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## Sampige

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## A quarterly News Bulletin

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## From the Editorial Board

Greetings,



It offers me great pleasure to connect with all our beloved readers of Sampige, a quarterly News Bulletin of Ramaiah Institute of Technology, which we keep the college community and beyond abreast of happenings, developments and the great strides accomplished through our institution. I am happy to share that we will conduct various meaningful academic activities during the centenary celebration of our founder chairman Shri M S Ramaiah throughout the year to make the year very special by recalling his lifetime achievement and selfless contribution to the society.

Once again, all efforts were made to gather information about numerous activities held in individual departments and their achievements effectively considering that we don't forget this News Bulletin as an effective communication tool. I would respect all our faculty and staff for their valuable and meaningful contributions. Sampige, a quarterly News Bulletin of RIT, welcomes your recommendations and comments.

Best wishes

**Dr. N. V. R. Naidu**



Friends,

It gives us immense pleasure, joy and satisfaction to place before the first issue of Sampige, a quarterly News Bulletin of Ramaiah Institute of Technology of the year 2022. In this News Bulletin, we have highlighted significant achievements of faculty and students. The Editorial Board would like to place our gratitude and heartfelt thanks to all the Department Heads and Section Heads, who have contributed to this News Bulletin. The success of Sampige depends on your valuable response. Please feel free to offer any suggestions for the improvement of the News Bulletin. Looking forward to your continuous support in the upcoming issue.

With best wishes

**Dr. B. M. Nagabhushana**

## RAMAIAH INSTITUTE OF TECHNOLOGY

### VISION OF THE INSTITUTE

To be an Institution of International Eminence, renowned for imparting quality technical education, cutting edge research and innovation to meet global socio-economic needs

### MISSION OF THE INSTITUTE

**RIT shall meet the global socio-economic needs through**

- Imparting quality technical education by nurturing a conducive learning environment through continuous improvement and customization
- Establishing research clusters in emerging areas in collaboration with globally reputed organizations
- Establishing innovative skills development, techno-entrepreneurial activities and consultancy for socio-economic needs

### QUALITY POLICY

We at Ramaiah Institute of Technology, strive to deliver comprehensive, continually enhanced, global quality technical and management education through an established Quality Management System complemented by the synergistic interaction of the stakeholders concerned.

#### RIT is Ranked

# #1

AMONG  
ENGINEERING  
COLLEGES AFFILIATED  
TO VTU, KARNATAKA

# #67

BEST ENGINEERING  
INSTITUTE AMONG 1249  
REPUTED INSTITUTES  
IN INDIA

# #17

BEST ARCHITECTURE COLLEGE  
AMONG 91 REPUTED  
ARCHITECTURE COLLEGES IN INDIA

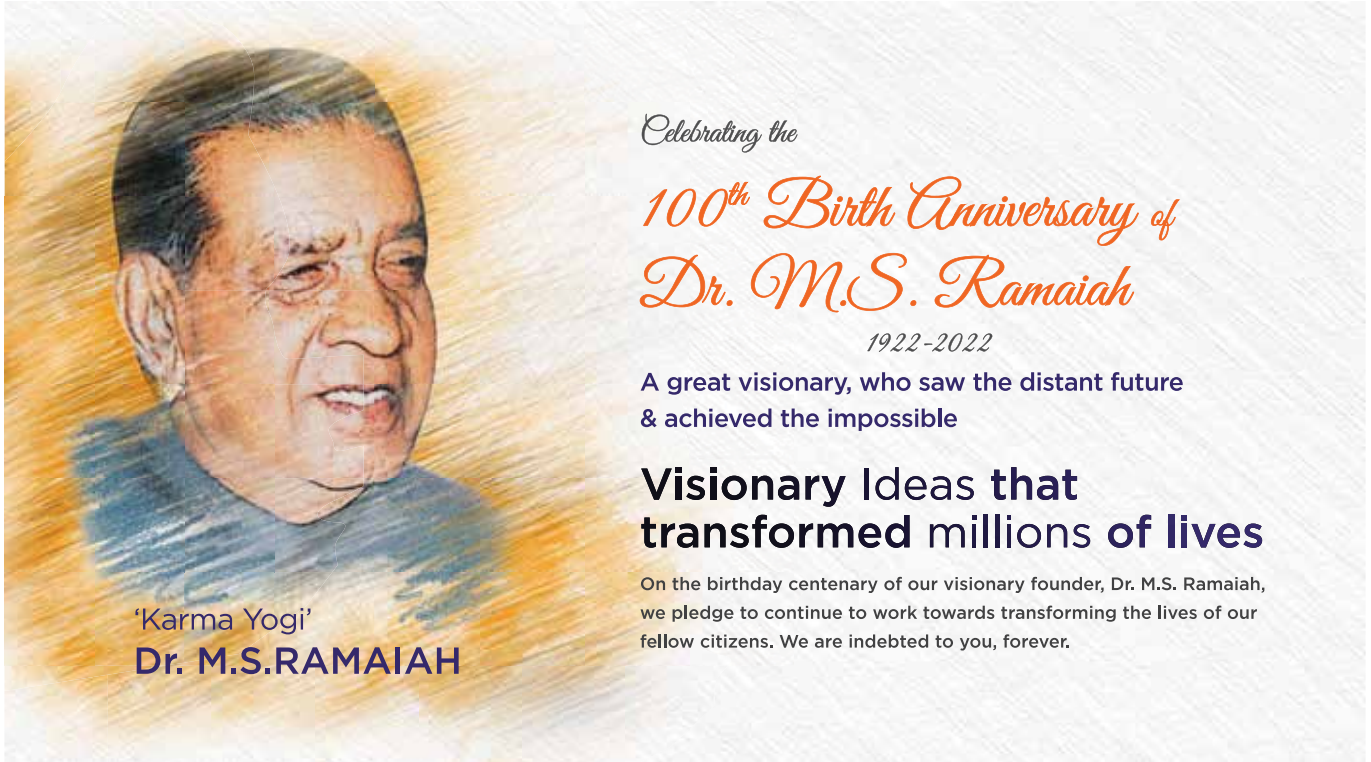


- As per National Institutional Ranking Framework, MoE, Govt. of India. 2022

**MSRIT is accredited by NAAC with  
A<sup>+</sup> Grade**

## Dr. M.S. Ramaiah (1922 - 1997)

Founder Chairman, Gokula Education Foundation



We offer our humble tributes to our venerable founder Chairman late Dr. M S Ramaiah, a renowned philanthropist, educationist and visionary who Established the Gokula Education Foundation in 1962 and M S Ramaiah Institute of Technology (MSRIT) was started in the same year envisioning the need for quality technical education towards taking India ahead.

MSRIT is celebrating its Diamond Jubilee year in 2022, at this juncture, we at MSRIT reiterate our commitment to creating world-class technical professionals who strongly reflect the universal human values of integrity, honesty, and character as they go on to contribute to the nation and the world at large.

# TRIBUTE TO A VISIONARY

*Celebrating 100 years of this Great Iconic Figure*

Dr. Mathikere Sampangi Ramaiah was born on 20<sup>th</sup> April 1922. This great visionary lives on through his legacy, which continues to illuminate the lives of millions through healthcare, education and philanthropy.

