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QUARTERLY E-MAGAZINE

Sree Chitra Tirunal Institute for Medical Sciences & Technology

CHITRA DHWANI

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From Editor's Desk....

A Letter from the Editor

Dear Colleagues, I am pleased to share yet another combined issue of Chitra Dhwani, the last one of year 2023. It is so gratifying to project the outstanding contributions of our residents, students, nursing staff and faculty members in various scientific, artistic and sports activities. Their commendable journey of success and progress is a reflection of a holistic development in SCTIMST.

The special highlight of this combined issue was the fabrication of the GelMA, UV resistant Bioink that makes foundation of future 3-D printing of tissues and organs. This was possible due to consistent hard work of the team. The write-up by the Transfusion Medicine team will drive you through the elegant journey of improvisation and expansion over years without getting deterred even during hardships of COVID pandemic. The foolproof regular supply of safe blood is the key to success of our program in cardiology and neurological surgical interventions.

Chitra's initiative of special daycare ward facility is a noble endeavor to help patients requiring a short stay in hospital post-surgery. The regular and timely meetings of dedicated Research Council is a reflection of commitment to our high end research programs. Dr KPJ Reddy's extraordinary flavor on shock waves and its application in medical filed in the SAMVAAD lecture series enthused everyone. Academic Fest program successfully completed two years under the able stewardship of Dr Manikandan.

The Chitra family celebrated Independence day in full zest and also successfully concluding the Azadi ka Amrit Mahotsav. India is ushering into golden era of progress towards self-reliance in every field with accelerating scientific & technological advancements. This period was marked with energetic participation of staff in several exhibitions and events showcasing progress of SCTIMST for societal benefits. Congratulation to all those who excelled in various national and International competitions keeping the flagship of Chitra High. Last but not the least, sparkling participation of all in various artwork/ photography/ story telling was very empowering and hopefully will be liked by our precious readers.

I along with our vibrant team extend our best wishes for a Bright New Year that fill Success, Joy and Progress in everyone's life.

Get regular Sleep & enjoy Healthy life.

Thanks & Best regards

Kamalesh K Gulia, PhD
Chief Editor, Chitra Dhwani
Scientist G & Head
Division of Sleep Research
BMT Wing
SCTIMST, Trivandrum



"The ignited mind of the youth is the most powerful resource on the earth, above the earth and under the earth"
Dr APJ Kalam

Disclaimer: *The views and opinions expressed in this magazine are those of the authors and do not necessarily reflect the official policy or position of SCTIMST*

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(The articles and artworks are invited for the next issue and may be sent to the above mailbox. Articles includes shorts stories, experiences of alumni, simplified version of scientific work or technology, poems, and travel anecdotes etc. Photography, cartoons, artwork (unique histology pictures), paintings and sketches are most welcome. Kindly send your contribution containing details of our Name and Department)

"Success seems to be connected with action. Successful people keep moving. They make mistakes, but they don't quit" Conrad Hilton

The Chitra GelMA Bioink

Bioinks are materials used in 3D printing to create artificial live tissue. These inks are made up of cells, but are often combined with other materials to protect the cells. The combination of cells and biopolymer gels is called a bioink. Bioinks must have certain properties, such as the ability to flow, mechanical stability, biofunctionality, biocompatibility and capability to be 3D printed. These inks are considered as one of the most advanced tools for tissue engineering and regenerative medicine.

A unique bioink called Chitra GelMA-UVS was developed at SCTIMST. This bioink has a specialized formulation of functionalized gelatin and biomolecules. This inimitable bioink formulation can be easily dissolved in a physiological or cell culture media and be directly added to cells. When exposed to light or UV radiation, Chitra GelMA-UVS cross-links and quickly forms a stable hydrogel that provides a safe environment for cells. This unique bioink protects cells from the harmful effects of UV radiation during the crosslinking process. Cells are able to adhere, migrate, proliferate, and differentiate within the hydrogel. As a result, Chitra GelMA-UVS is an ideal bioink for ensuring the viability and functionality of 3D bioprinted structures. This project funded by Technical Research Center, produced 4 international research papers, 2 Indian Patents and 2 Design registrations. The Chitra GelMA Bioink is an indigenous bioink developed within the country, with the objective of enabling the biofabrication of solid organ bioprinting.

The project was initiated under TRC phase I. Dr Kalliyana Krishnan V was the first project coordinator and Dr Kumary TV was the PI. Upon superannuation of these Faculty members, Dr Anil Kumar lead the team.



Chitra GelMA



Striding towards Fabrication of Tissues: The Chitra GelMA Bioink

Indian Patent Certificate for Bioink



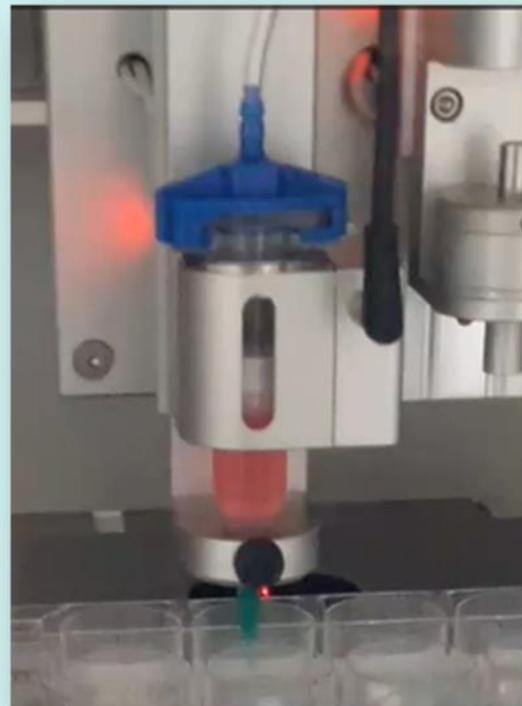
Chitra GelMA UVS



Bioink



Bioprinting



3D Bioprinted Construct

Team at work



Team Members

Roopesh R Pai

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Anupama Sekar J

Sarath S Nair

PR Anil Kumar

Shiny Velayudhan



Dept of Transfusion Medicine: Safe blood starts with me

Blood transfusion is an indispensable component of health care system. The discovery of safe blood transfusion, has revolutionized the modern health care system to new heights. The surgeries that were considered as impossible a century ago probably due to anticipated blood loss, are happening on regular basis. It contributes to saving of millions of lives every year in both routine and emergency situations. This in turn permits performing highly complex medical and surgical interventions involving blood transfusion and thereby increase the life expectancy and quality of life of persons with acute and chronic health conditions. An increase in aging population requiring more medical care has also resulted in increased demand for blood and blood products.

A well-organized blood transfusion services is one of the markers of efficiency of health care system. No health care system in the world can survive without adequate and safe blood and the only source for the same is healthy blood donors. Nation's requirement of blood is determined by the capacity of the country's health care system and its availability and accessibility for its population. The advancements in medical sciences, the global availability and accessibility of health care facilities continuously implies pressure on blood transfusion services throughout the world.

The World Health Organization estimates that, blood donation by 1% of the population is generally needed to meet nation's most basic requirement of blood. The requirement is higher in countries with advanced health care facilities. The global requirement of blood stands at 81 million units per year. About 235 million major surgeries take place globally every year. 1.2 million die every year due to road traffic accidents and 20-30 million are injured or gets disabled and large population of whom require blood transfusion in the first 24 hours. Of the fatalities 90% happens in the transitional and developing countries. The timely availability of the blood at the emergency health care facilities is one of the determinants of patient survival. The adequate availability of safe blood at any point of time prepares the hospital and health care facilities to face any health care emergency situations.

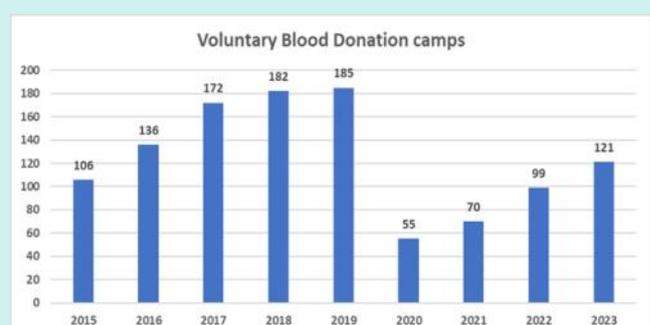
In countries with diagnostic and treatment facilities are limited, it has significant influence on the blood transfusion services such as collection and storage. In countries where blood transfusion services are limited, the majority of transfusion are prescribed for management of complications during pregnancy and child birth, severe anaemia, trauma and congenital blood disorders. Access to safe blood could help to prevent one fourth of maternal death every year. Blood transfusion services is identified as one of the eight lifesaving function that should be available in

the first referral units involving mother and child care facilities. Most countries with low rate of blood donations depend on blood given by the family members or friends of patient who require it or on professional or paid donors. They are hesitant to come to the pool of voluntary donors and rarely respond to a voluntary blood donation as the key component of voluntary and altruism is missing. Voluntary blood donation is the foundation of the safe and quality Blood Transfusion services in the country.

In Indian context the minimum required blood according to WHO projection stands at 15 million units per annum. Our annual collections stand at 13 million units as against requirement of 14.6 million. We are consistently falling short of approximately 1 million blood units as deficit every year. In India, with its existing population of 1500 million, the gap between demand and supply of blood can be bridged through planned, systematic, and outcome-oriented donor recruitment, and planned production of blood components and plasma derivatives.

The donor recruitment is task involving systematic, conscious, deliberate, and continuous efforts. This activity requires skills in marketing, public awareness building, public advocacy, mass & social media handle management, fund raising, adequate legislation. It is in these areas the expertise of volunteers and voluntary organizations becomes handy. Recruitment of voluntary blood donor is a challenging task. It's a never-ending process. The crucial component is that the public must inculcate that blood donation without prompting is their civic responsibility. An ideal model for foundation of safe blood supply is through a committed group of healthy, altruistic donors who have been recruited by a committee and well-organized dynamic donor recruitment organization. Hence it is difficult to undermine the role of voluntary organizations. Donor recruitment and donor retention can be achieved by regular and continuous efforts to build awareness amongst general public. The expected outcome must be regular supply of healthy and safe blood without experiencing seasonal shortages.

Blood and blood products are unique and precious nation's resources because they are obtained from healthy population. Every nation's blood transfusion



Dept of Transfusion Medicine: Safe blood starts with me

policy must aim to increase and retain substantial pool of voluntary blood donors in order to ensure stable supply of blood and blood derived products in the country. The voluntary blood donation activities must contain key elements such as donor education, donor recruitment, donor selection and donor retention.

Prevention of transmission of HIV infection through blood transfusion is a matter of prime strategies in HIV/AIDS prevention. The risk of HIV infection through blood transfusion is very high when compared with other common modes. This reiterates the importance of blood safety. Voluntary non remunerated blood donors are considered to be the safest blood donors because they are motivated by altruism, and the desire to help others and the sense of social or moral responsibility. Voluntary donors are guided by the reward of self-esteem, personal satisfaction, and moral responsibility. They have very little reasons to hide their medical condition. They are under no pressure from family members or official or hospital staff to donate. They donate when they feel they are healthy and fit to donate. The voluntary donors especially regular donors are well informed about the selection criterion and will self-defer when they feel they are unfit. They are guided by the sense of self determination. The voluntary option as fewer units turns to be test reactive and there blood donation in long run is financially viable

reduce the associated cost and resultant discard. Promoting voluntary blood donation upholds the fundamental values of respecting the worth and dignity of individual, protecting their rights and well-being, and protection from exploitation.

National Blood Policy, Government of India 2002, and The Action Plan for Blood Safety, Government of India emphasizes on augmenting blood collection through voluntary blood donations and phase out replacement donors. The department of Transfusion Medicine in SCTIMST, was established in the year 1978. From 2003 onwards, there has been sustained efforts to increase the voluntary blood donation (VBD). The percentage of VBD increased slowly over the years and in the beginning of 2016, we were able to reach more than 90%. This gave us the confidence to strive harder. The result was the public declaration of 100% VBD in SCTIMST Blood Centre, on October 1st, 2016, by the then Health Minister of Kerala at the state level inauguration ceremony of National Voluntary Blood Donation Day in SCTIMST.

Upto March 2020, we were able to maintain the 100% voluntary blood collection status, with an average of 15 outdoor drives per month. Standard Operating Procedure (SOP) for blood donation camps was developed. Over the years the blood centre was able to make up a reasonably large pool of regular voluntary blood donors.

