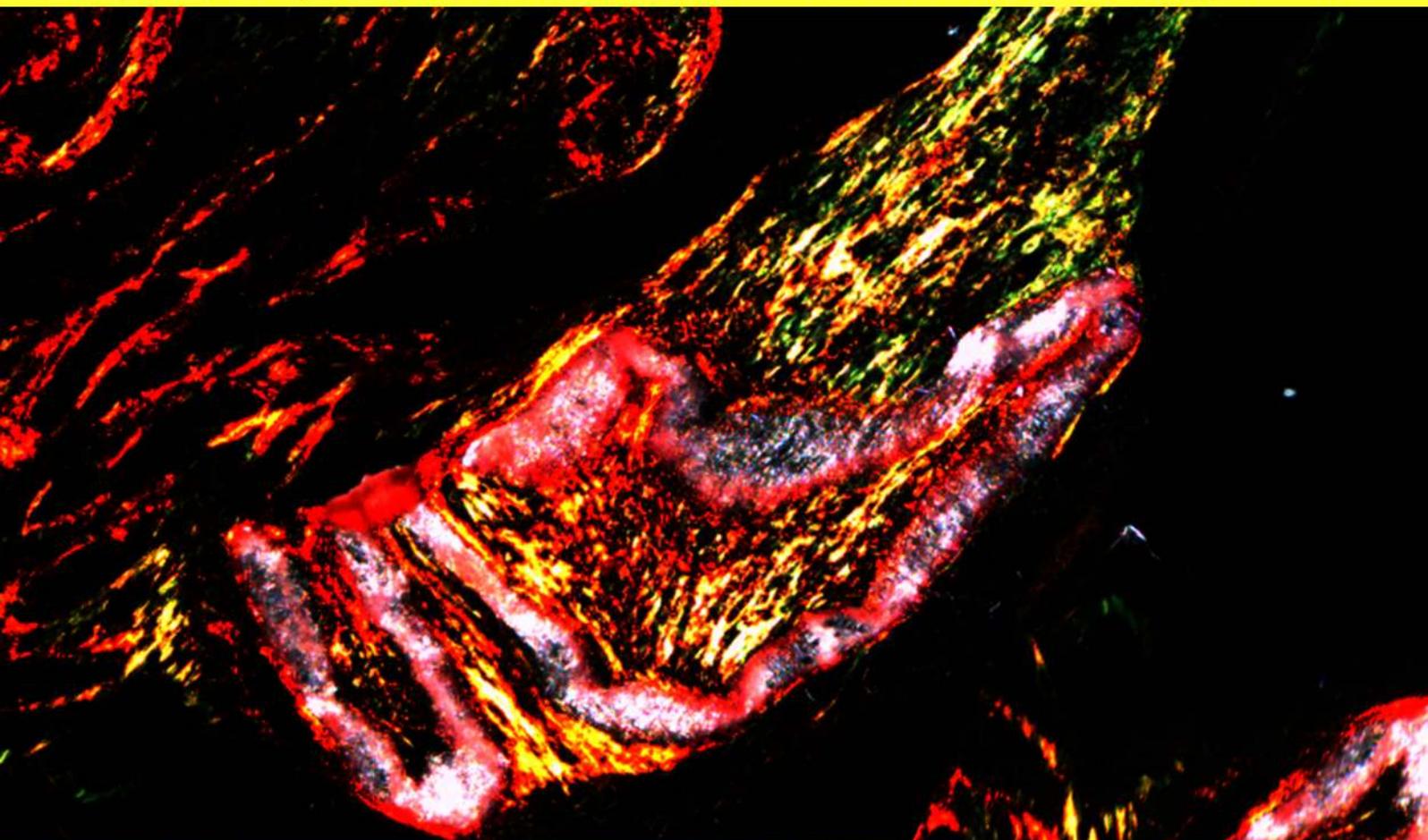




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Chitra Dhvani

Quarterly e-Magazine of Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum



Sree Chitra Medical Centre Voyage :
Reflections and Way Ahead

Vital Signs Imbrogio ♦ SWASTHY
Caring Hands Behind the Cure

WISE WORDS

“Your work can be called success only when in some way it serves your fellowmen”

Vol 4, Issue 1-2; 2016

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(The entries are invited for the next issue and may kindly be sent to the above mailbox)

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The editorial team places on record its deep appreciation for the dedicated effort and the initiative put in by the earlier team consisting of Dr. Kamalesh Gulia along with all other students, technicians who worked behind the scene to make this magazine ‘virtually’ real.

Editor’s Note

I am very delighted to take charge as the Chief Editor of the e-Magazine of SCTIMST. A campus magazine serves as a platform for displaying the thoughts and deeds of the member community. Sree Chitra performs different roles for different people; it is a place of great solace for patients, while it is a temple of wisdom for young doctors and researchers, it represents a pioneer Institute for innovative medical device development to knowledge seekers, and above all it epitomizes a amazing workplace for the employees, all of which together fulfills its societal role. I feel there is a huge responsibility on me to bring together various inputs from the diverse angles of the Institute in these pages. While we have continued the excellent pattern created by the former team, an extra effort has been taken to focus on human connection in this issue with few other more features. The *Cover Story* captures the effort taken by the Institute for reaching out to individuals and institutions for partnering with SCTIMST in maintaining and improving both the quality and quantity of free/ subsidized services offered to the marginalized section of the society. The hospital’s policy of assigning the responsibility of taking care of inpatients by dedicated nursing teams, devised and implemented by earlier visionaries is highlighted in a *special feature* article. ‘*What to do*’ in an emergency situation is something we thought might be beneficial to our readers as it may help to increase the awareness to respond aptly. Apart from the regular matter, we also present an excerpt ‘*From Sree Chitra Case Box*’ which describes events in connection with patient care that remains in the memory, be it of doctor, nurse or a social worker. In an effort to boost our own knowledge in matters related to our Institute, as well as from topics of interest to common man, a *Crossword Puzzle* is introduced. All work and no fun mustn’t be anyone’s motto and therefore pages like, *Laughter in Labs*, *Camera in action*, *Arteria* and a *News Room* will help add a little color to the mood amongst hectic work schedule. Past six months also saw a multitude of events hosted by SCTIMST that has been amply covered in this issue. All of these have been compiled with a desire that every issue should progressively become better and better.

We hope you will enjoy this version of the issue and we welcome suggestions and feedbacks to make this initiative even better.



DR. SRINIVAS GOPALA
Chief Editor

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 Sree Chitra Tirunal Institute for Medical Sciences and Technology.



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SCTIMST continues its journey ahead. Facts and figures speak; so do the patients



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COVER: The background image of the cover is an enigmatic appearance of stained collagen sample under a microscope. The inset photos represent the care extended by the Institute to recover patients back to health. Right side photo is a live scene in which a young girl cured of congenital heart disease showing her affection towards 'doctor uncle'.

Background image contributed by Dr. Neethu Mohan. Cover design and Masthead art by Dr. Manoj Komath.

Sree Chitra Medical Centre Voyage: Reflections and Way Ahead

Forty years is a trivial number as far as age of an Institution is concerned. Amidst much enthusiasm around what we have achieved in these years, we are also cognizant of some of the present and the future challenges. Out of them, one stood out and demanded immediate remedial action. How can we create an impact in subsidized patient care that is more effective, both in quantity and quality? With the increased disease burden, rising cost and demand of medical treatment, salaries and of equipment and construction, the weight on our shoulders has been increasingly heavy in the past few years. Remarkably, the Institute had already launched a Patient Welfare Fund to gather contributions from individuals as well as the employees who voluntarily donate generous amount since May 2011. Even

though we had amassed a sum of Rs. 2.2 million and Rs. 2.8 million from Institute staff and other sources respectively so far, it is no way sufficient enough to support the people who approach us with ailing health and wealth. And so the way forward is to join hands with **more** like-minded people, philanthropists, and organizations for supporting free/subsidized patient care activities.

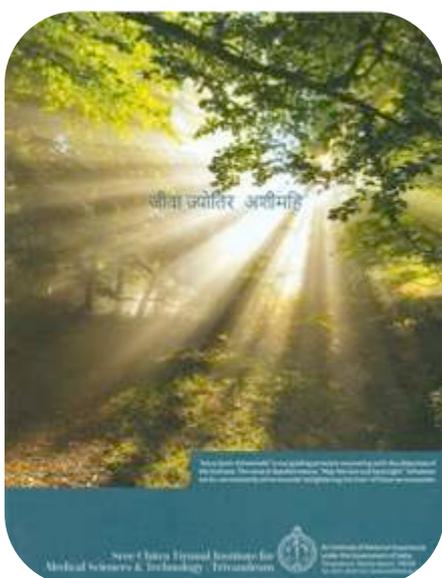
The present Institute leadership acted swiftly and in December 2015, the Director constituted two Corporate Social Responsibility (CSR) and Endowment Committees, one for the Hospital Wing and another for the Biomedical Technology Wing. The objectives of constituting the CSR and Endowment Committees were as follows:



Front cover of the brochure

Sometimes reaching out and taking someone's hand is the beginning of a journey' with renewed vigor

Patient centered hospital services ♦ Knowledge centered research ♦ Student centered training



Back cover of the brochure

May We Live and Have Light

- ♦ Creating an action plan
- ♦ Generating material and modalities
- ♦ Identifying internal projects, which can attract funding from non-governmental agencies
- ♦ Identifying corporate bodies and agencies or members of the public to help generate funds for the Institute for offering subsidized treatment, purchase of high-end equipment for treatment

The CSR and Endowment Committee (Hospital Wing) was charged with generating promotional materials and identifying potential donors to support fund-raising for subsidizing treatment costs for

patients from low-income groups, purchase of equipment for clinical care, initiation of new services and so on.

When it was decided to make documents that would depict what we are and what we do, we did a time travel to virtually experience the past events. The beginning of this journey, the stalwarts involved, bold decisions taken, fervent political will, moments of rise and setback, and finally, the transformation to a Institute of National Importance by an Act of Parliament in 1980, the goodwill created, etc., were some of aspects we had gone through. This time travel also put us back in aligning with the Motto of our Institute, inscribed in the Institute logo. "Jeeva Jyotir Asheemahi" is our guiding

A few, out of many lives, we made a difference...

Patient testimonials



Ms. N from Bhopal was confined to her house for 21 years due to recurring bouts of epilepsy. At our hospital, her condition was diagnosed as medically refractory epilepsy. She underwent a surgery.

"Today I am absolutely fit and healthy. I feel happier and better than before. When I came here, it felt more like home than a hospital. All the people here are so nice."

Ms. N is going back to Bhopal where a world of hope awaits her.



Mr. S wanted to be an engineer. But the young student's life changed course when he was diagnosed with Parkinson's disease at 18 years of age. Initially he could be managed well with medications. However, with the passage of years, symptoms progressively worsened. **A Deep Brain Stimulation (DBS) surgery was performed at the Sree Chitra Hospital, bringing him back to normal life.**

Mr. S is now pursuing a Degree in Psychology.



"Our daughter was only a few days old when she came to the SCT hospital with a complicated heart disease. She underwent numerous surgeries. She now goes to a nursery school like a normal child. She is active and alert. **We now have a lot of hope. We had lost hope when we visited so many hospitals and were turned away. SCT has given us new hope.** We can not thank them enough".



At ten years Mr. J was diagnosed as a rheumatic heart disease patient. "My first surgery was at the age of ten. Between then and 2016, I underwent a series of surgeries and balloon treatments. **Till today all my treatment has been free of cost. Now I am healthy and happy, a father of two children.** Many like Mr. J have received a new lease of life from the free treatment at Sree Chitra.

principle resonating with the objectives (*services to patients and search for knowledge through research*) of the Institute. This verse in Sanskrit means, "May We Live and have Light".