Dr. M S Ramaiah began his career at Indian Testing Laboratories, where he rose in popularity amongst his peers and colleagues. Dr. M S Ramaiah moved on to the Mysore Railway narrow gauge section as a fireman a few days later his father called him back to the family brick manufacturing facility. His zeal to build greater milestones inspired Dr. M S Ramaiah into civil contracting of his first Radhanagiri Hydroelectric Project, building the Ghataprabha left bank canal. The Sharavathi valley and Dharma dam and the renowned Irrigation Project of River Budhi Gandak on the Indo-Nepal border.

Dr. M S Ramaiah's strong connection with nature lured him to the start Gokul dairy farm in 1950 and procure 700 acres of land near Devanahalli which he evolved into a lush green region.

In 1957 Dr. M S Ramaiah took over Tayinadu a local newspaper from Chamrajpet which he enriched with ample resources and passion. In 1963 he launched a monthly called Kailasa and a weekly called Gokula which saw eight years of growing appreciation in the Kannada Literary World.

Dr. M S Ramaiah believed education is the most powerful tool to change the world and this empowered him to set up educational institutions. In 1962 Ramaiah Institute of Technology (RIT) was established, which foresaw India's IT revolution and is continuously grooming the country's leading talent. Today, Ramaiah Institute of Technology has been recognized as one of the premier educational institutions across India and Ranked First among the VTU affiliated Engineering Institutions as per the NIRF, MoE, Government of India. RIT offers courses that are shaping professionals of today and tomorrow with engineering brilliance. Dr. M S Ramaiah focused on all fields and levels of education, i.e., Nursery to Surgery, Foundational courses to building the foundation of the country with lawyers, Artists, Doctors, Managers and Business Analysts.

In 1972 he facilitated water, electricity and innovative agricultural practices to plant

numerous trees. He won an Asian record for being a single individual to nurture so many trees, he was also the first person to implement drip irrigation in private farms.

Dr. M S Ramaiah welcomed industrialization and set up M S Ramaiah industrial estate for running small-scale industries in plastics, agro products, steel & metals and software technology.

Being a patron of art and culture, Dr. M S Ramaiah provided a platform to many artists to showcase their talents. He organised the Kannada Sahithya Sammelana at Kaiwara in the year 1990, for the neoteric and literary minds of Kannada literature to convene.

Dr. M S Ramaiah took over as the Dharmadhikari of Kaiwara temple and oversaw a pristine temple built for Tatayya. Great development works were carried out, including lodging for thousands of daily devotees. The trust arranges Prasad distribution every day for all visitors.

Dr. M S Ramaiah built the pristine Venkateshwara Temple and the magnificent entrance Arch of Raja Rajeshwari Temple, which is still one of the largest arches built.

This charismatic man nourished people's progress through education as well as philanthropy, he set up an education fund to support deserving students irrespective of caste or religion, which today provides impactful assistance of nearly 90 lakhs a year. He even developed affordable residential layouts to house those who could not afford them. Dr. M S Ramaiah also developed numerous places of worship community marriage halls and tall trees for mass marriages, and public kitchens and even started a rural health care center to offer free medical and dental treatment by top doctors of Bengaluru city.

Dr. M S Ramaiah's dreams shine on beyond his lifetime and his greatness fondly lives on in the hearts of thousands of people through his numerous impactful initiatives.

*What we have done for ourselves alone dies with us.  
What we have done for others and the world remains  
and is immortal. —Dr. M.S. Ramaiah*



## 13<sup>TH</sup> GRADUATION DAY



- The **13<sup>th</sup> Graduation Day** for the award of provisional degrees to the students of 2017-21 batch of BE, 2016 – 2021 batch of BE Architecture, 2019 – 2021 batch of M. Tech, M. Arch, MBA and 2018- 2021 batch of MCA was conducted on 05-01-2022. Prof. K. K Aggarwal, Chairman, National Board of Accreditation, Former Founder Vice Chancellor, Indraprastha University, New Delhi, was the Chief Guest for the Graduation Day Ceremony and delivered the Graduation Day Address. A total of 1744 students graduated for the year 2021 from the Institute and 71 ranked students were honored with medals. Certificates and mementoes for securing ranks and showing excellent academic performance in their respective branches were awards

## ALUMNI CORNER

### MALYADRI REDDY



I, Malyadri Reddy, to becoming an engineer is my childhood dream. My parents equally nurtured my wish to become a Mechanical Engineer, my dream of childhood become true by completing my graduation from my great institute

MS Ramaiah Institute of Technology in the year batch 1989-1992.

- All the four years I studied in the college teaching staff gave me everything that and what engineering student really needed, and the exposure I have got from my college was enormous. Entrepreneurial skills were the best that I could acquire during my college days, which brought me to the field of manufacturing in the engineering industry. As I see it, every student should dream of their future at their college itself. Every person in their life should grow in faster phase. Nowadays, students think in both ways that are working with multinational companies and settle down fast; believe me, working for ourselves gives the most happiness in life, and the sky is the limit for achievement in life both economic and for social status.
- As soon as I came out of college, the intention was clear to set up the industry. By the God's grace, I'm doing well supplying to significant machine tool manufacturing companies in Bangalore and other parts of India and exports also.
- I have CNC machines, grinding machines, tool room setup, etc. I recently became President of the Peenya Industries Association, a cluster of manufacturing industries in Peenya. I also served as a President of Rotary Jalahalli and presently serving as President of Peenya Credit Cooperative Society. I do have the zeal of doing bigger industry in manufacturing in machine tool field. The base with which college gave when required is the best, helping in my business life. I proudly say that whatever I did in the past and doing the greater achievements is the result of all learning from my institute. I feel I should gratitude to my parents, college management, staff and all who supported me to grow beyond my capacities.

## DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

### Publications in (National / International) Journals

- Nagaraj, C – 'Reduction of power conversion losses in AC-DC coupled hybrid micro-grid under grid distorted voltage scenario', Electric Power Systems Research 210 (2022): 108101.
- Kusumika Krori Dutta, Dr. Premila Manohar, Falak Naaz, Shwethaa Rajagopalan, - 'Epileptic Seizure Classification Based on Energy Compaction of Different Transformation Technique and Machine Learning Classifiers', International Journal of Mechanical Engineering, Vol 7 part 2 Jan 2022.
- Kusumika Krori Dutta, Dr. Indira, Siri M S, L Meenakshi – 'Multi-class Epileptic Seizure Classification Using Different Deep Learning Techniques - A Comparative Study', International Journal of Mechanical Engineering, Vol. 7 part 2 Jan 2022.