Declaration of 100% Voluntary Blood Donation by Health Minister of Kerala (2016)



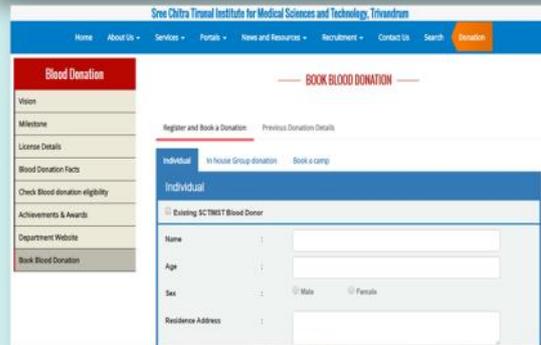
Dept of Transfusion Medicine: Safe blood starts with me



With COVID lockdown in place, there was complete stoppage of outdoor drives in the initial months of 2020. With support from government and numerous awareness classes through print and visual media, slowly we again started the outdoor camps. Special Blood donation drive was held on Sept 17th, 2020, on the birthday of Hon. PM.

Now, our annual blood requirement is around 8000 blood units, and we estimate an additional requirement of 4000 units following the functioning of the new hospital block and our daily requirement with the new block becoming functional will be 50 collections per day.

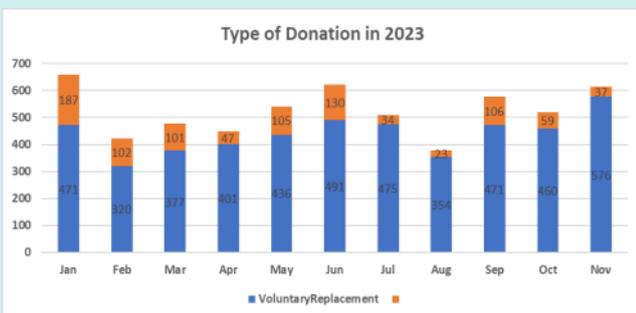
The Golden rule in voluntary donation successfully is to take the blood donation close to the donor rather than expecting them at the blood centre. The closer the blood collection site to the potential target group, better the chances of a successful outcome. In addition to this, efforts are made to reach the public through mass media especially educative session through Government broadcasting channel (DD4 Malayalam Samooyapadam program), and donor motivation sessions are conducted on regular basis



at educational institutions where potential donors or likely to be donors are there. In addition to this collaboration with different government departments like police department, college level National Service Scheme, NCC units, and community-based organizations which have wider public reach are ensured for expanding the voluntary donor base.

Ultimately it is the public trust which does the magic. The general community and comer has to develop trust in the efficiency, safety and integrity of the blood transfusion services. Unless this trust is made the public will be hesitant to donate. The reasons for this abstinence can be numerous. Most of the countries has to cope with the public image cause by single staff to compromised donor care or unfriendly policies and newer selection criteria. The trust earned over the years can be undermined resulting in loss of loyalty and support of voluntary donors, organizations, and stakeholders.

(Mr George Paul Thaliath, Medico Social Worker B; Dr Vinu Rajendran, Assistant Prof; Dr Amita R, Associate Prof; Dr Debasish Gupta, Prof and Head, Transfusion Medicine SCTIMST contributed to this article)



Inauguration of Day Care Ward on 7 Nov 2023

The Day Care Ward adjacent to New Cardiology opd having three beds, Inaugurated on 09/11/2023 by Dr Rupa Sreedhar, Medical Superintendent in the Presence of Honorable Director Dr Sanjay Behari, HOD Cardiology, Dr Harikrishnan S, HOD Neurology, Dr Sylaja PN, AMO Dr Manju Nair R, Deputy Nursing Superintendent, Security officer, OPD SNO consultants and employees of the Institute. The Day Care Ward serves as a dedicated space for patients who require short term medical procedure, treatment without the need for overnight hospitalization. This space will also serve as an ad-hoc admissions room for employees at night hours.



"There are only four kinds of people in the world. Those who have been caregivers. Those who are currently caregivers. Those who will be caregivers, and those who will need a caregiver" Rosalyn Carter



Meeting of the Research Council of SCTIMST

Meeting of Research Council was held on 5th and 6th September 2023 at G Parthasarathi Board room, Chaired by Dr R Chidambaram [Chairman, School for Advanced Studies in Nuclear Science and Technology, BARC Former Principal Scientific Adviser to Govt of India, Former Chairman, Atomic Energy Commission]



"Hard work never brings fatigue. It brings satisfaction."
"Good governance depends on ability to take responsibility by both administration as well as people"
Honorable PM of India, Narendra Modi



Review of PILOT Clinical study: TTK Heart Valve (Model TC2)

Review meeting of PILOT Clinical Investigation study results: TTK Chitra-Titanium Heart Valve (Model TC2) was held on 14th September 2023 at SCTIMST.



SAMVAAD: An International Lecture Series of SCTIMST

14 December 2023

Title of talk:

The Magical World of Shock Waves



Prof KPJ Reddy

Prof Emeritus, Dept of Aerospace Engineering, IISc, Bengaluru

After the initiation of life on earth by the biggest natural shock wave called the Big Bang, nature is abound with natural shock waves destroying and recreating many life forms and civilizations. Hence human beings are always fascinated by the shock waves and are making continuous efforts to understand them and create them in controlled conditions to harness their energy for the betterment of life on earth. Now it is well understood that the Shock waves are generated when an object travels at speeds greater than the speed of sound in the medium as in the case of a supersonic aircraft or by the sudden release of energy as in the case of an explosion such as nuclear explosion. It is well documented that one such shock wave produced by the impact of a meteorite (dia. ~10 km) resulted in the extinction of Dinosaurs on earth in the prehistoric times.

Shock waves of required strength and size can be produced in the laboratory using a device called shock tube. Reddy tube is the simplest form of the shock tube invented by the author. It has been declared as one of the top ten inventions of IISc. In this talk Prof Reddy presented the details of this simple hand operated device and its applications in all fields of Science, Medicine, Engineering and Agriculture. Specifically, its application in Artificial insemination of dairy animals, Study of traumatic brain injuries, Treatment of erectile dysfunction and Diabetic wounds were elaborated.

(Dr Roy Joseph, Dean SCTIMST, gave an introduction to the International Lecture Series of SCTIMST, Dr Jayanand Sudhir, Additional Prof, Dept of Neuro-surgery, SCTIMST introduced the esteemed speaker and Dr Mala R, Prof, AMCHSS, SCTIMST delivered vote of thanks)

Short Biography of Prof KPJ Reddy

Prof KPJ Reddy received Masters' Degree from Mysore University in 1975 and PhD degree from Birla Institute of Technology, Ranchi, Mesra in 1981 and joined the department of Aerospace Engineering, Indian Institute of Science (IISc), Bangalore. He has held many positions including the post of Senior Professor, Dr Satish Dhawan ISRO Chair Professor and HAL Chair Professor before retiring in 2018. Prof Reddy has worked in many areas of research, majorly in Hypersonics, Shock Waves, Chemical Kinetics, Lasers, Photonics, Bio-photonics and Nonlinear Optics. He has published more than 300 technical papers in international journals and conferences and has about 30 Patents in these areas of research. Prof Reddy has established very strong research group in IISc consisting of more than 50 people in the area of hypersonics and related fields and has built many unique experimental facilities for high speed testing. Two of his recent inventions are named after him as **Reddy Tube** and **Reddy Tunnel**, which have become part of the UG courses in India and abroad. He has guided about 27 PhD and 6 MSc (Engg) graduates and Majority of them are working as faculty members in various IITs and IISc.

Prof Reddy has organized many prestigious international conferences and workshops and served as the member of **International Advisory Boards** for many such International Conferences. He was the Editor-in-Chief of **International Journal of Hypersonics** and a Member of the **Editorial Boards for the Shock Waves journal, Journal of Indian Institute of Science and Journal of Engineering Physics and Thermophysics**. Prof Reddy is the founder President of **Society for Shock Wave Research, India** and the elected President of **International Shock Wave Institute**, at Nagoya, Japan. He received **Honour Diploma** from Minsk International Forum on Heat and Mass Transfer, Minsk, Belarus and **IISc Alumni Award for Excellence in Engineering Research in 2010**. He was an **Adjunct Professor** of the Defence Institute of Advanced Technology, Pune. Recently he received **Lifetime Achievement Award** from Bangalore Management Association (BMA). Prof Reddy has many inventions to his credit, and is the **Chairman, Machstar Group of companies** consisting of many start-up companies eg Super-Wave Technologies Pvt Ltd, Srushti Engineering Innovations Pvt Ltd, Wavefrac Tech Pvt Ltd and Shock Fluidesign Tech Pvt Ltd.

Prof Reddy is the Founder of the "Science City" of India coming up near **Challakere, Chitradurga District** in about 11000 acres of land and **Dr H Narasimhaiah International Science Centre** near **Gauribidanur, Chikkaballapur District** in about 206 acres of land.



Academic Fest: Presentations from Jun to Dec 2023

Date	Department	Speaker	Title of Presentation
17 Jun '23	Cardiothoracic and Vascular Anaesthesia	Dr Unnikrishnan KP Professor	Perioperative Echo cardiography
		Dr Subin Sukesan Additional Professor	Over view of thesis and research publications; Postoperative Cardiac care scenarios
01 Jul '23	Neuro Surgery	Dr Prakash Nair Additional Professor	Endoscopic skull base surgery
		Dr B Jayanad Sudhir Additional Professor	Clinical and research activities in Cerebrovascular neuro surgery
15 Jul '23	Bio- material Science and Technology	Dr Rekha MR Scientist G	Division of Bio surface Technology
		Dr Manju S Scientist E	Division of Dental Products
29 Jul '23	Cardiovascular Imaging & Vascular Interventional Radiology	Dr Jinesh V, Assoc Prof	Overview of vascular interventional radiology
		Dr Venkata Subbaih, SR	Advanced imaging & interventions: per arterial dis
		Dr Jayakrishnan, SR	Advances in imaging & endovascular interventions: primary liver tumours
05 Aug '23	CVTSA - Division of Adult Cardiac Surgery	Dr Bineesh R Additional Professor	CABG- Past present and future
		Dr Sivanesan P Associate professor	Takayasu arteritis
19 Aug '23	Medical Devices Engineering	Er Jithin Krishnan Engineer C	Division of medical instrumentation
		Dr Gijo Raj Scientist C	Division of Polymeric Medical Devices
02 Sep '23	Neurology	Dr Soumya Sundaram Additional Professor	An overview of paediatric neurology and various childhood onset neurological disorders
16 Sep '23	Transfusion Medicine	Mr George Paul T Medico Social Worker B	Voluntary blood donation: Aspect and challenges
		Dr Vinu Rajendran Assistant professor	Platelet rich plasma Prolotherapy
30 Sep '23	Imaging Science and Interventional Radiology	Dr Harikishore K Senior Resident, DM	Dynamic contrast kinetics in arterial thrombus and implications in stroke thrombectomy
		Dr Viswanath KS VG Senior Resident, DM	Advanced MRI correlates of histopathological changes in the Amygdala..... temporal sclerosis
07 Oct '23	Division of Neuro-anaesthesia	Dr Unnikrishnan P Additional Professor	Target controlled infusions (TCI) in Neuro anaesthesia: 2023
		Dr Ravikrishnan S	Effect of sodium nitro prusside (SNP) – a prospective observational study
21 Oct '23	Microbiology	Dr Dinoop KP, Assoc Prof	Opportunities & crevices in sepsis translational res
		Dr Kavita Raja Professor, Sen Grade, Head	Updates in the criteria for infective endocarditis & challenges in diagnosis of fungal IE.
		Dr Jyothi EK, Scientist C	An update on studies in molecular microbiology
04 Nov '23	Cardiothoracic and Vascular Anaesthesia	Dr Saravana Babu MS Associate Professor	Role of regional nerve blocks in fast-track anaes management after paediatric cardiac surgery.
		Dr PK Dash Professor, Senior Grade	Perioperative cardiac output monitoring
18 Nov '23	Neuro Surgery	Dr Gowtham M Assistant professor	Minimally invasive approaches- supraorbital key hole approach & Craniosynostosis correction surg
		Dr Darshan HR Post Doctoral Fellow	Surgically remediable epilepsy syndromes in neurocutaneous disorders
02 Dec '23	Technology and Quality Management (BMT Wing)	Mr Rajkrishna Raj Engineer F – IP cell	Patents: An overview
		Ms Sandhya C G Engineer F –TBD	Technology Transfer @ SCTIMST: The travel, industry collaboration and learnings
16 Dec '23	Achutha Menon Centre for Health Sciences Studies	Dr Ravi Prasad Varma Additional Professor	Rehabilitation & palliative care in public health - Dialectics and recent research experiences
		Dr Mala Ramanathan Professor, Senior Grade	Measuring Gender in Health and measuring at multiple levels – some examples
30 Dec '23	Cardiology	Dr Abhilash SP, Professor	New frontiers in Mitral valve intervention- Mitra-Clip and trans- Mitral valve replacement
		Dr KK Narayan N, Professor	Cryoablation
		Dr KM Krishna M, Professor	Right ventricular outflow tract stenting

Academic Fest, a program conceived by Prof Sanjay Behari, Director of SCTIMST, was executed under the able stewardship of Dr Manikandan S, Associate Dean & Prof of Anesthesiology from Jan '22. This grand program of Saturday Morning didactic inter-departmental scientific discussions was successfully executed over last 2 yrs. Dr Manikandan, currently appointed as Dep Director (Officiating), has handed over the baton to Dr Suneel PR, Prof of Anesthesiology .



