



SATHYABAMA

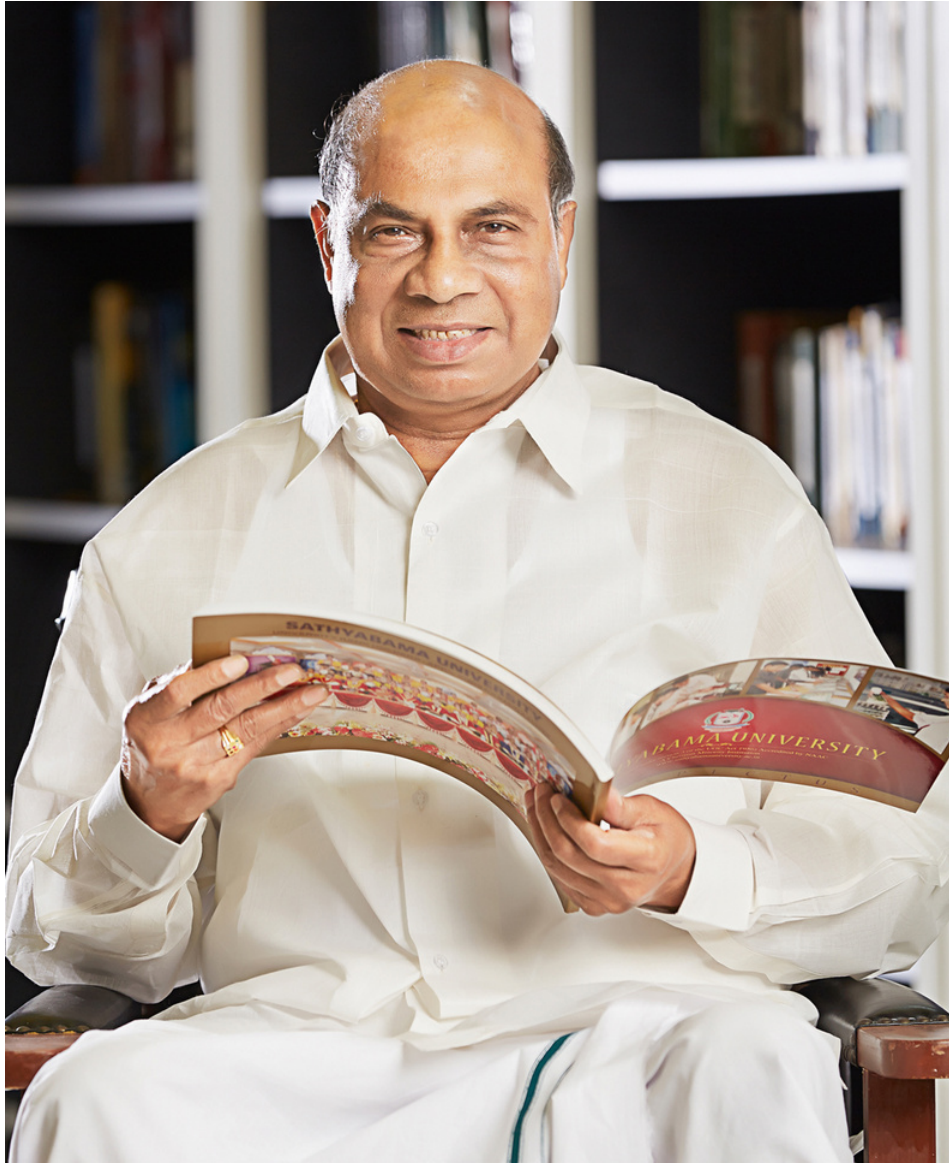
INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)



CONVOCATION REPORT 2021 - 2022

3rd September 2022

With the Blessings of



**Col. Dr. JEPPIAAR, M.A., B.L., Ph.D.
Founder Chancellor**

SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY

31st Convocation Annual Report – 2021-22 (3rd September 2022)

A Very Good Morning to one and all present here. I deem it a great privilege and honour to welcome everyone to the 31st Convocation of Sathyabama Institute of Science and Technology. I extend a very warm welcome to our distinguished Chief Guest, the recipients of Honoris Causa, Our honourable Chancellor Dr. Mariazeena Johnson, our President Dr. Marie Johnson, Vice Presidents, Pro Vice Chancellor, Registrar, Directors, Controller of Examinations, Deans, Heads of all the Departments, Faculty members, Members of our Board of Management, Members of our Academic Council, Director CVRDE, Media reporters, Parents, and the Graduates.

