SATHYABAMA
INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)

ANNUAL RESEARCH REPORT
2019-2020

With the Blessings of

Col. Dr. JEPPIAAR, M.A., B.L., Ph.D.

Founder Chancellor

Message

Dr. MARIAZEENA JOHNSON

B.E., MBA., M.Phil., Ph.D.

Chancellor

Dr. MARIE JOHNSON

B.E., MBA., M.Phil., Ph.D.

President

Sathyabama has become a globally recognized Educational Institution with excellence in higher education to international standards. Having bestowed with the state of the art infrastructure, world class research facilities and highly qualified teaching faculty, our Institution has become an epitome of excellence.

We are really proud for being recognized as one of the Top 5 Private Universities in India for Innovation, by ARIIA (ATAL Ranking of Institutions on Innovation Achievements) 2020, an initiative of Ministry of Education, Govt. of India to systematically rank Higher Education Institutions involved in high Quality research, Innovation and Entrepreneurship. We are also happy that Sathyabama is placed at 39th Rank among Universities in the Country by National Institutional Ranking Framework (NIRF) 2020.

It fills us with a sense of satisfaction and encouragement to see the progress of our Institution in terms of research for the academic year 2019-2020. We take immense pleasure in sharing some of the significant accomplishments of our University in the Annual Research Report, 2019-2020.

We acknowledge and appreciate the sincere efforts of all the staff members contributing to the progress of the Institution. We also congratulate the Team involved in the preparation of this Annual Research Report.

Foreword

Sathyabama's progress plan is designed with great emphasis on research, innovation and entrepreneurship as prime objectives. The Institution has achieved significant milestones during the year 2019-2020 as the outcomes of our effort to strengthen innovation and research. This Annual Research Report 2019-2020 serves as an evidence of our honest and systematic pursuit in the area of research and innovation and an expression of our commitment to transparency and accountability in all that we do.

Our Institution has been ranked in good positions by various National and International Ranking Agencies. We are happy to share the recognitions:

- Rank # 39 by National Institutional Ranking Framework (NIRF) in 2020 and also as top 50 for the 5th consecutive year among the universities in India
- Rank # 51-55, by QS India Rankings 2020 among Universities in India
- Rank #5 by ATAL Ranking of Institutions on Innovation Achievements (ARIIA) among the Private Universities in India

Sathyabama's focus on research has grown tremendously resulting in substantial increase in high impact factor publications, research grants and international collaborations. The University is continuing its research and social outreach programmes with a commitment for the welfare of the society. Research at Sathyabama addresses the Sustainable Development Goals of Agenda 2030, which requires the participation of individuals, institutions, countries and Governments in creating a better world free from poverty, hunger, health issues, inequalities, and providing access to quality education, access to clean water and sanitation, access to affordable and clean energy.

I am obliged to thank our staff and students for their contribution to our success. I take this opportunity to appreciate them for their unparalleled effort and support.

Dr. T. SASIPRABA, M.E., Ph.D.
VICE CHANCELLOR

Advisory Committee

- **Dr. T. SASIPRABA**, Vice Chancellor
- **Dr. E. LOGASHANMUGAM**, Pro Vice Chancellor
- **Dr. WILSON ARUNI**, Pro Vice Chancellor
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- **Dr. M.S.Godwin Premi**, Professor, School of Electrical and Electronics
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- **Ms.P.Lakshmi Priya**, Research Assistant, Centre for Academic Partnership & International Relations

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ABOUT SATHYABAMA

1. ABOUT SATHYABAMA

Sathyabama Institute of Science and Technology is one of India's premier Academic and Research universities that offers multi-disciplinary academic programmes in various fields of Engineering, Science, Technology, law, Dental Science, Pharmacy, Nursing, and Management. It is established under Sec.3 of UGC Act, 1956 and is been **Accredited with 'A' Grade by the National Accreditation and Assessment council**. The Institution persistently seeks and adopts innovative methods to improve the quality of higher education and is responsive to the changes taking place in the field of education on a global scale. This glorious Institution is functioning under the dynamic leadership of Dr. Mariazeena Johnson, Chancellor and Dr. Marie Johnson, President.

1.1 VISION AND MISSION

1.2 HIGHLIGHTS

- 100+ Crores worth Funded Research Projects
- Centres of Excellence in thrust areas of research working towards Sustainable Development Goals
- 80+ Patents granted
- 200+ Patents filed
- International Visiting Professors
- International Research Students
- Involvement in Community Development Initiatives
- Technological Solutions to Sustainable Societal Development
- Incubation facilities for startups and promotion of entrepreneurship
- 200+ Overseas Partners/ MOUs with Industries
- 350+ Companies Visit Campus for Placements
- Students participation in Exchange, Semester Abroad, Internship Abroad Programmes
- Scholarship opportunities for International Students and Researchers
- World class Infrastructure- investment in Innovation infrastructure/ Advanced Facilities/laboratories

RANKINGS

2. **RANKINGS**

Sathyabama's standing in rankings and ratings are excellent at National and International level. The Institution has been ranked in 39th position among the Universities in India by the **National Institutional Ranking Framework (NIRF)**, Government of India for the year 2020. Sathyabama is ranked one among the **top 50 Universities for the last five consecutive years**. Times Higher Education has ranked Sathyabama among the top Institutions worldwide. It is also been placed in good positions in the Times Higher Education's Subject Ranking for Engineering and Physical Sciences, Emerging Economies Universities Ranking and Young Universities Ranking, for the year 2020.

Sathyabama has been ranked among **Top 5 Private Institutions** in India for Innovation by ATAL Ranking of Institutions on Innovation Achievements **(ARIIA**) for the year 2020.

Sathyabama Institute of Science and Technology is positioned in 51-55 ranks among the Indian Institutions by **QS-India Rankings 2020**. Sathyabama is awarded with four-star ratings for Excellence by **Quacquarelli Symonds (QS)** and has received the maximum five-star ratings for Teaching, Inclusiveness and Facilities and four-star ratings for Employability and Innovation.

QS I- Gauge, a rating for Indian Universities by QS has conferred **Diamond Ratings on Sathyabama** in recognition of the Institution's excellence in various parameters including Teaching and Learning, Research, Facilities, Entrepreneurship and Employability. Recently the Institution has been ranked in 401-450 position by QS Asia Rankings 2020.

India Today has ranked Sathyabama in 23rd position among the Top Institutions in India, Times Engineering has given the 3rd rank for Sathyabama among the Top Private Engineering Institutions in India and 11th rank among the top Engineering Institutions in India for the year 2020. The WEEK Magazine has ranked Sathyabama in 9th position among the Universities in India and 5th among the Private Universities in south zone for the year 2020.

SATHYABAMA
INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)
www.sathyabama.ac.in

ISO 9001:2015

RANKINGS & RATINGS

INTERNATIONAL

THE WORLD UNIVERSITY RANKINGS

Ranked among Top Institutions Globally by Times Higher Education

- World University Rankings 2020
- World University Rankings by Subject 2020
- Asia Universities Rankings 2019
- Young University Rankings 2019
- Emerging Economies University Rankings 2019

QS WORLD UNIVERSITY RANKINGS

Ranked 51-55 Among Top Institutions in India

QS STARS RATING SYSTEM 2019

RANKED ASIA QS WORLD UNIVERSITY RANKINGS 2020

NATIONAL

ARIIA Among the top 5 Universities in India
ATAL RANKING OF INSTITUTIONS ON INNOVATION ACHIEVEMENTS

QS I-GAUGE INDIAN UNIVERSITY RATING DIAMOND

THE WEEK

Ranked No.

- 9 Among the Universities in India
- 5 Among the Private Universities in South Zone
- 37 Among the Multi-Disciplinary Universities in India

nirf NATIONAL INSTITUTIONAL RANKING FRAMEWORK
Ministry of Human Resource Development, Government of India

Ranked No. 39

Among Top Universities in India for the year 2020

Ranked Among India's Top 50 Universities for FIVE Consecutive Years

Ranked No. INDIA TODAY

- 1 Among the Private Universities for most patent granted by India Today 2020
- 23 Among the Top Institutions in India by India Today 2020

TIMES ENGINEERING
TIMES ENGINEERING INSTITUTE RANKING SURVEY 2020

Ranked No.

- 3 Among the Top Private Engineering Institutions in India
- 6 Among the Top Engineering Institutions in South Zone
- 11 Among the Top Engineering Institutions in India

ACCREDITATIONS

NAAC — Accredited "A" Grade by NAAC

AICTE — Approved by AICTE

NBA NATIONAL BOARD OF ACCREDITATION

RESEARCH AT SATHYABAMA

3. RESEARCH AT SATHYABAMA

Sathyabama Institute of Science and Technology is one of the Academic Institutions that gives more emphasis to research as it is aware of the significance of research for sustainable growth and development. 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.

Academic research is considered to be very important to offer solutions to the problems encountered by the Industries. Having understood the need for sharing knowledge between Industries and Universities, Sathyabama collaboratively work with many of the industries and the fruit of the synergistic effort are enjoyed by the Institution, Industry and Society.

Quality education and research are the twin objectives of the Institution that goes hand in hand. It has made huge investments in building research infrastructure, which is indication of its commitment to research. Sathyabama has 2 research parks namely International Research Centre and Col. Dr. Jeppiaar Research Park to translate innovations into product and technology.

Fig. 3.1. International Research Centre

Fig. 3.2. Col. Dr. Jeppiaar Research Park

These 2 research parks houses research centres carrying out research on almost all the major areas of science and Technology. The centres include,

- ☆ Centre for Nanoscience and Nanotechnology
- ☆ Centre for Energy Research
- ☆ Centre for Ocean Research
- ☆ Centre for Space Technology
- ☆ The Centre for Bioresource Research and Development
- ☆ Centre for Earth and Atmosphere Science
- ☆ Centre for Remote Sensing and Geoinformatics
- ☆ Centre for Robotics and Automation
- ☆ Centre for Quality Assurance and Non-Destructive Evaluation
- ☆ Centre for Waste Management
- ☆ Centre for Molecular and Nanomedical Sciences
- ☆ Centre for Laboratory Animal Research
- ☆ Centre for Climate Change Studies
- ☆ Centre for Drug Discovery and Development

Sponsored Research

The Research Centres are involved various sponsored and collaborative research projects worth more than 100 Crores funded by National Organizations like Indian Space Research Organization (ISRO), Department of Science and Technology (DST), Department of Bio Technology (DBT),

Ministry of Human Resource Development (MHRD), Ministry of Earth Science (MOES), Indian Council for Medical Research (ICMR), Indira Gandhi Centre for Atomic Research (IGCAR), Defense Research and Development Organization (DRDO), Board of Research in Fusion Science and Technology (BRFST), Ministry of Environment and Forests (MoEF), Combat Vehicles Research and Development Establishment (CVRDE) and other International Funding Organizations.

Research focusing on Sustainable Development Goals

Research at Sathyabama addresses the Sustainable Development Goals of Agenda 2030. The following are some of the research directions the Centres are focusing in

- Research relating to the Sustainable Development Goal -SDG 7, addressing the issue of Affordable and Clean Energy is undertaken by the Centre of Excellence in Energy Research funded by MHRD, working towards finding sustainable solutions to the need for energy. This Centre is focusing on research in energy storage and sustainable energy conversion materials, to address the challenges in the energy technologies that strive to fulfill the needs of increasing demand for energy, without affecting environment and due concern for reducing the carbon print.

- Research on nanomaterials, nanotechnology, nanocomposites, nanoelectronics, nanofabrication to develop clean, affordable, and renewable energy sources or develop products that consume less energy and cause less environmental pollution.

- Research addressing the most important Sustainable Development Goal -SDG-13 on Climate Change along with SDG 14-Life below Water. Impact of global climate change to marine organisms associated to various ecosystems like Coral reefs, Sea grass meadows, Intertidal zones, Mangrove ecosystem etc. through long term monitoring of selected coastal sites.

- Forecasting of weather and climate to meet the exigencies of the threats due to natural calamities and manmade deterioration of the environment. Research in Mari culture, Marine Technology and Engineering, Marine Ecology, Marine Nanotechnology, Marine

Biotechnology, and Marine Education is the focus of the Centre for Ocean Research which is working towards SDG 14.

- Research in the area of waste management, which works on the 3 R concepts: Reduce, Reuse and Recycle is undertaken by the Centre for Waste management at Sathyabama. This Centre, which is working towards the achievement of SDG 12-Responsible consumption and production and SDG13, has come out with a biodiesel form waste cooking oil and bio fertilizers from food waste.
- Research to discover novel drugs to fight against life threatening infectious diseases including tuberculosis (TB), Acquired Immuno Deficiency syndrome (AIDS), Dengue and non-infectious diseases including cancer, diabetes etc, which is addressing the SDG-3 Good Health and Well-being

Research facilitating resilience and adaptive capacity to climate related hazards, disaster preparedness against flood related disasters through remote sensing and geo informatics, addressing SDG 13

Marine Research Station

Apart from the Research Centres within the campus, Sathyabama Institute of Science and Technology has established a new Marine Research Station at Rameswaram to encourage research on cutting-edge marine ecology and climate change. The research station would be helpful to "conduct and organize studies related to the coastal and marine biodiversity conservation, and to understand the imp act of anthropogenic stressors on the marine ecosystems and associated organisms in the Gulf of Mannar and Palk Bay region. This initiative is successful with the support of the state forest departments, fishery department, NGO's and coastal communities and create awareness among youths towards marine conservation.

Technology Business Incubator

Sathyabama's Technology Business Incubator funded by NSTEDB - DST exclusively for the development and promotion of entrepreneurship in Marine Bio Resource and Engineering and Information Technology has been instrumental in supporting many incubatees and their transformation into successful entrepreneurs. It facilitated establishment of several start-ups, and contributed to the development of new innovation, products and Technology and their commercialization.

SATHYABAMASAT

The Institution has launched the first successful Student Satellite "SATHYABAMASAT" designed and developed by Staff and Students in association with Indian Space Research Organization, Government of India. This Nano Satellite was launched on June 22nd 2016 to monitor the presence of greenhouse gases in the Atmosphere. This initiative was appreciated by the Honorable Prime minister of India and a noteworthy milestone in the research history of the Institution.

Publications and Patents

The Institution has around 16,000 Research publications Indexed in Scopus and Web of Science databases to its credit and the H -index of the Institution is 62. More than 300 Joint Publications are made as the outcome of the joint research with International Research Organizations and Universities. Sathyabama's commitment to research can also be well understood by the number of patents granted for the innovative products and designs. The Institution has 80 patents to its credit and waiting for the grant of more patents as it has filed for 200 more patents.

Participation in Government Initiatives

The Faculty members and students of Sathyabama are actively participating in Unnat Bharath Abhiyan, a Government of India's initiative to develop villages by providing technical solutions to their problems. Sathyabama has adopted 5 villages and helped them in solving some of their issues by providing technical solutions, which are purely the outcomes of the research.

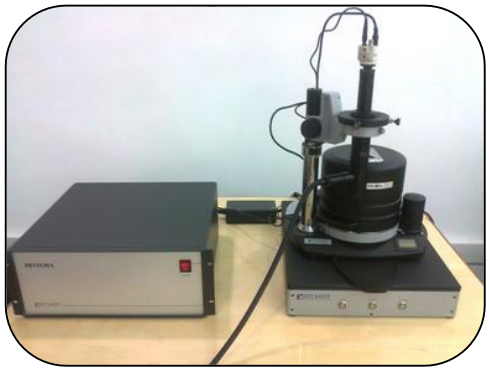
MAJOR RESEARCH FACILITIES

4. MAJOR RESEARCH FACILITIES

The research facility at Sathyabama Institute of Science and Technology gives excellent possibilities for experimental research work and to solve challenging problems. Research Facilities includes laboratories and Advanced technologies to support research in the university.