National Day

Independence Day Celebrations @ SCTIMST, 15th Aug 2023



Independence Day Celebrations 2023 and Concluding session of Azadi Ka Amrit Mahotsav



Azadi Ka Amrit Mahotsav: Concluding Session



"India has entered Amrit Kaal completing its 75 years of Independence. Amrit Kaal is a period of 100 years of Independence and making of a developed India. These 25 years is a period for all citizens to focus on duty"
Honorable President of India, Droupadi Murmu



World Stroke Day, 29 October 2023

Public awareness programme was conducted as the part of World Stroke Day at AMC Auditorium on 29 October 2023. Dr PN Sylaja Prof and Head of Neurology welcomed the gathering followed by World Stroke Day message by Dr Sanjay Behari, Director SCTIMST. Dr Rupa Sreedhar gave the presidential address. The Chief Guest Sri Jiji Thomson IAS, Former Chief Secretary, Government of Kerala inaugurated the function. Dr Krishnakumar K Prof and Head of Neurosurgery, Dr Jayadevan Professor of ISIR, Ms Nirmala AO, Nursing superintendent gave felicitations.

A poster competition was also conducted for this year world stroke day's theme "**#BE GREATER THAN STROKE**" for staffs and students of SCTIMST. Among the 32 English and Malayalam entries, the best 7 were selected and were awarded cash prizes (for first and second place) and certificates by the chief guest. The inaugural meet was concluded with the vote of thanks by Dr Sajith S Professor of Neurology. After the inauguration, a stroke education programme was conducted which focused on acute stroke recognition and management, secondary prevention, physiotherapy and rehabilitation of stroke, speech therapy in stroke and nurse's role in stroke care. After the session four patients and care giver who attended the meeting shared their experience about going through stroke and the support they received in overcoming stroke.





Anti-ragging Awareness

Jan Jatiya Gaurav Diwas '23

University Grants Commission decided that from the 2023, Anti-Ragging Day will be observed on the 12th August. This initiative is one of the tools of the commission for increasing awareness against ragging. As a part of this, SCTIMST organized an awareness program for the benefits of students, residents and faculty members on 19th August 2023 at the AMCHSS auditorium. **Dr G Mohan Roy (MBBS, DPM, MD Psychiatry) Consultant Psychiatrist**, Government Medical College, Thiruvananthapuram delivered a talk on anti-ragging.

Dr Ravi Prasad Varma, Add Prof, AMCHSS and Nodal Officer for Scholarships, SCTIMST, organized the **Jan Jatiya Gaurav Diwas 2023** on 15 Nov 2023 at the AMCHSS Seminar Hall on the birth anniversary of the great tribal freedom fighter, Bhagwan Birsa Munda. Dr Pallan Mehrunnisa, MPH 2022 batch welcomed the guests and invited the dignitaries to pay floral tributes to an image of Bhagwan Birsa Munda. Dr Kavita Raja, Prof (Sen Grade), Dept of Microbiology; Dr Rakhil Gaitonde, Prof, AMCHSS; Dr Mala Ramanathan, Prof (Sen Grade) and students of AMCHSS paid homage to the legendary freedom fighter Bhagwan Birsa Munda through pushpanjali.



Dr Mala Ramanathan gave a discourse about the life of Bhagwan Birsa Munda and the significance of his message for today's youth. She spoke of the making of the freedom fighter Bhagwan Birsa Munda, from his birth in 1875, his early education to becoming a freedom fighter against the British and his death during imprisonment at Ranchi, Jharkhand in 1900.

Dr Dash (Prof, Sen Grade, Dept of Anesthesia) spoke of the message Birsa Munda has for those working in health. He highlighted the need to work for the health of minority groups nationwide for its benefits to the individuals and the nation. The event concluded with a vote of thanks by Mehrunnisa.



Commemoration of 10th Anniversary of POSH Act 2013

The 10th anniversary of the enactment of the PoSH Act 2013 was commemorated in a befitting way at SCTIMST. This time to mark the important occasion a three day programme was organized that reached out to senior staff and engaged them in a panel discussion, educated the new and junior staff through talks delivered by external faculty both at BMT wing and Hospital wing with Achutha Menon Centre. The last day was a valedictory function with a talk by a woman leader that was intended to inspire the upcoming generation of women to fearlessly pursue their chosen path. This function was presided over by the Director.



IN Conference cum Hands-on Workshop in Biomedical Res

SCTIMST Trivandrum, Kerala State Higher Education Council (KSHEC), and Kerala Medical Technology Consortium (KMTCC) jointly organized an **International Conference cum Hands-on Workshop in Biomedical Translational Research** from 3rd to 4th August 2023 at the AMCHSS Auditorium, SCTIMST, Trivandrum.

The conference was inaugurated by Sri Pinarayi Vijayan, Hon'ble Chief Minister of Kerala. Smt Veena George, Hon'ble Minister for Health, and Dr R Bindu, Hon'ble Minister for Higher Education and Social Justice were the guests of honor. During the function, Prof Salim Yusuf, Distinguished Professor, School of Medical Science, McMaster University, Canada was honored with Kairali Global Lifetime Achievement Award by the Chief Minister. The program was felicitated by the following distinguished personalities: Padma Vibhushan Prof Dr MS Valiathan, National Research Professor; Prof James Spudich, Winner of Lasker Award and Distinguished Professor of Medicine, Stanford University; Dr Mohanan Kunnummal, Hon Vice-Chancellor, Kerala University of Health Sciences; and Shri C Padmakumar, Special Officer, KMTCC. Prof Rajan Gurukkal, Vice Chairman, KSHEC gave the welcome address and Dr Sanjay Behari, Director, SCTIMST, introduced SCTIMST to the delegates and guests.

The technical sessions were handled by noted experts in the field, namely, Prof Sanjeev Mishra (Vice Chancellor, University of Health Sciences, Uttar Pradesh), Prof Amitabh Bandopadhyay (IIT Kanpur), Prof Sanjeev Jain (NIMHANS), Prof Anurag Agrawal (former Director, CSIR-Institute of Genomics and Integrative Biology (CSIR-IGIB), New Delhi), Dr Annamma Spudich (former TIFR Visiting Professor), and Dr Vinod Scaria (CSIR-IGIB) along with Prof Salim Yusuf (McMaster University) and Prof James Spudich (Stanford University). The conference was aimed to enrich the biomedical research ecosystem in the medical colleges of Kerala and was attended by medical college faculty and PG students engaged in biomedical research.



IN Conference cum Hands-on Workshop in Biomedical Res



More than 200 registrant's , students and faculty from Govt Medical College Trivandrum, Indian Institute of Technology Madras, Cochin University of Science and Technology, Kerala Veterinary and Animal Sciences University, University of Kerala, and SCTIMST, Trivandrum attended the conference.



IN Conference cum Hands-on Workshop in Biomedical Res



5th Dr PK Mohan Oration & Alumni CME Program, 4 Nov '23

5th Dr PK Mohan Oration was delivered by **Prof Kailash P Bhatia**, Professor of Clinical Neurology, Department of Clinical and Movement Neurosciences, UCL, Institute of Neurology, NHNN, Queen Square, London, UK. The program was conducted by the Sree Chitra Alumni Association of Neurology (SCAAN) and the Department of Neurology, SCTIMST at the AMC Auditorium on 4th November 2023.



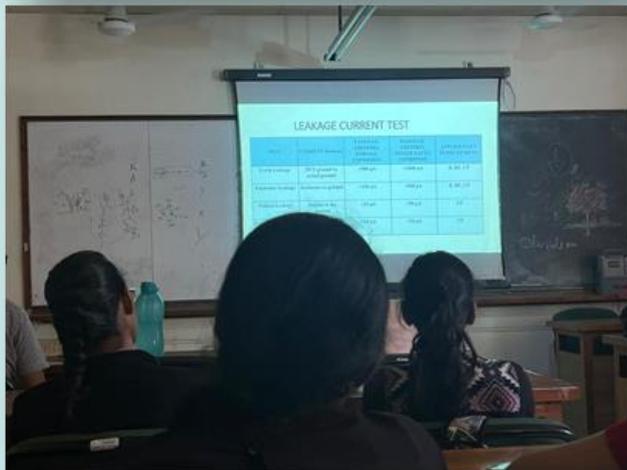
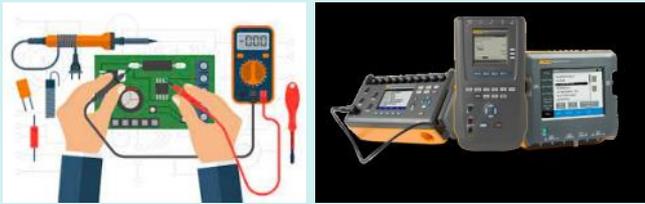
5th Dr PK Mohan Oration & Alumni CME Program, 4 Nov '23



Know Your Equipment Series: Workshops

Workshop on **Calibration of Medical Devices**, a programme under "Know your Equipment series" was conducted by Division of Clinical Engineering of SCTIMST in association with FLUKE Corporation, Calibration group on 19.08.2023. The lectures and practical sessions on Electrical safety on patient monitor, defibrillator and Ventilator Testing using Gas flow analyzer were delivered by Navin Prasanth from Fluke Corporation.

Workshop on **Defibrillators and Cardiac Solution**, was held on 02.09.2023 in association with Nihon Kohden India Private Limited.



Government Achievements & Schemes Expo - 2023

Dr Kamalesh K Gulia (Scientist G & Head, Division of Sleep Research, BMT wing) and Mr Sreekanth SL (Quality Cell) represented SCTIMST, Trivandrum in this exhibition on **Government Achievements & Schemes Expo-2023**. The key visitors were Dr Sanjeev Kumar Majumdar (CEO, NDRC Incubation Centre), Dr Abha Singh (IRS, Chairman cum MD, National Minorities Development & Finance Corporation Core 1, New Delhi), Journalists, Government officials, farmers, students and college students and faculty from Delhi-NCR region.



SCTIMST@ IITF 2023, Pragati Maidan

SCTIMST participated in the 42nd India International Trade Fair (IITF) from Nov 14-27, 2023 at Pragati Maidan, New Delhi. The theme of IITF 2023 was **"Vasudhaiva Kutumbakam: United by Trade"**. It means the world is one family. SCT as a premier Institute in BioMedical Device Technologies, and Tertiary Healthcare Centre in Cardiac and Neurological Sciences, showcased its several technologies and demonstrated life saving skills in emergency, including Cardiopulmonary Resuscitation (CPR) through mannequin. The CPR demo was a huge hit among visitors. The SCT team included Er Vinodkumar G, Er G; Dr Kamalesh K Gulia, Sc G; Dr AnilKumar PR, Sc G; Er Jithin Krishnan, Er C, Er Neethu, Er B; SajinRaj RG, Tech Assistant B; Sreekanth SL, Sen Scientific Assistant; Shiny Velayudhan, Sc E; Rathish Rajan, Nursing Officer-B; and Vijay Krishnan R, Nurse Officer C.



SCTIMST participates in Global Bio-India 2023, 4-6 Dec 23

The theme of this year's Global Bio-India was - **Transforming Lives: Biosciences to Bioeconomy**. **Global Bio-India 2023** organized by the Department of Biotechnology (DBT), Ministry of Science & Technology, Government of India and its public sector undertaking, Biotechnology Industry Research Assistance Council (BIRAC) during 4th-6th December 2023 was a mega international congregation of biotechnology stakeholders, including international bodies, regulatory bodies, Central and State Ministries, SMEs, large industries, bio clusters, research institutes, investors, and the startup ecosystem. The program was graced with several eminent personnel including Dr Jitendra Singh, Union Minister of State (Independent Charge) Science & Technology, MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Government of India, Dr Rajesh S Gokhale, Secretary, Department of Biotechnology, Ministry of Science and Technology & Chairman, Biotechnology Industry Research Assistance Council and much more.

Apart from sessions held at Bharat Mandapam, there was a mega exhibition in Hall 14 in connection with the event wherein, various stakeholders were invited to showcase their innovations, products, technologies and services to a global audience.

Dr Sivakumar KGV, M Sajid A, and Mr Reji Kumar S represented SCTIMST during this event in Delhi. The team showcased commercially translated medical device technologies and more recent devices under development.