We are very happy and honoured to have Dr. G. Satheesh Reddy, Scientific Advisor to Raksha Mantri, and former Secretary, Department of Defence R&D and Chairman DRDO as the Chief Guest for the 31st Convocation Ceremony. It is a great honour to have you today sir. I feel greatly honored to inform you that Honoris Causa degree will be conferred upon Dr. V Balaguru, Outstanding Scientist, Associate Director (MBT &TOT) & Project Director (Light Tank), CVRDE, DRDO and Thiru. Yuvan Sankar Raja, Famous Music Composer in Indian Film Industry for their outstanding contribution in their respective fields. On behalf of Sathyabama, I thank them for accepting the honour and congratulate them for the same.

On this 31st Convocation of Sathyabama, a total of 2667 graduates will be conferred with the degree, comprising 2258 Under Graduate students, 409 Post Graduate students and 153 Ph. D. Awardees.

I am happy to present before you a brief report about the progress of our Institution for the last one year 2021-22. In its pursuit for excellence, Sathyabama Institute of Science and Technology has made tremendous progress in terms of academics, research and innovation, Internationalization, employability and outreach.

With the blessings of our Founder Chancellor Col. Dr. Jeppiaar and the guidance of Madam Dr. Remibai Jeppiaar, and the leadership of our Chancellor Dr. Mariazeena Johnson and our President Dr. Marie Johnson the Institution has emerged as a leading university and achieved excellence in higher education and is growing as a benchmark Institution in the country meeting international standards.

ACCREDITATION, RANKING , RECOGNITION AND HONORS

Having acquired accreditations from NAAC for the Institution and NBA for the Programmes, the institution is getting prepared with the necessary data and reports for the next cycle of accreditation. The ABET, international accreditation for B.E-CSE, BE- EEE and B.Tech-Biotech for 2022-23 review cycle is in process.

Being a pioneer institution in the field of Engineering, Technology, Science, Arts, Dental Sciences, Pharmacy, Law, Management, Architecture, Allied Health Sciences and Nursing, Sathyabama has received very high visibility and has been recognized as an institution with excellent academic and research standards. The consistent efforts of the management, faculty and students, have helped in the achievement of the institution being ranked among the top 50 Higher Educational Institutions in the country in NIRF for the 7th consecutive year. This year the National Institutional Ranking Framework (NIRF), Government of India has ranked 43rd position to Sathyabama Institute of Science and Technology. Sathyabama is also ranked in the Band Excellent for Innovation by Atal Ranking of Institutions on Innovation Achievements.

QS World University Rankings, 2023 has ranked Sathyabama and it is one of the 41 Institutions in India ranked by QS in the Global Rankings and is ranked in 301-350 position by QS Asia University Rankings 2023. QS Stars has awarded FIVE STAR RATINGS to Sathyabama for its excellence in Teaching, Employability, Internationalization, Academic Development, Facilities, Inclusiveness, Social Responsibility and Environmental Impact. The Institution has also been ranked by Times Higher Education World University Rankings, 2022. Among the institutions in Asia, Sathyabama is ranked in 501+ by Times Higher Education.

Recognizing the contribution of Sathyabama towards Sustainable Development Goals of United Nation's Agenda 2030, Times Higher Education has ranked Sathyabama in good positions in the Times Higher Education Impact Rankings, 2022. Sathyabama has bagged good rankings for the initiatives taken in meeting 7 sustainable development goals including No Poverty, Good Health and Well Being, Reduced Inequalities, Climate Actions, Life below water, Life on Land and Partnership for Goals. Adding feather to the CAP, for SDG 14-Life below water, Sathyabama is ranked in 87th position at world level and 1st position at the national level.

The Institution is a member of EDCIL this year which provides a platform to Indian Institutions to recruit students from various developing countries and is sponsored by Govt of India.