XRD-SMART Lab (9 kW)- Rikagu, Japan

FESEM (Supra 55) Carl Zeiss Germany



AFM-Ntegra Prima – NTMDT, Ireland

Upright Microscope ,Model BX51, Olympus, Japan

Inverted Metallurgical Microscope, Model GX71, Olympus, Japan

Epifluorescence Microscope-ECLIPSE 80i,Nikon,Japan 2

Characterization Equipments at the Centre for Nanoscience and Nanotechnology

Thermal Evaporation Unit

DC Magnetron Sputtering System
Model 12" MSPT Box type

Pulsed Laser Deposition (PLD)
Make: Microtech, SRL Italy

E-Beam Evaporator-
Plassys, France

RF/DC Magnetron Sputtering System (MP 300 Sputter System- Plassys, France)

Chemical Vapor Deposition (CVD)

Spin Coater- SCU-2008C

Centre for Nanoscience and Nanotechnology (Materials Research)

DEKTAK XT Stylus Profiler-
Bruker, USA

UV VIS Spectrometer, Jasco
International, Japan

Potentiostat/ Galvanostat
with Impedance Analyzer- Bio-Logics,
France

Hall Effect Measurement Unit-
Ecopia Corp. South Korea

Characterization Facilities at Centre of Excellence for Energy Research

NANOMEDICINE &
DRUG DISCOVERY LABORATORY

ROTATORY MICROTOME

ICE FLAKER (TELSTAR)

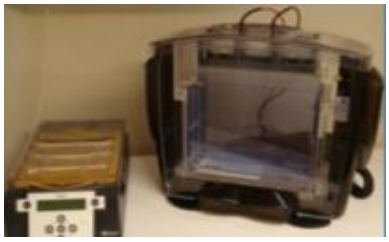
Stereo Fluorescence Microscopy

MULTI MODE PLATE READER

BIO ANALYZER 5

Characterization Facilities at Molecular & Nano medicine Research Unit

Bio-Chemical Facilities at Centre for Waste Management



2D Gel Electrophoresis

Thermal Cycler (PCR)

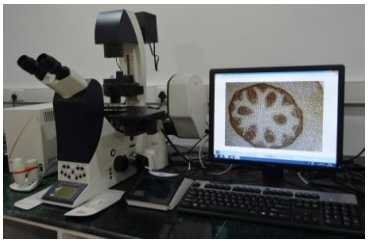
Fourier-transform infrared spectroscopy (FTIR)

Gel Documentation System

Millipore Unit

Gas Chromatography and Mass Spectrometry (GC-MS)

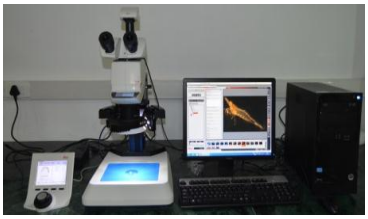
Inductively Coupled Plasma Mass Spectrometry (ICP-MS)



Inverted fully automated fluorescence Microscope

Spectrofluorometer

UV visible Spectrofluorometer



Fully Automated Stereo Zoom Microscope

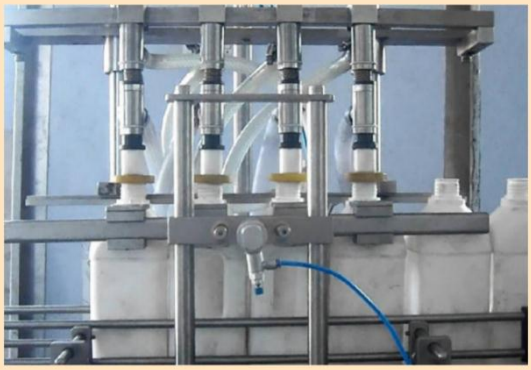
Major Facilities at Col. Dr. Jeppiaar Research Park

4.2 RESEARCH FACILITIES CREATED / UPGRADED IN 2019-2020

Lyophilizer,
Martin Christ Germany
funded by ECR-SERB DST
sponsored project

RENISHAWinVia Confocal Raman microscope (United Kingdom) funded by Sathyabama Institute of Science and Technology

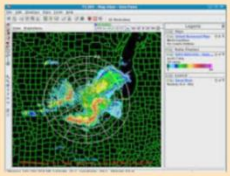
ArcGIS (5 user pack)
funded by Sathyabama



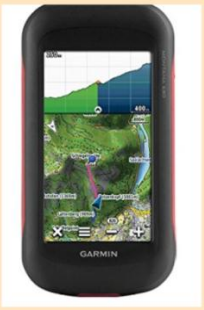
Bottle filling machine
funded by Sathyabama

New Facilities Created at Col.Dr.Jeppiaar Research Park





ENVI 10 user license, ArcGIS (5 user pack) Dell Optiplex 8th Gen System, Solo + MIA (Standalone) platform windows funded by Sathyabama




GPS, Metrological Humidity Temp. Probes, Wind speed sensors funded by Sathyabama






Digital Ultrasonic Flaw Detector, Magnetic Particle Testing Equipment, calibration blocks and flawed specimens, Dye penetrant Testing kit & flawed specimens, Radiography accessories funded by Sathyabama

FMS -2 Pulse Modulated Chlorophyll Fluorometer funded by DST-SERB

Total Organic Carbon (TOC) Analyser funded by Sathyabama

Hydrophone, Cooling centrifuge, Water Quality Multiparameter, Air sampler, funded by Sathyabama

Temp Controlled Shaker funded by DBT Marine Biotechnology Taskforce Project

Retart Pouch packing, Vacuum sealing Machine funded by Sathyabama

Linear Reciprocating Tribometer (LRT) funded by DST-SERB

In situ High-Temperature Oxidation Analysis Furnace funded by LPSC, ISRO

Class II Biological Safety Cabinet funded by SATHYABAMA

Tubular Reactor funded by Sathyabama

4.3 CONSULTANCY SERVICES OFFERED

S.No.	Name of the Industry
1	Central Leather Research Institute (CLRI), Chennai
2	Indira Gandhi Centre for Atomic Research (IGCAR) Kalpakkam
3	International Lab Services, Mambalam, Chennai
4	IP Rings Ltd., Malankarai, Tamilnadu
5	Johnson & Johnson, Chennai
6	National Metallurgical Laboratory (NML), CSIR, Taramani
7	Orchid Chemicals & Pharmaceuticals, Chennai
8	Race TRIN Steeling System, Chennai.
9	SPEL Semi conductor Limited, Chennai
10	Vikram Sarabhai Space Centre (VSSC), ISRO, Trivandrum
11	Renault Nissan Technology & Business Centre India Private Limited, Chennai
12	ISRO Satellite Centre, Bangalore.
13	Hospira Healthcare India Pvt Ltd, Chennai
14	Kemin Industries South Asia Pvt. Ltd, Chennai.
15	Indian Council of Agricultural Research, New Delhi
16	Seven Glocon India Pvt. Ltd., Chennai
17	FLSmith, Chennai.
18	Council of Scientific & Industrial Research, Chennai
19	Nano Therapeutics Pvt. Ltd, Hojiwala Industrial estate, Surat, Gujarat.
20	Indian Piston Ltd., Chennai.
21	WABCO India Pvt. Ltd
22	Airbus India Pvt. Ltd
23	Central Electro Chemical Research Institute, Karaikudi.
24	Chettinad Morimura Semiconductor Material Pvt. Ltd., Chennai.
25	NIPMAN Steering Industries Pvt. Ltd., Maraimalai Nagar, Tamil Nadu
26	QAD RaneTRW Steering Systems, Chennai.
27	Micro Go LLP, SIPCOT, Siruseri.
28	ABI-Showatech India Private Ltd.

4.4 Venturing into Advanced Technologies

NEXTGEN LAB

Sathyabama Institute of Science and Technology has ventured into yet another digital initiative "NEXTGEN Lab" to empower students in cutting-edge technology.

The lab features advanced technologies such as Augmented Reality (AR), Virtual Reality (VR), Artificial Intelligence (AI), Internet of Things (IoT), Blockchain and Data science. Integration of these powerful technological tools with education would greatly help to nurture students into technology experts by exposing them to hands on and live experience of the digital world.

NEXTGEN Lab provides certification courses for our students on advanced technologies in association with XR labs (specialized in VR & AR) and KS Smart Solutions. The Lab organizes s Workshops and Webinars for students in the areas of Machine Learning, Virtual Reality (VR), Internet of Things (IoT).

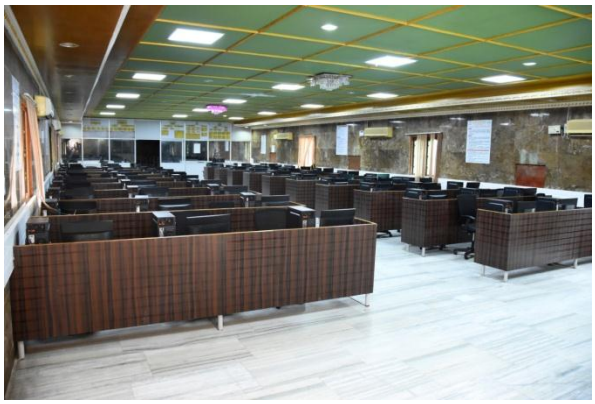
The Next Gen Lab was inaugurated by Shri Anil Sahasrabude, Chairman AICTE on 28th July 2019.

4.5 LABORATORIES INAUGURATED

Raman Spectroscophy facility for the Centre for NanoScience & NanoTechnology was inaugurated on 18th November 2019

Supersonic Wind Tunnel tunnel was inaugurated in the Department of Aeronautical Engineering on 10th February

Data Science Lab for the School of Computing was inaugurated on 27th July 20



Artificial Intelligence Lab for the School of Computing was inaugurated on 3rd August 20

Edge Computing Lab for the School of Computing was inaugurated on 15th Aug 20

Agricultural crops-insect pest interaction facility for the Centre for Climate Change Studies was inaugurated.

4.6 SKILL DEVELOPMENT CENTRE

Learning is the most essential tool to enhance the socio-economic growth of not only an individual but also of the entire nation. The higher education of 21st century faces several challenges in providing skill-centric learning, meeting the needs of the industry and society in the global platform. To confront such challenges, Sathyabama Institute of Science and Technology has established Centre for Skill Development in collaboration with NSTI (MSDE), which aims to upgrade skills to international standards through significant industry participation and develop necessary frameworks of standards for quality assurance. Along with the outstanding academic learning, students in our institution are practically oriented with the different skill sets, bridging the gap between the academics and the industrial, societal needs.

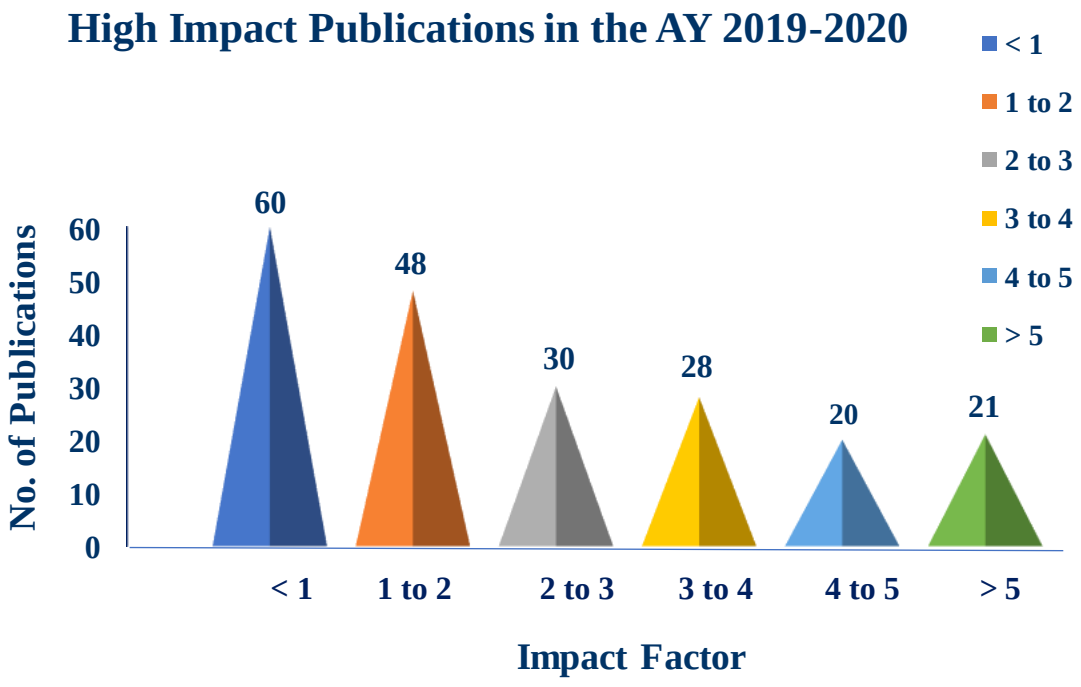
The skill development centre of Sathyabama Institute of Science & Technology conducts various skill oriented programs like AI Programming, Machine learning, Cyber security, Internet of Things, Embedded Programming, Data Acquisition, CATIA V5, Robotics and PCB Design courses in association with National Skill Training Institute (NSTI), Ministry of Skill Development & Entrepreneurship (MSDE), thereby horning the technical skills of the students and make them industry ready. Beyond the institutional focus, the skill Development Centre also extends its responsibility to the general public by conducting the training programmes to the rural youth in occupations like welding, Electrician, Plumbing, Lab Technician. In addition to that, having our institution known for its endless support for women empowerment, the centre also conducts exclusive Skill Development Courses like Beautician training, Baking and Tailoring for underprivileged and rural women.

HIGH IMPACT PUBLICATIONS

5. HIGH IMPACT PUBLICATIONS

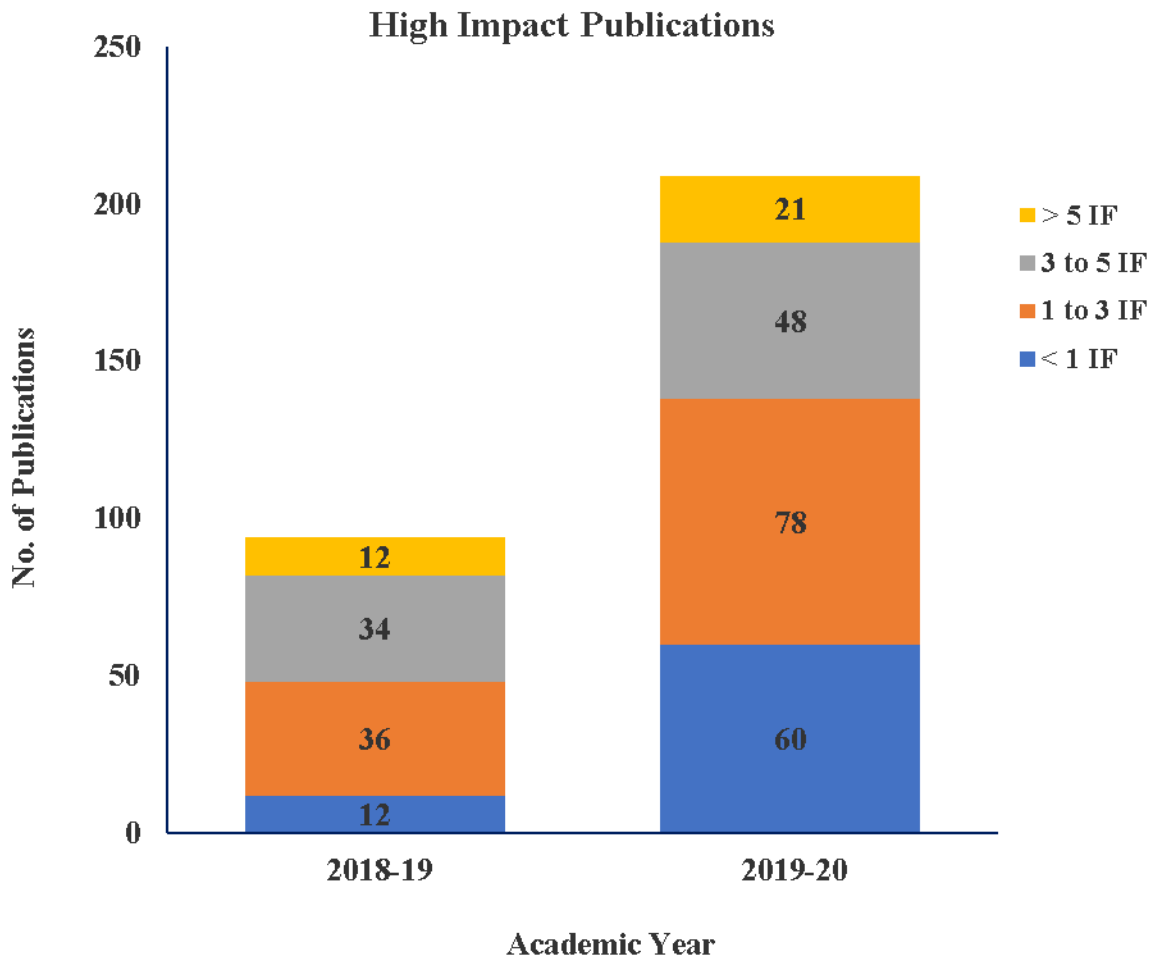
On research front, the University is surging ahead in bringing out internationally acclaimed research publications. Sathyabama faculties have reached milestones in publishing high impact factor journals like Angewandte Chemie, Trends in Food Science & Technology, Journal of Cleaner Production , Bioresource Technology Production ,Composites Engineering, Carbohydrates Polymers, Renewable Energy, Archives of Computational Methods in Engineering, Genomics, Current Opinion in Colloid and Interface Science, Applied Surface Science, International journal of Biological Macro Molecules , Catalysis Science & Technology.

High Impact Publications in the AY 2019-2020						
Impact Factor	< 1	1 – 2	2 - 3	3 - 4	4 – 5	>5
No. of Publications	60	48	30	28	20	21

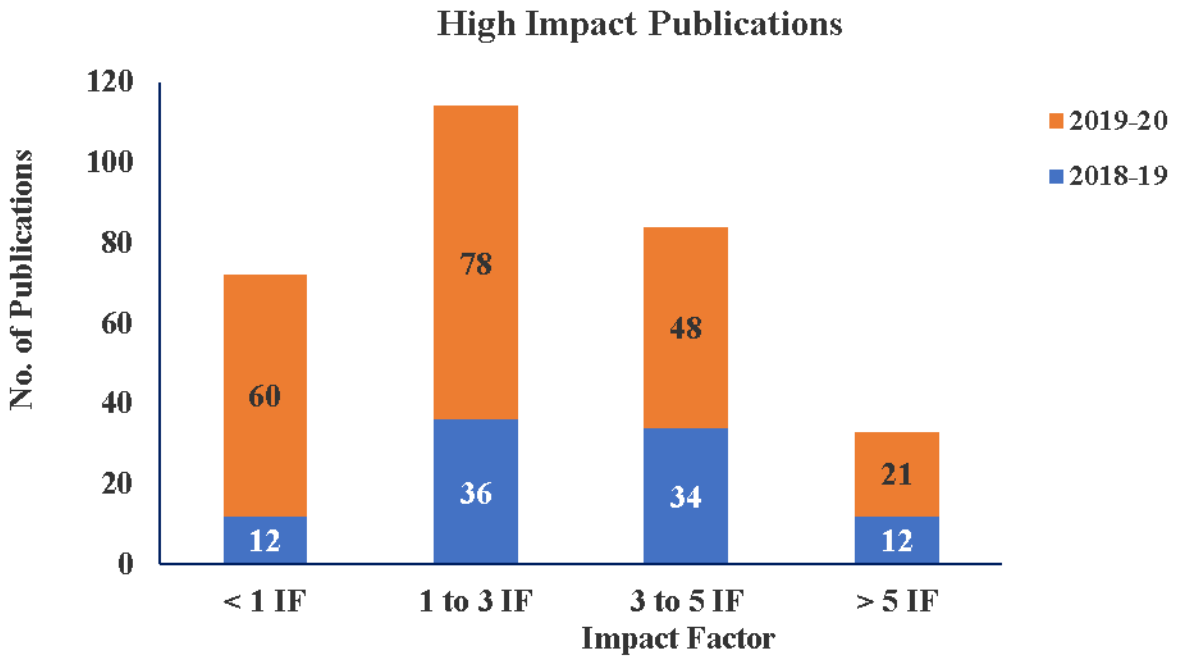


Progress in High Impact Publications compared to previous year 2018-19

High Impact Publications						
Impact Factor		< 1	1 to 3	3 to 5	> 5	Total
No. of Publications	AY 2018-19	12	36	34	12	94
	AY 2019-20	60	78	48	21	207



High Impact Publications						
Impact Factor		< 1	1 to 3	3 to 5	> 5	Total
No. of Publications	AY 2018-19	12	36	34	12	94
	AY 2019-20	60	78	48	21	207



