



PRESS NOTE

Inauguration of

- **Advanced Comprehensive Clinical Training and Simulation Center (ACTS-YEN)**
- **YU-IOB Centre for Systems Biology and Molecular Medicine**
- **Regenerative Medicine and Stem Cells Centre**
- **Robotic Surgery Unit**

@ Yenepoya University on 30th of July, 2016.

Yenepoya University a 'Deemed to be University' Recognized by the University Grants Commission, Govt. of India. The creation of the University was sponsored by IAE (Islamic Academy of Education), a trust headed by Mr. Yenepoya Abdulla Kunhi. Yenepoya University is also the first unaided Deemed University in the district of Dakshina Kannada, Karnataka. Yenepoya University has four constituent colleges; Yenepoya Dental College, Yenepoya Medical College, Yenepoya Nursing College and Yenepoya Physiotherapy College. Yenepoya University has been accredited with “**A**” **Grade** by the National Accreditation and Assessment Council (NAAC).

Our University has taken the challenge of training young students to become dynamic leaders, who will take our institution to the forefront of our great nation. One of the initiatives that we are now planning as part of our relentless efforts to surge forward several new infrastructural projects were undertaken in our university. This is again a massive effort to train our young doctors and other healthcare professionals in skills to attain competence in patient care.

Advanced Comprehensive Clinical Training and Simulation Center (ACTS-YEN)

Yenepoya University Simulation Center – Yenepoya was an initiative towards University’s vision of providing and promoting excellence in clinical care, student training and comprehensive patient care, with safety and satisfaction.

Simulation center aims at helping the beginners to mitigate errors and maintain safety. By providing complete virtual environment, ACTS YEN provides reproducible and on demand access to patients and clinical experience resulting in more skilled and safe training.

This unique center is housed in the vast place covering 5000 sq feet at Emergency Medicine Department with state of art infrastructure. It is also well equipped with unique facilities including: Anatomage Table, a technological masterpiece, very first in India, offering an opportunity to learn anatomy in a unique manner. This Center is a unique and the largest state of the art simulation facility in India with the current version simulators.

High Fidelity Simulators, a brilliant technology that can mimic anatomy and hemodynamic physiology of human body helping detailed virtual learning. The center houses a variety of high fidelity simulators including infant, paediatric, adult and maternal fetal simulator. As added features, it can also imitate clinical and medical conditions such as heart attack, shock, trauma and many more.

In addition, Center also contains virtual reality simulators like endoscopy trainer, laproscopy trainer, cathlab, ultra sound, Ophthalmic viewers allowing the surgeons to practice skills to perform invasive surgeries including cardiac valve replacements, transthoracic ultra sound and many more. This unique initiative was Yenepoya's stepping stone towards excellence to enable graduates, post graduates, degree students practicing general physicians, specialists to attain perfection in their technique resulting in optimum safety and satisfaction.

Advanced Research Centers

1. Yenepoya University & Institute of Bioinformatics Joint Center for Systems Biology and Molecular Medicine (YU-IOB, CSBMM), at Yenepoya Research Center

Yenepoya University Institute of Bioinformatics- Center for Systems Biology and Molecular Medicine at Yenepoya Research Center is an academic research center jointly established by Yenepoya University Mangalore and Institute of Bioinformatics, Bangalore. This unique initiative is one of its own kind in Mangalore, fostering several activities to solve clinical problems of the country. Being established in 2016, this center has state of the art mass spectrometers to enable discovery and validation of biomarkers and therapeutic targets for diseases.

This well-structured lab includes professionally trained team, including mass spectrometrists, molecular biologists, data curators and programmers. Every member in this team are known for their utmost determination to give the best out of this lab. Scientists at the center carry out breakthrough research in diverse fields of biology. Center also owns the pride of publishing several research papers in various peer reviewed journals of international repute

Center is also known for its research collaborations with reputed national and international research laboratories. By understanding the need of learning, center also provides training programs for students and faculties.

With these break through achievements, YU CSBMM promises to bring out more and more discoveries and scientists in the coming future that will make the country proud. This is the first such facility in this region having this version of equipment's for "Omics" research.

Stem Cells and Regenerative Medicine Center at Yenepoya Research Center (SCRMC-YU)

Stem Cells and Regenerative Medicine Center of Yenepoya Research Center at Yenepoya University is a proud initiative of Yenepoya to foster cutting edge research in the area of stem cells, regenerative medicine and tissue engineering.