Several dignitaries visited the SCTIMST stall and greatly appreciated the efforts of SCTIMST in developing Medical Devices Technologies in India and also DST for supporting the institute. More than thousands of delegates visited the SCTIMST stall which included organizers, DST and DBT officials, scientists, clinicians from various institutions, delegates from industries, research institutions and startups. Faculty and students from universities in and around Delhi and including those from IITs also visited our stall and participated in the discussions.



Hands-On Life Saving Emergency Skills: CPR & First Aid

As part of the initiative towards training and orientation on cardiopulmonary Resuscitation (CPR) and first aid for the staff, Dr PK Dash and his team from Department of Anesthesia, Hospital wing conducted Hands-on training in the CD block for Academic Faculty on 16th Dec 2023.



Recognitions

ICMR designates SCTIMST a ICMR CCoE for Biomed Res

The Indian Council of Medical Research designates the Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram led by Prof Dr Harikrishnan S as an ICMR Collaborating Center of Excellence (ICMR-CCoE) in recognition of the commendable achievements in Biomedical research. The plaque was Presented by Dr Rajiv Bahl Director General, Indian Council of Medical Research on 4th November 2023 at ICMR, New Delhi on November 4, 2023

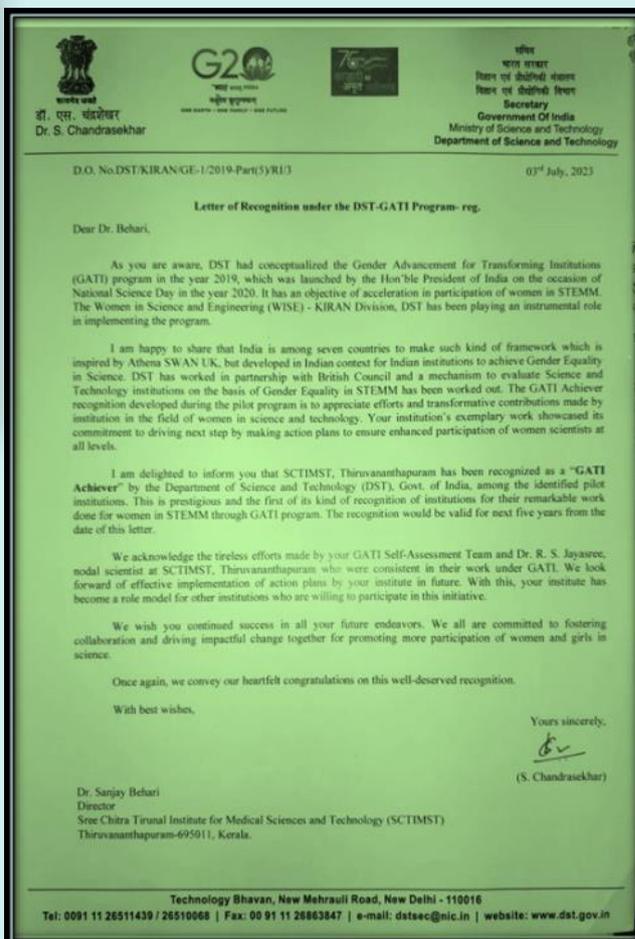


SCTIMST declared as GATI Achiever by DST, GOI

DST had conceptualized the Gender Advancement for Transforming Institutions (GATI) program in the year 2019, which was launched by the Hon'ble President of India on the occasion of National Science Day in the year 2020 with an objective of acceleration in participation of women in STEMM.

The Women in Science and Engineering (WISE) - KIRAN Division, DST has been playing an instrumental role in implementing the program. India is among seven countries to make such kind of framework which is inspired by Athena SWAN UK, but developed in Indian context for Indian institutions to achieve Gender Equality in Science. DST has worked in partnership with British Council and a mechanism to evaluate Science and Technology institutions on the basis of Gender Equality in STEMM. SCTIMST, Thiruvananthapuram has been recognized as a "GATI Achiever" by the Department of Science and Technology (DST), Govt of India, among the identified pilot institutions.

Congratulation to the GATI Self-Assessment Team and Dr RS Jayasree, nodal scientist at SCTIMST, Trivandrum who were consistent in their work under GATI.



QUIZ 1 Winner

Morning larks refers to persons who wake up early and are active in the morning time, and night owls are those who sleep late and are active during the midnight.



Mahima Gowri IS
PhD Scholar
Div of Thrombosis Research
BMT wing
SCTIMST, Trivandrum
Kerala



Service Recognition to Employees on completion of 10,20,30 yrs



Chitra's Stars: Honors and Recognitions

SCTIMST Awarded the National Best Vascular Surgery Teaching Institute

SCTIMST was awarded the **Best Vascular Surgery Teaching Institute** in national level during Vascular Surgery of India Mid Term conference held in Goa between June 29th–July 1st. **A Rolling trophy** for the same was awarded during the recently concluded National Conference at Mumbai.

Dr Aditya Gupta, Senior Resident in Division of Vascular Surgery, Dept of CVTS was awarded the **Best Student**. **Dr Aditya Gupta** and **Dr Neelamjingbha Sun**, Senior Residents in Division of Vascular Surgery, Dept of CVTS were awarded **1st prize as Grand quiz winners**. **Dr Prashanth Jain**, Senior Resident in Division of Vascular Surgery, Dept of CVTS was awarded **3rd prize in the Grand Quiz**.



Dr Adarsh Anil Kumar, Senior Resident in Department of Imaging Sciences & Interventional Radiology has been awarded the **first prize for oral paper** for the study titled "*Dural arteriovenous fistula: An under recognized reversible dementia*



culprit" at the 6th Annual Conference of Society of Therapeutic Neuro-interventions (STNI) held from 1-3 Dec 2023 in Chandigarh.

Dr Adarsh Anil Kumar, has also been awarded the **first prize for e-poster** titled "*Spontaneous vertebrovertebral fistulae: Insights from a comprehensive case series analysis*" at the 6th Annual Conference of Society of Therapeutic Neurointerventions (STNI) held from 1st to 3rd December 2023 in Chandigarh.



Mr Sarathkumar E, PhD scholar of Division of Biophotonics & Imaging, Dept of Biomaterial Sci and Tech, BMT Wing has won the **Best Poster Presentation Award** from the Journal of Material Chemistry B (Royal Society of Chemistry) for the research work entitled

"*Nanozyme Based Lateral Flow Assay for Rapid and Sensitive Detection of Covid-19*" at the International Conference on Biomedical Materials and Technology (BioTex-2023) held during 29th Nov – 1st Dec 2023 at IIT Delhi, India.

"Teamwork is the ability to work together toward a common vision. The ability to direct individual accomplishments toward organizational objectives. It is the fuel that allows common people to attain uncommon results"
Andrew Carnegie



Chitra's Stars: Honors and Recognitions

Dr Naresh Kasoju, Scientist-C, Division of Tissue Culture, Department of Applied Biology, Biomedical Technology Wing has been awarded the **Agathiar Chemical Biology Award 2023** by the **Society for Chemical and Synthetic Biology, India** at the *International Conference & Start-up Summit on Functional Biomaterials and Synthetic Biology* held at PSG Institute of Advanced Studies, Coimbatore during 31 Aug – 01 Sep 2023. The SCSB confers this award to scientists for their outstanding contributions in the interface of Chemistry & Biology.



Dr Naresh Kasoju also won **Young Scientist Award** for the paper entitled "An in vivo study on stem cell-derived extracellular vesicles as nano-pharmaceuticals in lung regeneration" authored by Anand Krishnan, Harikrishnan VS, Sabareeswaran A, Naresh Kasoju* and at *International Conference on Applications of Natural Products Nanomaterials and Nano-pharmaceuticals* organized by School of Life Sciences, Crescent Institute of Science and Technology, Chennai, in association with Nano and Biomaterials Association, The Biotech Research Society, India and Centre for Surface Technology and Applications, Korea Aerospace University, Republic of Korea held on August 9 - 10, 2023.



Dr Manisha KY, Senior Resident in Department of Neurology has been awarded the **WSC Young Investigator Award** for the study titled "*Thrombus histology: correlation with stroke aetiology and recanalization*" at the 15th World Stroke Congress held from 10-12 Oct 2023, Toronto, Canada.



Dr Manisha KY was also awarded the **Best Research Paper** in General Neurology for the study titled "*Prevalence and Patterns of Cognitive impairment in Amyotrophic Lateral Sclerosis and Correlation with Disease Outcome*" at the 30th Annual Conference of Indian Academy of Neurology held from 14th to 17th September 2023 in Madurai

Dr Manisha KY, Senior Resident in Neurology was also awarded **the First Prize in the E – Poster Session** for the study titled "*Thrombus histology- correlation with stroke etiology and recanalization*" during the KAN Monsoon Summit 2023- International Neurology Update on 15th July, 2023.



Ms Kirthana Mohan, PhD Scholar of the Div of Tissue Engineering and Regenerative Tech has been awarded the **Best Poster Presentation award** from the Journal of Material Chemistry B (Royal Society of Chemistry) for the poster entitled "*Designer Injectable photocrosslinkable*



Chitosan methacrylate-PEGDA gel system for Cartilage Regeneration" at the IN Conference on Biomedical Materials and Tech (BioTex-2023) held from 29th Nov – 1st Dec 2023, at IIT Delhi, India.



Chitra's Stars: Honors and Recognitions



Dr Nandana Jayakumari, Senior Resident in the Department of Neurology has been awarded the **WSC Young Investigator Award** for the study titled "*Looking beyond arrhythmias in ECG: does QT interval correlate with stroke severity and subtype*" at the 15th World Stroke Congress held from 10-12

October 2023 in Toronto, Canada.

Mr Sivakumar S, Junior Technical Officer, Dept of Transfusion Medicine, SCTIMST has received the **Technologist Award** during the Annual National Conference of Indian Society of Transfusion Medicine -Transmedcon 2023 conducted on 03-05th November 2023 at Chandigarh.



Dr Veena Babu, PhD scholar in Department of Neurology has been awarded the **WSC Young Investigator Award** for the study titled "*Medication adherence and risk factor control for secondary prevention of stroke using smartphone-based application: a Randomized Controlled Trial in Kerala, South India*" at the 15th World

Stroke Congress held in Toronto, Canada.

Dr Vishnu Pujari (Senior Resident- DM Neuroimaging & Interventional Neuroradiology, Dept of IS&IR) secured **2nd prize** for the paper '*Utility of Silent MR angiogram in cases of ruptured micro arteriovenous malformation*' in the oral paper presentation category at the ISNR midterm CME 2023, at Belgaum, Karnataka on 30 Sept, 2023.



Mr Joyi K, Technologist in IS & IR, SCTIMST has won **First Prize** in Oral Presentation at the recently concluded 15th National Conference of Indian Society of Radiographers & Technologists, NCISRT-2023 at AIIMS, Bhopal, Madhya Pradesh, India on 16th to 17th December 2023. Paper was titled "*Technical success, midterm primary patency and factors affecting primary patency of subintimal angioplasty followed by vasculomimetic stenting for Trans-Atlantic intersociety consensus II C and D femoropopliteal arterial disease - A prospective study.*"



Mrs Suja Raj L, Lecturer in Nursing, Division of Nursing Education, won the **first prize** in the scientific paper presentation at the 10th Nursing Session of the annual Pediatric Cardiac Society of India (PCSI) held at Chennai on 23rd & 24th Nov 2023



Chitra's Stars: Honors and Recognitions



Dr Mohammed Jaffer Sherif M, Senior Resident in the Div of Cardiothoracic Vascular Anesthesiology won the **first prize in the Golden FATE Echo National Contest** held during the 17th National and 8th International IACTA TEE Workshop-

CME at Narayana Health City, Bengaluru on 19th August 2023. The paper was titled '*Pulseless Electrical Activity in ICU following Mitral valve replacements: Real time diagnosis with Transesophageal echo & Interventions*' authored by Dr Mohammed JSM, Dr Divya J, Dr Gayathri G, Dr Mamatha M, Dr Unnikrishnan KP, Dr Bineesh KR, Dr Varghese TP, Dr Thomas Koshy.



Dr Vamshi P Reddy, 2nd year resident in Neurosurgery, SCTIMST won the **Best Paper Award** in Neurosurgery for the scientific paper titled "*CLINICORADIOLOGICAL PROFILE AND LONG TERM SURGICAL OUTCOMES OF PAEDIATRIC SPINAL ARACHNOID CYST*" at NSI Kerala Chapter Mid term

meet held on 10th Sept 2023 at Kollam



Dr S Sivaselvam, National Post Doctoral Fellow working in the Division of Biophotonics and Imaging, Dept of Biomaterial Sci and Tech, BMT, SCTIMST, has been honored with the Best Oral Presentation ward (**2nd position**) in the 3rd International Conference on Frontiers

in Biological Sciences, hosted by NIT Rourkela from Oct 5th to 7th, 2023. The research work entitled "*Fabricating NIR Responsive Multifunctional Cascade Nanocatalyst (MOS₂-Fe) for Synergistic Chemodynamic and Photothermal Therapy*" was carried out under Dr Jayasree RS.