5.1 High Impact Publications (2019-2020)

1. Hotra, Adam, Priya Ragunathan, Pearly Shuyi Ng, Pattarakiat Seankongsuk, Amaravadhi Harikishore, Jickky Palmae Sarathy, Wuan- Geok Saw, Revathy Kalyanasundaram, Sivaraj anbarasu, Dr.Krupakar Parthasarathy, "Discovery of a novel Mycobacterial F-ATP synthase inhibitor and its potency in combination with diarylquinolines", Angewandte Chemie, https://doi.org/10.1002/ange.202002546 April 2020, IF:12.96
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5.2 BOOK CHAPTERS

S. No.	Name of the Faculty	Title of the Chapter	Name of the Book
1	Ms.Bethaney Janney J	Analysis of Skin Lesions using machine learning techniques	Computational-intelligence and its applications in healthcare
2	Dr D Prabavathy	Heterogeneity of small lung cancer stem cells	Advances in Experimental Medicine and Biology

S. No.	Name of the Faculty	Title of the Chapter	Name of the Book
3	Dr.M.Masilamani Selvam	Changing scenarios of the Marine ecosystem and the resultant impact on marine organisms	Scientific applications for sustainable Biodiversity
4	Dr.S.Packialakshmi	Review Of Continuous Fixed-Bed Column Adsorption In Removing Pollutant In Wastewater	Recent Advancements in Engineering and Technology
5	Dr.S.Packialakshmi	Industrial Wastewater Treatment using Coconut Shell Charcoal Based Activated Carbon	Pollution in Groundwater and its remedy
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7	G. Kavitha, D. Inbakandan	Ecofriendly Synthesis of Biopolymer Nanocomposites and Its Application as a Potent Marine Antifouling Agent	Environmental Biotechnology - 1
8	S. Nalini, D. Inbakandan	Biosurfactant in Food and Agricultural Application	Environmental Biotechnology - 2
9	D. Inbakandan	The Impact of Marine Microbial Diversity of Biofilms	Microbial Biodiversity
10	S. Nalini, D. Inbakandan, T. Stalin Dhas, S.U. Mohammed Riyaz, S. Manikandan	Current progress in the solid-state fermentation and utilization of agroindustrial residues for the production of biologically active secondary metabolites	Green sustainable process for chemical and environmental Engineer and Science

S. No.	Name of the Faculty	Title of the Chapter	Name of the Book
11	L Stanley Abraham, Vasantharaja Raguraman, R Thirugnanasambandam, KM Smitha, D Inbakandan, P Premasudha	Seaweeds: A Potent Source of Bioactive Compounds	Phytomedicine Research and Development
12	Malaichamy Kannan, Kolanthasamy Elango, Thangavel Tamilnayagan, Sundharam Preetha, Govindaraju Kasivelu	Impact of Nanomaterials on Beneficial Insects in Agricultural Ecosystem	Nanotechnology for Food, Agriculture, and Environment
13	Malaichamy Kannan, Kolanthasamy Elango, Govindaraju Kasivelu	Nanotechnological Approaches in Plant Protection	Nanotechnology in Agriculture, Energy and Environment
14	Malaichamy Kannan, Kolanthasamy Elango, Govindaraju Kasivelu	Toxicity of Nanoparticles on Natural Enemies and Pollinators	Nanotechnology in Agriculture, Energy and Environment
15	L. Stanley Abraham, Vasantharaja R., R. Thirugnanasambandam, K. M. Smitha, D. Inbakandan and P. Premasudha	Seaweeds – A Potent Source of Bioactive Compounds	Phytomedicine
16	Dr Anoop Kumar Mishra	Convective Cloud Climatology Over Indian Tropics and Nearby Regions Using Multi-spectral Satellite Observations	Patterns and Mechanisms of Climate, Paleoclimate and paleo environmental changes from Low-Latitude Regions, Advances in Science, Technology & Innovation
17	Dr Marykutty Abraham	Hydrological modeling of chain of tanks to increase utilizable water	Hydrological modeling of chain of tanks to increase utilizable water

S. No.	Name of the Faculty	Title of the Chapter	Name of the Book
18	Dr K. Nahamani	Integrated Scientific Approach for Sustainable Development of SCST Community- A case study of Kalrayan Hills using Remote Sensing and GIS	Compendium Vol 1 entitled Achievements of the R& D Projects sanctioned of under SC/ST scheme of NRDMS –DST , 2019.
19	Dr K. Nagamani	EmergingTrends in Satellite Technology and its Applications	Proceedings
20	Suja Cherukullapurath Mana	Energy conservation for Iot devices	LNCS
21	Shivani, Vigneshwari	Prediction of Housing Prices Using Machine Learning, Time Series ARIMA Model and Artificial Neural Network	Lecture Notes in Networks and Systems
22	Bala Koteswara Reddy, Vigneshwari	PRSSDF: Page Rank Specific Student Discussion Forum	Lecture Notes in Electrical Engineering
23	Vishnu Bharathwaj, Vigneshwari	Statistical Analysis of Literacy Rates Using Indian Census Data	Lecture Notes in Electrical Engineering
24	Vignesh Krishna Sai, G., Sai Kumar, P., Viji Amutha Mary, A.	Incremental Frequent Mining Human Activity Patterns for Health Care Applications	IOP Conference Series: Materials Science and Engineering
25	Ajay Chowdary, M., Kundan, M., Viji Amutha Mary, A.	Effective Credit Card Forgery Prevention Using Multilevel Authentication	IOP Conference Series: Materials Science and Engineering
26	Bhowmik, A., Paul, S., Usha Nandini, D., Prince Mary, S.	Study of the Management of Tickets in IT Administration	IOP Conference Series: Materials Science and Engineering
27	Tom, T., Usha Nandini, D., Princemary, S., Ankayarkanni, B.	An Improved Forgery Detection Method for Images	IOP Conference Series: Materials Science and Engineering

S. No.	Name of the Faculty	Title of the Chapter	Name of the Book
28	Christina, Ruth, Greeshma Liz Shajan, and B. Ankayarkanni.	CART-A Statistical Model for Predicting QoE using Machine Learning in Smartphones	IOP Conference Series: Materials Science and Engineering
29	Dr.P.Ajitha	Factoring Method	Problem Solving using Python
30	Dr.P.Ajitha	Data Security and Privacy Functions in Fog Computing for Healthcare	Fog Computing for Healthcare 4.0 Environments-Springer
31	Dr.S.Revathy	GUI Programming	Fundamentals of Python Programming
32	Dr.A.Sivasangari	Case Study -Web programming and Image processing	Fundamentals of Python Programming
33	Dr.A.Sivasangari	Data Security and Privacy Functions in Fog Computing for Healthcare	Fog Computing for Healthcare 4.0 Environments-Springer
34	Dr.J.Jabez	Introduction	Fundamentals of Python Programming
35	Dr.Y.Bevish Jinila	Food consumption monitoring and tracking in household using smart container	Advances in Intelligent Systems and Computing
36	Dr.Y.Bevish Jinila	Smart Computerized Essay Scoring Using Deep Neural Networks for Universities and Institutions	Handbook of Research on Smart Technology Models for Business and Industry – IGI
37	Ms.E.Brumancia	Data Security and Privacy Functions in Fog Computing for Healthcare	Fog Computing for Healthcare 4.0 Environments-Springer
38	Dr.R.Jeberson Retna Raj	Extracting Buildings from Satellite Images Using Feature Extraction Methods	Advances in Decision Sciences, Image Processing, Security and Computer Vision
39	P. Saravanan	LInked List	Data Structures

S. No.	Name of the Faculty	Title of the Chapter	Name of the Book
40	Dr.M.Sugadev	Li-Fi Transceiver for Data, Audio and Video Signal Transmission	Li-Fi Transceiver for Data, Audio and Video Signal Transmission
41	Dr. S. Emalda Roslin	Analysis of Skin Lesions using machine learning techniques, Computational Intelligence and Its Applications in Healthcare	Computational Intelligence and Its Applications in Healthcare
42	Dr. S. Emalda Roslin	Lifetime and transport delay optimization in presence of delay in WSN	Advances in Intelligent Systems and Computing
43	Dr. S. Emalda Roslin	A Monograph on Soft Computing Based Hybrid Mining Technique for Effective Retrieval of Audio Signals	A Monograph on Soft Computing Based Hybrid Mining Technique for Effective Retrieval of Audio Signals
44	Dr. S. Emalda Roslin	A Monograph on Infrared Thermography for Condition Monitoring of Electrical Equipments	A Monograph on Infrared Thermography for Condition Monitoring of Electrical Equipments
45	Dr. P. Grace Kanmani Prince	Novel Non-contact Respiration Rate Detector for Analysis of Emotions	Human Behaviour Analysis Using Intelligent Systems
46	U.Anitha	Object identification using soft computing in sonar images	
47	Dr.R.Narmadha	Continuous Monitoring of Electricity Energy Meter Using IoT	Soft Computing for Problem Solving
48	Dr. R. M. Joany	Corrosion resistance of orthodontic wires in artificial saliva with presence of fragrant drink additives Chapter-17	Nanotechnology In The Beverage Industry Fundamentals and Applications

S. No.	Name of the Faculty	Title of the Chapter	Name of the Book
49	Dr. R. M. Joany	Multifunctional drinks from all natural ingredients Chapter-14	Nanotechnology In The Beverage Industry Fundamentals and Applications
50	Dr. R. M. Joany	Evolution of 1G to 4G Technologies in Mobile Communication	Advances in Electronics and Communication Engineering
51	Dr.M.R.Ebenezar Jebarani	Advancement jn Mobile Computing	Advancement in Mobile Computing
52	V. Sivachidambaranathan and A. Rameshbabu	Integrated Voltage Equalizer Enhanced With Quasiz-Source Inverter For Pv Panel Under Partial Shading	Advances in Intelligent Systems and Computing book series (AISC, volume 1040)
53	A. Rameshbabu and V. Sivachidambaranathan	PV-Based Multiple-Input Single-Output DC–DC Luo Converter for Critical Load Application	Advances in Intelligent Systems and Computing book series (AISC, volume 1040)
54	V.Tejaswini, D.Susitra	Dragonfly Algorithm for optimal allocation of D-STATCOM in Distribution Systems, 4th international conference on artificial intelligence and evolutionary computations in engineering Systems	Advances in Intelligent Systems and Computing, Springer
55	Dr.D. Susitra,T.K. Krishna and Dinesh Kumar. S	DC Sid system for EV charging station	Intelligence and Evolutionary Computations in Enng Systems in Springer series
56	Radhika, S., Chandrasekar, A.	Reduced complexity affine projection algorithm based on variable projection order and multiple sub filter ap	Advances in Intelligent Systems and Computing

S. No.	Name of the Faculty	Title of the Chapter	Name of the Book
57	M. Pushpavalli,N.M.Jothi Swaroopan	Implement Using KY Converter for Hybrid Renewable Energy Applications: Design, Analysis and Implementation	Intech open book chapter "Advanced Statistical Modeling, Forecasting, and Fault Detection in Renewable Energy Systems"
58	Dr M.L.Bharathi	Investigations on photo-voltaic powered interleaved Converter System	Intech open book chapter "Advanced Statistical Modeling, Forecasting, and Fault Detection in Renewable Energy Systems
59	M.Kavitha and V.Sivachidambaranathan	High-Voltage Gain DC–DC Converter for Renewable Energy Applications	Advances in Intelligent Systems and Computing book series (AISC, volume 1040)
60	K.Swetha and V.Sivachidambaranathan	Comparative Analysis and Performance of dstatcom Device Using PI and Second-Order Sliding Mode Control	Advances in Intelligent Systems and Computing, Springer
61	Rameshbabu A	Optimal voltage regulation of three phase interleaved boost converter	Lambert Academic Publishing
62	Dr.Godwin Immanuel.D	Solving Combined Economic and Emission Dispatch Problem Using Hybrid RGA-DE Algorithm	Advances in Intelligent Systems and Computing
63	Dr.W.Abitha Memala	Detection of gaze direction for human–computer interaction	Lecture Notes in Computational Vision and Biomechanics
64	V.Meenakshi	Smart Garbage Monitoring System using IoT	Advances in Computational and Bio-Engineering

S. No.	Name of the Faculty	Title of the Chapter	Name of the Book
65	Dr.Rekha Chakravarthi	Monograph On Acoustic Wireless Sensor For Pest Detection In Cauliflower	
66	G.Merlin Sheeba	Energy Aware Router Placements Using Fuzzy Differential Evolution	Wireless Mesh Networks - Security, Architectures and Protocols
67	T Gomathi	A high capacity secured steganography scheme using DWT	DWT System
68	T Gomathi	Health Assistance by EMR for Diabetes using Bus Algorithm	A Data Mining Approach for Health Record
69	T Gomathi	Tampering Detection in Compressed Digital Video using Watermarking	Cryptography System
70	Megalan Leo.L	Analog Receivers and Its Characteristics in the Communication Domain	Advances in Electronics and Communication Engineering
71	Poonguzhali S	lung diseases prediction by pattern classification and SEGMENTATION.	Scholars' Press
72	Poonguzhali S	A high capacity secured steganography scheme using DWT	DWT System
73	Poonguzhali S	Health Assistance by EMR for Diabetes using Bus Algorithm	A Data Mining Approach for Health Record
74	Poonguzhali S	Tampering Detection in Compressed Digital Video using Watermarking	Cryptography System
75	Dr. Kumar N	Agriculture Development in Kolli Hills of Tamil Nadu	Hill Economics and Sustainable Development in India – Emerging Realities

S. No.	Name of the Faculty	Title of the Chapter	Name of the Book
76	Dr.V.K.Bupesh Raja	Application of Magnesium Alloys in Automotive Industry-A Review	Lecture Notes on Data Engineering and Communications Technologies
77	Dr.V.K.Bupesh Raja	Investigation and Experimental Evaluation of Vapor Compression Refrigeration System by Means of Alternative Refrigerants	Lecture Notes on Data Engineering and Communications Technologies
78	Dr.V.K.Bupesh Raja	Corrosion Studies on Induction Furnace Steel Slag Reinforced Aluminium A356 Composite	Lecture Notes on Data Engineering and Communications Technologies
79	Dr.V.K.Bupesh Raja	Experimental Investigation on Tensile and Fracture Behaviour of Glass Fibre-Reinforced Nanoclay/Mg–Al LDH-Based Fibre Metal Laminates	Lecture Notes in Mechanical Engineering
80	Dr.G. Arunkumar	Parametric Optimization of Single-Cylinder Four-Stroke Spark Ignition Engine Crankshaft Using Four Different Materials-AISI 1040, AISI 4340, AISI 4140 and AISI 4615	Lecture Notes in Mechanical Engineering – AMP
81	Dr.G. Arunkumar	Experimental Investigation and Fatigue Analysis of Primary Suspension Spring of Railway Bogies	Techno societal – Advanced Technologies for Societal Applications
82	Dr.S.Ganesan	Synthesis of NI-YSZ Coating For Piston Component	ISBN:978-620-0-58467-0
83	Dr.Sangeetha	Lecture notes in Mechanical Engineering	

S. No.	Name of the Faculty	Title of the Chapter	Name of the Book
84	Dr. J. Lilly Mercy	Investigation of damage processes of a microencapsulated self-healing mechanism in glass fiber-reinforced polymers	Modelling of Damage Processes in Biocomposites, Fibre-Reinforced Composites and Hybrid Composites
85	Dr. J. Lilly Mercy	Drilling of glass fiber reinforced plastics (GFRPs): An experimental investigation and finite element study	Hole-Making and Drilling Technology for Composites
86	Dr. S.Prakash	Machinability studies in drilling carbon fiber reinforced composites	Hole-Making and Drilling Technology for Composites
87	Dr. A. Sheik Mideen	Engineering Chemistry	
88	Dr. A. Sheik Mideen	Environmental Science and Engineering	
89	Dr. T. Krithiga	Carbon Nanotubes: Synthesis, Properties and Applications	Surface science
90	DR.S.Ganesh	Analysis of Fluid Flow between parallel plates	Scholar's Press
91	DR.S.Ganesh	Analysis of MHD flow in Parallel Porous Plates	LAMBERT ACADEMIC PUBLISHERS
92	Dr.R.Rajakumar	Studies on Traffic Control Mechanisms in ATM Networks	
93	Dr.R.Rajakumar	Channel Estimation in OFDM system	Advanced Engineering Research and Applications
94	Dr.S.Anandhi	Graphitic Carbon Nitride Based Nanocomposites as Photoanodes	Interfacial Engineering in Functional Materials for Dye- Sensitized Solar Cells – Wiley
95	Dr.S.Ravichandran	ultrasonic studies on binary mixtures	Acoustical studies on binary liquid mixtures and polymer solutions
96	Dr.J.Anita Lett	Chapter 7. Controlled Chemical Synthesis of Nanomaterials: A Fundamental Necessity for Photocatalysis	Photocatalysis: Perspectiv e, Mechanism, and Applications