In its very first meeting in December 2015, the CSR and Endowment Committee (Hospital Wing) deliberated on and prepared a document outlining a fund-raising strategy for the Hospital Wing. Between January 2016 and June 2016, members of the Committee not only met formally once a month, but also worked individually and in smaller team to commission and facilitate the production of a number of promotional materials for fund raising. These include a *15 minute video film* which showcases the work of all three wings of SCTIMST; a *donation webpage* on our official website with a message from our director and *patient testimonials*; a *brochure* describing the many dimensions of the work that Sree Chitra engages in – from biomedical technology to super-specialized clinical care and public health; and *pamphlets in English and Malayalam* seeking donations of all sizes, big and small.

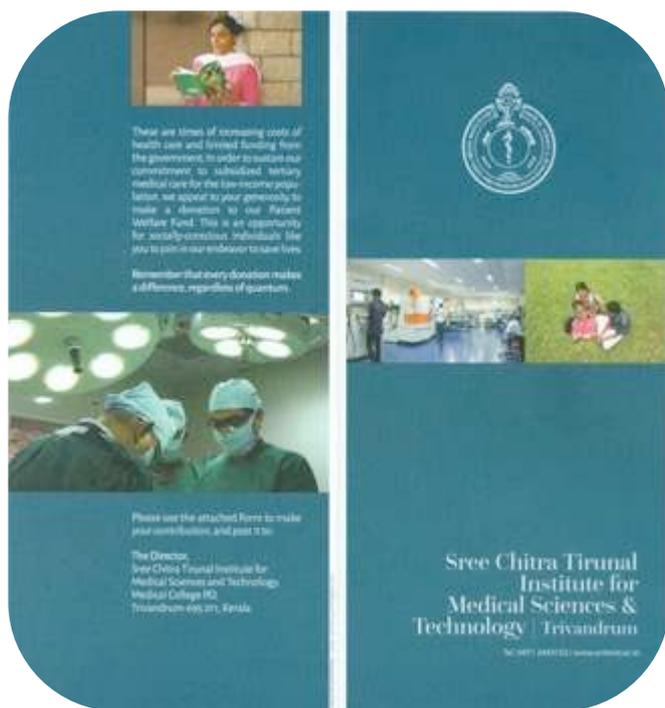
Members of the Committee have also put together a database of CSR Foundations with a track record of

funding medical care; and of other national and international donors who support specific research and service-delivery projects. A battery of model letters has been prepared, which can be adapted and used for initiating communication with donors, and a generic model for a concept note explaining a project idea has also been prepared.

The Institute is all set now to engage in ongoing fund-raising to supplement funds received from the Government of India for supporting subsidized patient care as well as expanding the facilities available in the hospital. But this cannot be the task of a small unit or a few people. It is only through our collective efforts that we will be able to succeed in raising financial support that will enable the Institute to grow from strength to strength.

The Institute has a glorious history, a unique structure, robust work culture, passionate dreams and, more importantly, realistic and socially relevant goals conjured up painstakingly by stalwarts who overcame seemingly insurmountable hurdles to carve out a special niche for the Institute. Every experience during its eventful transit through the decades reminded us of Tennyson's immortal lines:

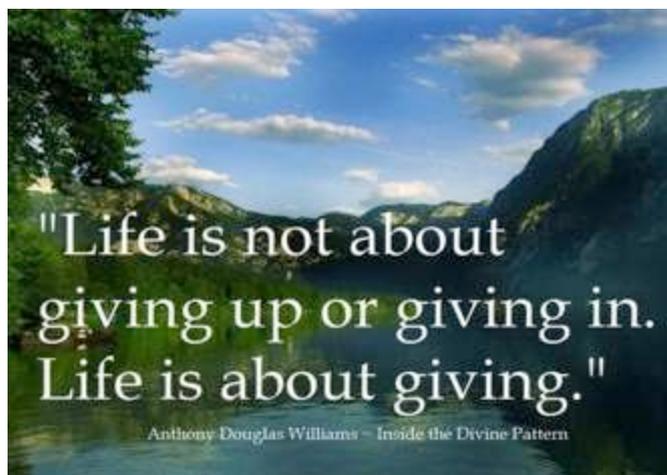
COVER STORY



Cover page of the pamphlet

*“Yet all experience is an arch where through
Gleams that untraveled world, whose margin fades
Forever and forever when I move ”*

Yet, the inexorable passage of time has not dampened the Institute’s unswerving commitment to its mandate or its quintessential work culture. As the Institute marches on, hurdles are bound to arise but every effort are be made to overcome the challenges, regardless of how daunting they are, and keep the system productive, pragmatic, efficient and nurturing. Needless to say, all of this would require tangible support from multiple sources, including the government. In these times, the Institute believes that “Sometimes reaching out and taking someone’s hand is the beginning of a journey” with renewed vigor.



Vital Statistics: Hospital Services

Number of patient visits so far: 2.71 Million
 Total number of registered patients: 4.15 Lakh
 Amount spent of subsidies (2015): Rs. 200 Million
 Total number of trained professionals: ~ 1500
 Patients receiving subsidized treatment: ~ 60%
 Patients receiving free treatment: IP(10%)/OP(4.3%)

PATIENT CARE

Total bed strength: 253
 New Cases: 17458
 Admissions: 10964
 Patient visits: 155079
 Total Surgeries: 3445
 Interventional: 1980

Digitalized Hospital Services

INFRASTRUCTURE

Operation Theaters: 10
 Intensive Care Units: 7
 Catheterization Labs: 4
 Patient wards: 8
 MR Imaging: 2
 Investigation Labs: 3

Patient Waiting Areas: 2

* The data shown is as of / for the year 2015

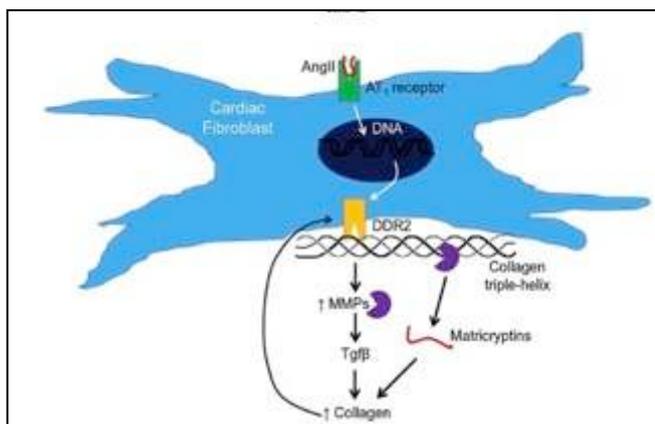
Our surgeons work untiringly long hours even on weekends to meet the rising demand of life saving procedures for patients and the out-patient services of most clinicians often finishes late in the evening, and some times, at mid night to complete the days work. Understandably, a *universe* of people (allied staff like nurses, medical social workers, technicians and helpers) joins the endeavor. This has led now to a steady increase of new/review patients over these years. Theoretically, we have reached our maximal capacity of service and would hit the plateau soon. As can be expected, there is a long wait time for most procedures and any time delay could prove fatal for at least some unfortunate individuals. We feel helpless at this juncture. To shift the balance, we may need to double or quadruple the facilities and faculties together.

The real (if it is!) universe may not be bound by space and time constraints, however, the *universe* within Sree Chitra do have attributes of constraints of time and space. Only when these constraints are overcome, the boundless energies retained within this small space will be released in its entirety for the welfare of the patients. And that is the only way ahead in front of us!

We have a social responsibility, a constitutional opportunity and a moral obligation to help patients



RESEARCH HIGHLIGHTS

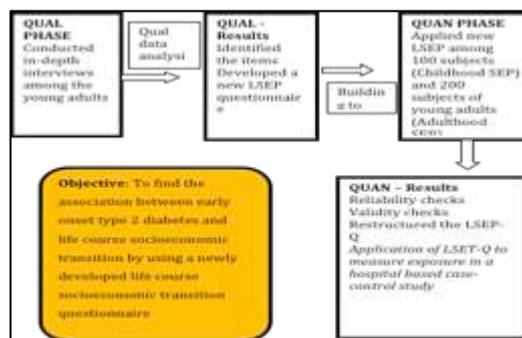


In an elegant article titled *"Molecular basis and functional significance of Angiotensin II-induced increase in Discoidin Domain Receptor 2 gene expression in cardiac fibroblasts."* published in the Journal of Molecular and Cellular Cardiology, January 2016, **Mereena George**, PhD scholar of the Division of Cellular and Molecular Cardiology guided by **Dr. K Shivakumar**, addressed the molecular basis of wound healing in the heart.

Delineation of mechanisms underlying the regulation of fibrosis-related genes in the heart is an important clinical goal as cardiac fibrosis is a major cause of myocardial dysfunction. The researchers probed the regulation of Discoidin Domain Receptor 2 (DDR2) gene expression and the regulatory links between Angiotensin II, DDR2 and collagen in Angiotensin II-stimulated cardiac fibroblasts. Using modern molecular biological and cell biological assays, they confirmed the transcriptional control of DDR2 by NF- κ B in Angiotensin II-treated cells. Angiotensin II also enhanced collagen gene expression. Importantly, the stimulatory effects of Angiotensin II on DDR2 and collagen were inter-dependent. DDR2 knockdown was also associated with compromised wound healing response to Angiotensin II. The team has uncovered a novel mechanism of regulation of the Discoidin Domain Receptor 2 (DDR2) gene by Angiotensin II and demonstrated that DDR2 and collagen type 1 are locked in a cycle of mutual regulation in Angiotensin II-stimulated cardiac fibroblasts, which can potentially impact tissue response to injury.

Notably, the article by Mereena George et al., attracted an exclusive editorial in the very next issue of the same journal, highlighting the significance of the findings.

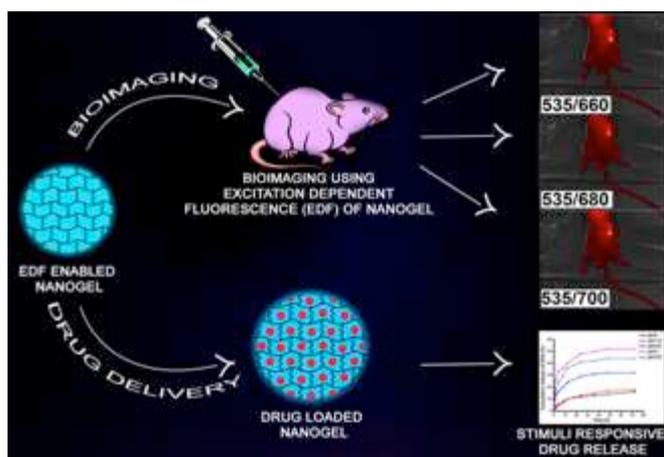
M. George, A. Vijayakumar, A.B. Dhanesh, J. James, K. Shivakumar. *J. Mol. Cell. Cardiol.* (2016).



The paper titled, *"Life Course Socio-Economic Transition and its association with early onset Type 2 Diabetes: Protocol for a sequential exploratory mixed method study"* (published in *Journal of Clinical and Diagnostic Research*, 2016, Authors; Uma.V.Sankar & V. Raman Kutty) is a research protocol exploring the link between life course socioeconomic transition and early onset Type 2 diabetes (T2D).