NEW PROGRAMMES AND COURSES

Sathyabama Institute of Science and Technology is participating in e-VBAB (e-Vidhya Bharathi and e- Arockia Bharathi) Programme, an initiative of the Ministry of External Affairs for offering online programmes for students from African countries and is fully supported by Govt of India.

We have introduced 6 new degree programs in this academic year.

Sathyabama is offering 5 Online Programmes for MBA, M.A (English), B.Com, M.Sc (Mathematics) and BBA. This year we have applied for Distance Learning for the same Programmes.

Major curriculum revision has been initiated in all programmes.

The New Education Policy facilitates the institution to offer multi-disciplinary academic programmes focusing on the recent advances on Additive manufacturing, Industry 4.0, Smart Manufacturing, Cloud Computing and Artificial Intelligence, Cyber physical systems with integrated approach.

Opportunities are given to students to earn credits through Internships, Semester Abroad programmes, NPTEL and other MOOC courses and community engagement activities.

RESEARCH, PUBLICATIONS AND PATENTS

Continuing to address the global challenges with respect to social, economic and environmental issues, the Institution is involved in breakthrough research and innovation in the thrust areas of Science and Technology. More publications are made in Scopus and Web of Science indexed journals and in high impact factor journals. Publications in the Journals with high impact factor have increased year by year. Sathyabama has more than 12000 research publications indexed in the Scopus with the H-index of 81 and around 6000 publications in Web of Science with h index of 71. The total No. of Publications for the current year is 2200 with a highest impact factor of 13.4 and the School of Pharmacy earns the credits of making the Highest Impact factor publication this year. The highest numbers of publications were made by the Scientists of the International Research Centre. More than 300 Joint Publications have been made as an outcome of the joint research with International Research Organizations and Universities. Many faculty members have written Books,

Monographs and book chapters on various specialized subjects. Sathyabama is highly active in applied research with more than 300 patents filed, over 100 patents published, 125 patents including 10 German patents were granted. 25 patents have been successfully converted into products this year.

Our faculty members are involved in various sponsored research projects by agencies like MoE, DST, DBT, MoES, MoEF & CC, ISRO, DRDO, ICMR, UGC and AICTE. 59 New sponsored research Projects including STI Hubs and Agri Innovation Hubs worth 15 Crores were sanctioned by various Agencies in the academic year 2021-2022. Two major projects, namely Agri Innovation Hub for Holistic development of schedule tribe population in Anaicut block in Javadhu Hills, Vellore District, Tamilnadu and Science Technology and Innovation Hub in Kattumannar Koil, C, D Block, Cuddalore District, Tamil Nadu for SC Community are the noteworthy initiatives for the enhancement of livelihood of SC /ST community. The investigators involved in these projects will be translating the outcomes of the laboratory research in terms of products and processes developed to the welfare of the society.

With the existing infrastructural facilities, the various research centres and departments, consultancy projects are being taken. The Department of CSE, Civil, IT and Chemical have contributed towards major Consultancy activities. The Centre for Waste Management has translated its research outcome, a low-cost technology for biodiesel production from non-edible oil sources, promoting low carbon pathways and climate resilient industries. A Startup Company jointly with the Centre for Waste Management is transferring the technology to several individuals and organizations that are keen in setting up a Biodiesel plant for their transportation and fuel requirements. The Centre is now involved in development of a prototype for the production of Bioethanol from Agro Waste which is taken up as a Consultancy project.

INFRASTRUCTURE AND FACILITIES NEWLY ESTABLISHED

To provide avenues in the new research areas and a learning arena for academic advancements, we continue to develop and upgrade infrastructural facilities. Sathyabama Centre for Advanced Studies, a state-of-the-art facility with a total built up space of 2,40,000 Sq.ft is established. The Centre houses Artificial Intelligence Laboratory with Supercomputing facilities, DARE (Drone and Robotics Experimentarium) Lab consisting of Robotics Workstations, Swarm drones, Quadruped Robot, Humanoid Robot and autonomous