SCRMC-YU being the focal point for research, it is housed in vast 3000 square feet area with state of art Equipments. SCRMCYU aims at achieving the leadership in area of stem cell and regenerative medicine research in India by collaborating with international partners. It also focuses on evolving translational stem cell research for regenerative medicine by facilitating several educational, training and outreach programs to the enthusiasts.

The Center emphasizes on culturing stem cells and their differentiated counterparts from humans and rodents, characterizations of stem cells and its derivatives using molecular techniques. Center is driven by internationally trained faculties and research scholars and also proud to house the Secretariat of Institute Committee for stem research. In the coming years, Center believes to progress in the field of stem cell research and aims to promote breakthrough by supporting research enthusiasts all over the nation.

Robotic surgery Center (RSC)

Robotic surgery, or robot assisted surgery, has been a break-through technology in the field of medicine, allowing the doctors to perform complex procedures with high precisions.

Being one of the most expensive yet most effective technique, it has been rapidly adopted by hospitals in US and Europe. Being available at very few centers in India, Yenepoya owns the credit to be very first center to have this technique in Dakshina Kannada. After rigorous efforts and determination, Department of urology and oncology has succeeded to perform surgeries using this intervention.

Robotic Surgical system includes a camera and mechanical arms with surgical instruments attached to them. The surgeon can easily control the arms while seated at a computer near operating table. It gives magnified, high definition, 3D view of the surgical site which makes it more reliable technique to operate.

This technique has eased a lot of surgeries that seemed impossible and Yenepoya strives hard to perform several such operations in the near future. Such advanced surgical facility, will be made accessible to poor and needy patients from Karnataka and India for free or at an highly subsidized cost.

These facilities will be inaugurated on 30th July, 2016 at 11.30 am by the Hon'ble Governor of Karnataka, Shri Vajubhai Rudabhai Vala and the function will be presided over by Honb'le Chancellor of Yenepoya University Mr. Yenepoya Abdulla Kunhi.

All are welcome

Advanced Comprehensive Clinical Training and Simulation Center (ACTS-YEN)

This is a unique Center and the largest state of the art simulation facility in the country with the current version simulators. Yenepoya University Simulation Centre was conceptualised in 2016. ACTS- YEN is a major step towards Yenepoya University's vision of providing and promoting excellence in clinical care, competency based health professions education, ethical student training and paving the road towards improved patient care, safety and satisfaction.

BENEFITS OF SIMULATION TRAINING

Integrating simulation, in graduate and post graduate curriculum, should facilitate more ethical training with least harm and discomfort to patient. Multi-disciplinary & team training for emergency situations will result in better team dynamics, communication and behavioural skills and more realistic training. Simulation based learning helps to mitigate errors and maintain safety in medical field where there is zero tolerance for any deviation from the Standard protocols. It provides opportunity for training to be conducted for inter-professional team of health providers rather than in isolation. The simulation centre - ACTS YEN provides reproducible and on-demand access to patients and clinical experiences through the simulators and task trainers.

FACILITIES OFFERED AT ACTS YEN

The centre is housed in the Emergency Medicine Department Building on the 8th floor. It boasts of a state of the art infrastructure, centrally air conditioned complex spread over more than 5,000 square feet, well equipped with a wide range basic task trainers to high fidelity mannequins, anatomage and virtual reality simulators, an indoor auditorium with capacity of 250 and two debriefing rooms.

The Anatomage Table- A technological masterpiece - *Anatomage*, first one in India offers an opportunity to learn anatomy in a very different & unique manner. It provides three dimensional virtual dissection of the human body. It is also a powerful radiology workstation, tool for surgical & pathological case review.

High fidelity simulators incorporate computerised mannequins that closely mimic anatomy & hemodynamic physiology of a human body. The centre houses a variety of high fidelity simulators including infant, paediatric, adult (Metiman and HPS) and Maternal Fetal simulator. These can imitate clinical and medical conditions such as heart attack, shock, trauma, normal & difficult labour, post partum haemorrhage, drug overdose just to name a few . The mannequins respond to drugs, procedures (like intubation) and actual equipment (like defibrillator). Advanced resuscitation equipment, medications, anaesthetic

gases and imaging monitor display capability are some of the essentials incorporated into the design of the Simulation Centre.