Dr Arun Mitra (PhD Scholar with Prof Biju Soman) has won the **1st position (poster) award** in the COVID-19 Theme for his paper titled "*Navigating Challenges in Analysing Large Public Health Datasets: Experiences working with the ICMR National COVID-19 Testing Database*" at the 4th National Conference of Epidemiology Foundation of India, EFICON 2023, on Sept 30 – Oct 01, 2023, at Goa Medical College, Bambolim, Goa - 403202.

This work has been done as part of the ICMR funded project titled "*Transforming COVID-19 testing data into actionable evidence for public health decision-making using epidemiological, spatiotemporal, and data-science methods.*" (Project No. 5450) awarded to Dr Biju Soman (PI).



Dr Rehna C Mohammed (PhD Scholar with Prof Biju Soman) has won the **Equity in Health Presentation Award** for her paper titled "*Reviewing Equity Considerations in State's Response to Covid-19 through a Theoretical Lens*" presented at the Medicine Annual Conference on the theme, "*Equity in Health: Clinical Approaches to Addressing Health Disparities*" held at the Christian Medical College, Vellore from Nov 22-24, 2023.



Chitra's Stars: Honors and Recognitions

Ms Jyothi M, Technologist, Department of Transfusion Medicine, SCTIMST, has received **First Prize** for Oral Paper Presentation during the State Annual Conference of Indian Society of Blood Transfusion and Immunohematology held on 29th October 2023 at MVR Cancer Centre and Research Institute, Calicut.



Dr Meethu Muraleedharan, Junior Resident, Department of Transfusion Medicine, SCTIMST has received **First Prize** for Oral Paper presentation during State Annual conference of Indian Society of Blood Transfusion and Immunohematology on 29th October held at MVR Cancer Centre and Research Institute, Calicut.



Ms Varsha Krishna JA, Diploma in CVTS Nursing, Division of Nursing Education, won the **First Prize** in the poster presentation at the 10th Nursing Session of the annual Pediatric Cardiac Society of India (PCSI) held at Chennai on 23rd & 24th November, 2023.

Dr Adrija Roy (Research Officer, Regional Resource Centre, Health Technology Assessment India and part-time PhD Scholar, AMCHSS with Prof. Biju Soman has won the **Promising Paper Award** for the paper: Roy A, Soman B, Peddireddy AM, Mohamed RC, *Digital Health Policy in low and middle-income countries: A comprehensive review and course development*. This was presented at AMRITACON 2023, 6th Amrita International Public Health Conference (AIPHC) 2023, which took place December 1-2, 2023, Organized by the Department of Community Medicine & Public Health in coordination with the Department of Oncology, Amrita Institute of Medical Sciences, Kochi.



Dr Adrija Roy has also won the **first position** (poster) award in the Nutrition Theme for her paper titled *Digital interventions for childhood malnutrition in a tribal area of Andhra Pradesh: A preliminary problem analysis through a complexity lens and a health system perspective* presented at the 4th National Conference of Epidemiology Foundation of India, EFICON 2023, which took place on September 30 – October 01, 2023, at Goa Medical College, Bambolim, Goa - 403202.



Chitra's Stars: Honors and Recognitions

Ms Arshajyothirmayi VA (PhD scholar, Division of Sleep Research) received the **Budur Krishna Murthy Best Poster Award (1st)** for paper titled "*Ontogenetic profile of the sleep related sympatho-vagal balance in the newborns: Insights from the rodent model*" authored by Arshajyothirmayi VA, Narayanan Namboodiri and Kamalesh K Gulia during the India Sleep 2023, triennial conference of the Indian Society for Sleep Research held at AIIMS, Kalyani during 30th September to 1st October 2023. The award carries an amount of INR 10000.



Ms Rukhiya Salim, PhD Scholar of the Div of Tissue Engineering and Regenerative Tech, has been awarded the **Best Poster Presentation Award** from the American Chemical Society for the poster entitled "*Gelatin-Dextran Dialdehyde Scaffolds for Islet Encapsulation and Differentiation of*



Adipose - derived Mesenchymal Stem cells into Islet-like clusters" at the IN Conference on Biomedical Materials and Tech (BioTex-2023) held from 29th Nov – 1st Dec 2023, at IIT Delhi, India.

Smt Alfiya F, PhD Student in the Department of Neurology has been awarded **Second Prize** in the paper presentation for the paper titled "*Diagnostic yield of Trio-whole exome sequencing and clinical exome sequencing in children with developmental and epileptic encephalopathy*" conducted during ECON 2023 held at Jaipur from 21-23rd July 2023.



Dr Sridhar SK, Senior Resident in the Department of Neurology has been awarded **Second Prize** in Platform presentation for the study titled "*Switching from Valproate to other ASM in Women with Epilepsy – is it really needed in all?*" conducted in the ECON 2023, held in Jaipur from 21st to 23rd July 2023.



Dr Arvin Ahuja, Senior Resident in the Div of Neuroanaesthesia has been awarded the **Second Prize** in Oral Paper Presentation (Original Study) for study titled "*ALDRID Study- Arterial Lactate Drifts Ratios In DCI- A Predictive Biomarker*" at the 06th Annual Conference of

Society of Neurocritical Care (SNCC 2023) held from 14-15 Oct 2023, Agra, India.

Mrs Shani MK, Nursing Officer - A, NMICU has won **3rd prize in Essay Competition - UG** during the 43rd Annual Conference of the Society of Indian Neuroscience Nurses, SINNCON 2023, held at Mayfair Convention Center & Lagoon, Bhubaneswar, Odisha, 15-17 Dec 2023.



Chitra's Stars: Honors, Recognitions, Quiz Masters

Dr Anand N (PhD Scholar with Prof Biju Soman) has won the **second best poster award (Thematic Session/ category)** for his paper titled "*The Road not Taken: optimizing roadcrash data systems by applying Machine Learning techniques in an Indian Setting*" presented at the 4th National Conference of Epidemiology Foundation of India, EFICON 2023, which took place on September 30 – October 01, 2023, at Goa Medical College, Bambolim, Goa - 403202.



This work has been undertaken as an offshoot/emanated from the PhD scholar's doctoral research project titled '*Epidemiological Study of Road Traffic Accidents in an Urban Setting in South India.*'

Dr Venkata Subbaih A and Dr Jayakrishnan R, DM Cardiovascular Imaging and Vascular Interventional Radiology residents, Department of Imaging Sciences & Interventional Radiology won **2nd and 3rd prize** respectively for the CIRSE European Trainee Forum Quiz organized by Cardiovascular Interventional Radiology Society of Europe (CIRSE) at CIRSE 2023 Annual Congress held at Copenhagen, Denmark on Sep 9, 2023



Dr Manisha KY and Dr Sambha Murthy Krishna MM, Senior Residents in the Department of Neurology, secured **second place** in "*Dr Ashok Panagariya Memorial Epilepsy Quiz*" conducted during ECON 2023 at Jaipur from 21-23 July 2023



Dr Punkesh Patel, 2nd Year Junior Resident of the Department of Transfusion Medicine received the **1st Runner-up prize in the National level PG Quiz** at TRANSCON 2023, the 48th Annual Conference of ISBTI at Lucknow held on 6th-8th October, 2023



Award for Best Original Paper Presentation on Medical Biotechnology/ Application of Software Technologies in Medicine in the National Conference on "Emerging Trends in Healthcare Biotechnology: Innovations, challenges and future prospects" organized by the Society of Biotechnologists (India), held on Nov 30th to Dec 2nd 2023 at Regional Cancer Centre, Trivandrum. A team from the Dept of Information Technology at Govt Engineering College, Barton Hill, Trivandrum consisting of **Suryanarayan Menon A, Gowri Arunsha, Ron Regi Zacharia, Vinayak Naveen and Prof Jassim Rafeek** delivered an oral presentation on their research project titled "*Development of a Customized Software for Collection and Analysis of Data from Patient Monitors - a Preliminary Study*" conducted in collaboration with SCTIMST, Trivandrum. They were selected **the IBS Award for Best Original Paper Presentation on Medical Biotechnology** for their work. The work was done under the guidance of **Shri Rajeev A (Dept Med Devices Engg), Shri Manoj GS (Divi of Clin Engg) and Prof Smita V (Department of Anaesthesiology).**



Chitra's Stars: Quiz Masters



Mr Prajeesh P Prakash, Nursing Officer, NMICU (Neurology ICU) has won the **1st prize in Neuro Quiz** in the 43rd Annual Conference of the Society of Indian Neuroscience Nurses, SINNCON 2023, during 71st Annual conference of Neurological Society of India (NSICON 2023) held at Mayfair Convention Center and

Lagoon, Bhubaneswar, Odisha from Dec 15-17, 2023.

Mrs Suchithra PV, Nursing Officer – B, NSICU **has won the 2nd prize in Neuro Quiz- PG** in the 43rd Annual; Conference of the Society of Indian Neuroscience Nurses, SINNCON 2023, during the 71st Annual Conference of Neurological Society of India (NSICON 2023) held at Mayfair Convention Center and

Lagoon, Bhubaneswar, Odisha, Dec 15-17, 2023.



Mr Sivakumar S (Junior Technical Officer) and **Mrs Renjini P** (Technical Assistant B) of Dept. of Transfusion Medicine, SCTIMST won the **First Prize in the State Level Quiz Competition** conducted during the Annual State Conference of Indian Society of Blood Transfusion & Immunohematology –Kerala Chapter conducted on 29th October 2023 at MVR Cancer & Research Institute, Calicut.

Dr Jayakrishnan R, DM Cardiovascular Imaging and Vascular Interventional Radiology resident, Department of Imaging Sciences & Interventional Radiology received **Second Prize in CIRSE Grand Quiz** organised by Cardiovascular Interventional Radiology Society of Europe (CIRSE) at CIRSE 2023 Annual Congress held at Copenhagen, Denmark on September 9, 2023



Dr Deepmala Karmakar and **Dr Basavaraj N Biradar**, final year Sen Residents in Imaging Sciences & Interventional Radiology, SCTIMST won **2nd prize in Quiz Competition** at the 13th Annual Conference of Indian Association of Cardiac Imaging held at Coimbatore from 13-15 Oct, 2023.



SCTIMST Employees Co-operative Society Edu Awards



Networking: British Dep High Commissioner for Kerala & Karnataka, HM Dep Trade Commissioner-South Asia

AMCHSS, SCTIMST and TIMed jointly organized a Networking High Tea with the delegates of the British Deputy High Commission for Kerala and Karnataka on Nov 7 2023 at TIMed, 5th Floor, BMT Wing, SCTIMST. The British team was led by His Majesty's Deputy High Commissioner, Karnataka & Kerala and His Majesty's Deputy Trade Commissioner-South, Mr Chandru Iyer and his team consisting of Mr James Godber (Dep Head of Mission, British Dep High Commission, Bengaluru), Mr KT Rajan (Cluster Head, Technology, Innovation and Education, Dept of Business and Trade) and Ms Janaka Pushpanathan (Director, South India, British Council). Director, SCTIMST Prof Sanjay Behari and Head BMT Wing, Dr Harikrishna Varma participated and lead the discussions on the potential directions for future collaborations.

The dignitaries walked through labs at SCTIMST and listened to the descriptions of the innovations from BMT Wing, SCTIMST and had a look at the Innovations from startups of TIMed. Following this, Balram S, Scientist G & CEO, TIMed welcomed the Deputy High Commissioner for Kerala and Karnataka Mr Chandru Iyer, the Deputy Head of Mission, Mr James Godber and the rest of the delegates including Mrs Nishantini IPS, a Chevening fellow and the MPH2023 batch students of AMCHSS. Dr Mala Ramanathan, Prof, AMCHSS and Gender Self-Assessment Team-SCTIMST (GSAT-SCTIMST) member, spoke of the gender and health trainings at AMCHSS and the collaborative initiative of SCTIMST under the aegis of the Ministry of Science and Technology – the Gender Advancement for Transforming Institutions (GATI) Initiative to enhance women's participation in STEM.

Dr RS Jayasree, Scientist G, Division of Biphotonics and Imaging) and the Nodal Officer, GATI-SCTIMST provided insights into the implementation of GATI. GATI's implementation in 30 institutions was facilitated by the British Council. Dr Shiny Velayudhan, Scientist E, Division of Dental Products



and GSAT-SCTIMST Member also provided insights into the findings of the GATI report to the Dept of Science and Technology, Govt of India and SCTIMST's rating as a Level 2 GATI Achiever.