### International Conference / National Conference

- Herle and J. Channegowda – 'Federated Learning: An Energy Efficiency Perspective to Extend Smartphone Battery Life' 2022 IEEE Delhi Section Conference (DELCON), 2022, organized by IEEE Delhi, pp. 1-5, <https://doi.org/10.1109/DELCON54057.2022.9753113>.
- Bhat, J. Channegowda and K. Naraharisetti – 'An Improved Equivalent Circuit Parameter Estimation Using Electrochemical Model for Lead-Acid Battery', 2022 IEEE Delhi Section Conference (DELCON), 2022, organized by IEEE Delhi, pp.1-4, <https://doi.org/10.1109/DELCON54057.2022.9753635>.
- Raj and J. Channegowda – 'A Robust and Simple Temporal Data Imputation Technique for Estimating Missing Battery Parameter Measurements', 2022 IEEE International Conference on Power Electronics, Smart Grid, and Renewable Energy (PESGRE), 2022, organized by IA/IE/PEL Jt.chapter Kerala, pp. 1-4, <https://doi.org/10.1109/PESGRE52268.2022.9715805>.
- C. Bhat, A. Herle, J. Channegowda and K. Naraharisetti – 'Battery Parameter Evaluation Using Unscented Kalman Filter for Electric Vehicle Drive Cycles', 2022 IEEE International Conference



- on Power Electronics, Smart Grid, and Renewable Energy (PESGRE), 2022, organized by IA/IE/PEL Jt. Chapter Kerala pp.1-5, <https://doi.org/10.1109/PESGRE52268.2022.9715919>
- C. Bhat and J. Channegowda – 'Investigating Accurate Electrochemical Battery Models for Intermittent Discharge Applications', 2022 IEEE International Conference on Power Electronics, Smart Grid, and Renewable Energy (PESGRE), 2022, organized by IA/IE/PEL Jt. chapter Kerala, pp. 1-5, <https://doi.org/10.1109/PESGRE52268.2022.9715866>.
- F. Naaz and J. Channegowda – 'Effective Battery Parameter Data Augmentation Techniques to Resolve Sparse Dataset Challenges', 2022 IEEE International Conference on Power Electronics, Smart Grid, and Renewable Energy (PESGRE), 2022, organized by IA/IE/PEL Jt. chapter Kerala, pp.1-6, <https://doi.org/10.1109/PESGRE52268.2022.9715901>.
- C. Bhat, J. Channegowda and K. Narahariseti – 'Electrolyte based Equivalent Circuit Model of Lithium ion Batteries for Intermittent Load Applications' 2022 IEEE International Conference on Power Electronics, Smart Grid, and Renewable Energy (PESGRE), 2022, organized by IA/IE/PEL Jt. chapter Kerala, pp.1-3, <https://doi.org/10.1109/PESGRE52268.2022.9715891>
- N. Naaz and J. Channegowda – 'XGBoost Based Synthetic Battery Parameter Generation to Overcome Limited Battery Dataset Challenges', 2022 IEEE International Conference on Power Electronics, Smart Grid, and Renewable Energy (PESGRE), 2022, organized by IA/IE/PEL Jt. chapter Kerala pp. 1-4, <https://doi.org/10.1109/PESGRE52268.2022.9715814>.

## DEPARTMENT OF MECHANICAL ENGINEERING



- One Week Faculty Development Program on Generative Design and nTopology Optimization was organized by the Department of Mechanical Engineering and Internal Quality Assurance Cell (IQAC) of Ramaiah Institute of Technology Bengaluru during 21<sup>st</sup> to 25<sup>th</sup> March, 2022. The main objective of the program was to bring academicians, Research Scholars and Industrialists from the state on to a common platform.

### Publication in (National / International) Journals

- A. Meghana, **M. R Bharath**, Saurabh Kumar, et al. - 'ESP32 based embedded system for level I vehicular automation using iot', AIP Conference Proceedings 2424, 030002 (2022); <https://doi.org/10.1063/5.0076784>, Published Online: 21 March 2022
- **Ashok Kumar K**, N. Kapilan, **Dinesh P. A**, S Kasthuriangan - 'Experimental studies on solar assisted activated carbon based adsorption refrigeration system', Materials Today: Proceedings, (2022) <https://doi.org/10.1016/j.matpr.2022.03.241>
- **S. Prakrathi** – 'Flow-Assisted Degradation of Magnesium Implant Pins Under Simulated Body Fluids and Goat Blood Plasma Environment' Journal of Bio- and Tribo-Corrosion, Vol 8, Issue 2, (2022) pp 64 – 78. <https://doi.org/10.1007/s40735-022-00634-8>.
- **R. Kumar**, **Jyothilakshmi**, **Nandeesh H. L** - 'Synthesis and testing for Mechanical integrity of nano cellulose composites', Journal of Mines, Metals and Fuels, Vol.69, 12A.(2022) pp 37-43.
- **KRV Subramanian**, BV Raghuvamsi Krishna, **GS Rohith**, **Raji George**, T. Nageswara Rao - 'Construction and Characterization of Graphene-Polyvinyl Alcohol Nanocomposite as Thermoelement With High ZT Factor, Advances in Sustainability and Technology, Springer, Singapore, (2022) Pages 647-661,
- **V Jayalakshmi**, **KRV Subramanian** - 'Thermal barrier coatings: state-of-art developments and challenges-a mini review', Transactions of the IMF, Taylor & Francis, (2022) Volume 100, Issue 1, Pages 6-9,
- **Raji George**, **KRV Subramanian**, **Fiza Jan**, **Sidhardha Allu** - 'Sodium ion based super capacitor

development with high capacity and stability', Materials Letters, Volume 313, 2022, Pg. 131767.

- **Puneeth Puneeth, Gangarekaluve J. Naveen, Vishwanath Koti, Nitrahalli D. Prasanna, Litton Bhandari, Javaregowda Satheesh, Parthasarathy Sampathkumaran** - 'Computational Analysis on Elastic-Plastic Fracture of Al/B4C and Al2SiO5 Hybrid Metal Matrix Composites', Iranian Journal of Materials Science and Engineering, Vol. 19(1), March 2022, pp 1-15.
- **Priyanka Chatteraj, Parimala Prabhakar, Vishwanath Koti, N. Suganya Natarajan, M. Lakshminarayana, K. Arul, M. Venkatachalapathy, Maqsood Ahamed, M. Karnan, and S. Praveen Kumar** - 'Optimization on Tribological Behaviour of AA7178/Nano Titanium Diboride Hybrid Composites Employing Taguchi Techniques', Journal of Nanomaterials, Vol. 2022, (2022), pp – 1-8, <https://doi.org/10.1155/2022/1619923>.
- **S. Sridhar, Srinivas Viswanth Valeti, Vishwanath Koti, S. Sathish, R. Raghu Chand, N.S. Sivakumar, Mahesh. M, Ram Subbiah, G Veerappan** - 'Surface Modification of Strenx 900 Steel Using Electrical Discharge Alloying Process with Cu-10Ni-CrxPowder Metallurgy Sintered Electrode, Materials Research. Vol. 25, 2022, Pg.25-39, DOI: <https://doi.org/10.1590/1980-5373-MR-2021-0390>.
- **Niranjan Murthy, S. Deepak, P.C. Arunakumara, and Arun Y. Patil** - 'Experimental Study of Multiple Jet Impingement Cooling on a Flat Plate', Int. J. Vehicle Structures & Systems, Vol. 14(2), (2022), Pg.191-195.
- **P.C. Arunakumara, V. Koti, N. Murthy, Y. Pradeep, S. Prashantha and M. Chandra Gowda** - 'Design and Analysis of Robotic Arm for Serving Material in Automotive Industry', Int. J. Vehicle Structures & Systems, Vol. 14(2), (2022), Pg. 215-218.
- **Niranjan Murthy** - 'Marine Non-Conventional Energy Performance Analysis of a Vertical Axis Wind Turbine', Int. J. Vehicle Structures & Systems, Vol. 14(1), (2022), Pg. 291-294.

#### Achievement/s, Awards / Prizes by Faculty / Staff / Students

- **Dr. K.R.V. Subramanian and Dr. Raji George** (HOD, DME) has edited a book titled 'Thermodynamic

cycles for renewable energy technologies' IOP Publishing Jan 2022.