The *Virtual Reality Simulators* like endoscopy trainer, laparoscopy trainer, cathlab, ultra sound, Ophthalmic and Oscopic viewers allows trainees or surgeons to practice procedural skills to perform minimally invasive surgeries, including bronchoscopes, upper and lower gastrointestinal endoscopies, cardiac valve replacements, transthoracic ultra sound and so on. The **blue phantoms** mannequins allow training for regional anaesthesia.

Beneficiaries include health professional – graduates, post graduates, degree or diploma students to practicing general physicians, specialists and super specialists, nursing faculty as well as para-medical members of team as well as health professionals.



Human Patient Simulator Anatomage Table



Trauma scenario with Metiman

Stem Cells and Regenerative Medicine Centre (SCRMC-YU)

SCRMC-YU is the new initiative of Yenepoya University under Yenepoya Research Centre. This centre has been conceived in 2016 to foster cutting-edge research in the area of stem cells, regenerative medicine, and tissue engineering. SCRMC-YU acts as a focal point for information and stem cell research activities in the campus, as well as, collaborative activities with various institutes in the country. The centre is housed in 3000 square feet area and is comprised of state-of-the-art laboratories and equipments for culturing stem cells and their differentiated counterparts from humans and rodents, and carrying out the in-depth characterizations of stem cells and stem cell derivatives using molecular techniques and various mechanistic studies. Dedicated full-time faculties who are internationally trained in reputed stem-cell institutes and full-time research scholars are the main work force of this centre. This centre also houses the Secretariat of the Institutional Committee for Stem Cell Research (IC-SCR) and takes an active role in coordinating/organizing IC-SCR meetings along with the external members for the assessment and approvals of Stem Cell related projects. The mission of this centre is the advancement of stem cell research and support breakthroughs in the area via faculty interactions, research support, and education.



YU-IOB Center for Systems Biology and Molecular Medicine

As an extended arm of Yenepoya Research Center, the YU-IOB Center for Systems Biology and Molecular Medicine is an academic research center jointly established by Yenepoya University, Mangalore and Institute of Bioinformatics, Bangalore to initiate cooperative and collaborative activities, which would address scientific and clinical problems of relevance to the country. This center was established in 2014 for planning and carrying out multidisciplinary science and fostering research collaborations between clinicians, practitioners of traditional medicine and scientists using advanced OMICs platforms. The center is equipped with state-of-the-art mass spectrometers to carry out proteomic and metabolomic investigation to enable discovery and validation of biomarkers and therapeutic targets for human diseases. The major equipment in this center includes Orbitrap Fusion Tribrid (Thermo Scientific) and QTRAP 6500 (SCIEX) mass spectrometers. The team of YU-IOB CSBMM is composed of mass spectrometrists, molecular biologists, data curators and programmers who are employing high-throughput genomics, proteomics, metabolomics and molecular biology tools to maximize discovery with intent for translation. Scientists at the center are carrying out research in diverse fields of biology including but not restricted to infectious diseases, inherited diseases, cancers, traditional medicines, big data analysis, and biological databases. The scientists from the center have published research papers in various peer-reviewed journals of international repute and have also established research collaborations with several national and international research laboratories. The center also offers training programs to students and faculty in the field of proteomics.



State-of-art mass spectrometry facility at Center for Systems Biology and Molecular Medicine

ROBOTIC Surgery Centre

Robotic surgery, or robot-assisted surgery, allows doctors to perform many complex procedures with precision, flexibility, and control than conventional techniques. Robotic surgery is usually associated with minimal invasive surgery — procedures performed through small incisions. It is also sometimes used in certain traditional open surgical procedures. Using robotic surgery, surgeons can perform delicate and complex procedures that may have been difficult or impossible with other methods.

The most widely used clinical robotic surgical system includes a camera arm and mechanical arms with surgical instruments attached to them. The surgeon controls the arms, while seated at a computer console near the operating table. The console gives the surgeon a magnified, high definition, 3-D view of the surgical site. The surgeon leads other team members, who assist during the operation.

Robotic surgery with the *da Vinci Surgical System* was approved by the Food and Drug Administration in 2000. The technique has been rapidly adopted by hospitals in the United States and Europe for use in the treatment of a wide range of conditions. In India, this system is available at only a few reputed hospitals.

Yenepoya Medical College Hospital, Yenepoya University, has made this advanced facility available for the first time in Dakshina Kannada District, in the Department of Urology and Oncology in highly subsidised cost or in many cases almost free. Currently, these two departments are performing surgeries using this technology on a regular basis. This is a first medical college in the state to implement such advanced surgical facility in Coastal Karnataka region; and by a private deemed to be University.