The prevalence of early onset T2D (Diabetes below the age of 45 years) is increasing worldwide. Literature suggests that transition in socio-economic position defined in the paper as Life Course Socio-Economic Position (LSEP), may contribute to the development of early onset T2D through complex processes involving economic and occupational opportunities as well as individual life style choices. So it is a priority to assess the link between life course socioeconomic position and early onset T2D. The objective of the study was to develop and validate the life course socioeconomic position questionnaires and application of that tool in a hospital based case control study to know the association between life courses socioeconomic transition and early onset T2D. Study followed a sequential exploratory mixed method study design. It was planned in three phases - one qualitative phase and two quantitative phases. Qualitative strand consisted of in- depth interviews among the community dwellers and the objective was to develop a questionnaire for measuring LSEP. The two quantitative strands aimed at: 1) the validation of the questionnaire by conducting cross-sectional survey among 200 randomly selected community dwellers and 2) a hospital based case control study using the same questionnaire. Expected outcome of the study was that those young diabetics with a history of lower childhood Socio Economic Position (SEP) and who enjoyed higher adulthood SEP had an increased risk for developing T2D at their younger age (18-45 years). The findings of the study are expected to contribute to developing validated life course socioeconomic position questionnaires and to understand the association between this and the early onset T2D by applying that tool in an epidemiological enquiry.

Uma.V.Sankar & V. Raman Kutty. *J. Clin. Diagnostic Res.* (2016).



Stimuli responsive nanogel with innate Near IR fluorescent capability for drug delivery and bioimaging

Theranostics (therapy + diagnostics) is an emerging area in nanomedicine, which focuses the development of nanocarriers capable of combining both therapeutic and bioimaging functions together. A Theranostic nanocarrier offers advantages such as noninvasive monitoring of disease progression with therapeutic efficacy and visualization of biodistribution real time. In the current biomedical research, design of a theranostic nanocarrier can be accomplished only through the conjugation of external imaging agents such as quantum dots and organic dyes having toxicity issues with a polymeric nanocarrier. Hence the transformation of these theranostic probes in to clinical side is always challenging. In the present work, a polymeric nanogel with innate near IR imaging capability and stimuli responsive nature has been developed. The developed nanogel exhibited excitation wavelength dependent fluorescence emission characteristics. The nanogel response to pH and swells more at acidic pH and releases more amount of anticancer drug doxorubicin. As the cancer cells have slightly acidic pH; the pH sensitive release of anticancer drug from the nanogel is beneficial for cancer therapy. The bioimaging studies performed on mice have revealed the good bioimaging capability of the synthesized nanogel. In the current area of nanomedicine, self-fluorescent polymeric nanogel systems with innate theranostic capabilities are rarely reported; hence this newly developed nanogel has immense scope as a theranostic tool for cancer therapy.

Vineeth M Vijayan, Sachin J Shenoy, Sunita P Victor and Jayabalan Muthu. *Colloids Surf. B Biointerfaces*, 146: 84-96, 2016.



The paper titled, "Dopamine D3 receptor Ser9Gly variant is associated with impulse control disorders in Parkinson's disease patients" (published in the journal, *Parkinsonism and Related Disorders*, June 2016, under the supervision of Dr. Asha Kishore, demonstrated a novel association of the DRD3 Ser9Gly (rs6280) CT variant with Impulse Control Disorders in Indian Parkinson's disease patients.

Recent studies have reported that Parkinson's disease (PD) patients develop Impulse Control Disorders (ICDs) and related behaviors (ICRBs) as behavioral side effects while undergoing dopamine replacement therapy, particularly involving dopamine agonists, as a part of their treatment to alleviate the symptoms of PD. Although, not all PD patients receiving treatment are likely to develop ICD, factors such as male gender, premorbid ICD, current smoking, depression and a family history of addiction are known to increase risk but it may also indicate a genetic predisposition to developing ICDs in PD patients. Genetic variations in monoamine receptors have been known to play a role in the development of ICDs in PD population. This study investigated three single nucleotide polymorphisms (SNPs) in PD patients undergoing dopaminergic treatment namely, DRD3 Ser9Gly (rs6280), NMDA glutamate receptor 2B c.2664C>T (rs1806201) (GRIN2B) and HTR2A c.102T>C (rs6313) present in the dopamine, glutamate and serotonin receptors respectively, and its association to four commonly found ICDs in the Indian PD population i.e., compulsive shopping, hypersexuality, compulsive eating and gambling. This is the first time that these SNPs were screened for in an Indian cohort. The association of the CT genotype with ICD in PD in this study may suggest differences in both the D3 receptor affinity to dopamine and the reward-related dopamine release in the carriers of this genotype. The CT genotype carriers may have enhanced D3 receptor function in the ventral striatum when exposed to a D3 agonist. In the carriers of this genotype, the enhanced D3 receptor affinity may further accentuate the dysregulation of reward processing in the mesolimbic system caused by the increased ventral striatal dopamine release reported in PD patients with ICD.

Krishnamoorthy, S., Rajan, R., Banerjee, M., Kumar, H., Sarma, G., Krishnan, S., Sarma, S. and Kishore, A. *Parkinsonism & Related Disorders*, (2016).



Vital Signs Imbrogio: Difficulty cum Opportunity*

Of the diverse clinical conditions patients seeking medical attention at Sree Chitra Institute, (for that matter hospitals anywhere else) a subset of patients presents with threatening and challenging disease states. Our first interview with the patient provides amazing opportunity not only to understand the person with the illness but also complete history of the illness in sequence that provides pivotal clues to the diagnosis and so, best therapeutic strategy.

Having said that, innumerable incidents flash through my mind. One such incident, I shall unravel from the late eighties when I was in the Department of CVTS headed by the living legend and my mentor Prof. M S Valiathan. 38-year-old gentleman underwent Aortic valve replacement for valvular disease, recently exacerbated and unresponsive to medical treatment. He was in the CSICU, generally convalescing well. On the second postoperative day he developed increasing breathlessness with low PO₂ and basal crepitations due to pulmonary congestion. Medications were stepped up and as was the usual practice then, immediate Cardiology consultation was requested. Clinical evaluation confirmed pulmonary edema and a bedside echocardiogram was performed which reported poor left ventricular function (or so shown by then high end ECHO machine) and so medications were further topped up and ventilator was kept on standby.

I had to attend the ICU multiple times daily, as customary then. I was disturbed by the overall opinion of poor left ventricular function since I had reasons to think of cardiac tamponade (*compression of the heart by an accumulation of blood/fluid in the pericardial sac*) as the underlying cause for patients' deterioration. "Poor LV function cannot be the cause in this young man" I strongly felt and contacted our cardiologist who advised to continue medical management. Over the next 24 hours the patient's condition improved marginally with no further deterioration. However, two days later, his condition got worse than earlier with florid pulmonary edema and this time ECHO suggested pericardial fluid collection. He was re-intubated, taken back to operating room and pericardial collection was drained. Thereafter his condition improved and rest of his recovery was uneventful. This incident happened in 1988 and although I have now completely dedicated to vascular practice, I have seen him in excellent health and active recently. Subsequently he was elected to Legislative assembly of our State for two terms.

Few things helped me in my initial diagnosis of tamponade, which was not generally agreed upon in



view of the overwhelming opinion of the Cardiologist. Firstly, while talking to the patient, he had told me that, he had conducted a Padha Yathra [a trip on foot] from Kasargod to Trivandrum (the entire length of our State) just 3 months prior to worsening of his cardiac condition necessitating indexed early Aortic valve replacement. Such a person's heart cannot develop poor function all of a sudden after surgical correction of valvular disease. Second and more importantly, I still recollect seeing his mother - a 70 year old lady with grey hair clad in a white saree with tears in her eyes - who told me she believed that his heart could not be functioning poorly now, having been very active and symptom free till he developed cardiac symptoms recently.

A patient while reporting with a clinical problem comes with a great challenge as well as timely opportunity - two in one scenario, like a coin with its head and tail and a query with its answer ingrained within to be unraveled by us. Listening to him/her and close kith and kin provides invaluable inputs about his health and disease that could lead to *personalized* treatment option with great success.

This is just one example of the many in my years at Sree Chitra. With the Institute's facilities, multiteam approach, quiet and less crowded work place, I continue to obtain vital clues even now into my over thirty years and third innings at our glorious institute with ample opportunities to do research, publish and develop vascular surgery in a modest manner.

Observe, record, tabulate, communicate. Use your five senses. Learn to see, learn to hear, learn to feel, learn to smell, and know that by practice alone you can become expert.

SIR WILLIAM OSLER

*The first half of the title incorporated by the editor

* CONGRATULATIONS *



Mrs. Remya K, PhD Scholar, Polymer Division was awarded **Best Paper Award** of KSCSTE in the subject Health Sciences for the paper titled '*Injectable hydrogels with inherent and consistent free radical scavenging property for cardiac applications*' presented in the 28th Kerala Science Congress held at Calicut, during 28-30 January 2016.



Dr P.N Sylaja, Additional Professor of Neurology, received the **National Lifetime Achievement Award** on Teachers day at the 90th National Annual Conference of the Indian Medical Association held at Delhi on 27th-29th December 2015.



Dr. Suresh Nair, Professor and Head of Neurosurgery, has been appointed as "**Secretary of World Federation of Skullbase Societies**" for a period of 4 years at the 7th International Congress of World Federation of Skullbase Societies at Osaka, Japan in June 2016.



Dr. Roopa Rajan MD, DM (Assistant Professor of Neurology) was awarded the **American Academy of Neurology International Scholarship Award 2016** on the research work titled "*Effect of Genotypic Variants on Decision Making, Response Inhibition and Impulsivity in Parkinson's Disease*". The research work was as part of her Post Doctoral Fellowship (Movement Disorders) in the Comprehensive Care Centre for Movement Disorders, Department of Neurology, SCTIMST under the guidance of Prof. Asha Kishore.



CHITRA'S STARS

* CONGRATULATIONS *



Ms. Manjula PM, PhD student, Department of Applied Biology (Experimental Pathology), BMT wing, has won the trainee award in the World Biomaterial Congress, held at Canada during 18th May to



Dr. Jayasree RS, Scientist E, Department of Biomaterials Science & Technology (Biophotonics & Imaging) has been admitted as a Fellow of Royal Society of Chemistry, London.



Mr. E Damodara Sarma, Technical Assistant (Anesthesia)-A, whose proposed name SWASTHY, was accepted for the new facility in the AMCHSS and was inaugurated on May 27, 2016.



Dr. Saravana Babu, 3rd year DM Cardiac Thoracic and Vascular Anaesthesia was awarded **Third Prize** in the poster presentation at the 10th Annual Perioperative and Critical care TEE workshop held at PGIMER, Chandigarh from 26th to 28th February 2016.



Dr. Saurabh Nanda, 3rd year MCh Cardio Vascular & Thoracic Surgery was awarded the **First Prize** in Poster Champ in the IACTSCON 2016 held in Lucknow from 18th to 21st February 2016.



Mr. Ansar EB, Research Associate, of Bioceramics Laboratory won the **Best Oral Presentation Award** in the MRSI Annual Meeting held Trivandrum on 2nd April 2016 for the paper titled " *Theranostic Approaches Using Superparamagnetic Nanoparticles*".



The achievements of an organization are the results of the combined effort of each individual

Vince Lombardi



* CONGRATULATIONS *



Dr. Ajay Prasad Hrishi P, Assistant Professor, Anesthesiology was awarded the **First Prize** for presentation 'TEE in Neuroanaesthesia' in the 10th Annual Perioperative and Critical care TEE workshop held at PGIMER, Chandigarh from 26th to 28th February 2016.



Dr. Manjusha N Pillai, 2nd year DM Cardiac Thoracic and Vascular Anesthesia was awarded **Second Prize** in the poster presentation at the 10th Annual Perioperative and Critical care TEE workshop held at PGIMER, Chandigarh from 26th to 28th February 2016.