- Dr. K.R.V. Subramanian was Included in AD Scientific index 2022 for most cited researcher (rank 4) from MSRIT, February 2022.
- Ashutosh Sharma (USN:1MS20ME175), a student from 4<sup>th</sup> Semester Mechanical Engineering Department, RIT has obtained Spirit of Invention Scholarship Award by Avery Dennison scholar ship worth of USD 1300 for the year 2021



- The team Stier racing has secured all India Ranking with 10<sup>th</sup> place under EV category at formula Bharath Competition held at Karimotor speedway, Coimbatore between 20<sup>th</sup> -25<sup>th</sup> January 2022. It was the first south Indian team to clear Mechanical and Electrical Technical Inspection at Formula Bharath. The team was Mentored By Mr. Gururaj, Assistant Professor, Department of Mechanical Engineering, RIT.



- The team Velocita Racing Secured All India Ranking with 9<sup>th</sup> position under combustion category at formula Bharath Competition held at Karimotor speedway, Coimbatore during 20<sup>th</sup> - 25<sup>th</sup> January 2022. The team was mentored By Dr. Rajesh S, Assistant Professor, Department of Mechanical Engineering, RIT.



## DEPARTMENT OF CIVIL ENGINEERING

### Publications in National / International Journals

- **Sumalatha J, Mahesh Kumar C L, Prashant Sunagar and Shwetha K G** - 'Design of Soil Remediation Techniques from Column Leaching Test Results', International Journal of Engineering, Transactions A: Applications, Volume 35, Issue 2, February 2022, Pages 344-350. DOI: <https://dx.doi.org/10.5829/ije.2022.35.02b.10>
- **Sumalatha, J, Kumar, M.C.L., Sunagar, P, Shwetha, K.G, Farsangi, E.N** – 'Studies on Contaminated Mine Soil and Its Remediation using Soil Washing Technique: A Case Study on Soil at Kolar Gold Fields', International Journal of Engineering, Transactions A: Basics, Volume 35, Issue 1, January 2022, Pages 201-212, DOI: <https://dx.doi.org/10.5829/ije.2022.35.01A.19>
- **M. C. Nataraja, S. Tejas and Rohit R Kulkarni** - 'Characteristics of crushed and alternative fine aggregates based on flow, shear and impact behaviour', Indian Journal of Engineering Materials and Sciences, International bimonthly research journal, web of sciences core collection, Vol. 29, February 2022, pp. 18-28.
- **T. Dilipan, R. Das Vivek, K. Parthan** - 'Study of Driver's Behavior for Lateral Moving Vehicles', Lecture Notes in Civil Engineering', Springer Publications, Pages 269-278, <https://doi.org/10.1007/978-981-16-8259-9>, ISSN2366-2557, 2022.
- **S. R. Kishore, R. Das Vivek, K. Parthan** - 'Evaluation of Queue Discharge and Lane Occupancy Due to Seepage Behaviour of Small Sized Vehicles at Intersection', Lecture Notes in Civil Engineering, Springer Publication, Vol.219, 2022, Pages 279-298, <https://doi.org/10.1007/978-981-16-8259-9>, ISSN2366-2557.
- **Udit Jain, Dharitri Kahali, Vivek R. Das & Shriniwas S. Arkatkar** - 'Planning for Traditional and Special Area Requirement Travel Modes - Existing Scenario and Way Forward', Transportation Research in India' Springer Transactions in Civil and Environmental Engineering, Pg. 305-331, 2022, [https://doi.org/10.1007/978-981-16-9636-7\\_17](https://doi.org/10.1007/978-981-16-9636-7_17).

### Paper presentation in National / International Conferences

- **Nataraja M C, Shivakumara M J, Lavanya P, Shruthi S and Anusha J R** - 'Mix proportioning and experimental studies on mass concrete as per IS:10262-2019', presented and published in the International Conference on Emerging Trends in Materials Science and Technology-2022 [ICETMT-22], CMRIT, Bangalore.
- **Nataraja M C, Shivakumar M J and Vibha N Dalawai** - 'Effect of design parameters on the proportioning of mass concrete using fly ash and ground granulated blast furnace slag', presented and published in the International Conference on Emerging Trends in Materials Science and Technology-2022 [ICETMT-22], CMRIT, Bangalore.

### Guest lecturers- invited

- **Mr. Gubbi Chandrasekhar Shivakumar**, Chief Engineer (Planning and Design) BMRCL - 'Planning and Design of Metro Phase 2B "airport-link" section of Blue Line from Bengaluru city to Kempegowda International Airport' on 26<sup>th</sup> March 2022.

### Guest Lectures delivered by the department faculty

- **M C Nataraja** - 'CO-PO mapping and assessment tools and methods for evaluation' in ISTE-DTE approved one-week STTP on 'Impactful pedagogical skills and re-structuring of collaboration' 17/01/2022 to 21/01/2022, Civil Engineering Department, LD College of Engineering and Gujarat Technical University, Ahmedabad, 18/01/2022.
- **M. C Nataraja** - 'High Strength Concrete in Rigid Pavements – Design using sustainable materials with and without fibers' in Five Days FDP on 'Advances in Highway Technology and Traffic Systems', 07/02/2022 to 11/02/2022, Civil Engineering Department, RIT, Bangalore, 08/02/2022.
- **M. C Nataraja** - 'Studies on proportioning of self - compacting concrete mixes and their characterisation based on IS:10262-2019', in one-week FDP on 'Emerging Trends in Sustainable Civil Engineering Practices' 21/03/2022 to 27/03/2022, Civil Engineering Department, SJB Institute of Technology, Bangalore.

- **M C Nataraja** - 'Concrete making materials and proportioning of concrete as per IS:10262-2019', Four weeks Online Orientation programme for Engineers, organized by Engineering Staff College, KRS, Mysore, Government of Karnataka, on 31/01/2022, Mysore.
- **M C Nataraja** - 'Effective use of manufactured aggregates and its characterization', Four weeks Online Orientation programme for Engineers, organised by Engineering Staff College, KRS, Mysore, Government of Karnataka, on 04/02/2022, Mysore.
- **M C Nataraja** - 'Design of High-performance concrete using mineral and chemical admixtures', Four weeks Online Orientation programme for Engineers, organised by Engineering Staff College, KRS, Mysore, Government of Karnataka, on 21/02/2022, Mysore.
- **Vivek R Das** - 'Transit Capacity' for Six Days AICTE-ISTE Sponsored Induction/Refresher Faculty Development Programme in Recent Advances in Strategic Civil Infrastructure on 10<sup>th</sup> February 2022 at Kolhapur Institute of Technology, Kolhapur, Maharashtra.
- **M C Nataraja** - recognized scientist and he is indexed in the AD Scientific index 2022 as a researcher, MSRIT, Bangalore for his contribution in Civil Engineering and Technology, 20<sup>th</sup> February 2022.

#### Funded Project

- **Prashant Sunagar (PI) and Dr. M C Nataraja (CI)** - 'Sustainable Utilization of iron ore tailing in smart dynamic concrete for affordable housing systems' VTU research grant, Govt. of Karnataka.

**Grant: 8.52 lakhs.**

#### DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



- Five Day FDP on Smart Autonomous Driving Systems (SADS), 7<sup>th</sup> to 11<sup>th</sup> March 2022, 'Latest technical advancements and innovative approaches in SADS', which focused on Trajectory planning, Multisensor Data fusion, Data driven Analytics, controller synthesis, autonomous Drone navigation system and AutoSAR MCAL.