rovers, Advanced Characterization facility with HRSTEM, FESEM and XRD, Metaverse Studio with AR/VR kits, Makerspace with 3D printers, Media Centre with state of the Art Studio and Centre for Innovation and Technology Transfer which will facilitate several student and faculty start-ups. An Innospace Fab Lab which serves as a One Stop Place for all Idea to Prototyping needs for Students and Startups has been established at Sathyabama Technology Business Incubator. The Center for Ocean Research has been identified by the Ministry of Earth Sciences to establish the Ocean Field Research Facility. Such a unique facility was inaugurated in the name of our founder chancellor, Col. Dr.Jeppiaar by the Hon'ble Secretary of the Ministry of Earth Sciences, Government of India, Dr. M. Ravichandran on 11th March 2022. The facility spans around 10,000 Sq.ft with Aquatic Animal Husbandry and Algal Culture Facility for the Marine Biotechnological Studies, which will augment the research in the area of biotechnology. The institution has also focused on energy conservation and has taken initiatives to change to green and renewable energy. Biogas plant which can process 1 Tonne of food waste has been commissioned. About 750 kgs of food waste which is generated as a result of catering about 20000 inmates in the Institution is processed by the digester and yield biogas that can replace 3 commercial LPG cylinders every day. A 50 kVA Solar panel has also been installed as a measure towards adopting green energy.

Spanning from research, meeting the clean energy requirements, the institution also focusses on the infrastructural facilities promoting Sports and cultural activities to break the monotony of student and the staff fraternity. The recently established Open Air Theatre (OAT) is in full use and is supporting the departments in conducting cultural and theatre shows. Sathyabama Indoor Stadium was inaugurated on 11th June 2022 in remembrance of our Founder Chancellors birthday to emphasize the importance of sports and games for the healthy and well being of both students and staff of the institution.

An Automatic Weather Station (AWS) for measurement of surface meteorological and hydrological parameters has been installed and operational since 2021.

INNOVATION ECOSYSTEM

The Institution has a strong innovation ecosystem that has facilitated several start-ups. Start up Summits and Pitch decks were conducted to attract funds from the Angel Investors and Venture Capitalists. An agreement has been signed with Native lead foundation to support the Institution in the development of greater number of startups. 24 startup companies are under consideration for funding.

Awareness programme on Entrepreneurship, Innovation and Startups were organized for the students, faculties and research scholars to promote start up culture in the Institution. To encourage the students and faculties to develop their entrepreneurial interests, our management has provided 50 lakhs as seed fund this year. The innovative ideas are converted successfully into products and currently 22 products are ready for commercialization. Sathyabama TBI supports startups across the country working in the areas of Blue Economy and sustainability. The TBI in association with DST-TIFAC has been identified as TIFAC TAP CENTRE for Academic partnership and Technological intervention towards expertise of faculty members on Engineering, Aquaculture and Plastic Cluster. Sathyabama TBI has supported 26 Student Innovations in 3 successive editions of Startup summits organized this year.

Sathyabama Technology Business Incubator which was established with the support of DST – NSTEDB has been recognized as one among the Top 12 incubators by Startup TN, Government of Tamil Nadu in 2021.

PARTNERSHIPS AND COLLABORATIVE ACTIVITIES

Sathyabama has established partnership with 200+ International Universities and 50+ Industrial organizations for academic and research collaboration. Academic collaborative Programmes like Twinning Programme, Dual Degree Programme, Joint Degree Programme are initiated with the partnering Institutions. During the Academic year 2021-2022, 27 new MoUs were signed with international Universities and 21 MoUs with Industries.

Two faculty members from the School of Management Studies have visited Wszechnica Polska University in Warsaw, Poland under KA107 Erasmus Plus Faculty Mobility Project funded by European Union. 2 Faculty members from the Office of International Relations have participated in the Virtual Erasmus plus staff mobility for training at Transylvania University of Brasov, Romania. 2 faculty members from the School of Bio and Chemical have visited MAHSA University Malaysia on a faculty exchange programme from 23rd July to 8th August 2022. A faculty from the Department of Civil Engineering is undergoing a Research Mobility programme at University Technology Malaysia. 1 faculty from the Department of Aeronautical Engineering is doing his Post Doctoral research at United Arab, Emirates University.