This was followed by a Q&A session with the visiting delegation in which the Director, SCTIMST took the lead and the responses were by Mr KT Rajan, Cluster Head, Technology, innovation and Education, Dept of Business and Trade of the Deputy High Commission, Bengaluru and Ms Janaka Pushpanathan, Director, South India, British Council.



Eminent Visitors

Shri Subu R, IA&AS, Principal Director of Audit (AB) of O/o the Comptroller & Auditor General of India, New Delhi visited SCTIMST on 29 Sept 2023.



QUIZ 2 Winners

Code Grey indicates "if someone, including a patient, is being aggressive, abusive, violent, or displaying threatening behaviour" in the hospital. This is an alert for security personnel in the hospital to act and assist the hospital staff to manage the situation or remove the aggressor from the premises.



Rinta Paul
PhD Scholar
Compre Stroke Care Prog
Dept Neurology
SCTIMST, Trivandrum
Kerala



Achanya S Jayan
PhD Scholar
Dept of Biochemistry
SCTIMST, Trivandrum
Kerala



Mahima Gowri IS
PhD Scholar
Div of Thrombosis Res
BMT wing
SCTIMST, Trivandrum
Kerala

QUIZ 3

What is buckyball?

How was it discovered?

What are it's other names?

Please submit your reply with
Name, Department to the email:

enewsletter@sctimst.ac.in
before 15th February 2024

First three entries will be featured
in the next issue of
the Chitra Dhvani.

**"Wisdom is not a product of
schooling but of the lifelong
attempt to acquire it"**

Albert Einstein

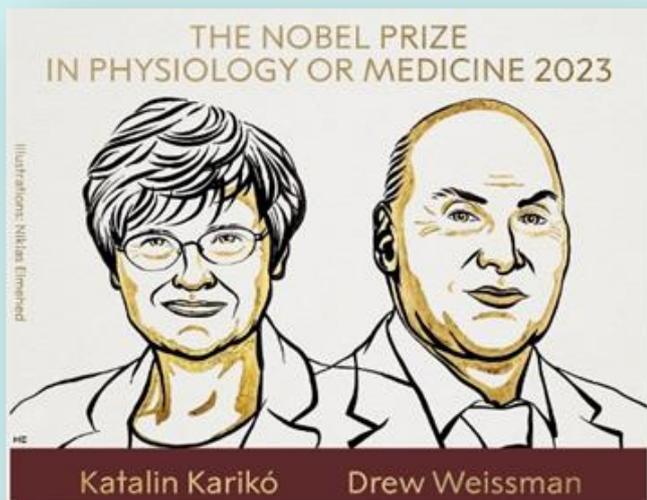
"Let us unite, not in spite of our differences, but through them. For differences can never be wiped away, and life would be so much the poorer without them. Let all human races keep their own personalities, and yet come together, not in a uniformity that is dead, but in a unity that is living."

Rabindranath Tagore



NOBEL MATTERS 2023

Nobel in Physiology/ Medicine 2023

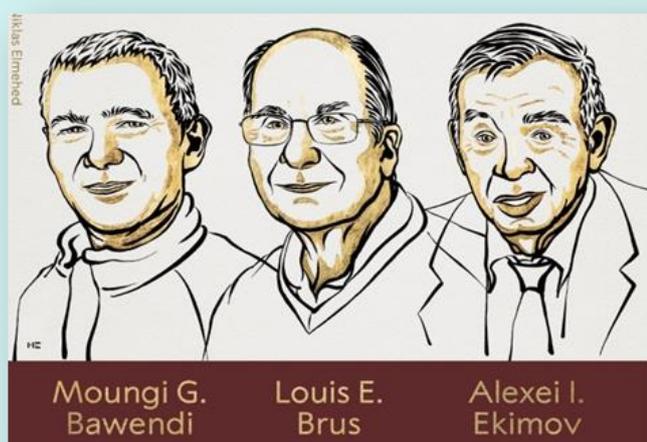


The Nobel Prize in Physiology or Medicine 2023 was awarded jointly to Katalin Karikó and Drew Weissman **"for their discoveries concerning nucleoside base modifications that enabled the development of effective mRNA vaccines against COVID-19"**. The pair, who had been tipped as favorites, "contributed to the unprecedented rate of vaccine development during one of the greatest threats to human health in modern times". The first vaccines to use the mRNA technology were those made by Pfizer/BioNTech and Moderna against COVID-19.

Ref:

<https://www.nobelprize.org/prizes/medicine/2023/summary/>

Nobel in Chemistry 2023

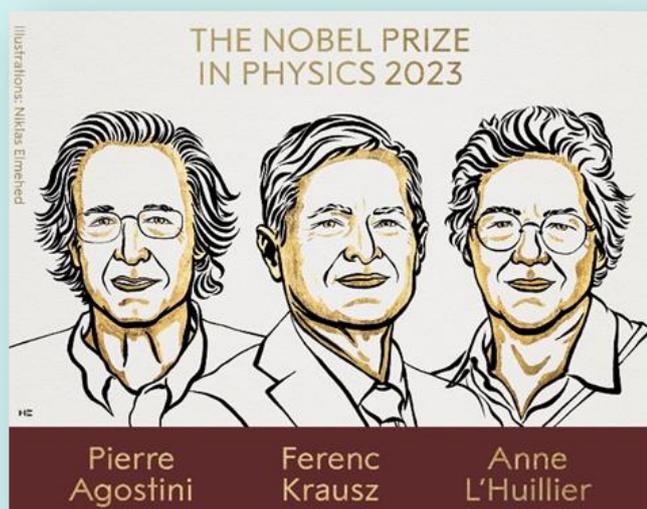


The Nobel Prize in Chemistry 2023 was awarded to Moungi Bawendi, Louis Brus and Aleksey Yekimov **"for the discovery and synthesis of quantum dots"**. Independently of each other, Ekimov and Brus succeeded in creating quantum dots, and Bawendi revolutionized the chemical production. Quantum dots have unique properties and now spread their light from television screens and LED lamps. They catalyse chemical reactions and their clear light can illuminate tumor tissue for a surgeon, the Academy said in a press release.

Ref:

<https://www.nobelprize.org/prizes/chemistry/2023/summary/>

Nobel in Physics 2023



The Nobel Prize in Physics 2023 was awarded to Pierre Agostini, Ferenc Krausz and Anne L'Huillier "for experimental methods that generate attosecond pulses of light for the study of electron dynamics in matter". The trio are being recognized for their experiments, which have given humanity new tools for exploring the world of electrons inside atoms and molecules. The laureates' contributions have enabled the investigation of processes that are so rapid they were previously impossible to follow.

Ref:

<https://www.nobelprize.org/prizes/physics/2023/summary/>

*Source: www.nobelprize.org, Photo credits: Niklas Elmehed (Nobel Media).



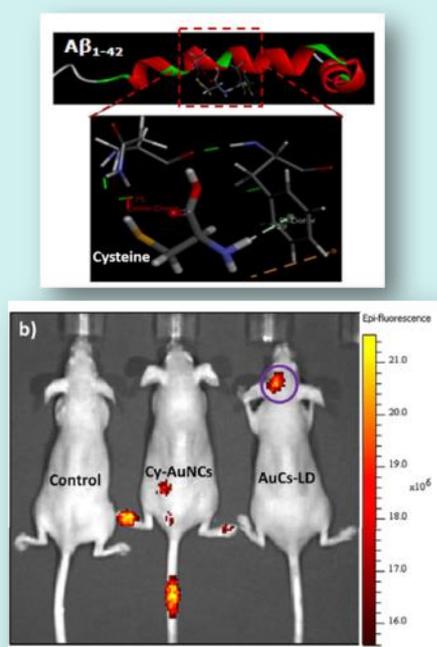
Modified Abstracts: Work done in SCTIMST

Gold nanoclusters & Fluorescence imaging: a distinctive approach for Alzheimer's disease

In an article entitled "**Bifunctional cysteine gold nanoclusters for b-amyloid fibril inhibition and fluorescence imaging: a distinctive approach to manage Alzheimer's disease**" published in Journal of material chemistry B by Royal Society of Chemistry, the authors Resmi *et al* tried to inhibit the formation of amyloid fibril through the thiophilic interaction between the side chain of an aromatic residue in a polypeptide and a sulfur atom of a compound, using a cysteine-capped gold nanoclusters (Cy-AuNCs).

Authors utilized molecular docking to examine the thiophilic interactions between the sulfur atom of Cy-AuNCs and the aromatic rings of the protein. After enhancing brain targeting and passage through the blood-brain barrier (BBB), the material was proven to have favourable biocompatibility, along with the capability for real-time imaging facilitated by the intrinsic fluorescence.

The efficacy of these nanoclusters in disintegrating amyloid fibrils and their ability to traverse the BBB were demonstrated in both *in vitro* and *in vivo* settings using the BBB model and the AD animal model, respectively. The findings of the study suggest that nanoparticle-based artificial molecular chaperones may present a promising therapeutic approach for AD.

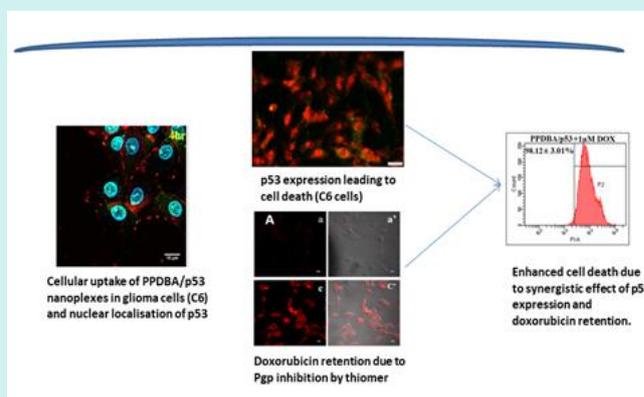


Molecular interaction of Cy-AuNCs with Ab₁₋₄₂ (top) and brain imaging of live animals after the injection of Cy-AuNCs and AuCs-LD at 4 h (bottom).

(Bifunctional cysteine gold nanoclusters for b-amyloid fibril inhibition and fluorescence imaging: a distinctive approach to manage Alzheimer's disease. AN Resmi, CR Rekha, ME Dhushyandhun, Sarathkumar E, Sachin JS, Gulia KK, RS Jayasree, *J Mater Chem B*, 2023, 11, 4715)

Cationic thiomers for intracellular delivery of p53 & doxorubicin for anticancer applications

Cancer is uncontrolled growth of mutated cells and is a serious health concern even with all the advances achieved in this area. Multiple treatment strategies are found to be more effective and combination therapy for treating cancer has gained lot of attention and is in practice. Recently nanomedicines are gaining attention in the treatment of cancer and multifunctional nanoparticles which can deliver therapeutic molecules targeting multiple pathways is widely investigated. Chemotherapy is one of the most important treatment option along with surgery to treat cancers. But the side effects associated with it, the low bioavailability as well as the multidrug resistance reduces the effectiveness of this treatment mode. Apart from toxicity, one of the major problem associated with chemotherapy is multidrug resistance. Most of the cancer types are reported to have mutant p53 and this can lead to overexpression of P-gp leading to poor chemo sensitivity. The research team lead by Dr Rekha in Biosurface Technology, **developed cationic thiomers which can deliver therapeutic gene p53 and also the chemotherapeutic drug doxorubicin simultaneously**. The cationic thiomers and p53 forms a nanoplex and doxorubicin along with nanoplex is delivered to C glioma cells. The cationic thiomers was found to have good P-gp inhibition properties and high drug retention for longer period of time in both C6 and A549 cells. The IC₅₀ of doxorubicin alone was found to be 3 μM, but when administered with PPDBA/p53 (4:1) and 1 μM DOX the cell death was as high as 98%. *In vivo* evaluation in mice tumor model showed a reduction of almost 20% from the initial tumor size when treated with PPDBA II/p53/DOX. This study proves that presence of p53 and efflux pump inhibitor can reduce the chemotherapeutic doses which will be beneficial for treating chemo unresponsive cancers.



(Priya SS and Rekha MR. Synergistic effect of p53 gene/DOX intracellular delivery and P-gp inhibition by pullulan thiomers on cancer cells: *in vitro* and *in vivo* evaluations. *J Mater Chem B*, 2023, 11, 1365-1377)



SCTIMST signs MOU with Onyx & GEC Barton Hill, Embedite

SCTIMST signs a MoU with Onyx Healthcare Pvt Ltd

Bioceramic beads for drug delivery & bone regeneration developed by the Bioceramics Laboratory, Biomedical Technology Wing, SCTIMST was transferred to Onyx Healthcare Pvt Ltd, Meerut on 19.07.2023. Dr Sanjay Behari, Director, SCTIMST exchanged the MoU with Mr Harshvardhan, Management Representative Onyx. Drug eluting beads provide a critical intervention in osteomyelitis and bone reconstruction for surgeons.