- Industrial visit: Sixth semester students visited S.M.S. Reshme Motte Uthpadhana Kendra, S.B.S Reshme Chaki Sakanika Kendra and Silk Weaving Mill to understand the need of the field workers so that an inter-disciplinary research work could be carried out. 29-03-2022.

#### Publications in (National / International) Journals

- Kusumika Krori Datta, **K. Indira**, Siri M. S, Meenakshi Lakshminarayanan - 'Multi-class Epileptic Seizure Classification Using Different Deep Learning Techniques- A Comparative Study', International Journal of Mechanical Engineering, Vol. 7, No. 1, January 2022.
- Annapurna K Y, **Deepali Koppad** - 'A Lightweight Hardware Secure and Reliable Framework using Secure and Provable PUF for IoT Devices against the Machine Learning Attack', International Journal of Circuits, Systems and Signals Processing, Vol.16, PP. 699-709, January 2022.
- **K.V. Suma**, H.S. Niranjana Murthy, Umesharaddy Radder, P. Suma - 'The IoT based PPG Signal Classification System for Acute Audio-Visual Stimulus Induced Stress', Webology, Vol.19, No. 1, pp. 5547 – 5562, January, 2022.

- **M. Nagabushanam**, G.S. Nandeesh, Venkateshappa, R. Vijayarajeswari - 'Detection and localization of brain tumors using Fractional Hartley Transform and adaptive neuro-fuzzy inference system classification methods', Journal of Ambient Intelligence and Humanized Computing, February 2022.
- Sandeep Kakde, Rajesh Thakare, Shailesh Kamble, Manoj Patil, **Pavitha U S** - 'Design of a Bulk Driven Gain Boosting Technique Operational Amplifier for Low Power and High Swing Applications', Journal of Active and Passive Electronic Devices, (JAPED)Vol. 16, No. 2, pp. 165-175, 2022.
- **Mamtha Mohan, Suma K V**, Deepika B Banagar - 'An Efficient Framework to Protect Medical Images'. International Journal of Online and Biomedical Engineering (iJOE), (march 2022). 18(04), pp. 143-154.
- **Reshma Verma, Lakshmi Shrinivasan** and Basavraj Hiremath - 'Swarm Optimization for Fire Fighting Systems', published in Webology, vol 19, issue 2, Feb 2022, pp 2341-2351.
- **Lakahmi Shrinivasan, Reshma Verma**, Nandish M D and Divya M N - 'Integrated Navigation System (INS) And Global Positioning System (GPS) Using H-Infinity Filter', Webology, vol 19, issue 2, Feb 2022, pp 2785-2795.
- **Suma K V, Lakshmi Shrinivasan**, Varun C R, Nagendra B N - 'Analysis of Muscle Function for Postural Correction Using Surface EMG Signals', Webology, vol 19, issue 2, Feb 2022, pp. 2796-2808.
- **Venkatesh Nuthan Prasad**, Eshwar Dhanush Gowda, **Krishnappa Indira**, Ananya Kodikula, Bhavana B. Rao - 'RIT Logo based Slotted PLPCMA Multi-Band Patch Antenna', International Journal of Circuits, Systems and Signal Processing, Vol. 16, pp. 773-779, March 2022.
- **Venkatesh Nuthan Prasad**, Eshwar Dhanush Gowda, **Krishnappa Indira**, Ananya Kodukula, Diksha Arora - 'Design of Hemispherical Patch Antenna with Conformally Spaced Log-Periodic Elements for Multi-Directional and Multi-Band Operation', Progress in Electromagnetics Research C, Vol. 118, pp.187-198, February 2022.

- V. Anusha, **K. Indira**, K. Maheshwari - 'Mathematical Model of Spectral Subtraction Technique', Advances and Applications in Mathematical Sciences, Vol. 21, Issue 3, pp. 1389-1394, January 2022.
- **Punya Prabha V**, M D Nandeesh and Tejaswini S - 'Securing Images through Cipher Design for Cryptographic Applications' International Journal of Advanced Computer Science and Applications (IJACSA), Vol.12, Issue 12, December 2021.

#### Paper presentation in National / International Conferences

- **Raghuram S** and Shashank N - 'Approximate Adders for Deep Neural Network Accelerators', 2022 35<sup>th</sup> International Conference on VLSI Design and 21<sup>st</sup> International Conference on Embedded Systems (VLSID). IEEE, February 26<sup>th</sup> - March 2<sup>nd</sup> 2022.
- C. Bharathi, K. Y. Annapurna, **D. Koppad** and K. Sudeendra Kumar - 'An Analysis of Stream and Block Ciphers for Scan Encryption', 2022 2<sup>nd</sup> International Conference on Power Electronics & IoT Applications in Renewable Energy and its Control (PARC), 2022.

#### Guest Lecture/s - Invited

- **Mr. Vikram Mouneshwar**, Samsung Semiconductor India, R & D - 'ASIC Design Implementation', 5<sup>th</sup> February 2022.
- **Mr. Narayana Reddy K**, CommScope - 'Wireless and Data Communication', 29<sup>th</sup> January 2022.

#### Funded Project

- **Sara Mohan George, C Sharmila Suttur, Dr. Maya V Karki** have been granted VTU Grant for research Proposal for the year 2021-22 for the project 'Assistive Systems for Parkinson Patients'.

**Grant Amount: Rs 10,00,000/-**

#### Achievements, Awards / Prizes by Faculty

- **Dr. Maya V Karki, Dr. Imaculate Rosaline and Dr. Dilip Kumar Choudhary** are providing technical consultancy in biomedical applications and antenna design to 'Photonics India Ventures Private Limited', Bangalore, for a total consultancy fee of Rs. 2,65,500/-



- **Dr. C.G. Raghavendra, V. Nuthan Prasad** represented RIT for signing an MoU with Fishery department, Karnataka Veterinary, Animal and Fisheries Sciences University, Govt. of Karnataka, on 14<sup>th</sup> March 2022, for an inter-disciplinary research work.
- Dr. Deepali Koppad is providing technical consultancy in 'Video Processing and AI' to Viraj Electronics, Pune for a total consultancy fee of Rs. 2,88,000/-

#### Achievement/s, Awards / Prizes by Students

- **Dharini Raghavan**, 6th semester student - has been selected to receive travel support of \$1,000, to the 2022 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2022) to take place on 22<sup>nd</sup> – 27<sup>th</sup> May 2022 in Singapore and Shehzen, China.
- **Dharini Raghavan** - has won Mitacs Globalink Research Internship Award of 9000 \$CAD- for the project 'Signal Processing and Machine Learning for Wearable and Mobile Technologies'

### DEPARTMENT OF CHEMICAL ENGINEERING

- The workshop on the 'Myriad Regimes Possessing the Potentiality for Chemical Engineers' was organized by the Department of Chemical Engineering from 14<sup>th</sup> – 19<sup>th</sup> February, 2022. Dr. ShuvraSingha from Polymer Materials research group at School of Chemical and Bioscience at KTH Royal Institute of Technology, Sweden. Dr. Ranjeet Kumar Mishra, Asst. Prof. from Department of Chemical Engineering in MSRIT, gave an illustrious presentation on Biomass Conversions (Pyrolysis) and Hydrothermal Liquefaction. MahendraChinthala, Asst. Prof from the National Institute of Technology (NIT), Rourkela provided systematically, exposure on recent developments in the field of Electrochemical Separations and Advanced Oxidation Process (AOPs).

