCER CENTRE SOCIETY, TRIVANDRUM**  
**(REG. No. 567/81)**  
**Income and Expenditure Account**  
**for the year ended on 31st March 2020**

Previous Year As on 31/03/2019	EXPENDITURE	Current Year As on 31/03/2020	Previous Year As on 31/03/2019	INCOME	Current Year As on 31/03/2020
483,995	Salary Paid	816,900	3,129,101	Income from Projects	5,275,370
800	Travelling Expenses	1,050	11,961,432	Interest received	11,856,399
70,000	Audit Fee	70,000			
7,866	Printing & Stationery	5,899			
7,184	Computer Stationery	1,000			
-	- Postage Expenses	142			
-	- Bank charges	3,073			
32,545	Other Miscellaneous Expenses	52,848			
36,432	Depreciation	27,934			
14,451,711	Excess of Income Over Expenditure	16,152,923			
15,090,533		17,131,769	15,090,533		17,131,769

**THIRUVANANTHAPURAM**  
28th September 2020

**FINANCE MANAGER**  
(Projects)

**DIRECTOR**

**T.AJITH KUMAR B.Com, FCA**  
CHARTERED ACCOUNTANT  
MEM. NO: 209348

**REGIONAL CANCER CENTRE SOCIETY, TRIVANDRUM**  
**PERIPHERAL CENTRE OF RCC AT NEENDAKARA**  
**Receipts and Payments Account**  
**for the year ended on 31st March 2020**

Payments	Amount (Rs.Ps.)	Receipts	Amount (Rs.Ps.)
Salary	23,74,351	Grant-in-Aid received (G.O Rt.No.1981/2019/H&FWD, Dt.10/08/2019)	8,84,750
Medicines	4,93,291	Grant-in-Aid received (G.O Rt.No.199/2020/H&FWD, Dt.28/01/2020)	7,08,750
Consumables	1,29,429		
Travel Expenses	60,720		
Contingencies	44,850	Excess expenditure	17,38,711
Detection Camp Expenses	2,29,570		
<b>TOTAL</b>	<b>33,32,211</b>	<b>TOTAL</b>	<b>33,32,211</b>

Budget Provision Rs.39,35,000 (Non plan- Salary - Rs.28,35,000 & Non Plan- Non Salary Rs.11,00,000)  
 Received Grant-in-Aid (Non Plan Salary Rs.14,17,500 & Non plan Non Salary Rs.1,76,000)

**THIRUVANANTHAPURAM**  
 04th January 2021

**FINANCE MANAGER**  
 (Projects)

**DIRECTOR**

**T.AJITH KUMAR B.Com, FCA**  
 CHARTERED ACCOUNTANT  
 MEM. NO: 209348

## REGIONAL CANCER CENTRE SOCIETY, TRIVANDRUM PERIPHERAL CENTRE OF RCC AT NEENDAKARA Utilisation Certificate

Sl.No.	Letter No.& date	Major/Subheads	Amount (Rs. in lakhs)
1	Grant-in-Aid received (Rt. No.1981/2019/H&FWD, Dt.10/08/2019)	2210-05-200-97-31 (NP), Grant in Aid-Salary	7.0875
2	Grant-in-Aid received (Rt. No.1981/2019/H&FWD, Dt.10/08/2019)	2210-05-200-97-36 (NP), Grant in Aid-Non Salary	1.7600
3	Grant-in-Aid received (Rt.No.199/2020/ H&FWD, Dt.28/01/2020)	2210-05-200-97-31 (NP), Grant in Aid-Salary	7.0875
	Total		15.9350

Certified that out of **Rs. 15,93,500** grants-in-aid received for the peripheral Centre of Regional Cancer Centre at Neendakara, Kollam District during the Financial year **2019-20**, a sum of Rs. **33,32,211** has been utilized for the purpose for which it has been sanctioned. The Receipts and Payments account duly audited attached with this utilization certificate.