Dr. Neeraj Tapadia, 3rd year, MCh Cardio Vascular & Thoracic Surgery was awarded the **First Prize** in Poster Champ in the IACTSCON 2016 held in Lucknow from 18th to 21st February 2016.



During an emergency, **Mr. Saju S, Jr** Technical Assistant (Electrical) & **Mr. Sreelal S**, Electrical Attendant, BMT wing have done commendable work with a sense of responsibility in managing the electrical power failure crisis on the night of 24th January, 2016, through early hours, 12:45 am, caused by the damage to underground electrical cable - which occurred outside the Institute during digging of road.

The Institute appreciates their active involvement at this moment of crisis, identifying the cause, taking alternative measures and providing the necessary assistance to the KSEB team in reinstating of 11KV Electrical power supply by 3 a.m., through back feeding using the available alternate overhead line. This timely action as well as their skilful application of knowledge on Electrical power system is also acknowledged.



The hands behind the cure are of those who care...



Can you provide some glimpses of the past and an outline of the nursing services?

When the Institute started, the nurses appointed were mostly from the defence services with the first Superintendent as Brigadier. S. Gopalakrishnan. The culture of discipline, that forms the key of the nursing services of Sree Chitra Tirunal Medical Centre, started from there. During the 1980s the patients admitted in the hospital would be discharged not before one week for any procedure so the staff had more time to deal with the patients, but now things have picked pace but that did not affect the competency. Around 1985 there were just 24 beds in the Cardiology medical unit with around 11 nurses assisting in just two procedures, two surgeries and two to four discharges. But today the bed number (medical + surgical) has nearly increased four times, the number of procedures have increased 10 to 15 times along with improved sophistication. So the nursing system becomes rigid and they do not get much time with the patients or their relatives. Even though the workload has increased, the nursing unit is capable to do the work well and they are committed too. The post-surgery and post-procedure care requires a skilled healthcare professional and the relatives are not competent enough to do it themselves. The nurses here are now highly qualified with many having post-graduation like MSc, MHA (Master of Hospital Administration) and some with MPhil/PhD showing that they are enthusiastic to update themselves not for the promotions but to equip themselves with more capability and skill and to project a much more advanced style of practice.

In SCTIMST most of the steps relating to patient care are handled by the nurses, for example even the collection of blood from the patients. Is there any particular reason

behind this practice?

Sree Chitra nurses' culture believes in comprehensive patient care. Once the patient is in the OPD or IPD the complete care of the patients is the responsibility of the assigned nurses. The purpose behind this is the uniqueness of the hospital. In other hospitals or multi-speciality centres, around 80% of the patients come for minor ailments. But this institution has very advanced and sophisticated specialties along with high-end equipment that are best handled by professionals.

What are the peculiarities of the patient care and nursing system of Sree Chitra?

If all over India nurses are rated, I am sure Sree Chitra nurses will secure top place with respect to their service, skill and knowledge; also for their participation in scientific paper presentations and the awards they won. There are two nurses with National Florence Nightingale award, five nurses won Indian Best Nurse Award and Sree Chitra also bagged the best Neuro-nursing unit award many times. In Sree Chitra, the nurses educate the family members about the post-surgical care that must be maintained at home after discharge in great depth with meticulous demonstrations of the details how to take medicines and injections. The patient-to-patient communication is encouraged. Individual needs of the patients in rehabilitation and the quality of life after the treatment is given importance and so patients remain motivated, as they have to work themselves towards living with enthusiasm and vitality.

The concept of healthcare is not caring for the sick but to provide optimum quality of life. Thus nurses' role is not only to perform her duty as a care

SPECIAL FEATURE

provider but also an educator and counselor. Along with this Sree Chitra nurses constantly attempts to be up-to-date with technological advancement in patient care and has immense cohesiveness, coordination and cooperation.

Who all were the people behind these transformations and what were the efforts taken by them?

The entire administration was helpful. The prominent role was of Prof. MS Valiathan and Brigadier. S. Gopalakrishnan by giving due importance to the nursing unit. Sree Chitra being a research institute, the nurses here were encouraged to do research and were granted 10 days special leave for paper presentation and attending conferences. This required them to interact extensively with clinicians and technicians that increased their competency. The entire faculty and administration has always been immensely helping the nursing unit to train and motivate them from conducting classes to organizing nursing conferences and workshops. Thus the nursing system is able to maintain its standard and quality as envisioned by the founding members.

What are the changes that can be made in the SCTIMST nursing unit in terms of technology and patient-care?

The most important change must be to come forward with research and evidence based practice. This would require competent research practitioners. The advanced nursing courses like MSc Nursing, M.Phil or PhD can improve the research base of the working nurses and then Sree Chitra can be a role model. More academicians must help with research that will improve the care, generate knowledge, improve the practice and develop confidence in working nurses. The next change must be to imbibe the information technology and making it into practice. This would not only help in paperless management but also improve the patient communications like real time home care management and rehabilitation.

What would be your advice to the present generation nurses?

The passion for care and work is still maintained in this institute. All the healthcare professionals including the doctors, technicians, senior and junior nurses, unit helpers, cleaning attendants' should work alongside with commitment. The nurses here have a lot of zeal; they even take up double duties and work on off days when needed. The nurses must be trained to maintain error free service, something that Sree Chitra has been practicing since the beginning. In the earlier times only having skill was sufficient, but today the concept has changed and quality care and evidence based nursing is considered as a requisite for attaining the best possible care. Today's nurse has to have excellent interpersonal relationship and communication skills blended with remarkable knowledge and abilities to ensure superior patient care, finally culminating in better patient satisfaction. Inevitably, the hands that cure are of those who care and we have them in plenty!

NATIONAL FLORENCE NIGHTINGALE AWARDEES



Mrs. Sudarsa K

Year of Award: 2012

Mrs. Sudarsa K served SCTIMST for 33 years from 1980 to 2013

Specialty: Neuro Nursing



Dr. Sudhamani Amma S

Year of Award: 2014

Dr. Sudhamani Amma S served SCTIMST for more than 37 years from 1978 to 2016

Specialty: Cardiac Nursing

The Sree Chitra Family fondly remembers their compassion, hard work, discipline and commitment to healthcare and hope it will inspire many in the profession

Florence Nightingale Award: The Florence Nightingale awards are given to the outstanding nursing personnel employed in Central, State/UTs. The Florence Nightingale Awards carries Rs. 50,000/- cash, a certificate, a citation certificate and a Medal.

Feature photo credits: Ms. Sulfath TP (Biochemistry)



NEWS ROOM



IIPH Delhi and Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Trivandrum tie-up for Master of Public Health (MPH) programme

MPH to be offered in academic year July 2016.

Trivandrum / New Delhi 29 January 2015: Indian Institute of Public Health, Delhi (IIPH – Delhi), a constituent unit of the Public Health Foundation of India (PHFI) and Sree Chitra Tirunal Institute for Medical Sciences & Technology (SCTIMST), Trivandrum [An Institute of National Importance under the Department of Science and Technology, Govt. of India], signed a formal Memorandum of Understanding (MoU) for offering Master of Public Health (MPH) programme at the Indian Institute of Public Health– Delhi.

The MoU was signed by Professor Sanjay Zodpey, Vice President and Director – Public Health Education, Public Health Foundation of India, New Delhi and Director – Indian Institute of Public Health, Delhi and Professor Asha Kishore, Director, SCTIMST, in Trivandrum. As part of the MoU, IIPH-Delhi and SCTIMST will also be offering PhD program in Public Health, adding to its academic portfolio that already includes the Integrated MSc & PhD in Clinical Research, the Post-Graduate Diploma in Public Health Management, several distance learning and short-term training programs.

experiential educational stress management program, which includes Mindfulness Meditation, Mindful Yoga, Mindful Breathing and other brief Stress Management techniques. Benefits of mindfulness-based techniques include enhanced self-awareness, greater ability to relax the body and release physical tension, improved attention and concentration, ability to deal with stressful situations more effectively, greater ability to empathize and to cope with one’s emotions, among many others. Grab the opportunity to master this ‘stress reliever’ on all Thursdays between 4.15-6.30 pm at SWASTHY, AMCHSSS.



In connection with the inauguration of SWASTHY at AMCHSS campus on 27th May 2016, **Yoga & Meditation classes** were started from 30th May 2016 onwards and the 3rd batch is going on. The timings are from 5.10-6.10 pm on all Monday, Wednesday and Friday. All are welcome to unite, gain control over mind and body and be SWASTH!

The Birth of Runners Club

It was on a working day, soon after the Walkathon 2015 event, inspired and initiated by our dynamic ‘runthusiastic’ colleagues, an informal Chitra Runners and Cyclists Club (CRaCs) was formed during the first week of May 2015. Started as regular holiday run, the members now gather for daily morning run/cross training practices such as cycling and swimming at Kanakakunnu Palace/Kowdiar Square.

Our motto is ‘Run away from diseases, not LIFE’



Our day starts here...



A proud owner of Schnell cycle..



Uses of Mindfulness

- Reduces depression and anxiety
- Prevents relapse of depression
- Helps stress management
- Helps management of substance use problems
- Helps better patient care
- Helps growth of the brain

Dr S Krishnan, Associate Professor, Psychiatry Department, Thiruvananthapuram Medical College, conducts ‘Mindful Life Management’ an



After the First Trivandrum Marathon!



SWASTHY

*You Care for Them,
We Care for You*

If someone asks what are the key institutional assets; the answer is, without doubt, its employees!

Providing the right space and time to blend work and fun at workplace, creates the sense of engagement in the employees. Employee engagement is a workplace approach resulting in the right conditions for all members of an organization to give their best each day, committed to their organization's goals and values, motivated to contribute to organizational success, with an enhanced sense of their own well-being. Engagement is a positive attitude where an individual goes above and beyond the call of duty, so as to heighten the level of ownership, and to further the interest of the organization as a whole. Thus, employee engagement is regarded as the barometer that determines the association of the individual with the workplace.

With an empowering leadership providing a strong strategic narrative about our Institution, where it has come from, and where it is going now, along with an appealing management, which reinforces employees as central to the Institution, to be involved, listened and invited to contribute their experiences, expertise and ideas, creating organizational integrity, showing trust and fairness based on mutual understanding or promises and commitments, our Institute is ready to soar even higher in its triumphs.

One among the different steps in that direction was to commission a new facility (SWASTHY), exclusively for the employees on May 27, 2016 by the Honorable President, Shri KM Chandrasekhar, in the presence of

our beloved Director, Prof. Asha Kishore and other staff of the Institute.

SWASTHY, which stands for Sree Chitra centre for Wellness, AcademicS, Training, Health & Yoga, housed at the AMCHSS premises has space for a variety of activities as clearly indicated in the name itself. A brief architectural dissection of this structure reveals the following²: The total area occupied is roughly 22500 sq. feet distributed in four floors. The basement floor (~500 sq. feet.) will have an office of the SCTIMST Employees Co-operative Society Ltd. The ground floor is marked for the Staff Cafeteria (~7000 sq. feet). In the first floor, there is spacious Convention Hall (~5000 sq. feet) along with Senior Residents' Study Room (~750 sq. feet). The second floor will occupy a Wellness Centre with separate facilities for Gym and Yoga (~3200 sq. feet). In addition, an office for CSR/Endowment activities is also planned in the top floor (~400 sq. feet).

While the name SWASTHY can be interpreted in many ways, for us it represents blending of Hope, Welfare, Harmony, Prosperity, Well-being, and Peace, all in one place. To rephrase an old quote, this has now become a facility of the employees, by the employees and for the employees!