#### Publications in National / International Journals

- Shreyas J. Kashyap, **Ravi Sankannavar, G. M. Madhu** – 'Synthesis and Characterization of La (Ce, Ba) NiO<sub>3</sub> Perovskite-Type Oxides', Journal of

Superconductivity and Novel Magnetism, Vol.35, Issue 04, Pg. No. 1-12, <https://doi.org/10.1007/s10948-022-06219-3>, Springer, 2022.

- Shreyas J. Kashyap, **Ravi Sankannavar, G.M. Madhu** – 'Iron oxide (Fe<sub>2</sub>O<sub>3</sub>) synthesized via solution-combustion technique with varying fuel-to-oxidizer ratio: FT-IR, XRD, optical and dielectric characterization', Materials Chemistry and Physics, Vol.286. Pg. No. 1-12, <https://doi.org/10.1016/j.matchemphys.2022.126118>, Elsevier 2022.
- Arun Kumar, Monika, **Ranjeet Kumar Mishra**, Saurabhjaglan – 'Pyrolysis of low-value waste miscanthus grass: Physicochemical characterization, pyrolysis kinetics, and characterization of pyrolytic end products', Process Safety and Environmental Protection, VOL. 163, Pg.No. 1-13, <https://doi.org/10.1016/j.psep.2022.05.022>, Elsevier 2022.
- **Sravanthi Veluturla**, Saddam Sharieff, N Ashwini, K V Apoorva, Afnan Sharieff, Rahul Singhvi – 'Insights on Hydrogen Production by Thermochemical and Biological Techniques, Advances in Science, Technology and innovation, Pg.No.321-331, [https://doi.org/10.1007/978-3-030-76081-6\\_39](https://doi.org/10.1007/978-3-030-76081-6_39), Springer 2022.
- **Ranjeet Kumar Mishra**, Pradeep Kumar – 'Studies of physicochemical properties, kinetic behaviour, and thermal degradation profile of waste bio-crude derived from slow pyrolysis in a nitrogen atmosphere', Bioresource Technology Reports, Vol.17, Pg.No.: 1-12, <https://doi.org/10.1016/j.biteb.2022.100984>, Elsevier 2022.
- **Rajeswari M. Kulkarni**, J.K. Dhanyashree, Esha Varma, S.P. Sirivibha – 'Batch and continuous packed bed column studies on biosorption of nickel (II) by sugarcane bagasse', Results in Chemistry, Vol 4, Pg. No1-6, <https://doi.org/10.1016/j.rechem.2022.100328>, Elsevier 2022.
- Chaitra Srikanth, **G. M. Madhu** and Shreyas J. Kashyap – 'Enhanced structural, thermal, mechanical and electrical properties of nanoZTA/epoxy composites', AIMS Materials Science, Vol.9, Issue 2, Pg.No.214-235, 10.3934/matricsci.2022013, Research gate 2022.
- Chandrika. K. C, T. Niranjana Prabhu, **R. R. Siva Kiran**, R. Hari Krishna – 'Applications of artificial neural network and Box-Behnken Design for modelling

- malachite green dye degradation from textile effluents using TiO<sub>2</sub> photocatalyst', Environ. Eng. Res., Vol. 27(1), Pg.No. 1-9, <https://doi.org/10.4491/eer.2020.553>, Korean Society of Environmental Engineers 2022.
- Roushan Nigam Ramnath Shaw, **Ravi Sankannavar**, **G M Madhu**, A Sarkar, K R V Subramanian and Raji George – 'Storage of electricity generated from the renewable sources using electrochemical energy conversion devices', Thermodynamic Cycles for Renewable Energy Technologies, Pg. No.: 1-16, 10.1088/978-0-7503-3711-3ch3, IOP Publishing Ltd. 2022.
  - Pradima J Britto, **Rajeswari M Kulkarni**, **Archna Narula**, Sunaina Poonacha, Rakshita Honnatagi, Sneha Shivanathan and Waasif Wahab – 'Optimization and Packed Bed Column Studies on Esterification of Glycerol to Synthesize Fuel Additives – Acetins', Korean Chem. Eng. Research, Vol.60(1), Pg. No.: 70-79, <https://doi.org/10.9713/kcer.2022.60.1.70>, CHERIC 2022.
  - **Rajeswari M. Kulkarni**, Bhagyeshwari D. Chalageri, **Archna Narula**, AshwiniSachindran – 'Denitrification performance of kaolin and modified kaolin for the treatment of nitrate contaminated water: isotherm and kinetic studies', Nanotechnology for Environmental Engineering, Vol.7, Pg. No.: 1-9, <https://doi.org/10.1007/s41204-021-00213-1>, Springer 2022.
  - **Sravanthi Veluturla**, **Archna Narula**, Saddam Sharieff, N.Ashwini – 'Continuous flow. Continuous flow synthesis of Butyl Levulinate using a microreactor – RTD and kinetic studies', Current Research in Green and Sustainable Chemistry, Vol.5, Pg.No. 1-4, <https://doi.org/10.1016/j.crgsc.2022.100281>, Elsevier 2022.
  - **Ranjeet Kumar Mishra**, Vineetkumar, Pradeep Kumar, Kausthubha Mohanty – 'Hydrothermal liquefaction of biomass for bio-crude production: A review on feedstocks, chemical compositions, operating parameters, reaction kinetics, techno-economic study, and life cycle assessment', Fuel, Vol.316, Pg.No.: 1-23, <https://doi.org/10.1016/j.fuel.2022.123377>, Elsevier 2022.
  - **Ranjeet Kumar Mishra** – 'Pyrolysis of low-value waste switchgrass: Physicochemical characterization, kinetic investigation, and online characterization of hot pyrolysis vapours', Bioresource Technology, Vol.347, Pg.No.: 1-11, <https://doi.org/10.1016/j.biortech.2022.126720>, Elsevier, 2022.
  - **Archna Narula**, **Sravanthi Veluturla**, Saddam Sharieff – 'Synthesis of Biodiesel Using Heterogeneous Catalyst Sodium Hydroxide Impregnated on Naturally Available SiO<sub>2</sub>', Russian Journal of Applied Chemistry, Vol.18, 94(10), Pg. No.: 1427-1435, 2022.10.1134/S1070427221100050, Springer.
- Guest Lecture/s – Invited**
- **Dr. Mahesh Murthy**, Process Safety Manager in Oil Search Private Limited, Sidney, the head of Risk Management Centre of Excellence, Siddaganga Institute of Technology, delivered Guest lecture on "Career Guidance for Chemical Engineers" on 14.03.2022.
  - **Ms. Nandini M and Mr. Prasad S**, from AECC Global delivered a Guest Lecture on "Career Pathway and Study Abroad Opportunities" on 04.02.2022
  - **Dr. M K Ramesh**, Ex. Professor, National Law School of India University, delivered a Guest Lecture on "International Environmental Law" on 28.01.2022.
- Funded Project**
- **Dr. Ravi Sankannavar**, received grant from Science & Engineering Research Board (SERB) for the project titled: 'Development of Energy Efficient Prototype Device for Electrochemical Synthesis of Ammonia: Investigating Pathways to Enhance Ammonia Production Rate', Sanction date: 14.03.2022, Amount: 4398724/-.
  - **Dr. G. M. Madhu**, received grant from VTU for the project titled: 'Design and Development of Carbon dot (C-dot) Based Nanosensors: Detection of Environmentally and Biologically Relevant Metal ions', sanctioned date: 18.02.2022 Amount: 700000/-

*Teach the ignorant as much as you can; society is culpable in not providing a free education for all and it must answer for the night which it produces. If the soul is left in darkness sins will be committed. The guilty one is not he who causes the darkness.*

*- Victor Hugo, Less Miserables*

## DEPARTMENT OF INDUSTRIAL ENGINEERING AND MANAGEMENT

- Department organized workshop on 'Prototyping – Process Design and development'– 28/03/2022 to 01/04/2022.