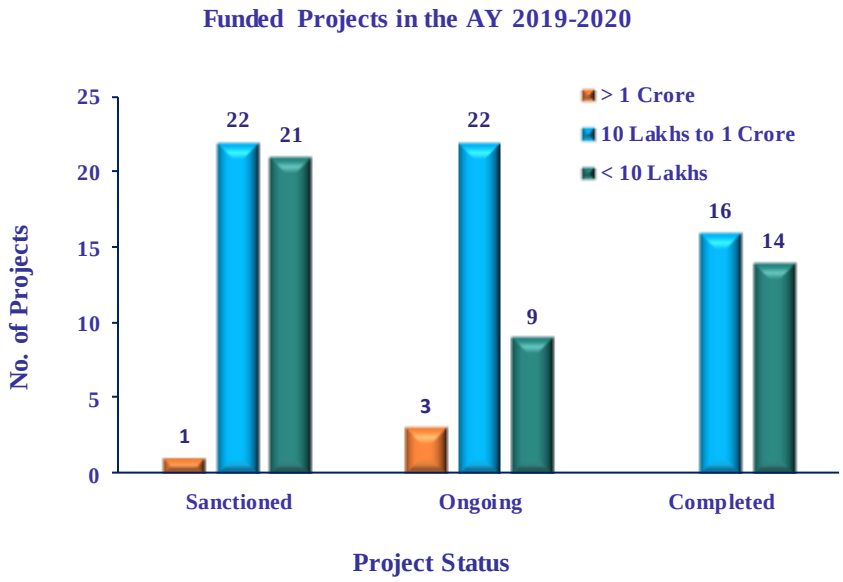
S. No.	Name of the Faculty	Title of the Chapter	Name of the Book
97	Dr.J.Anita Lett	Chapter -12 Nanostructured Polymer Biocomposites: Pharmaceutical Applications	Micro and Nano Technologies
98	Dr.Helen Merina Albert	Magnetic Materials	Physics for Engineers
99	MS.N.Nazini	Representation of Muslims minority in Mani Ratnam films: An Art of Visual Expressionism and its impact.	Indian Cinema- Filmic content, social interface and New technologies.
100	MR.Pugalendhi R	Impact study on Tic-Tok App among college students of urban Chennai	Tamil kundru –AAR International Conference-Tik-Tok Game addiction
101	MR.Pugalendhi R	Impact study on PUBG Game Addiction on consumer Culture of Chennai urban Students	International Conference on Recent Innovation in Engineering Science and Management- RIESM-19
102	MR.Pugalendhi R	"Impact Study on Hindi Soap Operas Consumer Culture of Chennai Urban Women"	NexGen Technologies 2020 - Hindi Soap Operas Consumer Culture
103	MR. A.R.Vimal Raj	Cohabitation and Entertainment medium	Bollywood women and Indian society
104	MR.N. Raja	Social Media: Irrespective Of Gender In Media Learning	Social Media: Irrespective Of Gender In Media Learning
105	MR.N. Raja	Digital India: Emerging Online Marketing	Business opportunities Issues and Challenges in BRICS Countries
106	MR.N. Raja	Social Media: Positive And Negative Perceptions Among Media Students In Tamilnadu	Innovative Concepts in Media
107	Ms. Samandha Smith	Understanding the Marketing Strategy of Modi's twitter as a Vehicle for Propaganda	
108	Mr. E. Senthil Kumaran	Perpicacious Classroom Efficacy in Learning	17th International Conference on Recent Trends in Engineering, Science and Management
109	Mr. E. Senthil Kumaran	Varnnanai Vagupparai	Tamizh Adukkam

RESEARCH PROJECTS

6. RESEARCH PROJECTS

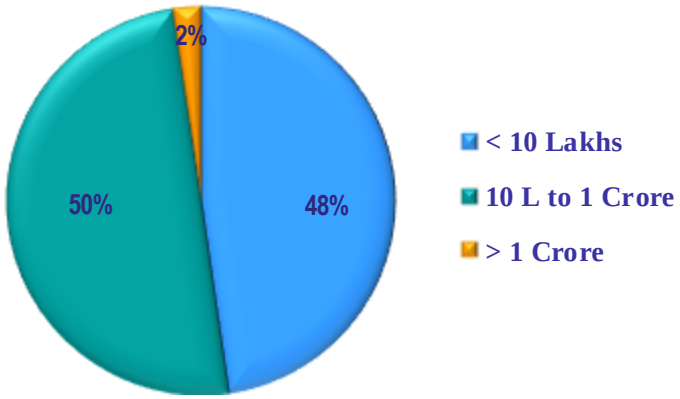
Sathyabama Institute of Science and Technology has wide-ranging, comprehensive and exciting research activities. Research is carried out under a wide variety of engineering, science and technology themes. Research projects are sponsored by various Ministries and Research Organizations like Ministry of Human Resource Development (MHRD), Ministry of Earth Sciences (MoES), Department of Science and Technology (DST), All India Council for Technical Education (AICTE), Department of Bio Technology (DBT), Indian Space Research Organization (ISRO), Defense Research and Development Organization (DRDO), Indian council for Medical Research (ICMR).

Funded Projects in the AY 2019-2020									
Project Status	Newly Sanctioned			Ongoing			Successfully Completed		
Project Amount	> 1 C	10 L to 1C	< 10 L	> 1 C	10 L to 1C	< 10 L	> 1 C	10 L to 1C	< 10 L
No. of Projects	1	22	21	3	22	9	-	16	14



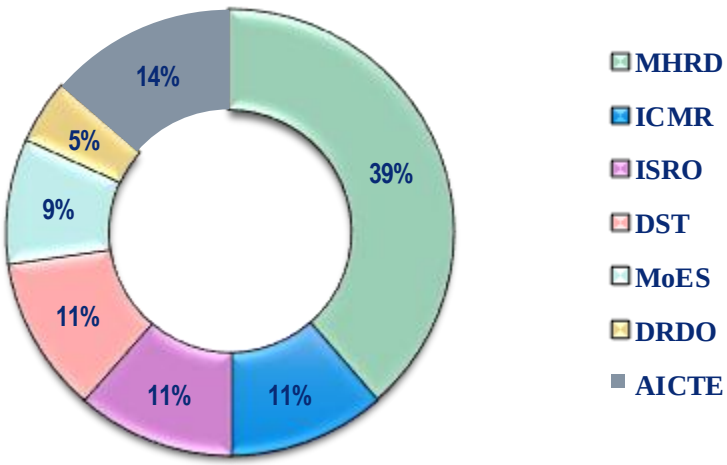
Newly Sanctioned Projects in the AY 2019-2020: 44			
Project Amount	>1 Crore	10 Lakhs to 1Crore	< 10 Lakhs
No. of Projects	1	22	21

Newly Sanctioned Projects in the AY 2019-2020



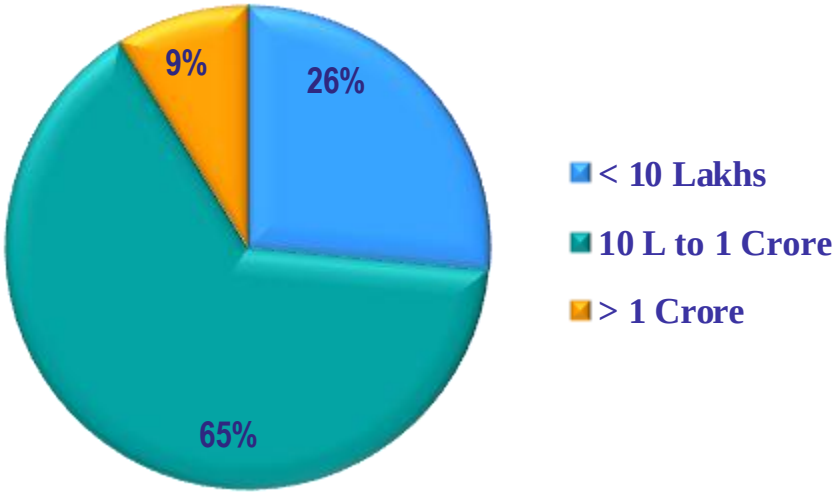
Newly Sanctioned Projects in the AY 2019-2020: 44							
Funding Agency	MHRD	MoES	DST	ICMR	ISRO	DRDO	AICTE
No. of Projects	18	4	4	5	5	2	6

Funding Source for Sanctioned Projects



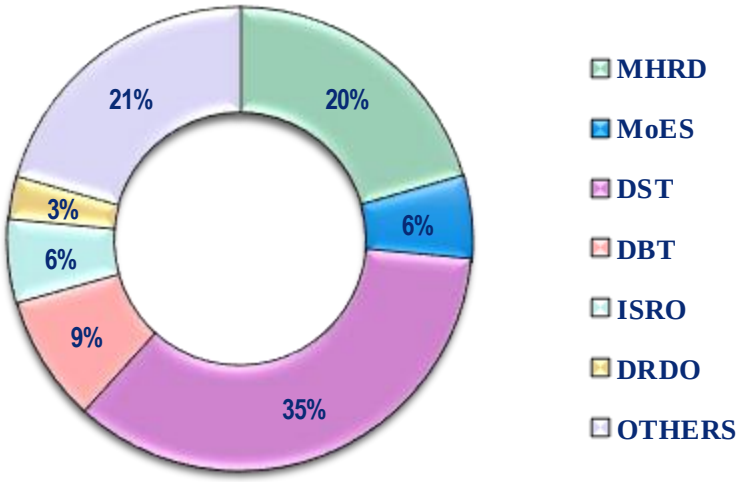
Ongoing Projects in the AY 2019-2020: 34			
Project Amount	**> 1 Crore**	**10 Lakhs to 1Crore**	**< 10 Lakhs**
No. of Projects	**3**	**22**	**9**

Ongoing Projects in the AY 2019-2020



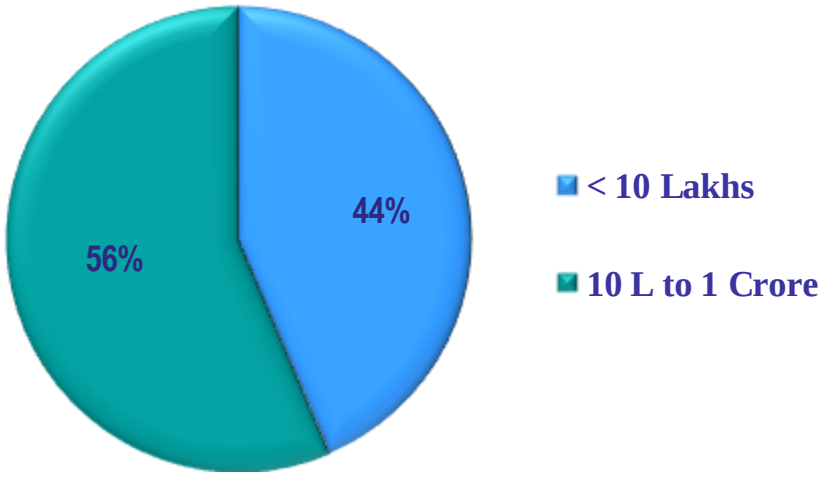
Ongoing Projects in the AY 2019-2020: 34							
Funding Agency	MHRD	MoES	DST	DBT	ISRO	DRDO	Others
No. of Projects	7	2	12	3	2	1	7

Funding Source for Ongoing Projects



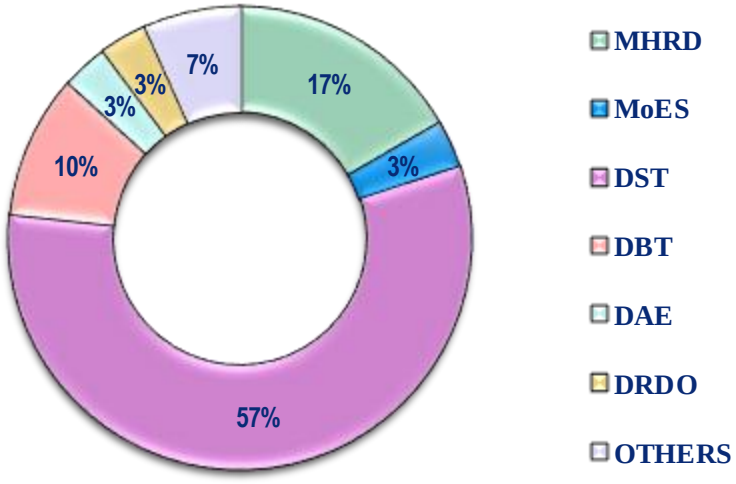
Successfully Completed Projects in the AY 2019-2020: 30		
Project Amount	10 Lakhs to1Crore	< 10 Lakhs
No. of Projects	16	14

Completed Projects in the AY 2019-2020



Successfully Completed Projects in the AY 2019-2020: 30							
Funding Agency	**MHRD**	**MoES**	**DST**	**DBT**	**DAE**	**DRDO**	OTHERS
No. of Projects	**5**	**1**	**17**	**3**	**1**	**1**	**2**

Funding Source for Completed Projects



6.1 NEWLY SANCTIONED PROJECTS FOR THE AY 2019-2020

S. No	Name of the Investigator(s)	Title	Funding Agency	Amount Sanctioned (in Rs)	Duration
1.	Dr.B.Sheela Rani, Dr.D.Inbakandan, Dr.K.Govindaraju, Dr.LStanley Abraham, Dr.V.Ganesh Kumar, Dr. V.Karthick	Earth Science Technology Cell	MoES-ESTC	31,211,740	2019-2022
2.	Dr. Maharshi Bhaswant Cheethirala	Sodium/glucose co-transporter-1 (SGLT1) and glucagon like peptide-1 (GLP-1) mediated nutrient sensing in metabolic disorders	DST-SERB	5,482,540	2019-2022
3.	DR.D.Sivaraman MR.P.S.Pradeep	NANOSOL: A Multi-Functional Advanced Therapeutic Burn Wound Dressing	MHRD-STARS	4,975,000	2019 - 2022
4.	Dr.Krupakar Parthasarathy	Identification of Biomarkers for the development of Rapid diagnostics of Pulmonary Tuberculosis by quantum dot bio-imaging	MHRD - SPARC	4,877,610	2 019-2021
5.	Dr.Anoop Kumar Mishra	Towards developing near Real Time Flash Flood Risk Monitoring Scheme over India.	MoES	4,005,392	2019-2022

S. No	Name of the Investigator(s)	Title	Funding Agency	Amount Sanctioned (in Rs)	Duration
6.	Dr.Vinita Vishwakarma, Dr.Dawn SS	Development of Nanostructured Polymetallic Antifouling Coatings in Oil and Gas/Biofuel Pipelines	SPARC, MHRD	3,959,040	2019-2021
7.	Dr. Selvanchristyraj Jacksondurairaj	Silencing of TCTP gene expression to study the regeneration in earthworm Perionyx excavates (No. ECR/2016/000956)	DST-SERB	3,750,000	2019-2022
8.	Dr.Thanga Suja	Studies on the interaction mechanism between resistant rice varieties and planthopper assemblages mediated through the phloem	DST-SERB	3,700,000	2019-2022
9.	Dr.Kishan Singh Rawat	Developing a virtual soil moisture methodology using optical /thermal and microwave satellite imagery for surface soil moisture mapping	MoES	3,669,402	2019 - 2022
10.	Dr.Y.Swarnalatha	Design and Development of Natural hepato protective churnam for army personnel working in extreme conditions	DRDO-LSRB	3,237,070	2019-2022
11.	Dr.Jackson Durairaj	In-Vitro Functional Organ Model Development For Prostate Cancer & Its Molecular Characterization	DHR-ICMR	2,885,402	2020-2023

S. No	Name of the Investigator(s)	Title	Funding Agency	Amount Sanctioned (in Rs)	Duration
12.	Dr. S Johnson Retnaraj Samuel	Characterization of targeted small molecules for drug development, isolated from regenerating earthworms having potential wound healing and antibacterial properties	ICMR	2,727,465	2020-2023
13.	MR.P.S.Pradeep DR.D.Sivaraman	PEGylated Liposomal Acinetobactin Colistin conjugates to combat multidrug resistant acinetobacter baumannii infections	ICMR	2,275,000	2020 - 2023
14.	Dr.R.P.Rajesh	Development of venom based antiepileptic peptide targeting Na channels and deciphering the mode of action in Zebrafish model	ICMR	2,027,200	2020-2022
15.	Dr.Preethi L K	Fabrication of Silicon-based nanocomposites for high energy density Li-ion anodes	ISRO-VSSC	2,002,000	2020-2022
16.	Dr.Rajesh Kannan (Mentor) Mr.Arjun Pitchai	Crisper based Amyloid plaque establishment in zebrafish model for Alzhiemers disease	DST-OVDF, Indo-US	2,000,000	2019-2020
17.	Dr.Anderson, Dr.Kamalan Kirubakaran	Plasma sprayed Gd2Zr201/ YSZ Thermal Barriers coatings for aerospace Engine Components	ISRO-LPSC	1,947,000	2019-2021
18.	Dr.Lilly Mercy, Dr.T.Sasipraba	Design and development of ANFIS Controller	ISRO-IPRC	1,934,000	2019-2021
19.	Dr.Gobi Saravanan	Investigation on in situ hight temperature corrosion behavior of Ni-base and Co-base super alloys and refractory alloys for strategic applications	ISRO-VSSC	1,849,000	2019-2021

S. No	Name of the Investigator(s)	Title	Funding Agency	Amount Sanctioned (in Rs)	Duration
20.	Dr.Johnson Retnaraj (Mentor), Dr.Beryl Vedha.	Molecular mechanism and multicolor imaging of ar-turmerone on neuroregeneration	ICMR	1,752,000	2019-2021
21.	Dr.P.Kuppusami	Tailoring the microstructure of YPSZtop coatAl19 ceramic material by EB-PVD	GTRE-DRDO	960,000	2019-2021
22.	Dr.Annam Renita	Design of a sampling instrument for detection of toxic isocyanate vapours in solid propellant plants and demonstration of its working principle No.ISRO/RES/3/820/19-20	ISRO-LPSC	887,000	2019-2020
23.	Dr.Vinita Vishwakarma (Mentor), Dr.Deeh Defo Patrick Brice	Mechanistic investigation of the biological effects of zinc oxide nanoparticles and melatonin on cyclophosphamide-induced toxicity in reproductive cells	DST – (RTF-DCS)	283,333	2019-2020
24.	Mrs.Grace Kanmani, Mr.Immanuvel	Rural non-invasive primary health kiosk	MHRD-UBA	100,000	2019-2020
25.	Dr.Y.Swarnalatha, Dr.Sujitha	Nanoformulations for Selected Mosquito Larvae Vector Control	MHRD-UBA	100,000	2019-2020
26.	Dr.Sundareshwari	Science on wheels	MHRD-UBA	100,000	2019-2020
27.	Dr. M. S. Sangeetha, Dr. Nandhita	Condition monitoring of transformers and Transmission lines using Infra Red Thermography	MHRD-UBA	100,000	2020-2021
28.	Dr. Nandhita, Dr. S. Emalda Roslin, M. A. Muthiah	Automatic Intrusion Detection for assisting farmers	MHRD-UBA	100,000	2020-2021

S. No	Name of the Investigator(s)	Title	Funding Agency	Amount Sanctioned (in Rs)	Duration
29.	Dr.Annie Elizebeth	Erection of Energy Efficient Stand alone Solar Powered street light	MHRD-UBA	100,000	2020-2021
30.	Dr.Pandian, Dr.Lalitha	Smart Compost development from solid waste	MHRD-UBA	100,000	2020-2021
31.	Dr.Prayla shyry	Empowerment of Rural People through home-made soft toys	MHRD-UBA	100,000	2019-2020
32.	Ms. Nirmala N, Dr. Dawn S S	Recycle of Ritual Waste Materials to Incense Sticks-An Eco-Friendly Approach for Rural Industrialization and Entrepreneurship Development	MHRD-UBA	50,000	2019-2020
33.	Dr. L Stanley Abraham	Development of Sustainable Agriculture system for revival of traditional rice cultivation in Kumizhi village,	MHRD-UBA	50,000	2020-2021
34.	Dr. S.S. Dawn	Eco Friendly soap from used cooking oil	MHRD-UBA	50,000	2020-2021
35.	Dr. S.S. Dawn	A Technology Development for conversion of food waste to organic pots – a replacement to sapling distributing polythene bags	MHRD-UBA	50,000	2020-2021
36.	Dr V. Maria Anu	Cattle farm management using RFID tags	MHRD-UBA	50,000	2020-2021
37.	Dr. Rekha Chakravarthi, Dr. Nandhita. Dr. B. Rajasekar	Automatic Intrusion Detection for assisting farmers	MHRD-UBA	50,000	2020-2021
38.	Mr.Sethuraman, Mr.Saravanan	AI enabled multilingual voice Bot for creating Awareness to Dispensing Maternal and Child Care through Interactive Voice Response System for Rural Women	MHRD-UBA	50,000	2019-2020