*Be stubborn about your goals,
and flexible about the methods*

¹SWASTHY building photo courtesy: Dr. Bejoy Thomas (IS & IR)

²Input from Civil Engineering Division



Welcome to Sree Chitra Family...



Shri. V. K. Girijavallabhan, IA & AS

(Senior Deputy Director &
Chief Financial Advisor)

Shri V.K. Girijavallabhan belongs to the 1995 batch of the Indian Audit and Accounts Service. He had started his service as Assistant Accountant General in the office of Accountant General (A&E) Kerala and served there in different capacities from 1997 to 2000. He joined Kerala Water Authority on deputation in 2004. He was Director in the Office of the Principal Director of Audit (Scientific Department) Delhi Branch, Mumbai. He had also audited the Indian embassies in South Korea, China and Mongolia in 2010. As an AG he was posted to Manipur and then in Nagaland in 2011. In January 2013, he joined as Principal Director of Commercial Audit & ex-officio Member, Audit Board, Bangalore, and was responsible for the audit of all Defence public sector undertakings in the country. During this period he had undertaken the audit of World Food Program at Panama, Honduras and El Salvador. He had introduced computerization process of Pension, Provident Fund, Pension Information System with SMS facility to pensioners and reforms in revenue enhancement in different institutes. He has published two papers one in WEDC Loughborough University, United Kingdom another in a National Agency.



Dr. Ajay Prasad Hrishi, MD, DNB, DM

Assistant Professor, Neuroanesthesia Division
Department of Anesthesiology

Dr. Ajay Prasad Hrishi joined SCTIMST in January 2016 after completing MD in Anesthesiology and Critical Care from Rajiv Gandhi University of Health Sciences, Bangalore, and DM Neuroanesthesia from SCTIMST. He has also worked Junior Consultant, Anesthesiology and Critical Care, Ananthapuri Hospitals and Research Centre, Trivandrum (June-Dec, 2012).



Dr. Lynda V Thomas, PhD

Scientist D, Division of Tissue engineering and
Regenerative Technologies, BMT Wing

Dr Lynda V Thomas joined the SCTIMST in February 2016. She completed her PhD from this Institute in 2012 and later joined as a Fulbright fellow at the Biomedical Engineering Department at Duke University, NC, USA in 2014 where she worked on the developing 'a differentiation niche'. She is a certified internal auditor for ISO 13485, and has received Biomedical Engineering Society Innovation and career development award, USA (2014) and also the Young Scientist Award by the Govt. of Kerala in 2011.



Coming together is a beginning.

Keeping together is progress.

Working together is success.

Henry Ford



Orientation program for the newly admitted students: Jan 7, 2016



OUR DUTY

Bear in mind that the wonderful things you learn in your schools are the work of many generations. All this is put in your hands as your inheritance in order that you may receive it, honor it, add to it, and one day faithfully hand it on to your children.

EVENTS HOSTED BY SCTIMST

Republic Day Celebrations 2016



- Republic:** (a) a government having a chief of state who is not a monarch and who in modern times is usually a president (2): a political unit (as a nation) having such a form of government,
 (b) a government in which supreme power resides in a body of citizens entitled to vote and is exercised by elected officers and representatives responsible to them and governing according to law (2): a political unit (as a nation) having such a form of government.

Origin and Etymology of republic: French *république*, from Middle French *republique*, from Latin *respublica*, from *res* thing, wealth + *publica*, feminine of *publicus* public

Reference: <http://www.merriam-webster.com/dictionary/republic>

EVENTS HOSTED BY SCTIMST

Service awards: Serving for 1, 2 & 3 decades...



30 years of service

20 years of service



10 years of service

30/20/10 years of service (BMT wing)



25 years of service



EVENTS HOSTED BY SCTIMST

Health Hackathon 2016



Health Hackathon in action...



Enthusiastic participants, great mentors, expert faculty, resources of TIMED and Kerala Start Up Mission (KSUM), all converged together to ideate on problems and potential solutions to unmet clinical needs at SCTIMST-TIMED, the Technology Business Incubator of SCTIMST. Shri Rajesh Nair, of MIT Tata Center and Shri C Balagopal, Founder, Terumo Penpol mentored the event. Thirty-five shortlisted participants from all over Kerala attended the 2-day event, which initially went through problem identification, design-thinking sessions followed by team formation and solution strategizing. Access to rapid prototyping facility and fablab facility of KSUM was also made available. At the end of the event, the groups pitched their solutions before the entire audience. First and second prizes were sponsored by leading biomedical companies- Terumo Penpol and HLL LifeCare respectively and the third prize by KSUM.

EVENTS HOSTED BY SCTIMST

Indian Society for Blood Transfusion & Immunohematology: Feb 21, 2016



Indian Society for Blood Transfusion & Immunohematology is a National organization for Blood Transfusion Medicine, Blood Banking & Donor motivation. Objectives of the society are to give awareness about the need for blood to society, safety and adequacy of blood and correct utilization by clinicians. Department of Transfusion Medicine organized 25th annual meeting and CME of Kerala Chapter of Indian Society of Blood Transfusion & Immunohematology on 21 Feb 2016 at Hotel Chaithram in association with Kerala State AIDS Control Society.



You can donate whole blood as frequently as every 90 days (3 months)
Every blood donor is given a miniphysical, checking temperature, body weight, blood pressure, pulse and hemoglobin to ensure it is safe to give blood.
Each whole blood donation may help as many as four people.
Blood cannot be manufactured. It can only come as a gift from people like you.
Approximately 28,000 units of blood products are transfused at Sree Chitra annually.

EVENTS HOSTED BY SCTIMST

National Science Day Celebrations: Feb 28, 2016



Speakers & Participants...



Every year since 1987, National Science Day is celebrated on February 28. On this day in 1928, **Sir C.V. Raman** discovered the famous "Raman Effect", about scattering of light. He was awarded Nobel Prize in physics for this discovery in 1930. Main objective is to bring science in the forefront through celebration of the national science day, inculcate scientific temper and take pride in the scientific achievements of the country. The programmes relating to the "National Science Day" range from a day, to month or even longer, either beginning or culminating on February 28.

Research Partners Workshop: March 1, 2016



Workshop on Geospatial Technologies: March 9, 2016



A workshop was organized during March 9-11, 2016 at Achutha Menon Centre for Health Science Studies (AMCHSS) to sensitize public health professionals (especially the young practitioners and junior/middle level faculty members) on the scope and potentials Geospatial Technologies in Public Health Practice and Research. This was done with support for this workshop was obtained from the Natural Resources Data Management System (NRDMS) program of the Department of Science & Technology (DST), Government of India.

EVENTS HOSTED BY SCTIMST

First Phase of R&D Projects of the TRC: April 4, 2016

TRC deliberations



Technical Research Centre (TRC) for Biomedical Devices with mission mode research and development programs with translational potential. This is one among five such initiatives of Government of India, through Department of Science and Technology to strengthen the core areas of Science and Technology.



TRC LOGO release

First Phase of R&D Projects of the TRC: April 4, 2016



TRC Participants: 2016



TRC Kit release



TRC 2016 Team with RC Members

The TRC at SCTIMST is aimed at making biomedical device technology more effective in the innovation space through public private partnerships and will concentrate in the areas of Cardiovascular devices, Neuroprosthetic devices, Hard tissue devices (Dental, Craniofacial and Orthopedic segments), In vitro diagnostics and Biological/ combinational products.

EVENTS HOSTED BY SCTIMST

Hand Hygiene Day: May 5, 2016



Clean ICU (First Prize): CS-ICU



Clean ICU (Second Prize): NS-ICU



Clean Ward (First Prize): CS-Ward



Clean Ward (Second Prize): CM-Ward

In 1846, a 28 year old German-Hungarian doctor named **Ignaz Philipp Semmelweis** while working in the Obstetrics Department of University of Vienna, after much thinking along with his own experimentation came to a startling conclusion that hand to hand contact between doctor and patient caused puerperal disease, but the weight of authority stood against his teachings. In 1865 at the age of 47, he suffered a breakdown and was taken to a mental hospital, where he died. Ironically, his illness and death were caused by the infection of a wound on his right hand, apparently the result of an operation he had performed before being taken ill. He died of the same disease against which he had struggled all his professional life.



Read more at <https://www.britannica.com/biography/Ignaz-Philipp-Semmelweis>

National Technology Day Celebrations: May 11, 2016



“The National Technology Day is symbolic of our quest for scientific inquiry and technological excellence, and a translation of that quest into an integrated scientific, societal and industrial approach. It marks not only our technological innovations but their successful commercialization making the fruits of painstaking research available to the people.”



Theme: Technology drivers of start-ups

Twenty-one trees were planted to represent the 21 new technologies initiated under TRC

EVENTS HOSTED BY SCTIMST

International Nurses Week Celebrations: May 6-12, 2016

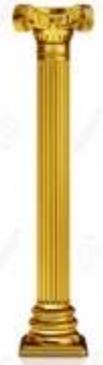


May 12, 1820: **Florence Nightingale**, also known as founder of modern nursing, was born. The International Council of Nurses commemorates this important day each year with the production and distribution of the International Nurses' Day (IND) Kit. The IND Kit 2016 contains educational and public information materials, for use by nurses everywhere. The IND theme for 2016 is: **Nurses: A Force for Change: Improving health systems' resilience**. We encourage nurses everywhere to make extended use of the **Nurses: A Force for Change: Improving health systems' resilience** kit throughout the year, through individual action and group activities.

Read more at http://www.icn.ch/images/stories/documents/publications/ind/IND_kit_2016.pdf



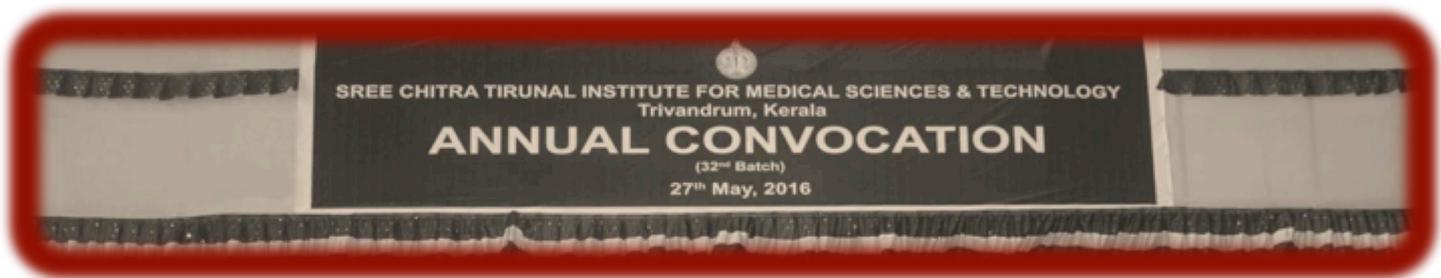
Inauguration of SWASTHY: May 27, 2016



*The Civil Engineering team that tirelessly worked for completion of this project,
SWASTHY!*

EVENTS HOSTED BY SCTIMST

Annual Convocation 2016 (32nd Batch): May 27, 2016



Annual Convocation 2016 (32nd Batch): May 27, 2016



Chief Guest: Dr. Arvind Panagariya



Guest of Honor: Prof. P. Balam



Institute President: Shri KM Chandrasekhar



Dean: Dr. Kalliyana Krishnan V



EVENTS HOSTED BY SCTIMST

International Yoga Day: June 21, 2016



Yoga is an ancient physical, mental and spiritual practice that originated in India. The word 'yoga' derives from Sanskrit and means to join or to unite, symbolizing the union of body and consciousness. Today it is practiced in various forms around the world and continues to grow in popularity. Recognizing its universal appeal, on 11 December 2014, the United Nations proclaimed 21 June as International Yoga Day by [resolution 69/131](#). **International Yoga Day** aims to raise awareness worldwide of the many benefits of practicing yoga.