**DIRECTOR**  
04th January 2021

**T.AJITH KUMAR B.Com, FCA**  
CHARTERED ACCOUNTANT  
MEM. NO. 209348

## Abbreviations used

3DCRT	Three-Dimensional Conformal Radiotherapy
AAR	Age-Adjusted incidence Rate
ABG	Arterial Blood Gas
AIDS	Acquired Immune Deficiency Syndrome
AML	Acute Myeloid Leukaemia
ASHA	Accredited Social Health Activist
BARC	Bhabha Atomic Research Centre
BCR-ABL	Breakpoint Cluster Region-Abelson murine leukaemic viral gene
BHU	Banaras Hindu University
BMT	Bone Marrow Transplantation
BSc	Bachelor of Science
CB-NAAT	Cartridge Based Nucleic Acid Amplification Test
CGHS	Central Government Health Scheme
CHIS	Comprehensive Health Insurance Scheme
CML	Chronic Myeloid Leukaemia
CNS	Central Nervous System
CR	Computed Radiography
CR	Crude Incidence Rate
CSR	Corporate Social Responsibility
CT	Computed Tomography
CVAD	Central Venous Access Device
DM	Doctorate of Medicine
DNA	Deoxyribonucleic Acid
DNB	Diplomate of National Board
DR	Digital Radiography
ECDC	Early Cancer Detection Centre
ECRT	Extra Corporeal Radiotherapy
ELISA	Enzyme-Linked Immunosorbent Assay
ER	Estrogen Receptor
ESI	Employees' State Insurance
ESMO	European Society for Medical Oncology
ESTRO	European Society for Radiotherapy and Oncology
FISH	Fluorescence In Situ Hybridization
FNAC	Fine Needle Aspiration Cytology
GA	General Anaesthesia
HbA1c	Haemoglobin A1c
HBCR	Hospital Based Cancer Registry
HbsAg	Hepatitis B surface Antigen
HCV	Hepatitis C Virus
HDR	High Dose Rate
HER2	Human Epidermal Growth Factor Receptor 2
HIV	Human Immunodeficiency Virus
HMCPF	Health Minister's Cancer Patient Fund
HPLC	High Performance Liquid Chromatography
HPV	Human Papillomavirus
IAEA	International Atomic Energy Agency
IARC	The International Agency for Research on Cancer
ICMR	Indian Council of Medical Research
ICU	Intensive Care Unit
IgG	Immunoglobulin G
IGRT	Image-Guided Radiation Therapy
IMRT	Intensity-Modulated Radiation Therapy
LEEP	Loop Electrosurgical Excision Procedure
MCh	Magister of Chirurgiae
MD	Doctor of Medicine
MLT	Medical Laboratory Technology
MR	Magnetic Resonance
MRI	Magnetic Resonance Imaging
MS	Master of Surgery
MSc	Master of Science
MUPIT	Multiple-site Perineal Applicator
NACO	National AIDS Control Organisation
NBRR	Natural Background Radiation Registry
NCC	National Cadet Corps
NF-κB	Nuclear Factor Kappa-B Cells
NGO	Non-Governmental Organisation
NHL	Non-Hodgkin's Lymphoma
NSS	National Service Scheme
OGD	Oesophago-Gastroduodenoscopy
OP	Out Patient
PBCR	Population Based Cancer Registry
PC	Packed Cells
PCR	Polymerase Chain Reaction
PET/CT	Positron Emission Tomography/Computed Tomography
PICC	Peripherally Inserted Central Catheter
PML-RARA	Promyelocytic Leukaemia/Retinoic Acid Receptor Alpha
PMMA	Polymethyl methacrylate
PR	Progesterone Receptor
RBC	Red Blood Corpuscles
RCC	Regional Cancer Centre
RGCB	Rajiv Gandhi Centre for Biotechnology
RILI	Radiation Induced Lung Injury
RNA	Ribonucleic Acid
RT	Radiation Therapy
RT-PCR	Reverse Transcription Polymerase Chain Reaction
SBRT	Stereotactic Body Radiation Therapy
SCTIMST	Sree Chitra Tirunal Institute for Medical Sciences and Technology
SERS	Surface-Enhanced Raman Scattering
SPECT	Single-Photon Emission Computed Tomography
SRS/SRT	Stereotactic Radiosurgery & Radiotherapy
STAT3	Signal Transducer and Activator of Transcription-3
TBI	Total Body Irradiation
TLD	Thermoluminescent Dosimeter
TNBC	Triple Negative Breast Cancer
TSET	Total Skin Electron Therapy
VIA	Visual Inspection with Acetic Acid
VIAM	Visual Inspection with Acetic Acid under Magnification
VILI	Visual inspection with Lugol's Iodine
VSSC	Vikram Sarabhai Space Centre

# Acknowledgements

Ministry of Health & Family Welfare, Government of India  
Ministry of Information Technology, Government of India  
Department of Science and Technology, Government of India  
Council of Scientific and Industrial Research, Government of India  
Department of Biotechnology, Government of India  
Director General of Health Services, Government of India  
Department of Health & Family Welfare, Government of Kerala  
State Planning Board, Government of Kerala  
Director of Health Services, Government of Kerala, Thiruvananthapuram  
World Health Organisation, Geneva, Switzerland  
International Agency for Research on Cancer (IARC), Lyon, France  
Union for International Cancer Control (UICC) Geneva, Switzerland  
World Health Organisation, Regional Office, New Delhi  
National Cancer Institute, Bethesda, Maryland, USA  
Memorial Sloan-Kettering Cancer Centre, New York, USA  
National Cancer Centre, Singapore  
Health Research Foundation, Japan  
Finnish Cancer Society, Finland  
Indian Council of Medical Research, New Delhi  
Atomic Energy Commission, Government of India  
Bhabha Atomic Research Centre, Bombay  
Indian Space Research Organisation  
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Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram  
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Mahatma Gandhi University, Kottayam  
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Kerala State Committee on Science, Technology and Environment, Thiruvananthapuram  
C-DAC, Thiruvananthapuram  
Centre for Earth Science Studies, Thiruvananthapuram  
Medical College, Thiruvananthapuram  
Sree Avittam Thirunal Hospital for Women and Children, Thiruvananthapuram  
Dental College, Thiruvananthapuram  
Department of Economics and Statistics, Kerala  
Drugs Controller, Thiruvananthapuram  
College of Pharmaceutical Sciences, Thiruvananthapuram  
Corporation of Thiruvananthapuram  
Regional Cancer Association, Thiruvananthapuram  
Care Plus, Thiruvananthapuram  
Asraya, Thiruvananthapuram  
Pratyasha, Thiruvananthapuram  
All our Well-wishers and Friends



# REGIONAL CANCER CENTRE

THIRUVANANTHAPURAM INDIA

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