S. No	Name of the Investigator(s)	Title	Funding Agency	Amount Sanctioned (in Rs)	Duration
39.	Dr G Sundari	FUTURISTIC APPLICATIONS AND RESEARCH OPPORTUNITIES OF NANOELECTRONICS IN BIOSCIENCE	AICTE	3,36,667	2020
40.	Dr V Vijaya Baskar	Modernisation of Electronics Lab	AICTE	17,70,000	2020
41.	Dr T Sasipraba	SPDP-Skill and Personality Development Programme Centre for SC/ST Students	AICTE	23,04,000	2020
42.	Dr S Prakash	Digital Twin Technology for Industrial Automation Process	AICTE	2,85,000	2020
43.	Dr S Prakash	3D Printing & Design	AICTE	93,000	2020
44.	Dr S Prakash	Modernize the Advanced Manufacturing Technology Laboratory	AICTE	12,00,000	2020

6.2 ONGOING PROJECTS FOR THE AY 2019-2020

S.No	Name of the Investigator(s)	Title	Funding Agency	Amount Sanctioned (in Rs)	Duration
1.	Dr. B. Sheela Rani, Dr. Inbakandan, Dr. L. Stanley Abraham, Dr.V. Ganesh Kumar	NSTEDB, TBI	NSTEDB, DST	46104000	(2013-2016) (2018-2020)
2.	Dr.T.Sasipraba , Dr. P. Kuppusami, Dr.T.S.Shyju, Dr. S S Dawn	Centre of Excellence for Energy Research – under the scheme of Establishment of Centre for Training and Research in Frontier Areas of Science & Technology (FAST)	MHRD	40000000	2014-2021
3.	Dr.K.Govindaraju, Dr.D.Inbakandan, Dr.L.Stalney Abraham, Dr.V.Ganesh Kumar, Dr.B.Sheela Rani	National facility on Anti Cancer Nano Medicine	DST	10182766	2019 – 2020
4.	Dr.Radhika Rajasree SR	Postgraduate Diploma course on Skill Development in Fishery Products Technology	DBT-HRD	8336000	2018-2021
5.	Dr. P. Krupakar	Identification of Biomarkers for the development of rapid diagnosis of pulmonary tuberculosis by quantum dot bio-imaging	MHRD-SPARC	4900000	2019-2020`

S.No	Name of the Investigator(s)	Title	Funding Agency	Amount Sanctioned (in Rs)	Duration
6.	Dr.Dinesh Kumar, Dr.P.Kuppusami	Design, Fabrication and Evaluation of Compositionally Graded Nanocomposite Hard Coatings for High-Temperature Tribological Applications	DST-SERB	4343020	2019-2022
7.	Dr.K.Govindaraju, Dr.D.Inbakandan, Dr.L.Stanley Abraham, Dr.V.Ganesh Kumar	Studies on the impact of elevated levels of water temperature and acidity on the developmental stages, biochemical, immunological and molecular responses in marine organisms (artemia, rotifer and penaeus vannamei)	ICAR-NICRA	3650000	2016 - 2020
8.	Dr.D.Inbakandan	Development of antifouling technologies against green mussel fouling for process cooling water system	BRNS	3500000	2019 – 2020
9.	Dr. Ravi Mani	Characterization of DNA barcoding of polychaetes from the South east coast,India”	MoES	3452760	2019-2022
10.	Dr.Amit Kumar, Dr.Prakash S	Can Seaweed Contribute Towards Sustainable Future by playing a role in Climate Change Mitigation and Adaptation (No.ECR/2017/002894)	DST-SERB	2995000	2018-2021

S.No	Name of the Investigator(s)	Title	Funding Agency	Amount Sanctioned (in Rs)	Duration
11.	Dr.K.Govindaraju	Studies on the anti-cancer potential of venom proteins from jellyfish species and their structural characterization	DBT	2831800	2018-2021
12.	Centre for Ocean Research	DST-FIST (Earth Sciences)	DST-FIST	2800000	2016 – 2021
13.	Dr.Anoop Kumar Mishra	Development Near real-time high-Resolution Precipitation Product using Multi-Satellite Sensors for near real time flash flood monitoring	CSIR	2689400	2017-2020`
14.	Dr. Kishan Singh Rawat, Dr Anoop Kumar Mishra	Modelling regional soil moisture through microwave remote sensing and water cloud model	SERB	2684000	2017-2020
15.	Dr.P.Kuppusami, Dr.Kamalan Kirubakaran	Development and characterization of Tribological Coatings Prepared by Reactive Magnetron Sputtering	CVRDE, DRDO	2489080	2017-2020
16.	Dr. Subramonium, Dr.Poornapushpakala	A Novel Non Invasive Electronics For early Diagnosis of Arthritis	DST	2412196	2019-2022
17.	Dr Anoop Kumar Mishra	Detecting convective clouds over India using multi-spectral satellite observations and quantifying their variability in changing climate	ISRO	1987000	2017-2020

S.No	Name of the Investigator(s)	Title	Funding Agency	Amount Sanctioned (in Rs)	Duration
18.	Dr.V.Karthick	Self-assembling dendrimer nanomicelles as innovative anticancer agents	Takeda Foundation Japan	1931000	2019 – 2020
19.	Dr.Lesitha John, Mentor: Dr.Jaynthi C	Atomistic Modelling and Simulation of Mucin 1 Autoproteolysis using Umbrella Sampling and Replica Exchange Algorithms	DST-SERB	1920000	2018-2020
20.	Dr.Premalata Pati Mentor: Dr.Radhakrishnan	Potential antituberculosis metabolites from actinobacteria isolated from bhitarkanika mangrove eco system,	DST-SERB	1920000	2018-2021
21.	Dr.T.Senthilvelan Mentor: Dr.LStanley Abraham	Extraction of value-added products from paper industry waste using bacterial laccase:An eco-friendly approach to wealth from waste	SERB-NPDF	1920000	2018-2020
22.	Dr.T.Stalin Dhas	Improving in vivo reliability of resorbable magnesium implant material using bio-ploymenr and graphene oxide nanosheets	DST-TARE	1848000	2019 - 2020
23.	Dr.Rajesh Kannan (Mentor), Dr.Suraiya Saleem	Unravelling the role of neuroinflammation in Alzhiemers Disease	DBT-RA	1500000	2018-2021

S.No	Name of the Investigator(s)	Title	Funding Agency	Amount Sanctioned (in Rs)	Duration
24.	Dr.J.Theerthagiri, Dr.P.Kuppusami	Development of Morphology-Controlled Transition Metal Sulfides Supported on Carbon-Based Materials as Advanced Electrodes for Supercapacitor Applications;	VSSC, ISRO	1492000	2018-2020
25.	Dr. Jerrine Joseph	Distribution of culturable marine Micromonospora in Mangrove ecosystems,	MoES	1345000	2019-2020`
26.	Ms.Subashini.B) Mentor:Dr.D.Inbakandan	Molecular evaluation of Chitosan Nanoparticle mediated curcumin delivery against pathogen induced oxidative stress in Liptopenaeus vannamei	ICMR SRF	913600	2018-2020
27.	Dr. Poornapushpakala, Dr.Barani, Dr.Subramoniam Ms.Vijayashree	Development of Non-Destructive Digital Technology for Restoration and Archiving of Tanjore Paintings and Murals	Indian Council of Social Science Research-MHRD	800000	2019-2021
28.	Dr. Jerrine Joseph	Bacterial disease management by microbial eco-friendly Approach For Forestry: With Special Reference To Bamboo	TNSFD & Biozone Pvt Ltd	609000	2019-2020`
29.	Dr Anoop Kumar Mishra , Dr K. Nagamani	(RTF-DCS) scheme	DST	400000	2020-2021

S.No	Name of the Investigator(s)	Title	Funding Agency	Amount Sanctioned (in Rs)	Duration
30.	Dr.V.Parameswaran, Ms.Jyostna	Isolation, culture and characterization of fish embryonic stem cells and their applications in transgenesis	CSIR	336000	2019 - 2020
31.	Dr. Stanley Abraham	Development of sustainable agriculture system for revival of traditional rice cultivation in kumizhi village , Kanchipuram	UBA	100000	2019-2020
32.	Dr. SS. Dawn	Eco-friendly soap from used cooking oil	UBA	100000	2019-2020
33.	Dr. Maria Anu	Cattle farm management using RFID tags	UBA	100000	2019-2020
34.	Dr. Rekha , Dr. Nandhita, Dr. Rajasekar	Automated Pest detection and control using acoustic signal in wireless sensor network	UBA	100000	2019-2020

6.3 COMPLETED PROJECTS FOR THE AY 2019-2020

S. No.	Name of the Investigators	Name of the Project	Funding Agency	Amount Sanctioned	Year of Completion
1	Dr.Manikannan Mathaiyan	Targeting the Herpes Simplex Virus entry and fusion by identifying the glycoprotein inhibitors from marine algae Sargassum	SERB	3531440	2019

S. No.	Name of the Investigators	Name of the Project	Funding Agency	Amount Sanctioned	Year of Completion
2	Dr.P.M.Velmurugan	Late Holocene tectonic land level changes and tsunamis: Comparison betw Muthupet Lagoon, Bay of Bengal and Rocky Island Creek, South Andaman, Indian Ocean	DST-SERB	3424968	2020
3	Dr.S.Prakash	Physiology and Molecular Adaptations of Coral Reef Dwelling Caridean Shrimps to Climate Change	DST-SERB	2182000	2019
4	Dr.Venugopal Gopikrishnan	Bioprospectingof fish-associated actinobacteria for Quorum sensing inhibitors effective against microbial biofilms	SERB	2025000	2019
5	K.GOVINDARAJU , (Dr. V. Veeramani)	Studies on the preparation and efficacy of inactivated viral vaccine with various adjuvants and grass carp, Ctenopharyngodon idella immunostimulants against reovirus infection in grass crap	DST-SERB	1920000	2019
6	Dr.V.Ganesh Kumar, (Dr. S. Tamilselvan)	Anti-cancer efficacy of MgO nanoparticles synthesized using marine alga: In-vitro and In-vivo study for Hepatocellular carcinoma	DST-SERB	1920000	2019
7	Dr.D.Inbakandan, (Dr. S.U.Mohammed Riyaz)	Assessment of microbiome responsible for the ice-ice disease of the farmed red algae Kappaphycus alvarezii: a case study based on high-throughput Illumina sequencing of the V3–V4 region of the 16S rRNA ge	DST-SERB	1920000	2019

S. No.	Name of the Investigators	Name of the Project	Funding Agency	Amount Sanctioned	Year of Completion
8	Dr.D.Inbakandan (Dr.G.Kavitha)	Production of marine bacterial bioplastic polymer and its nanocomposites for marine antifouling application	DST-SERB	1920000	2019
9	Dr.Suja. E, Dr.Dawn S S (Mentor)	Pharmaceuticals and personal care products (PPCPs) in biological wastewater treatment plants: Investigating biological nutrient removal, microbial phylogeny and PPCP removal	SERB-DST	1920000	2019
10	Dr.Jayakar Santhosh, Dr.A.Madan Kumar (Mentor)	Nano particle-based biosensor for detection of Leptospira from Environmental and Clinical samples	SERB-DST	1920000	2019
11	Dr.Jhansi Rani, Dr.Rajesh Kannan (Mentor)	Molecular Studies on VEGF inhibitor from Marine Tunicate Symbiotic Actinomycetes and its anti-angiogenic effect on zebrafish model	SERB-DST	1920000	2019
12	Dr.Sujitha, Dr.Rajesh Kannan (Mentor)	Insights into the crosstalk mechanism of COX-2 and c-myb proto-oncogene protein in hematopoietic cancer induced zebrafish model	SERB-DST	1920000	2019
13	Dr.LStanley Abraham (Mentor) (Dr.T.Senthilvelan)	Extraction of value-added products from paper industry waste using bacterial laccase:Aneco friendly approach to wealth from waste	DST-SERB	1920000	2019

S. No.	Name of the Investigators	Name of the Project	Funding Agency	Amount Sanctioned	Year of Completion
14	Dr Anoop Kumar Mishra	Quantification of impact of regional climate change on precipitation patterns over India	MoES	1543200	2019
15	Ms.Reenu Mary Kuriakose, Dr.Brijitta	Synthesis, Characterization and collective properties of active particles	DST-WOSA,	1380000	2019
16	Dr Marrykutti Abraham	Strategies to harness Runoff Rundown from mountainous watersheds by rejuvenation of tanks and artificial recharge to increase utilisable water: A case of Thiruvannamalai hills	DST	1034440	2019
17	Dr.B.Prabhu Dass Batvari	High resolution Digital Elevation Model	CVRDE(DRDO)	959400	2020
18	B. Sheela Rani, N.M. Nandhitha	Design of signal analysis Techniques for Determining the Parameters Responsible for Plasma Disruptions in Aditya Tokamak	BRNS, DAE	939500	2019
19	Dr.Johnson Rethnaraj Samuel	Understanding the angiogenesis during regeneration of earthworms using foldscope	DBT-Fold scope	800000	2020
20	Dr. Selvanchristyraj Jacksondurairaj	Understanding the role of Triphala in tissue regeneration and stem cell proliferation	DBT-Fold scope	800000	2020
21	Dr. Rajasekar	Foldscope: Mul color imaging of zebrafish brain using fluorescein-sorbitol conjugates	DBT-Fold scope	800000	2020
22	Dr Anoop Kumar Mishra	An investigation of the changes in cloud cover using long term trends in precipitation extremes and their impact on radiation feedback	SERB	650000	2019

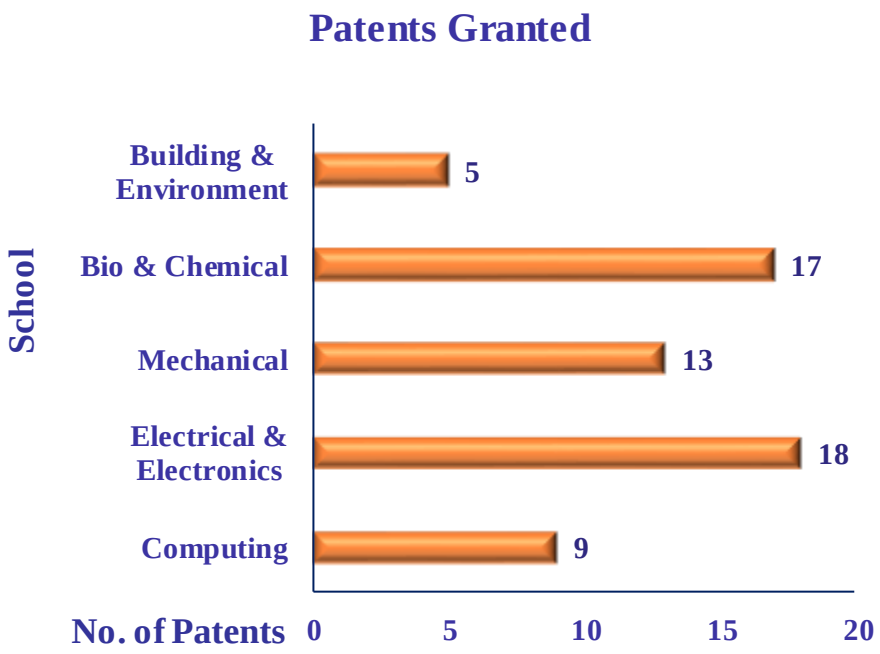
S. No.	Name of the Investigators	Name of the Project	Funding Agency	Amount Sanctioned	Year of Completion
23	Dr.D.Sivaraman	Safety and Efficacy Evaluation of Siddha drugs	Collaborative Research projects	420960	2019
24	Dr.Vinita Vishwakarma (Mentor) Dr.Deeh Defo Patrick Brice	Mechanistic investigation of the biological effects of zinc oxide nanoparticles and melatonin on cyclophosphamide-induced toxicity in reproductive cells	DST – (RTF-DCS)	283333	2019
25	Dr.P.M.Velmurugan	Collection and analysis of Marine water and Marine sediments, phytoplankton, Zooplankton and Benthos	Clariant Chemical (India) Limited	184080	2019
26	Mrs.Grace Kanmani, Mr.Immanuvel	Rural non-invasive primary health kiosk	MHRD-UBA	100000	2020
27	Dr.Y.Swarnalatha, Dr.Sujitha	Nanoformulations for Selected Mosquito Larvae Vector Control	MHRD-UBA	100000	2020
28	Dr.Sundareshwari	Science on wheels	MHRD-UBA	100000	2020
29	Mr.Sethuraman, Mr.Saravanan	AI enabled multilingual voice Bot for creating Awareness to Dispensing Maternal and Child Care through Interactive Voice Response System for Rural Women	MHRD-UBA	50000	2020
30	Ms. Nirmala N, Dr. Dawn S S	Recycle of Ritual Waste Materials to Incense Sticks- An Eco-Friendly Approach for Rural Industrialization and Entrepreneurship Development	MHRD-UBA	50000	2020

PATENTS

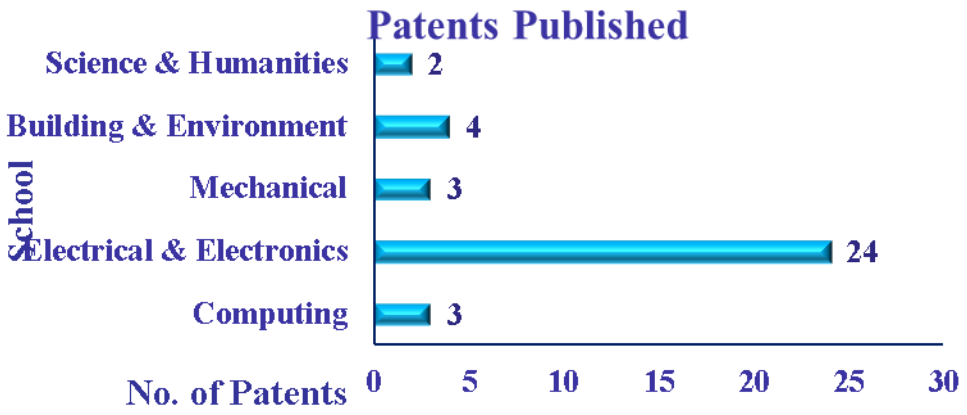
7. PATENTS FOR THE YEAR 2019-2020

IP policy is an important tool for encouraging generation, protection, and commercialization of Intellectual Properties in Universities and Research Instituteions. Patent protection gives an incentive to inventors for more inventions, leading to greater skills. Intellectual Property Rights (IPR) act as a shield to such inventions. The Sathyabama IP division spreads awareness on the importance of filing the patent application for an invention. Several workshops and faculty development programs were conducted to support the same. The research efforts of the faculty members are successfully translated into patented inventions. A total of 18 patents were granted, 36 patents were published and 34 patents were filed during this period.