“Yoga does not change the way we see things, it **transforms the **person** who sees”**

BKS Iyengar



LAUGHTER IN LABS

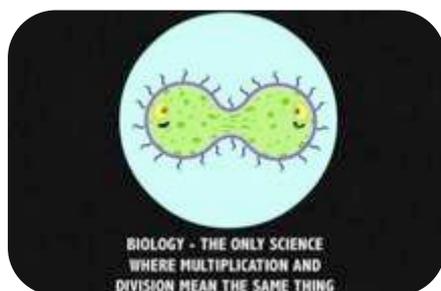
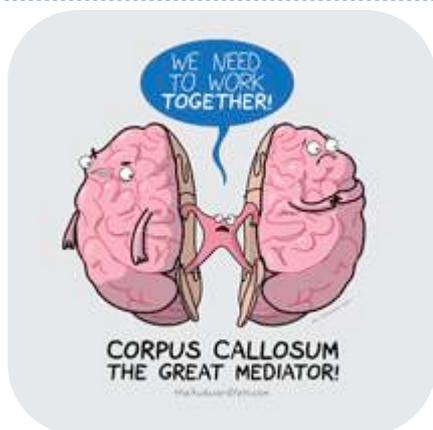
Humboldt's Stratagem

Joseph-Louis Gay-Lussac was an illustrious French chemist, remembered for, amongst many other achievements, his law relating the combining volumes of gases-an important advance in atomic theory. He was assisted in his work by the young Alexander von Humboldt. Their experiments necessitated special thin-walled reaction vessels, which had to be procured from Germany. Humboldt applied his native ingenuity to the problem of evading customs duty on the imports, which at that time was exceptionally steep. He instructed the German glass-blowers to seal the long necks of the vessels and label the containers: *Handle with care-German air*. The French *douaniers* had no instructions concerning the duty on 'German air' and so let the consignment through. Humboldt and Gay-Lussac cut the ends off the sealed vessels and proceeded with their experiments.

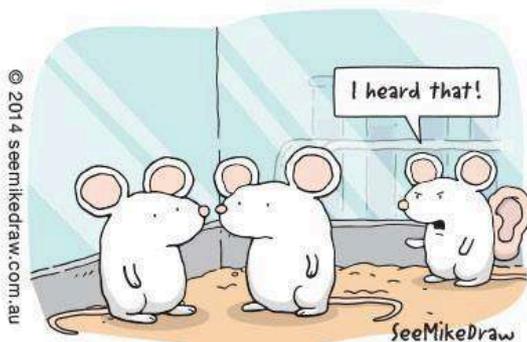


Friedrich Wilhelm Heinrich Alexander von Humboldt (1769-1859)

Adapted from Eureka and Euphorias



Adapted from Internet, compiled by Dr. Srinivas Gopala, Ms. Dhanya Krishnan & Mr. Anand CR



A BIOLOGIST, A CHEMIST, AND A STATISTICIAN ARE OUT HUNTING. THE BIOLOGIST SHOOTS AT A DEER AND MISSES 5FT TO THE LEFT, THE CHEMIST TAKES A SHOT AND MISSES 5FT TO THE RIGHT, THE STATISTICIAN YELLS "WE GOT 'EM!"

THINK LIKE A PROTON. ALWAYS POSITIVE.



AWARD OF GRANTS

Congratulations

The **World Diabetes Foundation** has awarded a grant of US \$ 250, 541/- to **Dr K R Thankappan** of AMCHSS to implement the **Kerala Diabetes Prevention Program** in collaboration with the Kudumbasree Mission of Govt. of Kerala.

The Government of Kerala has provided a grant of Rs. 4,95,560,60/- to AMCHSS for the prevention and control of non-communicable diseases in Kerala.

The Indo-German collaborative research project on **'Genomic variations in Parkinson's disease in Indian population'** has been awarded a grant of US \$ 299,992/- by the **Michael J Fox Foundation, USA**, to conduct the research. This is the second time the two collaborators have won this coveted research grant.

Principal Investigator (India): **Dr. Asha Kishore**, Professor of Neurology, SCTIMST, Kerala.

Principal Investigator (Germany): **Dr Manu Sharma**, University of Tubingen.

The project titled **'The Role of NMDA and Dopamine receptors in the Spinal Pain Pathways'** has been awarded a DBT grant of Rs. 107,28,400/- over 3 years. This project will explore the molecular mysteries of pain memories in the spinal cord.

Principal Investigator: **Dr. Pradeep Punnakkal**, Ramalingaswami Fellow (Scientist D) Molecular Medicine, Applied Biology, BMT Wing, SCTIMST.

Co Principal Investigator: **Dr. Anoopkumar Thekkuveetil**, Scientist F, Molecular Medicine, Applied Biology, BMT Wing, SCTIMST.

The scientific proposals approved for funding under **Science and Technology of Yoga and Meditation (SATYAM)** by the Department of Science & Technology, Government of India.

'Effect of yoga and meditation on neuropsychological functions and brain connectivity networks in mild cognitive impairment (MCI) and cognitively normal subjects'

Principal Investigator: **Dr. Ramshekhar Menon**, Associate Professor of Neurology, SCTIMST.

Co-Principal Investigators: Dr C Kesavadas, Professor, IS & IR & **Dr Bejoy Thomas**, Additional Professor, IS & IR, SCTIMST.

'Effects of Pre-operative "Pranayama" on the post-operative pulmonary functions and pulmonary complications in patients undergoing neurosurgery'

Principal Investigator: **Dr S Manikandan**, Additional Professor of Anesthesiology, SCTIMST.

Co-Principal Investigator: **Dr Smita V**, Assistant Professor of Anesthesiology, SCTIMST.

'Effects of yoga on motor cortex plasticity, motor learning and motor deficits of Parkinson's disease'

Principal Investigator: **Dr. Asha Kishore**, Professor of Neurology, SCTIMST.

Co-Principal Investigators: **Dr. Syam K**, Associate Professor of Neurology & **Dr. Roopa Rajan**, Assistant Professor of Neurology, SCTIMST.



For the beginners...

You need enough money to fund your passion. And if you achieve that, and follow your passion with diligence and intelligence, it will ultimately fund you.

Urijah Faber

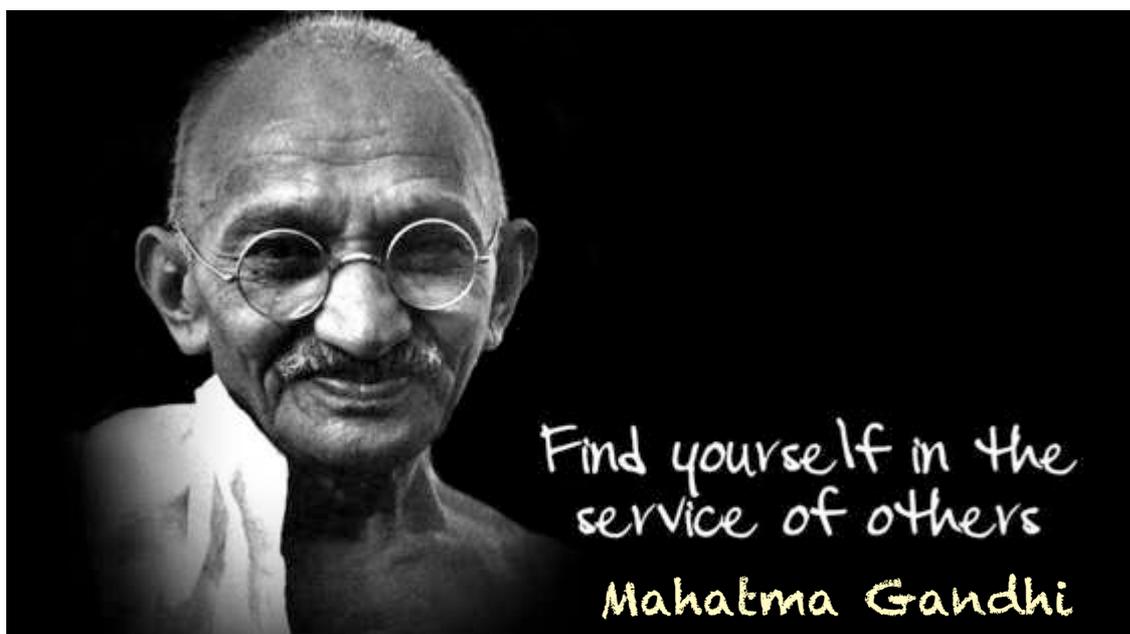
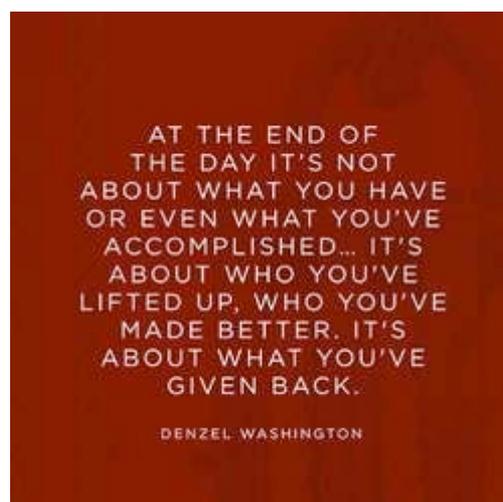
NO MONEY, NO MISSION; NO MISSION, NO NEED FOR MONEY- **SISTER GEVEROSE GERVAIS**

Generous gestures from The Royal family of Erstwhile Travancore & The State Bank of Travancore



The generosity of the members of the Royal family of Erstwhile Travancore, has come to our aid once again!. Thanks to them, Ms. Aspinwall Co., Cochin, has donated eight Philips CM-10 monitors to the Congenital Heart Intermediate ICU (CHIMCU) of our Institute. The Institute appreciates the efforts of Dr. Baiju S. Dharan and Dr. Sivasankaran S in making this possible.

The Institute appreciates the goodwill and generosity of the State Bank of Travancore for donating a amount of Rs. 10,00,000/- (Rs. Ten Lakh only) for the Cardiac Transplant Program of SCTIMST.



Generous gestures from SCTIMST employees (Past & Present)



The employees of SCTIMST have always been the strength behind our achievements, be it in pursuing incessantly to develop indigenous, cost effective medical devices, or meticulously performing biomedical research, or addressing issues that threatens the societal health as a whole, or precisely training the next generation of clinicians and scientists and adopting most modern procedures of comprehensive treatment & surgery for heart & brain. In order to support the altruistic tradition of subsidized services and free treatment to the financially poor and vulnerable patients, our employees (former & current) have stood with the Institute during its need and continue to do so. These gestures are important not only with regard to its significance, but also to the spirit of Unison in the Sree Chitra Family, during challenging times.