### Publications in National / International Journals

- Varun K.K., **Hamritha S.**, Vinay M.C. – 'Prediction of Alzheimer's Disease Using Machine Learning. In: Bindhu, V., Tavares, J.M.R.S., Du, KL. (eds) Proceedings of Third International Conference on Communication, Computing and Electronics Systems', Lecture Notes in Electrical Engineering, vol.844. Springer, Singapore. [https://doi.org/10.1007/978-981-16-8862-1\\_50](https://doi.org/10.1007/978-981-16-8862-1_50), (2022).

### Guest Lecture/s – Invited

- **Mr. Sudeep** - Czech University of Life Sciences, Prague, Czech Republic – 'Online series on Ergonomics', 28<sup>th</sup> Jan 2022.

### Guest Lecture delivered by the department faculty

- **M. Shilpa** – 'Signal-To-Noise Ratio for Enhancing Telecom Product Quality', NetGenSoft Pvt. Ltd., Bangalore, 24/02/2022.

## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

- A Staff Development Programme (SDP) was organized by the department of Computer Science and Engineering on "MS-Office and GSuite" 24<sup>th</sup>, 25<sup>th</sup> and 26<sup>th</sup> March 2022. The staff development program is training and education provided by an organization to leverage occupational skills of non-teaching staff. The SDP includes MS office, an application package developed by Microsoft and GSuite developed by Google. The agenda of the SDP is to cover theoretical and practical concepts on these applications with hands-on experience. These applications are widely used across institutions and have been important in times of pandemic serving as an online collaboration package.

### Publications in (National / International) Journals

- Koushik S. and Annapurna P. Patil. – 'An Approach to Ensure Secure Inter-Cloud Data and Application Migration Using End-to-End Encryption and Content Verification', International Journal of Ambient Computing and Intelligence (IJACI), Vol. 13(1), (2022), Pg. 1-21.
- Chaudhari S., Aradhya S.N., Thomas S.B., Pandey S. and Durbha R.P. – 'A Survey on Game Theory based Interference Mitigation in WBASN', International Journal of Sensors Wireless Communications and Control, Vol. 12(2), Pg.108-121.
- Alex, Sini Anna, A. Parkavi, Rakshita N. Patil, Anita Kanavalli, and Nandish Mahadev Karki – 'Implementation and Comparison of File Security Using AES, DES and RSA and Anomaly Detection in Videos Using Convolutional Auto Encoder', Webology, Vol.19(1), (2022).
- Geetha J., D. S. Jayalakshmi, K. Shavin, M. Varun, A. Venkat Satish, and S. Venkatesh – 'Real-Time Traffic Response Processing Using Convolutional Neural Network and Edge Computing', In Innovations in Computer Science and Engineering, Springer, Singapore, Pg. 427- 434, 2022.
- Parkavi A., V. Sangeetha, Sini Anna Alex, A. Syed Mustafa – 'A Case Study on Design of Covid-19 Detection and Alerting System Using Machine Learning Techniques', Webology, Vol. 19(1), (2022).
- Parkavi A., M. N. Pushpalatha, Sini Anna Alex, M. K. Premkumar – 'Decision Support System Using CNN for Detecting the Type of Disease in Fruits and Vegetables', Webology, Vol. 19(1), (2022).

### Paper presentation in National / International Conferences

- Jere, Shreekant, Annapurna P. Patil, and Ananya Muralidhar – 'Analysis of RNN Capsule Model for Multiclass Imbalanced Data', In Sustainable Communication Networks and Application, Springer, Singapore, Pg. 429-439. 2022.
- Koushik S., Annapurna P. Patil – 'Exploring Live Cloud Migration on Amazon S3 Instance Using Inter Cloud Framework', In Advanced Computational Paradigms and Hybrid Intelligent Computing, Springer, Singapore, Pg. 221-229. 2022.



- Yasaswi, I. G. S., Monica R. Mundada, D. Sarika, Harshita Shetty – 'Hybrid Decision Support System Framework for Enhancing Crop Productivity Using Machine Learning', In Proceedings of the 2<sup>nd</sup> International Conference on Recent Trends in Machine Learning, IoT, Smart Cities and Applications, Springer, Singapore, Pg. 57-66, 2022.
- Chandrika C. P, Jagadish S. Kallimani – 'Authorship Attribution for Kannada Text Using Profile Based Approach', In Proceedings of the 2<sup>nd</sup> International Conference on Recent Trends in Machine Learning, IoT, Smart Cities and Applications, Springer, Singapore, Pg.679-688, 2022.
- Parkavi, A., B. J. Sowmya, A. Jerin Francis, B. S. Srikanth, Nikhil Rohan, and R. Deepak – 'SmartEval' Evaluation System for Descriptive Answers in Examinations Using Natural Language Processing and Artificial Neural Networks." In Proceedings of the 2<sup>nd</sup> International Conference on Recent Trends in Machine Learning, IoT, Smart Cities and Applications, Pg. 557-567. Springer, Singapore, 2022.
- Chandrika C. P, Jagadish S. Kallimani – 'Authorship Attribution for Kannada Text Using Profile Based Approach', In Proceedings of the 2<sup>nd</sup> International Conference on Recent Trends in Machine Learning, IoT, Smart Cities and Applications, Springer, Singapore, Pg. 679-688, 2022.
- Parkavi. A, B. J. Sowmya, A. Jerin Francis, B. S. Srikanth, Nikhil Rohan, R. Deepak – 'SmartEval - Evaluation System for Descriptive Answers in Examinations Using Natural Language Processing and Artificial Neural Networks', In Proceedings of the 2<sup>nd</sup> International Conference on Recent Trends in Machine Learning, IoT, Smart Cities and Applications, Springer, Singapore, Pg. 557-567, 2022.

#### Guest Lecture/s – Invited

- **Mr. T.R. Sridhar, Director, RAN Mavenir** - invited as guest lecturer and delivered lecture on topic 'Business Model Canvas' on 29<sup>th</sup> March 2022.
- **Prof. Narahari**, Dean of computer science and Automation, IISc, Bangalore – invited as guest lecturer and delivered lecture on the topic 'Various opportunities available CSA@IISc on 21<sup>st</sup> March 2022.
- **Ms. Reshma Ram & Ms. Shruthi S final year CSE, RIT** – invited as guest lecturer and delivered lecture on the topic 'What's after Undergrad for your education?', on 15<sup>th</sup> January 2022.
- **Mr. Bhargav Thankey** - invited as guest lecturer and delivered lecture on the topic 'Interactive session on Greedy Algorithms, Dynamic Programming and its coding skill' on 12/03/22, 19/03/22, 26/03/22.

#### Guest Lecture delivered by the department faculty

- **Dr. Sangeetha V** - 'Genetic Algorithms in Artificial Algorithms', Five Day Workshop on 'Emerging Technologies' organized by Department of Computer Science and Engineering, Nagarjuna College of Engineering & Technology, Bangalore, from 28/3/2022 to 1/4/2022.