SCTIMST signs a MoU with Govt Engineering College Barton Hill & Embedite Pvt Ltd, TVM

An MoU was signed between Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum, Government Engineering College Barton Hill and Embedite Pvt. Ltd, Trivandrum for the co-development of **"Virtual Reality Tool for Surgical Planning and Medical Training"** on 14.09.2023. It was attended by Dr Sanjay Behari (Director, SCTIMST), Prof Shiny G (Principal, GECBH), Mr Gokul Anila Manikantan (Director, Embedite Pvt Ltd), Prof C Kesavadas (Principal Investigator, IS&IR), Dr HK Varma (Head, BMT Wing), Prof Bejoy Thomas (HoD, IS&IR), Dr Subin Sukesan (Additional Professor, Anesthesiology), Dr Sunil Kumar (DM IS&IR), Dr Adarsh Anil Kumar (DM IS&IR), Ms Sheebakumari R (Sr Technical Asst, IS&IR), Ms Renjima G (Technician, IS&IR), Prof Dinesh Gopinath (Dean, GECBH), Prof Hari R (HoD ECE, GECBH), Ms Smitha SL (Asst Professor, GECBH), Dr Jeena RS (Associate Professor, GECBH), Dr. Anish K John (Asst Professor, GECBH), Ms Sandhya CG (Engineer F, SCTIMST) and Dr Arun Anirudhan V (Engineer E, SCTIMST).



Staff Benevolent Fund, SCTIMST: Farewell Function Hosp wing



Staff Benevolent Fund, SCTIMST: Farewell Function BMT Wing



Sport's Week Celebrations 2023

As per the Order No. SCTIMST/DAA/1/84/2022 dtd 06.09.2022, a **Sports Cell** of SCTIMST was constituted under the chairmanship of Dr Varghese T Panicker, Prof CVTS to conduct sports events in the Institute for the staff members and students. As part of the sports events chess, table tennis, badminton, athletic events, group events like cricket and football were contrived. The sports events were conducted from 09th Sept 2023 to 12th Nov 2023. The events were inaugurated by honorable Director Dr Sanjay Behari in the presence of Dr Harikrishna Varma, Head BMT Wing.

"Champions keep playing until they get it right"
Billie Jean King



"On National Sports Day, my greetings to all sportspersons. India is proud of their contributions to the nation. I pay homage to Major Dhyani Chand Ji as well on his birth anniversary" **Narendra Modi, Aug 29, 2023**



Sport's Week Celebrations 2023



Sport's Week Celebrations 2023



Unveiling Unexpected Horizons: From Kashmir to Kerala

In the pages of our lives, some chapters stand out as vivid surprises. I'm Muneer Hussain Dar, MSc student from Kashmir University and my journey at SCTIMST turned out to be exactly that – a remarkable experience that defied expectations.

As a part of research exposure programme under **DST INSPIRE**, we went on an adventure that took us to the heart of Kerala. I had never been to this beautiful state before, and it's safe to say I had more questions than answers about what awaited me. Curious about the safety and living conditions, I approached the higher-ups, including the Registrar, with inquiries through emails. Their reassuring words, assuring me that everything would be taken care of, provided a glimmer of comfort. But it was Dr Jayasree Mam, the Chairperson of the SCTIMST INSPIRE committee, who truly put my concerns to rest. Little did I know that my journey had already begun, and it was going to be a tale of surprises. Serendipitously, the HOD of the chemistry department, Kerala University who had met me at Srinagar airport, continued to be a guiding presence, his congeniality offering solace during our journey. Coming down at Trivandrum airport, I was greeted by a vehicle arranged by the Institute – a gesture that left me impressed. The tropical heat was a change, but the camaraderie of friends who had already arrived at the hostel, along with the warm welcome by the hostel caretaker, melted away any initial discomfort.

Morning broke, and the program officially kicked off with lab visits and presentations orchestrated by Dr. Renjith. Navigating through the various divisions of the institute was an eye-opener, and our journeys extended to institutions like Kerala University, CSIR NIST. Dr Jayasree Mam and Dr Renjith, the gracious hosts that they are, welcomed us with open arms. The lab visits set the stage for us to select projects aligned with our interests. I found my niche in the division of biophotonics and imaging, where I felt an inexplicable sense of belonging – it was like finding a second family.



Dr Siva postdoc fellow at the division emerged as a guiding light who always guided me in the lab, his words resonating deeply, complemented by moments of camaraderie over cups of tea, watching movies and thoughtful gifts. Navigating the research landscape had its challenges, but the camaraderie of Kirthika and the unwavering support of Anjana, a fellow PhD student, were a source of strength. My lab mates, too, became my pillars of support, transcending professional boundaries and forming bonds that felt like family. Amidst this backdrop, friendships blossomed like vibrant flowers. Birthdays turned into collective celebrations, and a genuine sense of belonging permeated the air. Besides learning technical things, the love and care showered upon me by my lab mates have been etched in my heart – a tapestry of moments that time will never fade.



Within the hostel's walls, my companions Abhijeet, Suramya, Ishika, and Nagarajan, were not just fellow lodgers – they became my extended family. Their actions transcended mere kindness, embodying a sense of camaraderie that turned our living space into a haven of shared experiences.



Unveiling Unexpected Horizons: From Kashmir to Kerala



all eat a meal in the canteen, a microcosm of the egalitarian spirit that prevailed. Even in mundane actions like public transport, the decency of Kerala's people shown through a simple ring of the bell by a passenger signaled a stop, a stark contrast to the chaos of many places. It was a place where kindness thrived, and helping hands were readily extended.

The 15th of August, a day of celebration, took on a unique flavor in Kerala. Joining director, scientists, doctors, security persons and fellow students, I experienced a sense of unity and joy that I had never felt before in any other place. The love and acceptance of the people of Kerala had a profound impact on my spirit and I whole heartedly joined the days celebration. Among my fondest memories are the friendships I forged. From celebrating birthdays together to the heartfelt farewell gestures, each moment became a cherished memory. The culmination of our time was marked by Dr Jayasree Mam's lunch treat and a surprise cake party by hostel mates – a testament to the bonds formed during our stay.

As I turn the pages of my time at SCTIMST Kerala, I'm left with an overwhelming sense of gratitude. This journey went beyond academics; it was a transformative experience that rewrote my perceptions and instilled lasting memories. With a heart full of appreciation, I step forward into new adventures, carrying the warmth of Kerala.

Suramya was one of my Kitchenmate in the hostel where we fused our culinary skills to create a harmonious blend of flavors. Sharing utensils, recipes, and stories, bridging the gap between the northernmost and southernmost corners of India through our shared meals. Abhijeet's kindness showcased the true essence of unity, when our induction cooker faltered, he didn't hesitate to lend me his, embodying the spirit of sharing that characterized our shared space. It was more than an appliance; it symbolized the bonds we had formed – ones that transcended material things. Yet, this sense of unity extended far beyond these names. Every person under that roof, including, Anuja played a part in making my stay truly memorable.

As I interacted with the people of Kerala, a different world unfolded before me. Their humility, warmth, and genuine nature left an indelible mark, creating a sense of belonging I hadn't anticipated. What struck me most was the absence of hierarchies – from sweepers, doctors to scientists,



I am very much thankful to DST, GOI (INSPIRE) for the financial support. I am grateful to SCTIMST for giving me an opportunity to get research exposure and my project work there.

(Mr Muneer, MSc student, Kashmir Univ, has been a participant of DST INSPIRE Program for the students of North-East states and Union Territories of Jammu & Kashmir and Ladakh at SCTIMST)



The Handsome Kuravan and His Beautiful Kurathi

Idukki is known around the world as the spice capital of Kerala. But within Kerala, Idukki stands as testimony to the spirit of human endurance and resilience. The lush greenery of misty tea gardens, and aroma from the cardamom plantations on the hillsides are the result of hard toil of men and women of Idukki.

But what fascinated me more on my trip to Idukki was the mighty Idukki Dam. At 554.2 feet it is more than double the height of Qutub Minar and in full capacity can hold 1.996 cubic kms of water. It is one of the highest arch dams in Asia.

On two sides of the Idukki dam stand two granite hills, locally known as Kuravan and Kurathi mala. I first saw Idukki dam sitting in the shade of a makeshift teashop on a roadside, sipping hot cardamom spiced tea on a cold misty morning. Through the hazy sky, I could see an old man, named Kuravan with his stretched hands holding the hands of his beloved Kurathi.

Something is brewing between the young handsome Kuravan and the bold and beautiful Kurathi was first noticed by Chemban Kolumban, the chieftain of the Oorali tribe, who lived deep inside the forests of Idukki. They were always seen together, merry making and enjoying every moment in each other's company. Kolumban could read the minds of these two youngsters. They longed to hold each other hands just like any young paramours. They were close, their hands stretched out, fingers longing to touch each other, souls wanting to unite, yet they couldn't, for the naughty Periyar was always between them. The pranky Periyar liked holding the hands of Kuravan and Kurathi, gurgling, and bubbling in between as they talked.

The proposal for marriage was first brought by an Italian engineer, but it was rejected outright by the Travancore government. Pursued by Kolumban, the then Superintendent of Malankara Estate WJ John and his friend AC Thomas Edattu persisted in their efforts for the marriage. Canadian govt agreed to arrange for the finances. Wedding ceremony was solemnized by the then District Collector of Idukki under guidance of engineers of Kerala State Electricity Board. Prime Minister registered the matrimony.

When Kuravan and Kurathi decided to tie the knot, it created a huge furore not only within their families, but in the whole village. It took a battalion of 600 police, heavily armed to evacuate the 1,800 families in the Ayappancoil village on the directives of the Revenue Department. The evicted were stuffed in buses and transported to Amaravathi. There were hunger strikes throughout the state and it required intervention from the head of the nation's executive to pacify the villagers and accept them as a couple.

With the mist now lifting, I could see Kuravan and Kurathi more distinctly. They both appeared weathered by age and season, but the love and holding hands was still as strong as during their younger days. The Canadian Engineers, who wrote the mangalapatram, purposefully didn't construct a shutter in the concrete bond between Kuravan and Kurathi. Their love and passion has stood the test of time and has only matured over the years, holding 70.50 thousand million cubic feet of water, currently within its arms.

For the five decades, since they declared themselves as husband and wife, there have been only five instances of outbursts between them. These were very stressed moments, when the entire state of Kerala was put on high alert with control rooms opened right from Cheruthoni down to the Arabian Sea. People spent sleepless nights in anxiety, because the rage from the outburst was discharging at a rate of 1500 cubicmetre per second. This is enough to submerge the entire districts of Ernakulam and its neighbouring places.

Shutters at Kulamavu and Cheruthoni were called in to counsel and settle the matter, but Kuravan and Kurathi always seem to have a way to resolve things before it gets out of hands.

The Idukki dam stands tall as testimony to the everlasting love of Kuravan and Kurathimala. Grandmothers of the Oorali tribe still recount the romantic stories of the handsome Kuravan and his lovely wife Kurathi to the generations of children and their grandchildren and the legacy lives on, nurtured by the waters of the gushing Periyar.

Match-makers



Kuravan with his beloved Kurathi



(Dr Amita R, Assoc Prof, Dept of Transfusion Med, SCTIMST)



Adam and the Endless Echoes of a Kaleidoscope

Scene 1- On a beautiful evening, the lads are playing cricket on the ground, bathed in the amber glow of the setting sun.

The batting team needs six more runs to win the match. The batsman makes a big hit, and the excitement erupts across the ground but gets caught, and they lose the match. James, Adam, and other teammates were discussing their defeat on their way back.

James to Adam (with frustration): It's all because of you we lost the match, it was an easy win.

Don't blame me! How many runs did you score?? 10! And you are blaming me?! Replied **Adam**.

Enough!! (**James angrily**); I told you to bring your bat for the match and did you do that?

When?? I don't even remember you saying that, James. (*in confusion*)

THIS MORNING IN FRONT OF YOUR HOUSE!! (**James replied shouting**)

Oh please! James, stop making up stories. You must have dreamt or something. (**Adam responded**)

I'm not making up stories, you are lying! Liar!! (*said James*)

James, you are so frustrated and overreacting. I'm leaving. (*Adam walks away*)

Yeah! Run away, coward!! (*said James*)

Scene 2- Silence is spread everywhere, Adam walks alone in the dark through the flickering street lights. Suddenly his phone starts to ring breaking the silence. It was his mother.

Hey mom! I'm on my way back.

How was your match darling? (**mom asked**)

Adam explained everything that happened.