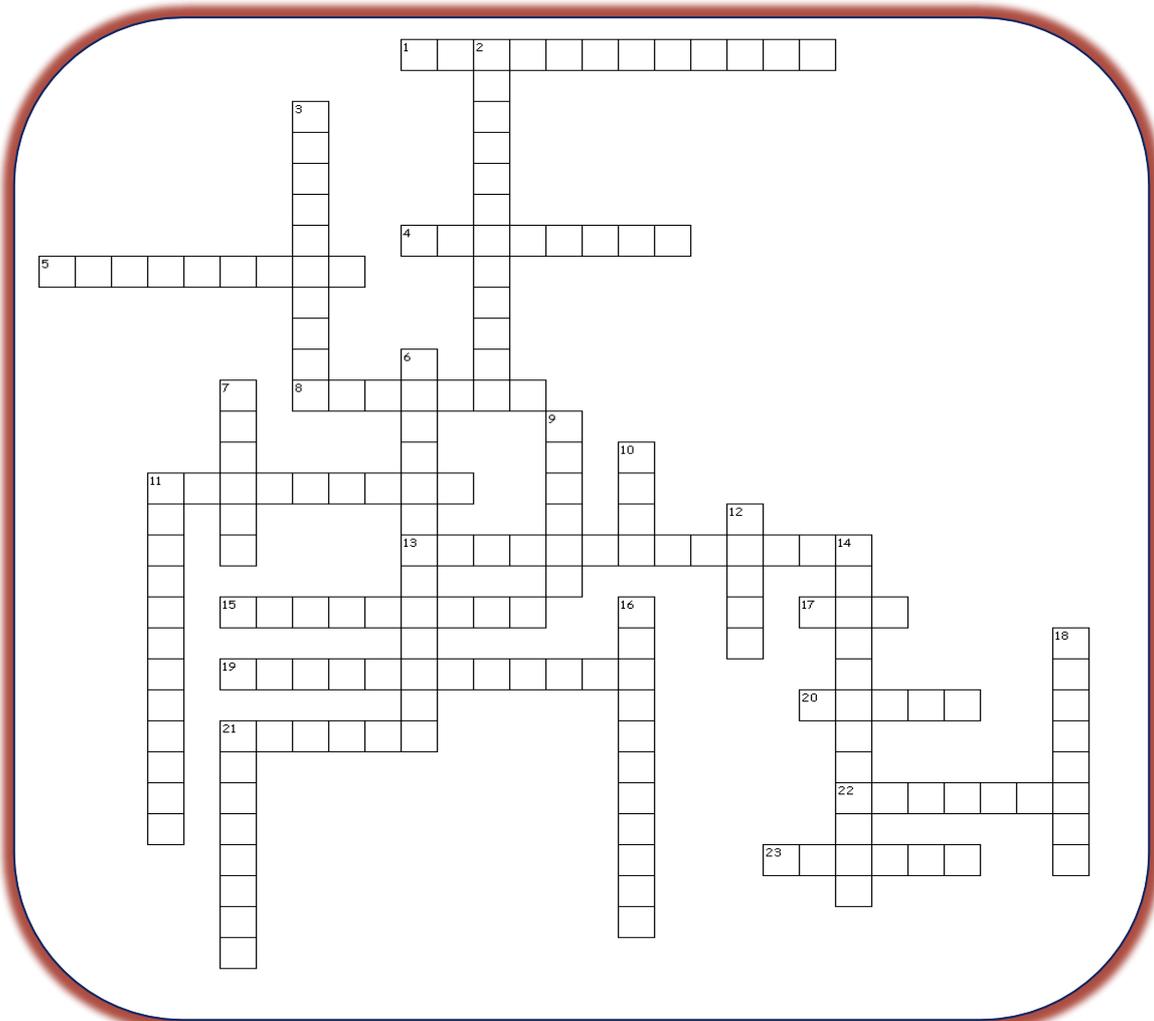
Image: Excerpts from letters of employees and thank you notes from the Director



The Director receiving a donation from the SCTIMST pensioner’s forum



CROSSWORD PUZZLE



Down

- 2. An emerging field combining therapy and diagnostics
- 3. A young doctor responsible for initiating hand hygiene
- 6. Contractile muscle of the heart
- 7. Latest Neurology sub-specialty clinic opened in SCTIMST
- 9. A close quarters battle weapon
- 10. Sanskrit name for unite
- 11. Metal alloy used in the TTK Chitra prosthetic heart valve
- 12. A facility encouraging innovation and entrepreneurship in medical technologies
- 14. A condition of high blood pressure
- 16. Who dedicated SCTIMST as an Institution of National Importance?
- 18. Balloon like bulge in the blood vessel wall
- 21. The first plastic surgeon (Indian origin)

Across

- 1. The powerhouse of the cell
- 4. The brand name of a product, developed at SCTIMST marketed by IFGL Ceramics
- 5. Inventor of the medical ultrasound
- 8. First Florence Nightingale awardee from SCTIMST
- 11. Means surgery
- 13. Who laid the foundation stone of AMCHSS?
- 15. Non-steroidal anti-inflammatory drug
- 17. The short name of protein involved in the breakdown of blood clots used for stroke patients
- 19. First identified general anesthetic discovered by William Morton
- 20. Small and expandable mesh tube used to treat blocked arteries
- 21. Otherwise called as brain attack
- 22. A new facility for the employees of SCTIMST
- 23. Area of the brain involved in language production

Please send the completed crossword puzzle to email: newsletter@sctimst.ac.in.
Name of the winners will be announced in the next issue



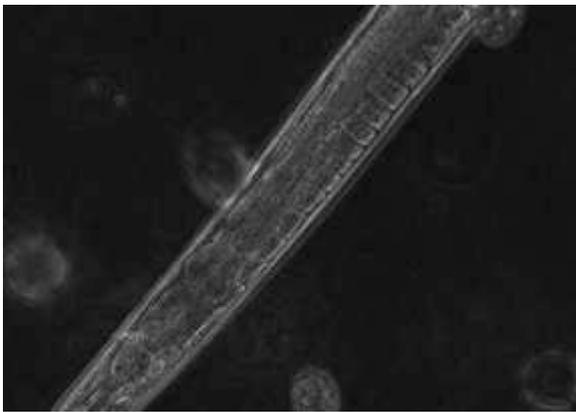
ART IN SCIENCE



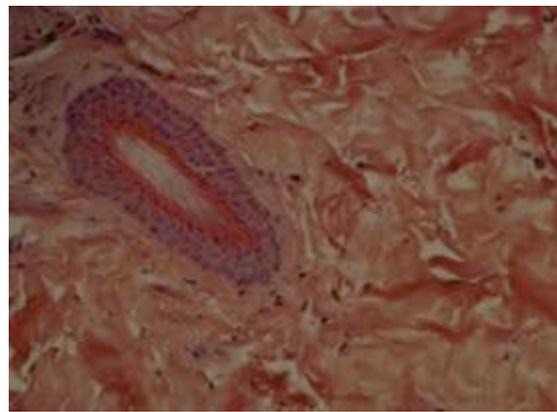
Circle of Willis: Dr. Soumya Sundaram



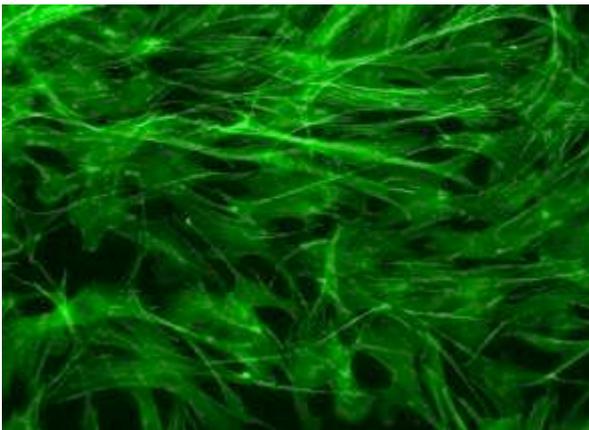
Phase contrast image of macrophage cells in culture plate: Ms. Dhanya Krishnan



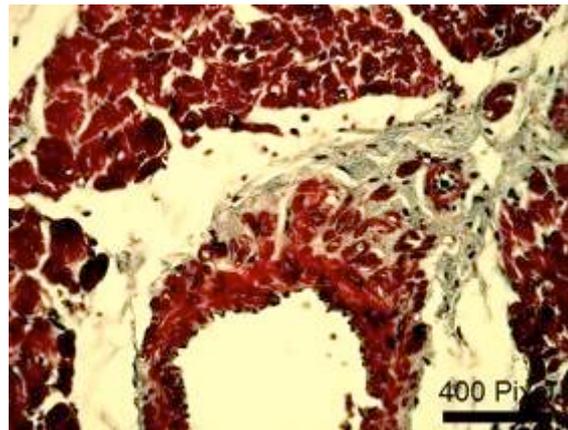
Microscopic image of *C. elegans* in culture: Ms. Agrima Nair



Rat skin highlighted by hair follicle, H & E staining: Ms. Manjula PM



Fluorescent microscopic image of actin filaments in chondrocytes: Dr. Neethu Mohan



Masson-Trichrome staining of rat heart: Mr. Ajay Godwin Potnuri

Entries are invited for a suitable artistic title for these scientific pictures. The winner entries for each picture will be announced in the next issue. Email: newsletter@sctimst.ac.in

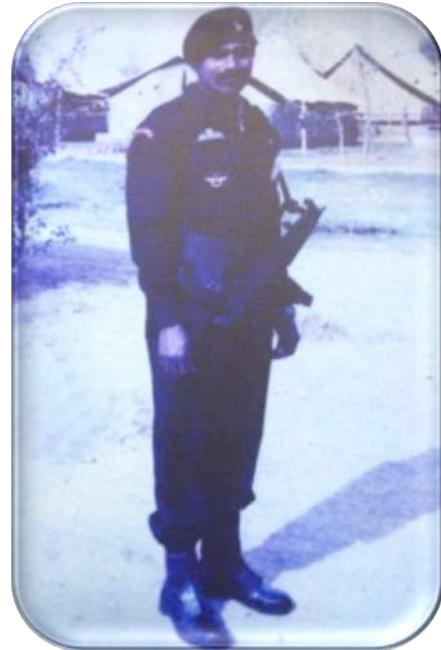


Between War and Peace...

From my childhood, I had developed a passion to join army, inspired by several stories of real men in uniform who had fought bravely for India in the second world war and including those that followed till early seventies. And there I was in 1978, attending the training camp that lasted 9 months (MRC, Wellington, Ooty), which I enjoyed thoroughly and earned the Best Cadet Medal. Later I was inducted into the Black Cat Commando after rigorous rounds of checks for physical and mental agility, and another round of training (3 months) for close quarters battle (CQB) weapons like Silencer Pistol, MP5 and assault and light combat weapons like AK47, PSG1 and Stun Carbine. I worked a commando from 1984-1990, which was like a dream job for my younger self. Yet, those six years of my life was with intense physical and psychological stress that one may otherwise not endure. Being young age and the fact that included in the elite-fighting group added with the everlasting spirit of serving for the integrity of our nation, which kept all of us in the team ready for action anytime. Most of our movements and details of the operation were known to only limited number of people, even in our own circles and I took part in many such acts over a period of time.

Once such operation (Black Thunder 2), which started at one night, when 40 of us were ordered to assemble and reach a specific site remain fossilized in my memory. This was such a rare occasion that so many people are called for a single encounter and all of us were in high adrenaline to fight albeit unpredictable danger looming. We were able to neutralize the initial threat and were on direct line with the high political/military officials of the country for timely updates. The fight continued and the following nights, reinforcements came and the cross fight continued for nine days. At last we were able annihilate the threat and gets things in control. All were aware of the fact that we had the same probability of succumbing to the attacks from the group, which we were fighting and the decisions that we made at the right moments kept us alive. A small emotional slip of mind would have made our role from a savior to victim.

I am happy to survive many such grave encounters and to one day share the experience to you all. Because of my services and valor, I was awarded the Sena Medal (1987). I was also invited to participate in the Republic Day parade celebrations held at New Delhi in the years (2012 & 2014) and I consider as my most memorable days of my life so far. The intense gravity of the situation during the time you come face



to face with terror and your ability to regain your mental strength after the initial shock is highly demanding. The possibility that your inaction could put your comrades' life in danger and the indomitable will to protect the integrity of our nation, blended with the emotional thoughts about the family at home, the lovely life one want to spend after service, all surges in the mind in a split second, and in the next moment, in front of an enemy, transformed me into a fiend from whom there is no escape. Nevertheless, amidst the real war on terror, the one that battled in my mind, between war and peace, transpired during those nine crucial days remain imprinted in my life forever. I continue to do my duty to secure our Institute and feel fortunate to serve this great Institution.