Scientist from the Center for Ocean Research has been awarded the prestigious Takeda Fellowship in the International Center for Materials Nano architectonics, National Institute for Materials Science, Japan. Scientists and faculty are identified as Task Force and PAC members of various funding agencies. We proudly inform that a research scholar from the International research centre has been selected for SERB Overseas Visiting Doctoral Fellowship (OVDF) Program, to pursue research at Purdue University, under Indo-US Purdue Partnership Programme. He is one among the 25 research scholars selected from India amidst great competition. Research Scholars from Indonesia are coming to Sathyabama under ASEAN-India STI Cooperation for a period of six months, to pursue research under the mentorship of the Faculties of Department of Physics. Erasmus Plus agreements have been signed with some of the partnering universities in the European Union.

Center for Ocean Research jointly with Water & Steam Chemistry Division, BARC Facility, IGCAR has developed a closed loop cycle - aquaculture system for Green Mussel Larval Rearing to carry out the trails to establish a Common Antifouling Test Facility sponsored by BRNS, GoI.

Sathyabama Institute of Science and Technology is an academic center for initiating spoken tutorial training in association with IIT Bombay spoken tutorial program for the past 2 years. Nearly 1500 students get themselves certified on various Free and Open Source Software (FOSS) courses through this association every year. IIT Bombay spoken tutorial is a part of the National Mission on Education through ICT(NMEICT) by the Ministry of Education, Government of India.

Sathyabama has full-access to the Derwent Innovation Patent Search Engine which allows AI-powered analytics and supports the faculty and students to make faster and confidence decisions on their originality of intellectual properties.

EVENTS

We have conducted a National level Two Day Workshop on Quality Assessment and Accreditation in HEIs supported by NAAC.

NCSTC-DST funded COVID-19 awareness video exclusively featuring the Students and Faculty members of Sathyabama Institute of Science and Technology notifying the precautionary measures to be followed to protect ourselves from the deadly virus, in 23 languages was produced under YASH (Year of Awareness on Science and Health) programme. The video was created by the project investigators from 'Centre for Ocean Research' and 'Department of Visual Communication'.

Sathyabama Institute of Science and Technology organized an Exhibition on Science and Technology from 27th to 29th July 2022 supported by National Council for Science and Technology Communication, Department of Science and Technology, Govt. of India. More than 1100 school students from 24 schools (Government and Private) participated in various events conducted in the exhibition.

Our Institution was recognised as a Nodal Centre to organise the Regional Meet of IICs, Innovation Cell, Ministry of Education, Govt. of India on 21st July, 2021. Sathyabama was also one of the 75 Nodal Centres across India which hosted the fifth edition of Smart India Hackathon, supported by AICTE and MoE on 25th and 26th August 2022. 21 teams from across the country participated in the event.

OUTREACH

Societal outreach and community development activities for creating an impact in the society have been a regular agenda of our institution. To popularize science and technology for societal benefits, to create awareness on prevailing environmental and health issues and to promote skill development for livelihood enhancement, Sathyabama is consistently engaged in outreach activities. To implement the objective of societal upliftment, the institution has adopted 21 schools and 6 villages. Academic departments, Research Centres, NSS, Student Clubs and interested student volunteers involve themselves in several such outreach activities through various Student clubs. National and International Days of importance are observed and celebrated throughout the academic year.

FACULTY APPRECIATION AND RECOGNITION

Professors from the Department of Computer Science and Engineering were recognized as judges in the Toycathon 2021, an event organized by the Ministry of Education innovation cell and AICTE. Faculties from the School of Electrical and Electronics Engineering received the BEST FACULTY ADVISOR AWARD 2021 from IEI in recognition for their outstanding contribution and active involvement in promoting technical activities through IEI. A faculty from the department of electronics and communication engineering has been selected as a Mentor of Change by ATAL Innovation Mission, NITI Aayog, Govt. of India. A World Record was created by the faculties of the School of Computing for having conducted highest number of events during the pandemic. Department of Mechanical Engineering receives a real scale Industrial version of Shell and Tube Heat Exchanger to the Thermal Engineering Lab from M/s.Precision Equipments (Chennai) Private Limited as an Alumni

Engagement activity for the benefit of the students for a real time study. Few of our Faculty from the Department of Bio Technology are recognised as NPTEL Domain Scholars.

Two Scientists of Centre for Climate Change Studies, One Scientist from Centre for Nanoscience and Nanotechnology and one faculty from Department of physics have been selected for receiving the prestigious Indian National Science Academy visiting scientist (INSA) award to study marine biodiversity under climate change in Lakshadweep Archipelago in collaboration with researchers from ICAR-NBFGR, Lucknow. We are proud to have amongst us five scientists who are recognized as the top 2% Most Influential Scientists by Stanford University. One of our publications is recognized as the most downloaded chemistry paper by Springer Nature this year.