It's fine, dear; things happen; there's nothing to worry about. Don't wander about; there was a news flash about a meteor shower, so don't be la... late.

And don't for---get the ba- - nd- - ages. (*with distortion the call gets disconnected*)

Band!! what? Sure, Mom, I'll be there soon. (**Adam replied**)

Suddenly, a great white light flashes over the sky, accompanied by tremendous echoes, turning the darkness into day. Adam was astounded by the great view.

Adam rushed towards the meteorite's landing. The site was filled with smoke and fire. Through the smoke, Adam noticed a glowing object. He took a

step forward. It was a rod-shaped object covered with shiny crystals. The glow can be seen in Adam's eyes as a reflection. Adam extended his hand to touch it. Suddenly, a strong force drew Adam inside the object, similar to a portal.

Scene 3- Helllllppp! Somebody, please, help me!! (*screaming*)

As he falls through an empty white space, Adam screams in agony. Suddenly, Adam comes to a halt, leaving him unsure whether he was falling from the top or being dragged into something.

Adam looks all around while gasping for air, all he can see is an empty white space. Adam doubts that he is trapped inside the *white room torture*.

HELLO IS ANYBODY THERE? (*Adam in a loud voice*)

Adam takes a look around and notices a small black dot. He approached it and touched it with one of his fingers. All of a sudden everything starts shattering like mirror glass. Adam could see infinite reflections of himself like he was trapped inside a kaleidoscope. Adam got terrified and started running but everything collapsed into pitch darkness.

Scene 4- Adam hears the buzzing sound of bees through his unconsciousness. He slowly opens his eyes and finds himself in a forest. He slowly gets back to his feet and feels a pain in his right cheek. He checked out, and he had a cut on his cheek and it was bleeding. Adam notices one thing, everything is black and white except red.

In the distance, Adam notices someone standing. With excitement, Adam rushed towards it. It was a lady in a black gown. She was standing with her hair in front of her face, covering it. Adam tried to start a conversation, but she remained silent.

Can you understand me? (**Adam asked**)

Without saying anything she brought her left hand up. And it was bleeding heavily. When Adam saw this he got scared and ran for his life.

He ran so fast like an athlete but ended up in the same spot. He starts running again, unsure of what's happening. Even by taking different paths, he returned to the same location. After a long period of running, Adam became thirsty. He saw a pond nearby and rushed to it. He scooped up the water with his two hands and poured it on his face. However, it was sand that landed on his face.

Aah! My eyes!! WHAT THE HELL IS HAPPENING HERE!? (*in pain*). He tried again, but when he scooped it up, it was sand coming out. Adam stands there with no clue what's happening. With no point in standing there, Adam went back to the lady and



Adam and the Endless...

asked, Can you please help me outta this? Please. I'm done. (*Adam with no hope*)

The lady brings her bleeding hand up once again. This time Adam was not scared. He placed his hand parallel to hers. She grabbed Adam's hand, and suddenly with a tremendous booming sound a portal opened in the sky, and descended the same kaleidoscope. This diverted Adam's attention away from the lady who had vanished into thin air.

What in the world is this??

A tornado engulfed Adam and the kaleidoscope and he grabbed the kaleidoscope, everything went pitch black.

Scene 5 Wake up Adam, wake up. You are late. (*Mom in loud voice*)

Upon hearing this Adam slowly woke with a belief it was a dream.

Did you have a dream? (*mom asked*)

Nightmare (*Adam replied*)

Adam saw his mom's left hand bleeding which reminded him of the lady in the black gown.

Mom, what happened to your hand? (*Adam asked*)

Oh, it's just a cut from the knife. Get ready fast or you'll be late. Bring one bandage when you come back and don't forget. (*mom said*)

Adam stands still while getting flashes of what happened. He went to his mirror to check on his cheek. On the reflection, Adam saw the same kaleidoscope on his table. Adam got scared and asked.

Mom, where did you get this kaleidoscope?

I don't know! you are the one who brought it, I think. (*mom replied*)

Last night??

Adam took the kaleidoscope and went outside his house to throw it.

Tring, Tring (*cycle bell*) it was James on his bicycle.

Hey Adam, what happened you look scared. Ah, we have a match in the evening, come early, and don't forget to bring your bat it's our luck charm. Bye, see you on the ground. (*James said*)

As James walks away, everything fades to black and white. Someone from behind grabbed Adam's shoulder. When he turns around, he sees the same lady in the black gown with the same bleeding hand. **Adam stands there feeling the chill, Realizing he is trapped inside the endless echoes of the kaleidoscope.**

(Edwin K Johns, PhD Scholar, DIMT, BMT wing, SCTIMST)

Nobel Endeavors

Inauguration of the television set donated by the CSR fund of the Sree Chitra Employees cooperative society T-799 was done by the Respected Director Professor Sanjay Behari. Medical Superintendent Dr Rupa Sreedhar accompanied the occasion as Chief Guest. Wishes were delivered by Dean Dr Roy Joseph, Dr Debasish Gupta, Nursing Supdt Ms Nirmala MO and Security Officer Sri Anil Kumar BS. Meeting was presided by Sri D Vinod. Welcome address was given by Sri KV Manoj Kumar, secretary and Vote of thanks by Dr Amita.



"Part of the healing process is sharing with other people who care"

Jerry Cantrell



Flavours of ONAM



Poem

Winter Line



Beside the cliff side,
Winter is in full swing
Flocks of birds are flying home with goodbye
chirps
Looking at the evening sky,
Lying on the back on the sandy beach
Out of the blue, the rambler land breeze
On its way to the sea quietly murmurs,
How pretty is the waterline she wore,
Seems like a deep-hued necklet with a dazzling
sea pearl pendant
Intensely intersected with her golden soul
Surprisingly, the sun hides like a glittering pearl
Under her tunic neckline
She seems like the guardian of the precious pearl
till the next dawn peeps above the hill pinnacle

*(Ms Susha SS, PhD Scholar, Division of Sleep Research,
BMT wing, SCTIMST, Trivandrum)*



QUIZ 4

Is gold reproducible from other elements?

Please submit your reply with Name,
Department to the email:

newsletter@sctimst.ac.in
before 15th February 2024

First three entries will be featured in the next
issue of the Chitra Dhwani.



Artwork and Camera Captures by Chitra Family Members

Digital Painting of the Natakshala



(Nikhil Vishnu K, Product Designer, Sascan Meditech. Pvt. Ltd, TIMed, BMT Wing, SCTIMST, Trivandrum)

Flower of an Hour



Monochromatic Lepidopteran



(Ms Susha SS, PhD Scholar, Division of Sleep Research, BMT wing, SCTIMST, Trivandrum)



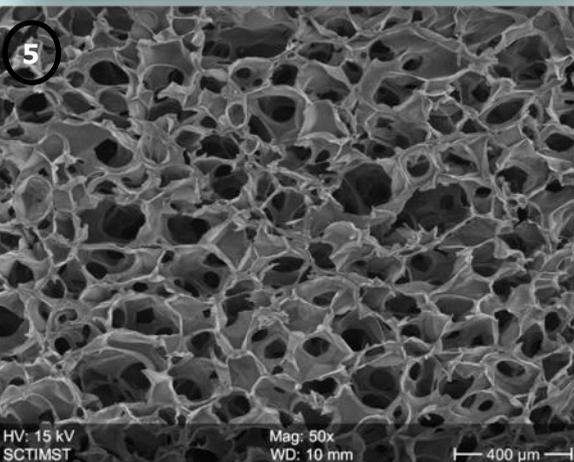
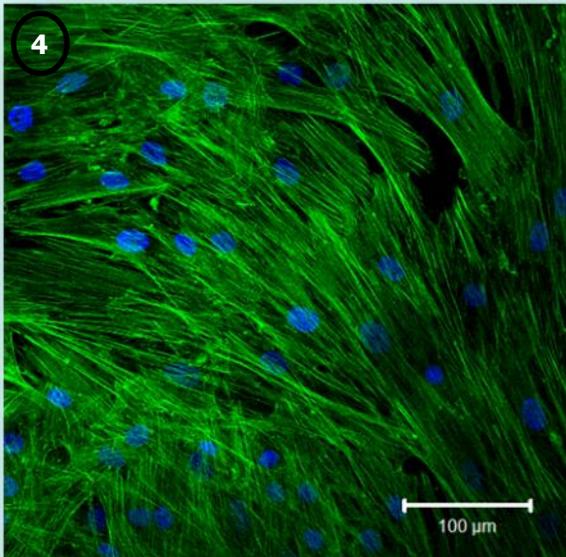
Artwork and Camera Captures by Chitra Family Members



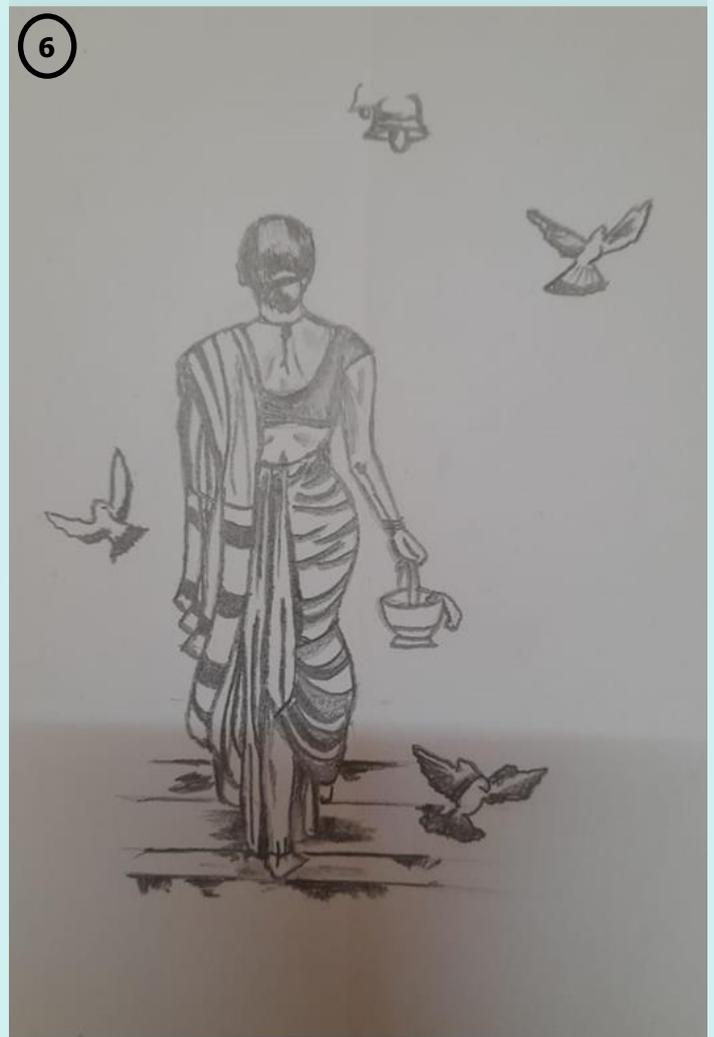
(Aiswarya AS, Second Year, PG-DBBT, Trans Med, SCTIMST, TVM)



(Meethu M, 1st Yr, Trans Med, SCTIMST)



(Dr Lynda VT, Sc F, DTERT, BMT Wing, SCTIMST, TVM)



(Akshaya MP, First Yr, Transfusion Medicine, SCTIMST, TVM)



Camera Captures by Chitra Family Members

Sketch of the Satelmond Palace



(Nikhil Vishnu K, Product Designer, Sascan Meditech. Pvt. Ltd, TImed, BMT wing, SCTIMST, Trivandrum)

Picture of the Real Satelmond Palace



Turtle in the BMT wing pond hiding under the blue sky



Infinite blue sky



Magical stars in the blue sky



Trees can you hold the falling blue sky



(Dr Prasanta Kumar Dash, Prof Sen Grade, Department of Anesthesiology, Hospital wing, SCTIMST, Trivandrum)



Camera Captures by Chitra Family Members

This is my land



(By Dr Sanjay Behari, Director, SCTIMST, Trivandrum)

Let me stretch my wings



(Dr Kamalesh K Gulia, Scientist G, Division of Sleep Research, BMT wing, SCTIMST, Trivandrum)

World through microscopic eyes



(Sajin Raj RG, Technical Assistant B, Division of Bioceramics, Ceramic Coating facility, BMT wing, SCTIMST)



Camera Captures by Chitra Family Members (Director)

The blue mountains



The guiding light from heaven



HAPPY NEW YEAR 2024

Camera Captures by Chitra Family Members

Shangrila amidst the peaks



(By Dr Sanjay Behari, Director, SCTIMST, Trivandrum)

The last sunset of 2023



(Dr Kamalesh K Gulia, Scientist G, Division of Sleep Research, BMT wing, SCTIMST, Trivandrum)