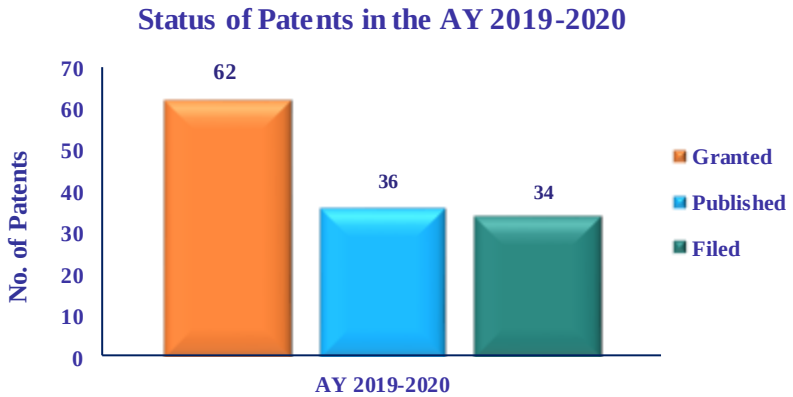
Patents Granted in the AY 2019-2020: 62					
School	**Computing**	**EEE**	**MECH**	**Bio & Chemical**	**Building and Environment**
No. of Patents Granted	**9**	**18**	**13**	**17**	**5**



Patents Published in the AY 2019-2020: 36					
School	**Computing**	**Electrical & Electronics**	Mechanical	Building & Environment	Science & Humanities
No. of Patents Published	**3**	**24**	**3**	**4**	**2**



Patents Granted / Published / Filed in the AY 2019-2020: 132			
Status	**Granted**	**Published**	**Filed**
No. of Patents	**62**	**36**	**34**



7.1 PATENTS GRANTED FOR THE YEAR 2019-2020

S.No.	Year	Title of the Invention	Grant Number
1.	2019	Seaweed Crushing Machine (Mech)	313577-00102/01/2019
2.	2019	Semi Automatic Blood Group Identification Device (CSE)	313578-00102/01/2019
3.	2019	Base Plate for Unmanned Aerial Vehicle (Mech)	316200-00129/03/2019
4.	2019	Portable protractible shelter (Civil)	316668-00111/04/2019
5.	2019	High pressure cleaning device for solar panels (ELE)	316669-00211/04/2019
6.	2019	Blood slides sterilization equipment (BIO)	316670-00111/04/2019
7.	2019	Slide washing equipment (BIO)	316670-00211/04/2019
8.	2019	Tunnel inspection device with camera (ELE)	316671-00111/04/2019
9.	2019	Lighting Device for Tunnel Construction Works (ELE)	316672-00111/04/2019
10.	2019	Robot for Multi Identifying Spilled Hazardous Material on Floor(CSE)	316673-00111/04/2019
11.	2019	Robot for Identifying Spilled Hazardous Material on Floor(CSE)	316673-00211/04/2019
12.	2019	Device with Assisted Attendance Marking for Handicapped(CSE)	316962-00118/04/2019
13.	2019	Agriculture Drone with Pesticide Sprayer(CSE)	316963-00118/04/2019
14.	2019	Helmet with Electronic Lock (ELE)	316967-00118/04/2019
15.	2019	Inspection Panel for Examining Metal Properties (ELE)	316968-00118/04/2019
16.	2019	Height Adjustable Hydraulic lifting Ambulance stretcher bed (MECH)	316969-00118/04/2019
17.	2019	Transparent Candle Flame Protective Cover (ELE)	316970-00118/04/2019
18.	2019	Portable Hydraulic lifting work platform(MECH)	316972-00118/04/2019
19.	2019	Foot Dryer for Washroom Doorways (MECH)	316973-00118/04/2019
20.	2019	Temperature Sensing Device for Bio-fuels (BIO)	316976-00118/04/2019
21.	2019	Food Testing Apparatus with Carbon Free Exhaust (BIO)	316976-00218/04/2019
22.	2019	Fish Waste Cleaning Equipment (Bio)	316977-00118/04/2019
23.	2019	Glassware Cleaning Apparatus for Laboratories (Bio)	316977-00218/04/2019
24.	2019	Telescopic UV Insect Trap (BIO)	316978-00118/04/2019
25.	2019	Laboratory reagent holder (Bio)	316980-00118/04/2019
26.	2019	Smart Gloves (CSE)	316984-00118/04/2019
27.	2019	Retractable Candle Holder (ELE)	316985-00118/04/2019
28.	2019	Stretcher Bed Level Equalizer for Ambulance (BIO)	316986-00118/04/2019
29.	2019	Agriculture Drone with Sprayer (BIO)	316987-00118/04/2019
30.	2019	Hand cutting Machine Multi cutter (CIVIL)	317783-00116/05/2019

S.No.	Year	Title of the Invention	Grant Number
31.	2019	Biodegradable Bacterial Float for Culture in Sewage (Civil)	317784-00116/05/2019
32.	2019	Hand Gloves with Thermometer & Digital Display (CSE)	317785-00116/05/2019
33.	2019	Automatic Image Sensing Visor for vehicle (CSE)	317786-00116/05/2019
34.	2019	UV Light Examination Apparatus for Inspection Metals (ELE)	317787-00116/05/2019
35.	2019	UV Panel Light Projection with Digital Microscope Camera (ELE)	317787-00216/05/2019
36.	2019	LID with Sensor (ELE)	317788-00116/05/2019
37.	2019	Multipurpose Agricultural Robot (MECH)	317206-00126/04/2019
38.	2019	Coffee Cup Instant Warmer (Bio)	320184-00130/07/2019
39.	2019	Automatic Fish Feeder (Bio)	320186-00130/07/2019
40.	2019	Water quality maintaining equipment for fish tank (Bio)	320185-00130/07/2019
41.	2019	Coffee Cup Instant Warmer with Blender (Bio)	320184-00230/07/2019
42.	2019	Non metal coffee cup warmer (BIO)	320184 - 00330/07/2019
43.	2019	Agility Disc With LED (ELE)	320199-00130/07/2019
44.	2019	Electric Powered Peanut Shredder (Ele)	320198-00130/07/2019
45.	2019	Solar peanut shredding machine (ELE)	320198-00230/07/2019
46.	2019	Electric hot knife (ELE)	320195-00130/07/2019
47.	2019	Portable car parking vacant slot indicating display (ELE)	320197-00230/07/2019
48.	2019	Anti-Theft Lock for Motorcycles (ELE)	320196-00130/07/2019
49.	2019	Car Parking Vacant Slot Indicating Alarm (Ele)	320197-00330/07/2019
50.	2019	Jumping Dummy Doll Basketball Training(ELE)	320194-00130/07/2019
51.	2019	Agility Cone with LED (ELE)	320199-00230/07/2019
52.	2019	Lifting device for LPG cylinders (Mech)	320191-00130/07/2019
53.	2019	Multi knife vegetable cutter (MECH)	320190-00130/07/2019
54.	2019	Portable with LPG Cylinder Escalating Device (Mech)	320191-00230/07/2019
55.	2019	Dispensable Writing Pad (Mech)	320192-00130/07/2019
56.	2019	Portable Basketball Training Equipment (Mech)	320193-00130/07/2019
57.	2019	Portable Basketball Training Equipment with Ball Collector (mech)	320193-00230/07/2019
58.	2019	Multi Stage Portable Brick Elevating Conveyor (MEch)	320202-00130/07/2019
59.	2019	Portable Brick Elevating Conveyor (Civil)	320202-00230/07/2019
60.	2019	Digital water level indicator for tanks (Civil)	320201-00130/07/2019
61.	2019	Multi Solar Aerator for Prawn Culture (Bio)	320091-001
62.	2019	Solar Aerator for Prawn Culture (Bio)	320092-001

7.2 PATENTS PUBLISHED FOR THE YEAR 2019 - 2020

S. No.	School	Name of the Inventor	Title of the Patent	Application No.
1.	Computing	Dr.L.Mary Gladence, Dr.V.Maria Anu, Ms.E.Brumancia	IOT enabled smart wearable handy sanitizer dispenser	202041028753A
2.	Computing	Dr.Senduru Srinivasulu , Ms Rmaya G Franklin , Ms.J.S.Vimali, Dr.S.Gowri, Dr.J.Jabez , Dr.S.Murugan, Dr.V.Ulagamuthalvi, Dr.B.Muthukumar	Type 2 Diabetes Detection and Estimation from Glucose Levels by Feature Detection using Machine Learning Algorithm	20 2041023885
3.	Computing	Dr.A.Sivasangari, Dr.P.Ajitha, Mrs.R.M.Gomathi, Ms.Indira, Mrs.Brumancia, Mrs.Karunya	IoT Enabled Crop managent Sytem	E-165/2019-CHE
4.	Science & Humanities	Dr.V.Kavitha	Sustainable and Environmental Benign Biodiesel -Diary Scum and Egg shell/seashell waste	2017 41043884
5.	Building	S. Vanitha	Waste Plastics in Concrete Blocks	2017 41024991
6.	Building	Mr.Praveenkumar	Device,system and method of integrated and artificially intelligent rapid emergency commute	202041022
7.	Building	M. Praba	Glass Powder In Cement Concrete	201741043742 A
8.	Building	M. Praba	An Apparatus For Trash Collection With User Interface System	201941024619 A
9.	EEE	G Jegan	Effective Management Analysis Of Signal Coverage And Novel Design Of Triangular Patch Antenna For Quasi Elliptic Band Pass Response	202041020290
10.	EEE	G Jegan	Emergency Notification Systems For Use With Footwear For User's Safety	202041026841

S. No.	School	Name of the Inventor	Title of the Patent	Application No.
11.	EEE	Dr.T.VINO	Emergency Notification Systems For Use With Footwear For User's Safety	202041026841
12.	EEE	Dr.S.Jaya Prakash	Automatic voltage level indicator for battery at small range of Power Appliances	2016 41037041
13.	EEE	Mr.Nirmal Raj	Generation of Electricity using the Pressure of Rain Water and Piezoelectric pressure sensor	2016 41038108
14.	EEE	Mr.V.Senthil Nayagam	Head gear &incisive bike frame for exile of civilian	2018 41014691
15.	EEE	Dr.R.Vanitha	Automatic speed control of automobiles using micro controlled brakes	2018 41020920
16.	EEE	Mrs.Ramya.D	Hydrogen hybrid machine	2018 41011280
17.	EEE	Dr.Abitha Memala.W	Internet of things based automated toll collection system	2017 41033448
18.	EEE	Mrs.M.Pushpavalli	Neoteric reminder device for etherasl barrel	2017 41038641
19.	EEE	Dr.S.D.Sundarsingh jebaseelan	Development of solar air conditioning system using electric power optimizxation technique	2017 41039062
20.	EEE	Mr.V.Senthil Nayagam	Smart charger for communication device	2017 41039058
21.	EEE	Mr.B.Padmanabhan	Whytek-techy wear	2017 41039057
22.	EEE	Mr.A.Ramesh babu	Development of smart helmet to reduce impact of road accident	2017 41040179
23.	EEE	Mr.J.Barnabas paul glady	Automobile wheel position detection	2017 41040168
24.	EEE	Dr.G.T.Sundarajan	Blind user wearable audio assistance for outdoor navigation based on visual markers and ultrasonic	2017 41040172
25.	EEE	Mrs.M.Pushpavalli	Smart gas detection system using embeded system	2018 41006363

S. No.	School	Name of the Inventor	Title of the Patent	Application No.
26.	EEE	A.Santhi Mary Antony	Sensor based pc sepic converter fed bldc motor drive for fan applications	2016 41037236
27.	EEE	Dr.S.Radhika	Reduced size ac to dc adapter	2016 41037243
28.	EEE	D.Ramya	Development of an automatic regulation with a great precision and proper hysteresis	2016 41037239
29.	EEE	Dr.D.Godwin Immanuel	Solar powered adaptive ventillation control	2016 41038100
30.	EEE	A.Santhi Mary Antony	Bridgeless Isolated CUK Converter with Bumpless Control for reduced THD in PFC	2018 41009901
31.	EEE	R.Meenadevi	Bridgeless sepic power factor correction converter circuit	2016 41038374
32.	EEE	M.S.Godwin Premi	Design of Autonomous Robot used to Disinfect Hospital Rooms with Concentrated UV Light	2020 41025847
33.	Science & Humanities	Dr.D.S.Jayalakshmi	Design of Novel Electrostatic Spray Machine For Killing Locust	2020 41028546
34.	MECH	Dr. G. Arunkumar	Refrigerator with Warmer chamber	43714
35.	MECH	Dr.T.N.Valarmathi	Design Patent: GO KART/12-08	327989-001
36.	MECH	Mr.J.R.Deepak	Mobile phone case with collapsible Air/14-03	325332-001

7.3 PATENTS FILED FOR THE YEAR 2019 - 2020

S. No.	School	Name of the Inventor	Title of the Patent	Application No.
1	Biomedical	Ms.Bethanney Janney	The walker – simple blind cane	2019 41025356
2	Biomedical	Ms.Sindu Divakaran	Automated Alert Device For the Hearing Impaired People	2019 41026349
3	Biomedical	Dr.J Premkumar	Design of Pediatric Wrist Bot For Upper Extremities	2019 41038880
4	Biomedical	Dr. S. Krishnakumar	Ultrasonic Bone conductivity headphone for Muffled ears	2019 41038885
5	Chemistry	Dr. K. Chennakesavulu	Development of polymer composite for EMI shielding applications	20191105449
6	Civil	S. Vanitha	Climatization process in residential building using Geo exchange system	2017 41024991
7	Biotechnology	Dr.Y.Swarnalatha	Economic gel extractor	326421-001
8	ECE	S. Karthikeyan	Water Extraction from Air	329725-001
9	ECE	Dr.I.Rexiline Sheeba	Design And Implementation Of Microstrip Patch Antenna Working In ISM Band For the Detection Of kidney stone in humankidney	202041006486
10	ECE	L.Magthelin Therase	Centralized System for Emergency Vehicles passing with Authentication	202041010886
11	ECE	Dr.E.Anna Devi	Design and Development of Selective Tea leaf plucking Robot	202041011238
12	ECE	Dr. R. M. Joany	NANO-BLUE PIGMENT FROM WASTE IRON ROD-WEALTH FROM WASTE	2.01641E+11
13	ECE		Design and Development of Selective Tea leaf plucking Robot	202041011238
14	ECE	R SAKTHI PRABHA	Automatic waste target detection and removal of waste materials in water bodies using Embedded System	202041005466

S. No	School	Name of the Inventor	Title of the Patent	Application No.
15	ECE	R SAKTHI PRABHA	Design And Implementation Of Microstrip Patch Antenna Working In ISM Band For the Detection Of kidney stone in humankidney	202041006486
16	ECE	Dr.G.D.Anbarasi Jebaselvi	Adept Configurations and Processes f or Perovskite solar module	201941021029
17	ECE	Dr. P. Grace Kanmani Prince	Non Invasive Anytime Healthcare Machine(Athm)	202041006408
18	ECE	Dr.R.Narmadha	Integrated Sensing Technology For Aquaculture Automation	202041008499
19	ECE	J PREMALATHA	Non Invasive –Any Time Health Care Machine	202041004078
20	EEE	Dr.Sundar Singh Jebaseelan	Light Intensity Regulator	329907-001
21	EEE	Mr.Nirmal Raj	An Intelligent Underwater Surveillance System for Real Time Coral Reef Monitoring	2019 41014085
22	EEE	Mr.Nirmal Raj	Anutomatic head light dim / bright controller	2018 41022304
23	EEE	Mrs.V.Meenakshi	Adept Configurations and Processes for Perovskite solar module	
24	EEE	Mrs.M.Kavitha	Electrolysis Washing Machine	2020 41006243
25	ETCE	Megalan Leo.L	Smart Garbage Management System	2020 41010884
26	ETCE	Poonguzhali S	Design of system for identifying crash landed flight vehicle	2020 41006409
27	physics	Dr.S.Ravichandran	Design and structural properties of Styrene-Ethylene-Butylene-Styrene/ polysulphide/epoxycompositesreinforced with MoringaOleifera fiber for roofing system	E-2/3738/2017-CHE,CBR NO.372560
28	physics	Dr.C.Rameshkumar	Cost effective system for automatic unmanned level crossing system using self sustained power supply	2018/410/36499

S. No	School	Name of the Inventor	Title of the Patent	Application No.
29	physics	Dr.C.Rameshkumar	Design and fabrication of prototype for the generation of Nano bubbles in various aqueous solutions	2018/410/47134
30	physics	Dr.M.Sundareswari	iridium based alloy for aerospace applications	2018/110/40540
31	Mechatronics	Mr.J.R.Deepak	Mobile phone case with collapsible corner Air cushion /14-03	325332-001
32	Pharmacy	Dr.Marslin Gregory	Biosynthesized silver nanoparticles for ovarian Cancer	2020 241006393
33	Pharmacy	Dr.Surya PR	Design and Synthesis of few novel benzimdazole and pyridine derivatives as anti TB agents	2020 41008290
34	Pharmacy	Dr.Surya PR	Synthesis of Noval Heterocyclic derivatives as anticancer agents	2020 41023565

STARTUPS

8. STARTUPS

Sathyabama has an excellent innovation eco system, to encourage and promote the development of innovative products and startups. Internal events such as Hackathons, Techno Summits, Project Expos, Entrepreneurship programs, Startup Summit, IPR awareness programmes are conducted to promote entrepreneurship, technology transfer and business startups for young entrepreneurs to take the plunge into startup life. The initiatives of Sathyabama Technology Business Incubator focus on supporting and nurturing the entrepreneurial drive in the students and enhance the skills of aspiring entrepreneurs. The Institution provides seed fund for Innovative ideas, Product Development, Startups to students and faculty.