The expertise in the need of the hour specific research areas including material science, nutrition science and physiology, proteomics, neutron scattering and soft matter has ended up in the faculties of our institution, acquiring prestigious fellowships in world renowned institutions like Alexander Dubcek University of Trencin, Slovakia; Purdue University, USA, University of Kentucky; Tohoku University, Japan; University of Surrey, United Kingdom; Jülich Centre for Neutron Science (JCNS), at Heinz Maier-Leibnitz Zentrum (MLZ), Forschungszentrum Jülich GmbH, Germany. Horizon 2020 European Research Council Fellowship, JSPS Postdoctoral Fellowship, Post-Doctoral Fellowship under EPSRC grant-UK, Marie Skłodowska-Curie Actions – GneUS Postdoctoral Fellowship are a few to mention. Rufford Foundation, UK has funded a Small Grant for studying vulnerable electric rays in the east coast of India for the Climate Change centre. Scientist from Centre for Remote Sensing and Geoinformatics had received International award from International Centre for Theoretical Physics in collaboration with Institute of Physics and SPIE, Italy for his contribution on Laser remote sensing.

Scientists from the Centre for Nanoscience and Nanotechnology and Centre of Excellence for Energy Research have carried Inter-diffusion studies in compositionally graded coatings with borosilicate glass subjected to high temperature heat treatment to protect nuclear vitrification furnaces has also been intensively executed for nuclear industry applications. Scientists from Sathyabama and Ural Federal University (Russia) have jointly developed a novel method for industrial scale production of quaternary nanocomposites for diverse applications that has been recently highlighted in India Education Diary, a weekly magazine. Researchers in the Centre for Climate Change Studies have documented more than 10 marine species from

Lakshadweep, reported for the first time from India. More than 300 species including a new species of Amphipod from kovalam, Chennai has also been reported and a first-of-its-kind field manual from Chennai coast is under preparation. A book documenting more than 120 species of sea shells from Rameswaram has also been published. Through the Sathyabama Marine Research Station at Rameswaram, Carbon Sequestration research focussing seaweeds is also being pursued as a Climate resilient. Underwater images of anemone infestation in coral reefs captured in Lakshadweep found its way on the cover page of Current Science in the month of March 2022 issue. The Centre for Drug Discovery and Development, in association with InStem (Institute for Stem Cell Science and Regenerative Medicine), an autonomous institute of the Department of Biotechnology, Govt. of India and School of Biological Sciences (SBS), Nanyang Technological University (NTU), Singapore, have established a translational immunology research laboratory to test and develop newer molecules and potential vaccine candidates' using Virus like Particles (VLP) Platform. Also recently, the centre was successfully awarded with an ICMR-COVID-19 Task force project to study the role of mutations in the SARS Coronavirus proteins, in their structural and functional aspects, to understand the disease progression, severity and vaccine efficacy.

The institution earns laurels due to the committed and dedicated contributions of its faculties. The management respects the efforts taken by the staff and accolades them by bestowing awards. Every year faculty members are appreciated with cash awards for research publication in high impact factor Journals. This year 200 faculty members are selected for the award and they will be felicitated with cash price and certificate of appreciation on the Teachers day. Sathyabama has introduced Sscore- Sathyabama Score, a rating system to rate the performance of research and academic faculty. Faculty members who scored more points in Sscore are appreciated with cash awards and a Certificate of Appreciation.

STUDENTS PROGRESSION

If faculty are the strength of an institution, students are the pivot about whom the entire organization spins. The infrastructure facilities, the collaborations, the research venues, the sports facilities, the curriculum enhancement programmes, the training forums and many more provisions are given to the students for their upskilling and the students make best use of what is provided to them.

5 students have undergone an Internship at University of Texas at Dallas, USA during June-July 2022. 7 students went to University Malaysia Pahang, Malaysia on a Semester Abroad programme from march-July 2022. 23 students from the School of Bio and Chemical went to

MAHSA University, Malaysia on a two week Internship Programme. 9 students from the School of Biomedical Sciences of MAHSA University, Malaysia visited our Institution on a two week Internship Programme. 25 Students from the School of Law have completed a Certificate Course on International law and 11 Students from the School of Management Studies have completed a Certificate Course on Creativity and innovation conducted by UNIS University, Brazil.