Jai Hind.

Sena Medal: Awarded for such individual acts of exceptional devotion to duty or courage as have special significance for the Army.



My Own Soul

A feel of solitude
 An air of loneliness
 Gushes into my room
 with a gentle fragrance
 Here he comes perhaps
 as a fretting breeze
 Alas!! who is he?
 Terrible surely, but ..handsome
 Silence pervades the room
 Door and the windows remain closed
 Only the sound of ticking clock
 and Lubb-Dubb of my heart prevail
 Nature around me- trees, animals
 seem to be in a graboil...
 I can hear the trees murmur
 the dogs growl as if
 they feel something strange
 as do I feel mysterious
 "Who the hell are you?"
 No answer came, but?
 Slowly but clearly a shadow
 Yes ! he is disclosing himself
 I have to believe my eyes
 But this is incredible
 It seemed I was blind
 For a moment in the midnight
 It was me! no one else
 Yes ! my own soul
 My own spark inside me
 Just tried to move away
 But I do need my soul..
 I just pulled it back..

Arun KM (PhD Scholar)
 IS & IR



The Awesome Bystander

Every human needs to visit a hospital at least once in a lifetime
 Eventually each one plays a role, a bystander or carer be !
 You are the soul, the very center of self for the patient
 A brave shield and sometimes the impregnable armour itself.
 You take all the brick bats, the cold shoulders,
 The harsh looks, and the unkind words as well;
 Most of the time you stand on one leg, hours together,
 Very often forget your food and drink,
 Sacrificing to get your patient through.
 You are sometimes too old to even fend for yourself
 Sometimes too young to hold on to drastic situations
 Sometimes you are too weak to distinguish between u and the ill;
 Often you bow and bow even to lose your dignity
 You are a brave but unsung hero, on a thankless job.
 Your pleading patience is tested till you lose it.
 It is awesome to see you plod to fulfill your social vows
 Tirelessly turning a blind eye to countless of your woes
 But take heart oh ! awesome one,
 Hamara desh tho budd raha hai ,
 We here believe that...
 Wishes are horses that should be rode to meet modalities
 Dreams are dreamt that they should become realistic realities
 Positive thoughts, actions is to lead to unbelievable totalities
 Duties and responsibilities to be without trace of impossibilities
 All this to make the world a humanistic, livable, glow of regalities.

Usha Kandaswamy

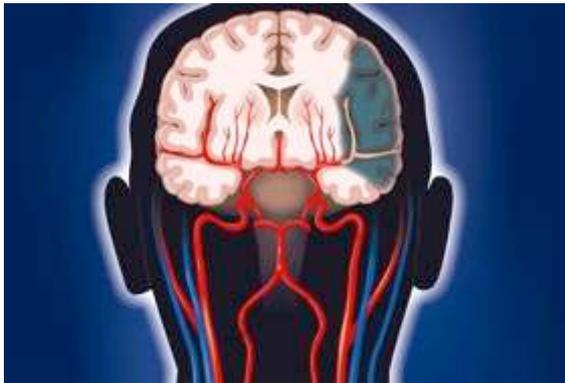
In Charge, Patient Management Services



Dr usha kandaswamy

If you cannot be a poet,
 be the poem !

Stroke ?



Strokes are caused by either a blockage of the blood supply to the brain, which is called *ischemic stroke*, or due to rupture of blood vessel in the brain called *hemorrhagic stroke*. Within minutes, brain cells begin to die. Early treatment reduces damage to the brain and saves many lives and reduces the severity of stroke.

Signs of a stroke include:

- Sudden weakness, paralysis or numbness of the face or limbs, particularly on one side of the body;
- Sudden loss of vision in the eye,
- Sudden difficulty talking or understanding speech;
- Sudden loss of balance and unsteadiness of walking,
- Sudden severe headache or a new type of headache with no known cause;
- Sudden drowsiness, confusion or loss of consciousness.

When you see a patient with any of these symptoms:



Think F.A.S.T.

- **F**ace: is there weakness on one side of their face?
- **A**rms: can they raise both arms?
- **S**peech: is their speech easily understood?
- **T**ime: to call the ambulance.

If an individual shows any of these signs of stroke, the patient should be taken to hospital immediately.

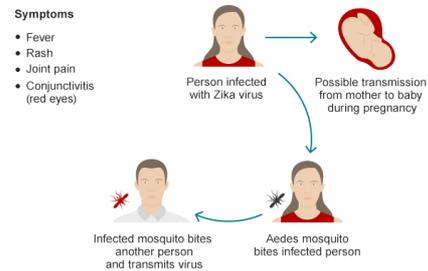
In ischemic stroke, you have only 4.5 hours to give the thrombolytic treatment or mechanical removal of the clot. Earlier the treatment less is the damage.

For emergency, call **0471-2524333** stroke helpline (SCTIMST)

Compiled from inputs from Dr. Shylaja PN

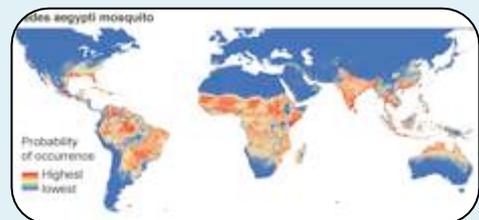
What happens in West travels East...

Zika virus transmission cycle



Zika can be transmitted through blood, but this is an infrequent mechanism. The virus has also been isolated in semen, but person-to-person sexual transmission is unconfirmed. Source: PAHO/WHO

Zika virus antibodies had been detected in the Indian population in the early 1950s.¹ Zika virus, which ravages in the Olympic bidden Rio and surrounding Latin American countries² was declared as a Public Health Emergency of International Concern (PHEIC) by the World Health Organization on 1st February 2016. It is often a mild, self-limiting infection, but for the fetus and the newborn. Around 7000 cases of microcephaly (newborns with head circumference less than the third percentile for age and sex), are confirmed in Brazil till now, which accounts for a prevalence of 4-8% of all births in the region in 2010-2015.³ The disease is spread by mosquitoes, the same species (*Aedes aegypti* and *A. albopictus*) that spread dengue and chikungunia in India.



Zika spread through sexual contacts had been reported. We all should abide by the National Guidelines on Zika Virus Disease, published on the website of the Ministry of Health & Family Welfare (www.mohfw.nic.in) The main recommendations are the strengthening of our health surveillance system, adoption of integrated mosquito vector control strategies and limiting travel to the Latin American countries, especially by women who are pregnant and those who plan to conceive soon.

Smithburn, K. C., Kerr, J. A. & Gatne, P. B. Neutralizing Antibodies Against Certain Viruses in the Sera of Residents of India. *J Immunol* **72**, 248-257 (1954).
 Bogoch, I. I. et al. Anticipating the international spread of Zika virus from Brazil. *The Lancet* **387**, 335-336 (2016).
 Triunfol, M. Microcephaly in Brazil: confidence builds in Zika connection. *The Lancet Infectious Diseases* **16**, 527-528 (2016).

Compiled from inputs from Dr. Biju Soman



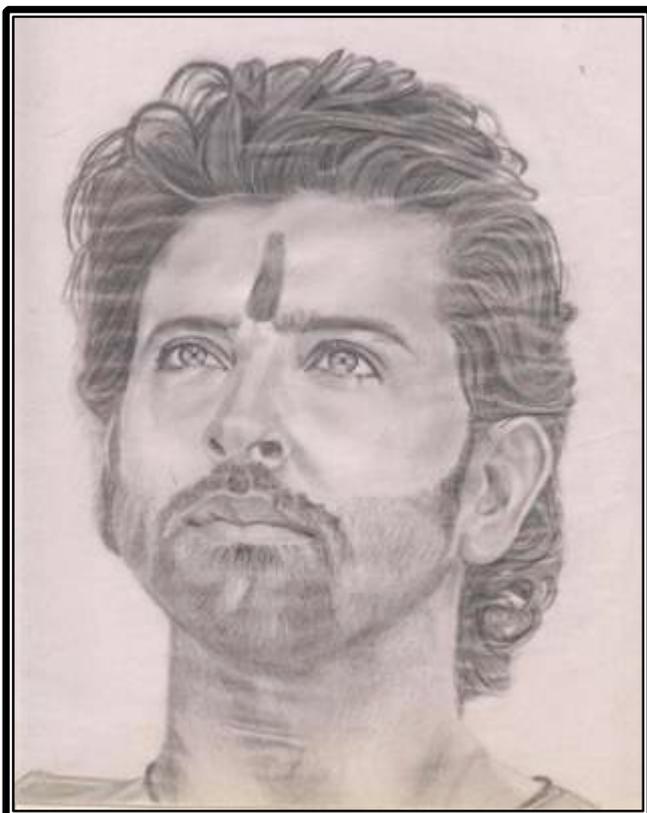
ARTERIA



Ganesha By Mr. Anto Davy (DCE)



The Fall of Asura By Mr. Allen Sam Titus (DCMC)



Agneepath Hero By Ms. Dhanya Krishnan (Biochemistry)



For a Change, Cherry on Floor
By Ms. Mahalaxmi Ganjoo (Neurology)

CAMERA IN ACTION



Wild Figs by Ms. Mahalaxmi Ganjoo



Solitary Fisherman by Dr. Srinivas Gopala



Pillars of Hope by Mr. Arun KM



A New Beginning by Ms. Bhavya Bharathan



Mystic shell by Dr. Manoj Komath



In Safe Hands by Dr. Sachin J Shenoy

"It's all automatic. All I have to do is press the button. It's a camera that every amateur buys.
[pause, points to his head] It's all in there." HELMUT NEWTON



HOMAGE

Dr. Noshir Hormusjee Wadia (1925-2016)



Dr. Noshir H Wadia, internationally acclaimed Neurologist, Father of Indian Neurology and recipient of the Padma Bhushan from the Govt. of India, passed away on 10-4-2016. He served our Institute with great distinction as its President from 1997-2002.

Born in 1925 to a Parsi family of modest means, he graduated from Mumbai's Grant Medical College and Sir JJ Hospital with a degree in general medicine. Through his teaching, he has attracted medical students to neurology and is now recognized as a mentor to hundreds of practicing neurologists globally. He has treated thousands of patients with care and concern laced with elegant bedside manners. Those who met him invariably came away impressed by the depth of his knowledge of neurology and science and the natural courtesy he displays toward people from all walks of life.

He has been the recipient of many awards which he has accepted humbly. On January 26, 2012, the Government of India recognized his services to neurology by conferring the Padma Bhushan award to him.

Anybody who had shared space with him feels that he was a caring doctor, an excellent teacher, a researcher, and above all, a good human being. The Institute pays homage to the memory of Dr. Noshir H Wadia and remember his contributions to the growth of the Institute with immense gratitude.

Winter in the Village



Inspired by a greeting card received in 1994 from Chicago

Srinivas Gopala

Editor's Dilemma

Publishing a magazine
Is no picnic
If we print anecdotes funny
People say we are silly
If we don't, they say
We are too serious
If we prioritize articles



From other departments
We are too lazy to write ourselves
If we don't, we are
Too fond of our materials
If we don't print contributions,
We fail to appreciate true genius
If we do print them, others say
The page is filled with rubbish
Now, most likely someone will say
We took this from another magazine
And... we did!!!!

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or scan the QR code
for linking to the
homepage