8.1 Incubates of Sathyabama TBI during 2019-2020

- Imagine Trend:
  create innovative automobile products and focus on e-commerce marketplaces through digital marketing.
- F Science:
  Probiotics are live microorganisms that confer a health benefit on the host when administered in adequate amounts. Hence, the aim of our initiative is to carryout research and manufacturing of efficient probiotics for animal health management.

8.2 Product Commercialization & Innovation

- Seaweed Liquid Fertilizer
- Product Development Mushroom Cultivation:
- Product Development: Spiriluna Enriched Artemia
- Product Development Trash fish Liquid Fertilizer and Trash fish bio fertilizers
- Biodiesel
- Bio Plastics
- UV disinfectant
- Solar Lamps

RESEARCH COLLABORATIONS

9. RESEARCH COLLABORATIONS

9.1 INTERNATIONAL RESEARCH COLLABORATIONS FOR THE YEAR 2019 - 2020

S.No	Scientist Name	Name of the laboratory/ Institute	Year of the Collaboration	Outcome of the Collaboration
1.	Dr. J. Brijitta	Dr. Aurel Radulescu, Jülich Centre for Neutron Science (JCNS), Garching, Germany	2019	Joint Research Publication
2.	Dr. J. Brijitta	Dr. Ralf Schweins, Institut Laue-Langevin (ILL), Grenoble, France	2019	Joint Research Publication
3.	Dr. J. Brijitta	Prof. Marco Laurati, University of Florence, Italy	2020	Joint Research
4.	Dr. J. Brijitta	Prof. Peter Schurtenberger, Lund University, Sweden	2019	Joint Research Publication
5.	Dr. J. Brijitta, S. Sanjeevi Prasath	Prof. Ulf Olsson, Lund University, Sweden	2019	Joint Research/ Joint Research Publication
6.	Dr. G. Murugadoss	Dr. M. Rajesh Kumar, Institute of Natural Science and Mathematics, Ural Federal University, Russia	2019-2020	Joint Research Publication
7.	Dr. G. Murugadoss	Dr. R.V. Mangalaraj, Advanced Ceramics and Nanotechnology, Department of Materials Engineering, University of Concepción, Concepción,Chile	2019-2020	Joint Research Publication
8.	Dr. Ranjita Misra	Dr. Manasi Das, California University, USA	2020	Joint Research Publication
9.	Dr. Thanga Suja	Dr. Douglas J.H Shyu, National Pingtung University of Science and Technology, Taiwan	2019	Oryzacystatin:potent phytocystatin characterized, Joint Research Publication
10.	Dr. Thanga Suja	Dr. Paul Nabity, University of California, Riverside, USA	2019	Joint Research
11.	Dr. Vinita Vishwakarma	Clement O. Ogunkunle, Ph.D.,Department of Plant Biology/ University of Ilorin/ Nigeria	2016-2020	Joint Research Publication

S.No	Scientist Name	Name of the laboratory/ Institute	Year of the Collaboration	Outcome of the Collaboration
12.	Dr. Vinita Vishwakarma	Centre for Technology in Water andWaste water (CTWW), University of Technology Sydney (UTS), Australia	2019-2021	Joint Research (SPARC)
13.	Dr. Vinita Vishwakarma	Centre for Technology in Water and Wastewater (CTWW), University of Technology Sydney (UTS), Australia	2019-2021	Joint Research SPARC Project
14.	Dr. Vinita Vishwakarma	Dr. DEEH DEFO Patrick Brice, University of Dschang, Cameroon	2017-2020	Joint Book Publication CV Raman and RTF-DCS fellowship
15.	Dr. Krupakar Parthasarathy	Prof. Gerhard Gruber, Nanyang Technological University, Singapore	2019-2020	Joint Research (SPARC)
16.	Dr. Krupakar Parthasarathy	Prof. John Murphy, Prof. Kalpana, Dr. Kanagaraj University of Westminster, London, UK	2019-2020	Joint Research
17.	Dr. Krupakar Parthasarathy	Prof. Kini Manjunatha National University of Singapore	2019	Joint Research
18.	Dr. Krupakar Parthasarathy	Prof. Jaume Torres Nanyang Technological University, Singapore	2019-2020	Joint Research
19.	Dr. Jerrine Joseph	Dr.SanjibBhakta, Birkbeck ,University of London(UK)	2019-2020	Joint Research
20.	Dr. Jerrine Joseph	Dr. Marcel Jaspers, Aberdeen University (Scotland)	2019-2020	Joint Research
21.	Dr. Jerrine Joseph	Dr. Ekaterina Obluchinskaya, Murmansk Marine Biological Institute of the Russian Academy of Sciences	2019-2020	Joint Research
22.	Dr. D. Gopikrishnan	Dr.SadhanaRavishankar Dr.Ravishankar Palanivelu University ofArizona	2019-2020	Joint Research

9.2 NATIONAL RESEARCH COLLABORATIONS FOR THE YEAR 2019 – 2020

S.No	Scientist Name	Name of the laboratory/ Institute	Year of the Collaboration	Outcome of the Collaboration
1.	Dr. J. Brijitta	Dr. Tripura Sundari, IGCAR, Kalpakkam, India	2019	Joint Research Publication
2.	Dr. K. Gobi Saravanan	Department of Automobile Engn Dr. Mahalingam College of Engineering and Technology	2019-2021	Joint Research Publication
3.	Dr. K. Gobi Saravanan	Department of Materials Science	2019-2022	Joint Research Publication
4.	Dr. G. Murugadoss	Dr. G Manibalan, Department of Physics, Presidency College,	2019-2020	Joint Research Publication
5.	Dr. G. Murugadoss	Dr. M. Praveen Kumar CSIR-Central Electrochemical Research Institute (CSIRCECRI),	2019-2020	Joint Research Publication
6.	Dr. G. Murugadoss	Dr. P. Sakthivel , Department of Nanoscience and Technology, Bharathiar University,Coimbatore, India	2019-2020	Joint Research Publication
7.	Dr. G. Murugadoss	Dr. R. Kothandaraman, Department of Chemistry, Indian Institute of Technology Madras, , India	2019-2020	Joint Research
8.	Dr. G. Murugadoss	Dr.R. Thangamuthu, Materials Electrochemistry Division, CSIR-Central Electrochemical Research Institute (CSIR-CECRI), Karaikudi, 630 003,	2019-2020	Joint Research Publication
9.	Dr. Preethi L K	Indira Gandhi Centre for Atomic Research,	2020	Joint Book Publication
10.	Dr. Preethi L K	Indian Institute of Science, Bengaluru	2020	Joint Research Publication

S.No	Scientist Name	Name of the laboratory/ Institute	Year of the Collaboration	Outcome of the Collaboration
11.	Dr. Ranjita Misra	Dr. Sarbari Acharya, (KIIT) University, Odisha	2020	Joint Research
12.	Dr. Ranjita Misra	Dr. V. Sachithanandham, National Centre for Sustainable Coastal Management, Chennai	2019	Joint Research Publication
13.	Dr. Ranjita Misra	Prof. Mahitosh Mandal, IIT, Kharagpur	2019	Joint Research
14.	Dr. Ranjita Misra	Prof. P. Thanikaivelan , (CLRI),	2019	Joint Research
15.	Dr. Ranjita Misra	Prof. Rama S. Verma, Indian Institute of Technology, Madras (IITM), Chennai	2019	Published 2 papers in this collaboration
16.	Dr. Ranjita Misra	Dr. Binod Sahu, National Institute of Technology (NIT) Rourkela, Odisha	2020	Joint Research
17.	Dr. Ranjita Misra	Dr. Fahima Dilnawaz, Institute of Life Sciences, Bhubaneswar Odisha	2020	Joint Book Publication
18.	Dr Thanga Suja	Dr. Jhansi Lakshmi, Indian Institute of Rice research, Hyderabad	2019	Joint Research
19.	Dr. Vinita Vishwakarma	Dr. Pranjal Bharali, Department of Environmental Science, Nagaland University,	2019	Joint Research

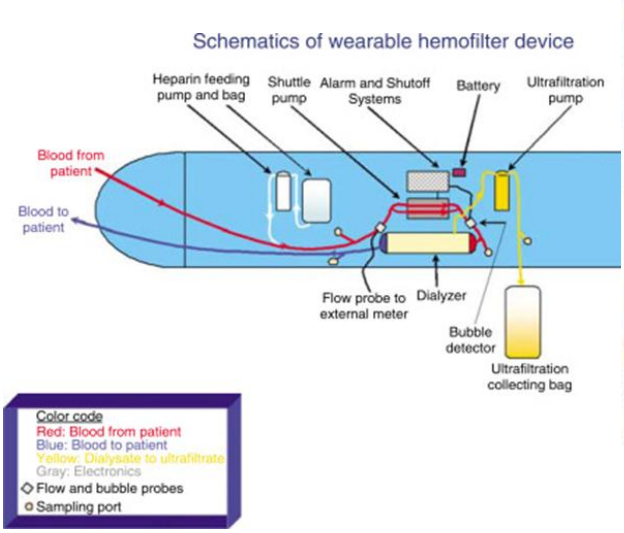
RESEARCH OUTREACH

10. RESEARCH OUTREACH

10.1 Outreach/Awareness Programmes

- Centre for Waste Management was instrumental in establishing a Microenterprise called POOMANAM for the upliftment of Self Help Group Women in Kumizhi Village. The Scientists and the Research Scholars of the Centre has organized several workshops to train the rural women on the production of incense stick from ritual waste.

- Workshops and Training Programmes on Exploring Science using foldscopes are organized for School Children, funded by the Department of Biotechnology, Government of India to popularise science.



- The Centre for Waste Management has conducted an Awareness Programme on Waste Management to Self Help Group Women of Kuthambakkam Village, Poonamalee on 24th August 2019.

- The Centre for Waste Management has also conducted an awareness programme to Anganwadi Children on Segregation of Waste at Kumizhi Village.

- The Centre for Waste Management has organized awareness programmes to Self Help Group Women on Waste Management, Venkatapuram Village during June 2019.

- Awareness program on “Novel Technology based Entrepreneurship Development” for School Children at Kumizhi, Village, Kanchipuram, Tamilnadu on 12 July 2019.

The Centre for Remote Sensing and Geoinformatics has organized a two day national conference on 'Recent Advances in Anthropogenic Disaster Monitoring' on 22nd and 23rd October 2019, sponsored by Ministry of Earth Sciences (MoES), Government of India, New Delhi.

- A Workshop on "GPS Concepts and its Applications" was jointly organized by Centre for Remote Sensing and Geoinformatics and Department of Civil Engineering on 5th and 6th March 2020 in association with ISRS Chennai Chapter,

- A Training Programme on "Water Resources Management and Challenges" was organized on 13th and 14th of March 2020 .

Centre for Remote Sensing and Geoinformatics has organized a workshop on "Applications of GIS in Tourism" on 18th and 19th of October 2019

A workshop on "Advanced Technologies in Tourism" was organized by the Centre for Remote Sensing and Geoinformatics on 28th and 29th of November 2019.

- Centre for Remote Sensing and Geoinformatics and Department of Civil Engineering jointly organized a workshop in association with Indian Society of Remote Sensing (ISRS) on "Application of Remote Sensing, GIS and Electrical Resistivity Techniques in Groundwater Investigation" on 3rd and 4th March of 2020 for the Civil Engineering students.

- Sathyabama TBI in association with Institution Innovation Council has organized Awareness Sessions about “Ideating and Design Thinking" for all the student clubs addressing students from various departments. 34 such workshop has been organized to address 1000+ students that motivated the students towards Innovation and Entrepreneurship.

Entrepreneurship Awareness

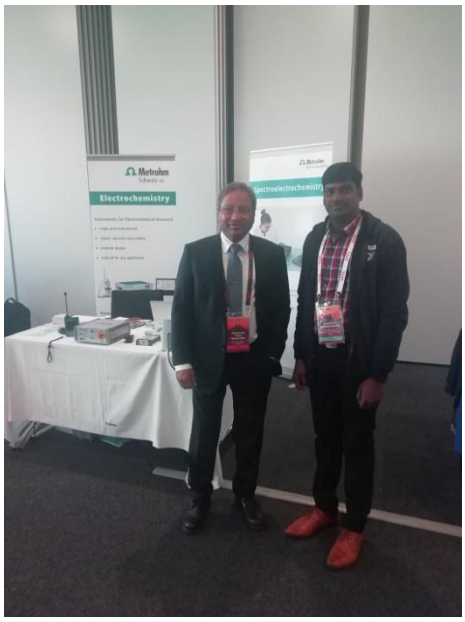
Six day student development programme on “Material processes and Flaw detection by Non-destructive test methods” was organized by the School of mechanical Engineering for the Mechanical Engineering and Physics students.

INTERNATIONAL FELLOWSHIPS

11. INTERNATIONAL FELLOWSHIPS

11.1 Post-Doctoral Fellowships/Recognitions Received by Faculty and Students

Mr. S. SANJEEVI PRASATH, received Visiting Student Scholarship from Lund University, Sweden during the period June-July 2019.



Mr. P. VENGATESH, awarded travel grant from DST-SERB through International Travel Scheme (ITS) support, to present his work in PSCO-2019 Conference held at EPFL, Switzerland, during September 2019.

Dr. J. THEERTHAGIRI received Korean Research Fellowship (KRF) for pursuing Post-Doctoral Programme at Department of Chemistry and Research, Gyeongsang National University, South Korea for the period July 2019 – August 2020.

Dr. BRIJITTA received European Research Council (ERC) Fellowship to pursue her Post-Doctoral Programme at Lund University, Sweden for the period 2017 – 2019.

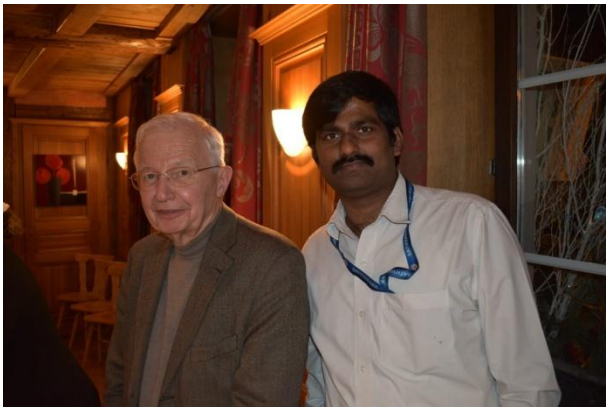
Mr. G. DURAI received fund for Research internship at Department of Medicinal and Applied Chemistry, Kaohsiung Medical University (KMU), Taiwan through Taiwan Education Experience Program (TEEP Asia@2018) funded by Ministry of Education (MoE), Taiwan for the period September 2018 to February 2019.

Mr. S. AJITH KUMAR received fund to pursue Research internship at Department of Materials Science and Engineering, National Dong Hwa University, Taiwan. He has also pursued a part of his research as visiting scholar at Department of Bio-Chemistry, Tzu Chi University, Hualien City, Taiwan under Taiwan Education Experience Program (TEEP Asia@2019) funded by Ministry of Education, Taiwan.

Mr. P. ARJUN research scholar of Dr Rajesh Kannan is pursuing his research at Purdue University, USA, since Jan 2019 on an Indo-US Purdue Partnership Programme, funded by DST-OVDF.

Dr. R. RAJESH KANNAN was sponsored by DST-OVDF to visit .Purdue University as Visiting Scientist from July – August 2019.

Dr Krupakar Parthasarathy, working on Joint Research with the Scientists of NUS and NTU, Singapore in the Area of Drug Discovery.



Dr. K. Chennakesavulu Associate Professor, is working as a Visiting Professor in Laboratory of Prof. JEAN Marie Lehn(Nobel Laureate In Supramolecular Chemistry In 1987) at Institute of Supramolecular Science and Engineering, University of Strasbourg, Strasbourg, France.

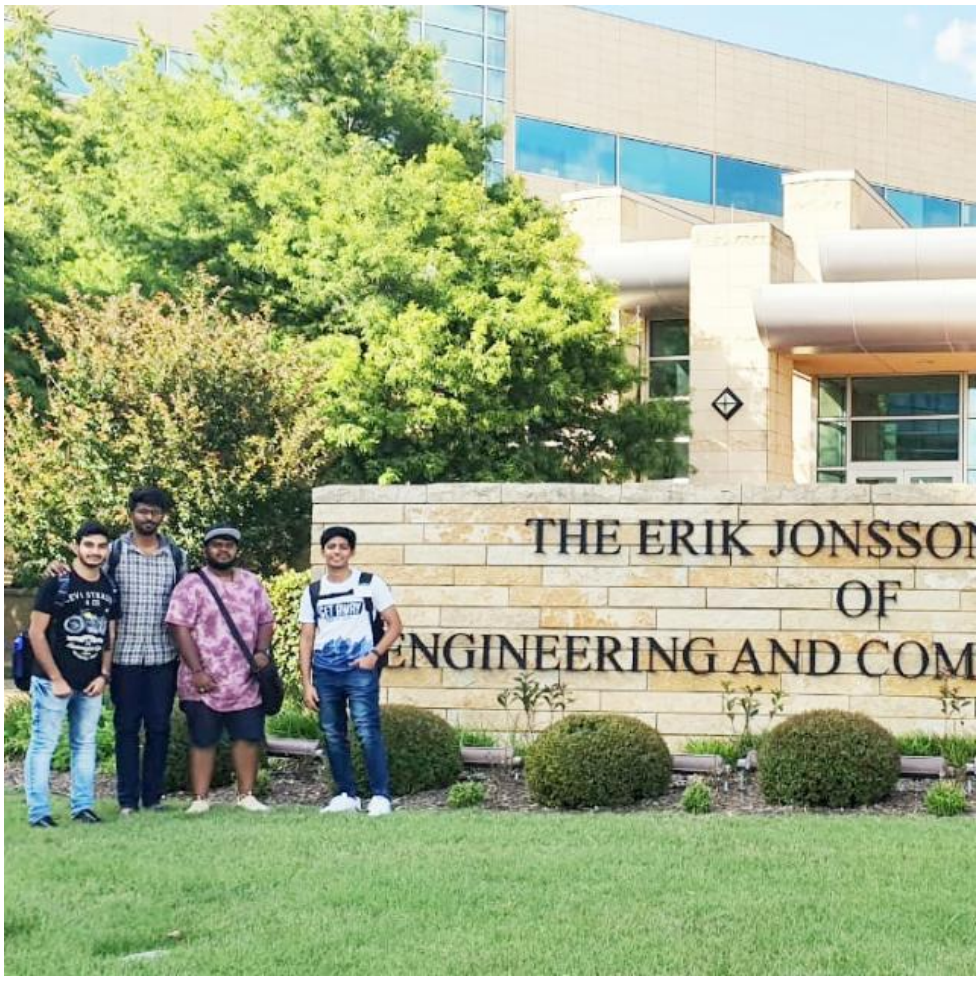
Dr. V. KARTHICK was awarded the prestigious "Indo-Japanese Joint Project on Establishment of Young Researcher Fellowship", a Programme funded by Japan Society for Promotion of Science (JSPS) and Indian National Science Academy (INSA) for the year 2019 to work at International Center for Materials Nano architectonics (MANA), National Institute for Materials Science (NIMS), Tsukuba, JAPAN.