One student from the School of Computing is selected to study one semester at University of Craiova, Romania, for KA107 Erasmus Plus Student Mobility Project which will be totally funded by European Union.

Students from the Department of Civil Engg and Mechanical Engg have received financial grant for study tour under the AICTE Youth Undertaking Visit for Acquiring Knowledge (Yuvak) Scheme and visited the ATAL TUNNEL . The students of Sathyabama are provided with opportunities to perform, compete and excel. It gives us pride when our students turn achievers in whichever event they participate. 4 teams from CSE/ECE got selected for Smart India Hackathon Grand Finale 2022

PLACEMENTS

Educate to empower. The success as a student is visible through the placement or higher education he or she is going to achieve. Sathyabama supports both.

Our students have been placed in top national and multinational companies. We are maintaining our high and consistent placement statistics over the years. 463 companies visited our campus last academic year and 94.26 % students have secured Job offers through our Campus Recruitment Program with an average package of Rs. 4.75 lakhs per annum. The highest package for 2021-2022 is 31 lakhs per annum.

Companies including Amazon, Cisco, Siemens, Cognizant, Capgemini, Deloitte, TCS, Wipro, IBM, Ernst&Young, HCL, Walmart, Hyundai Motor, Verizon, Accenture, Bank Of America, PWC, Godrej, FIS Global, Silicon Labs, Hitachi Vantara, Valeo and JSW Steels are among the prominent recruiters on the list.

HIGHER STUDIES AND SCHOLARSHIPS

- 833 students enrolled for higher studies in foreign Universities for the year 2021-2022.
- 22 students doing their Masters in Dental Surgery have received TATA Scholarship worth rupees 51.5.
- 4 students have received Pragati Scholarship worth rupees 2 lakhs
- The Centre for skill development has conducted 30 programmes on various fields and nearly 2000 students were benefitted from the skill development programmes.
- Our Institution in collaboration with **Anbu Foundation** provided 100% Scholarship for 500 meritorious students coming from economically weaker section of the society.

CONCLUSION

With the pleasure of delivering the convocation report let me once again take the opportunity to express my heartiest congratulations to the stars of this convocation function, the graduates who are receiving their degrees today. I congratulate the proud parents of the graduating students who have selflessly contributed to the development of their children. I also congratulate the faculty members who were behind the success of the students. I specially congratulate all the gold medalists for their achievement.

You are progressing to the next stage of your life. Most of you are already placed in companies, some of you will choose to become an entrepreneur and some of you would go for higher studies. An exciting and challenging future awaits you. I hope the University education has taught you all how to convert the challenges into opportunities and has equipped you all with the 21st century skills like creativity, critical thinking, collaboration, communication and leadership. As you advance in your careers, always strive for excellence and never compromise for mediocrity.

My best wishes to all the GRADUATES for a successful future. Jai Hind!

We thank all our stakeholders.....

- *Parents*
- *Teachers*
- *Students*
- *Industries*
- *Government Organizations*
- *Research Organizations*

for their continuous support

throughout our journey...

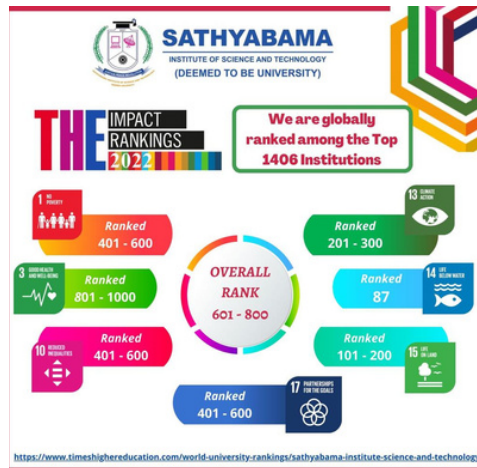
Rankings (2021 - 2022)



Ranked #301-350



5 Star Ratings by QS



Ranked #1001-1200

One among the 41 Institutions ranked from India