Mr. Parameswaran Vijayakumar is working on a collaborative research project with Dr. Vincent Laizé and Dr. M. Leonor Cancela, Paulo J. Gavaia, João Cardeira, Centre of Marine Sciences (CCMAR), University of Algarve, Portugal. HE is also working on a collaborative research project with Dr. TohruMekata, Nansei Main station, National Research Institute of Aquaculture, Japan Fisheries Research and Education Agency, Japan.

- Dr. K.GOVINDARAJU and Dr Doron Shkolnik from The Robert H. Smith Institute of Plant Sciences & Genetics in Agriculture, The Hebrew University of Jerusalem, Israel are currently working on molecular mechanism of nanoparticles to promote seed germination and seeding development.
- Centre for Remote sensing is engaged in international collaboration under Research Training Fellowship for Developing Country Scientist (RTF-DCS) scheme of DST. Under this scheme the Centre is collaborating with the Institute of Geography, Mongolian Academy of Sciences. Dr. Anoop Kumar Mishra and Dr. K Nagamani has received fund from DST to mentor an international student who works on 'Exploring convective clouds using satellite observations for disaster mitigation'.

11.2 INTERNATIONAL STUDENT EXCHANGE

Students from the Department of Computer Science Engineering and Information Technology have participated in an International Internship Programme at the University Of Texas, Dallas, USA from June 2019 - July 2019.

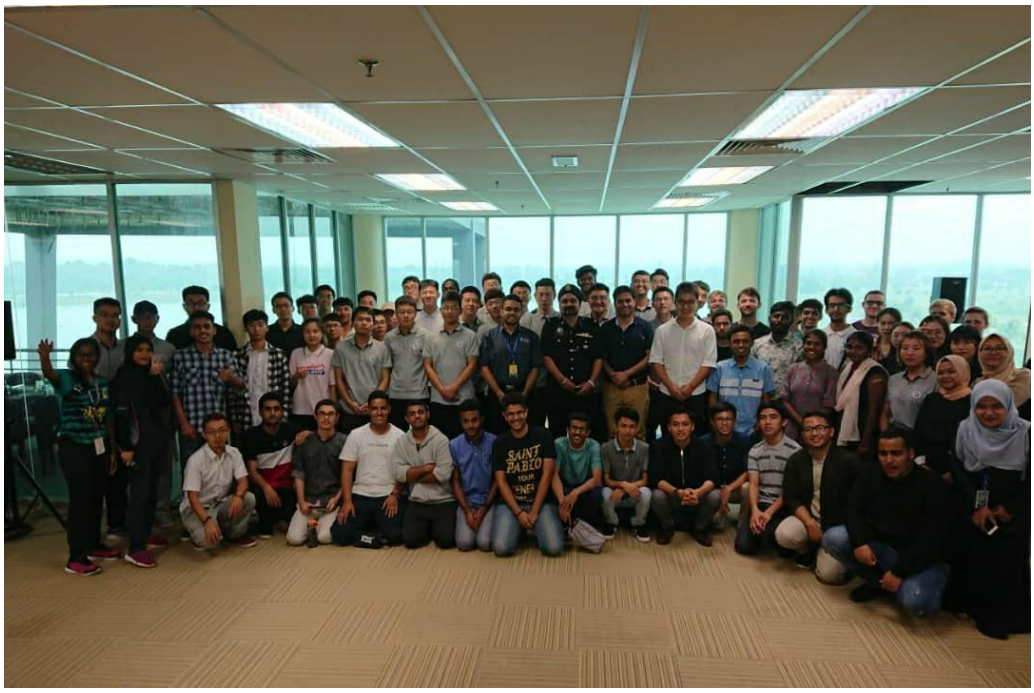


Students from the Department of Computer Science Engineering and Information Technology have participated in an International Internship Programme at the University Of Texas, Dallas, USA from January 2020 - June 2020.

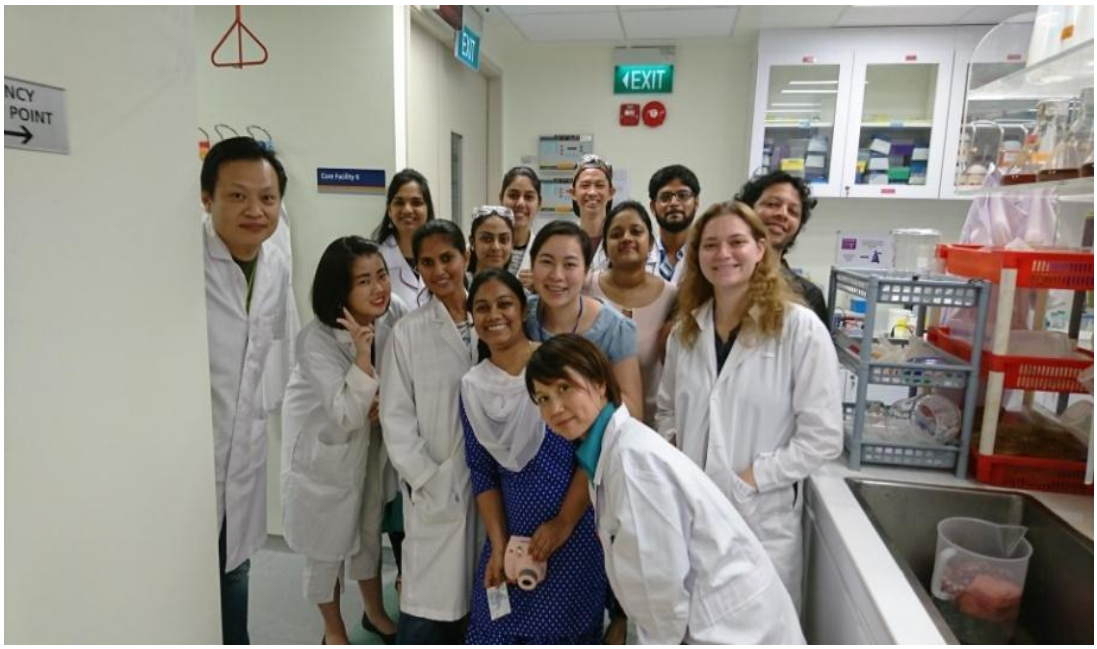
Students from Computer Science Engineering and Electronics & Communication Engineering have participated in an Internship Abroad Programme at the National University of Singapore, Singapore during June 2019.

Students from the School of Mechanical Engineering have participated in a Global Academic Immersion Programme at the Ni University, Germany in June 2019.

Students of B.Tech - BioMedical Engineering, B.Tech - Biotechnology, B.Sc - Biochemical and M.Tech - Biotechnology have participated in a Student Exchange Programme at MAHSA University, Malaysia in September 2019.



Students from the Department of Mechanical Engineering, Department of Chemical Engineering and School of Management Studies have participated in the Semester Abroad Programme and pursued one semester at Universiti Pahang Malaysia, Malaysia during September 2019 - January 2020.



Ms. Tahreen Rafi, School of Bio and Chemical Engineering at NUS, Singapore with her laboratory mates at Protein Research Laboratory, DBS,

11.3 FACULTY EXCHANGE/RESEARCH PROGRAMME (2019-2020)

Dr. KISHORE SONTI, Associate Professor from the School of Electrical and Electronics Engineering went on a Faculty Exchange Programme to Powislanski University at Kwidzyn, Poland, under Erasmus Plus Mobility Programme funded by European Union during the period May 2019.

Dr. J. KARTHIKEYAN, Associate Professor from the School of Science and Humanities Engineering went on a Faculty Exchange Programme to Powislanski University at Kwidzyn, Poland, under Erasmus Plus Mobility Programme funded by European Union during the period May 2019.

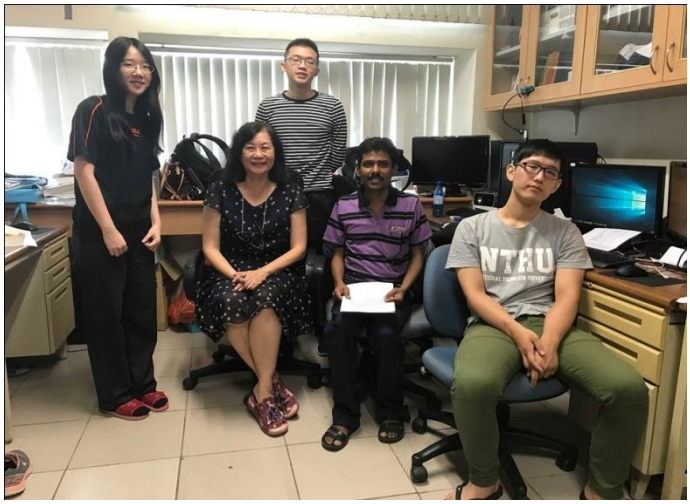
Dr. MADAN KUMAR of Centre for Nanoscience and Nanotechnology is undergoing Senior Post Doctoral Fellow at University of Nebraska, Omaha, USA since June 2019.

Dr. Paciyalakshmi and Dr Maya were selected for Faculty exchange at KArabuk Universit, Turkey under the Mevlana Exchange

Programme, Funded by the Turkish Higher Education Council, Turkey

Dr. G. SUNDARI, Director- Administration On Faculty Exchange to deliver lectures on Sensors and its applications at Grupo UNIS University, Brazil during July 2019.

Dr. C. MAHARSHI BHASWANT of Centre for Nanoscience and Nanotechnology is pursuing his Research at Kyoto University, Japan under Long Term ICMR-DHR International Fellowship for Young Indian Biomedical Scientists.



Mr. KAJA BANTHA NAWAS of the School of Mechanical Engineering has visited Tsing Gua University, Taiwan under Global Engineers Scholarship during the period June-July 2019.

Mr. MADHAN KUMAR from the School of Electrical and Electronics Engineering went on a Faculty Exchange Programme to University Technology Malaysia, Malaysia.

Dr. R. SUBASHINI, Professor from the School of Computing went on a Faculty Exchange Programme to Nottingham Trent University, UK during September 2019.

Dr. BEVISH JINILA, Associate Professor from the School of Computing went on a Faculty Exchange Programme to Nottingham Trent University, UK during September 2019.

Dr. MATHIVANAN, Professor from the School of Computing went on a Faculty Exchange Programme to Daffodils International University, Bangladesh during September 2019.

Dr. JESUDOSS, Associate Professor from the School of Computing went on a Faculty Exchange Programme to Daffodils International University, Bangladesh during September 2019.

S. MANIGANDAN, Assistant Professor from the School of Mechanical Engineering has been to Kaohsiung medical university, Taiwan during the period Oct 2019-May 2020.

Dr. DILSHAD SHAIK, Dean, School of Law Administration has been Invited as a Speaker for International Conference at Syiah Kuala University, Indonesia during October 2019.

Dr. A. CHITRA DEVI, Associate Professor from the School of Management Studies went on a Faculty Exchange Programme to University Technologi Malaysia, Malaysia during October 2019.

Dr. PREETHI SHESHADRI, Associate Professor from the School of Management Studies went on a Faculty Exchange Programme to University Technologi Malaysia, Malaysia during October 2019.

MEMORANDUM of UNDERSTANDING (MoUs)

12. MOUs Signed in the AY 2019 – 2020

Sathyabama facilitates collaborative agreements with Industries and Universities at National and International Level. The Institution has signed 250 Plus MoUs which forms the basis for various collaborative activities like student and faculty exchange, Joint seminars, Joint Conference, joint research etc. Partnerships with Industries has resulted in initiatives like Joint academic programmes, internships in Industries, skill development courses, lecture series and expert talks by Industry experts.

12.1 National Industries

S. No.	Name of the Organization / University	Signed On
1.	L&T Limited, Tamilnadu	01/07/2019
2.	JV Media Dreams (Production House) & (Film & Television Academy)	01/07/2019
3.	L.V. Prasad Film and TV Academy	06/07/2019
4.	Awiskar Lab	19/07/2019
5.	Drizzle Productions, Chennai	21/08/2019
6.	NI Systems (India) Private Ltd.	30/08/2019
7.	Lakshmi Movie Makers (I) Pvt. Ltd.	24/09/2019
8.	Galatta Media Private Ltd	12/12/2019

12. 2 International Universities

S. No.	Name of the Organization / University	Signed On
1.	Universidad Finis Terrae, Chile	23/07/2019
2.	The University of Messina, Italy	04/07/2019
3.	Technical University of Cluj Napoca, Romania	23/07/2019
4.	Polytechnic Institute of Braganca, Portugal	08/11/2019
5.	St. Cloud University, USA	08/11/2019
6.	Transilvania University of Brasov, Romania	07/01/2020
7.	Westminster College London, UK	20/01/2020

S. No.	Name of the Organization / University	Signed On
8.	American University of technology, Lebanon	06/02/2020
9.	University of Gunadarma, Indonesia	11/02/2020
10.	University of Potensi Utama, Indonesia	11/02/2020
11.	Universitas Klabat, Indonesia	11/02/2020
12.	Stimik Sepuluh Nopember Jayapurav, Indonesia	11/02/2020
13.	University of Dian Nuswantoro, Indonesia	11/02/2020
14.	Universitas Catur Insan Cendekia, Indonesia	11/02/2020
15.	University of Bina Sarana Informatika, Indonesia	11/02/2020
16.	Stmik Nusa Mandiri, Indonesia	11/02/2020
17.	Sekolah Tinggi Manajemen Informatika Dan Komputer Pontianak, Indonesia	11/02/2020
18.	Stimik Atma Luhur, Indonesia	11/02/2020
19.	Stikom Tunas Bangsa Pematangsiantar, Indonesia	11/02/2020
20.	Raharja University, Indonesia	11/02/2020
21.	IPB University, Indonesia	11/02/2020
22.	Universitas Amikom Yogyakarta, Indonesia	11/02/2020
23.	Sekolah Tinggi Teknologi Bandung, Indonesia	11/02/2020
24.	Stmik Tasikmalaya, Indonesia	11/02/2020
25.	Universitas Amikom Purwokerto, Indonesia	11/02/2020
26.	SPK Sekdah Pelita Bangsa, Indonesia	11/02/2020
27.	Universitas Nasional, Indonesia	11/02/2020
28.	Istanbul Gedik University, Turkey	19/02/2020
29.	Duzce University, Turkey	21/02/2020
30.	Kermanshah University of Technology, Iran	27/02/2020
31.	Anadolu University, Turkey	09/03/2020
32.	National Cheng Kung University, Taiwan	10/03/2020
33.	Istinye University, Turkey	14/03/2020
34.	Babol Noshirvani University of Technology, Iran	16/03/2020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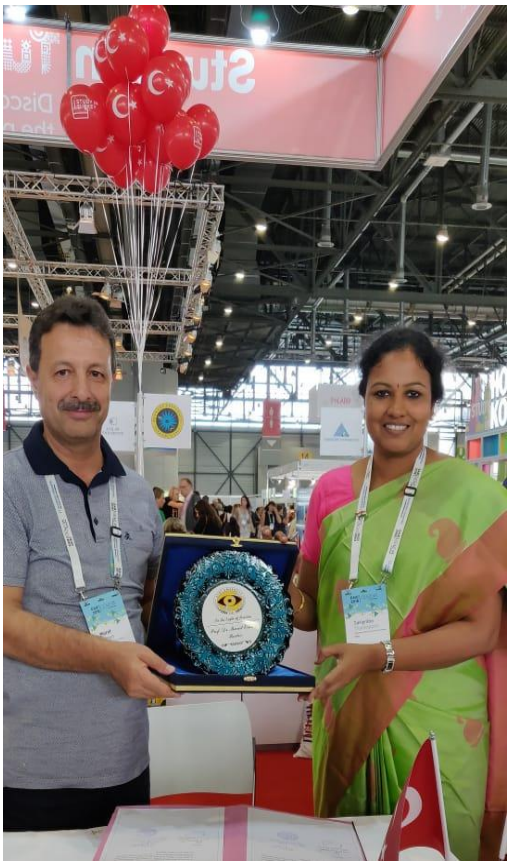


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- COMPUTER SCIENCE IN DATA SCIENCE
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- ELECTRONICS AND INSTRUMENTATION
- MECHATRONICS
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- B.Sc - PHYSICS
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- B.Sc - BIOCHEMISTRY
- B.Sc - BIOTECHNOLOGY
- B.Sc - BIO-INFORMATICS AND DATA SCIENCE
- B.Sc - MICROBIOLOGY
- M.A. - ENGLISH
- M.Sc - PHYSICS
- M.Sc - MATHEMATICS
- M.Sc - VISUAL COMMUNICATION
- M.Sc - CHEMISTRY
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Key Accomplishments (2019 - 2020)

- SATHYABAMA is conferred with 12(B) status by University Grants Commission (UGC)

- Ranked among the Top 5 Private Institutions in the country for Innovation by Atal Ranking of Institutions on Innovation Achievements (ARIIA) 2020

- Ranked at 39th position among the Universities in India by the National Institutional Ranking Framework (NIRF) 2020

- SATHYABAMA is placed in 51-55 position among the Indian Institutions by QS-India Rankings 2020

- B.E.(CSE), B.E.(EEE) and B.Tech(BioTech) Programs are accredited by National Board of Accreditation (NBA)

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