#### Achievement/s, Awards / Prizes by Faculty / Staff / Students

- **Dr Annapurna P Patil**, received IEEE Bangalore Section Outstanding Medium Student Branch Counselor Award on 09<sup>th</sup> January 2022 in recognition of outstanding contributions to IEEE Bangalore Section in the year 2021.

### DEPARTMENT OF ELECTRONICS & INSTRUMENTATION ENGINEERING

- One-week online workshop on 'Design thinking, Critical thinking, and Innovation design' for first year students of the institute was conducted from 21<sup>st</sup> – 26<sup>th</sup> Feb 2022 in collaboration with EDC - RIT.



- FDP program on 'Recent Trends in Sensor Technology and Advanced Control system' was conducted from 21.03.2022 - 26.03.2022 in collaboration with Department of Medical Electronics Engineering in offline mode. Experts from research organizations, academia and industry were invited to deliver the sessions. Topics covered in the FDP were, System Modelling and Identification – An Overview, Nonlinear Model Predictive Control, Artificial Intelligence, Sensor Data Fusion – An Application in Flight Instrumentation, NARX Modelling and NMPC Design, Modelling & control of distillation column with MPC, Stability Analysis, etc.
- One-week online workshop on 'Signal and Image Processing Innovations in computational Neuroscience' was conducted in collaboration with Department of Medical Electronics Engineering in offline mode, from 07.03.2022 – 12.03.2022. Experts from research organizations, academia and industry were the resource person.

#### Faculty Publications in (National / International) Journals

- H. S. Niranjana Murthy** – 'The IoT based PPG Signal Classification System for Acute Audio-Visual Stimulus Induced Stress', Journal of Webology, Vol. 19(1), pp. 5547-5562, Jan. 2022, DOI: 10.14704/WEB/V19I1/WEB19373.
- Alamelu JV, Priscilla, Mythili** - 'Medical Cyber Physical System Architecture for Smart Medical Pumps', Deep Learning Applications for Cyber-Physical Systems January 2022 (pp. 207-221), Chapter 11. IGI Global. (Book Chapter).
- Alamelu J.V, Mythili A.** - 'Machine Learning Methods to Investigate Drug Delivery in Infusion Pump', International Journal of Biology and Biomedical Engineering, Vol.16, (2022), pp. 30-37.

#### Student Achievement

- Muskan Walia** of I sem, selected as a Women Tech makers Engineering Fellow, formerly known as WE Talent Sprint Scholar among the top 250 participants consisting of over 55,000+ applicants across India. Received 100% scholarship.

*Educating the mind without educating the heart is no education at all.*

- Aristotle

#### Guest Lecture/s – Invited

- Dr. I. Thirunavukarasau, Associate Professor, MIT, Manipal – 'Modelling and control of distillation column with MPC', 23-03-2022.
- Dr. J. Valarmathi**, Professor, VIT, Vellore – 'Introduction to Sensor Data fusion', 25-03-2022.

### DEPARTMENT OF INFORMATION SCIENCE ENGINEERING

- ISE Department in association with Department of Computer Science and Engineering and Master of Computer Applications conducted a week long workshop on "Industry 5.0: Concepts, Technologies and Innovative Applications" from 21<sup>st</sup> – 25<sup>th</sup> March, 2022. The objectives of the workshop are - to provide awareness of potential technologies and supporting applications of Industry 5.0, to disseminate conceptual methodologies and techniques relating to Intelligent health care, Food processing, Agriculture and Collaborative robots and to highlight research challenges and open issues that could be further developed to realize Industry 5.0.

#### Publications in (National / International) Journals by Faculty

- M. N. Pushpalatha**, A. Parkavi, R. S. Sachin, Amy S Vadakkan, Aakifha Khateeb and K. P. Deeksha- 'Sign Language Converter Using Features Extractor and PoseNet', Webology, Volume 19, Number 1, Jan 2022, Pages: 5476-5486
- Parkavi, **M. N. Pushpalatha**, Sini Anna Alex and M.K. Premkumar- 'Decision Support System Using CNN for Detecting the Type of Disease in Fruits and Vegetables', Webology, Volume 19, No 1, Jan 2022, Pages: 1315-1334.
- Gurram Sunitha, **M. N. Pushpalatha**, A. Parkavi, Prasanthi Boyapati - "Modeling of Chaotic Political Optimizer for Crop Yield Prediction", Intelligent Automation & Soft Computing, 2022, Vol.34, No.1, 2022, pp.423-437
- Sushma Tumkur Venugopal, Sriram Natarajan, **Megha.P.Arakeri**, Suresh Sehshadri – 'Master frame extraction of fetal cardiac images using B-mode ultrasound images', Journal of Biomimetics,

Biomaterials and Biomedical Engineering, Vol. 54, 2022, pp 51-64

- Kusuma S M , Veena K N, **Vijaya Kumar B P** - 'Spike Modeling of Hebbian Learning For Sensor Deployment', Journal of Natural volatiles and essential oils. Volume 8, 2022
- Charlin Pushpalatha, **M Sinthuja**, Pravinthraja, Amutharaj, Sridhar, Sheeba Rechal, T. Anitha, T. Rajendran, Yosef Asrat Waji - 'Segmentation and Classification of Clustering using U-Net with Deep Learning Model', Journal of Healthcare Engineering, vol. 2022, pp 1-10, Feb 2022
- **Shashidhara H S**, Srinivasa K G, **Siddesh G M** - 'Parallel Implementation of Maximum Parsimony Using Multithreading Approach', International Journal of Computational Intelligence in Control, 14(1), Jan, 2022

#### Achievements / Awards / Prizes by Faculty / Staff / Student

- **Jayanth Sogikar, Nandan Kerekar** - won first prize in Matlab Hackathon held at Nirma University, Ahmadabad, Jan 2022
- **Sushanth Bhat** - won first prize in Success Deck conducted by IEEE COSMOC in Jan, 2022 held in Bangalore

### DEPARTMENT OF MEDICAL ELECTRONICS ENGINEERING



- Departments of Medical Electronics Engineering and Electronics & Instrumentation Engineering Jointly Conducted One Week Faculty Development Program on 'Signal and Image Processing Innovations in Computational Neuroscience', from 7.3.2022 to 12.3.2022.

- Departments of Medical Electronics Engineering and Electronics & Instrumentation Engineering Jointly Conducted One Week Faculty Development Program on 'Recent Trends in Sensor Technology and Advanced Control System', from 21.3.2022 to 26.3.2022.

#### Publications in National / International Journals

- **N. Sriraam, S. Gupta, T. S** - 'Wrist Based Wireless Vital Monitoring System for Continuous Assessment of Pre-Term Neonates in NICU Environment', 2021 3<sup>rd</sup> International Conference on Electrical, Control and Instrumentation Engineering (ICECIE), 2021, pp. 1-4, doi: 10.1109/ICECIE52348.2021.9664731.
- **N. Sriraam, P. R. Vittal, U. Arun, K. Angadi, A. Halli and P. Chakravarth** - 'Wearable Wireless Multiparameter Monitoring Systems (WEMUMS) for Resource Constrained Settings', 3<sup>rd</sup> International Conference on Electrical, Control and Instrumentation Engineering (ICECIE), 2021, pp. 1-4, doi: 10.1109/ICECIE52348.2021.9664663. (Scopus indexed).
- **N. Sriraam, Uma Arun** - 'Assessment of Cardiac Activities Using Multi Features with KNN Classifier - A Pilot Study' in 2022 International Conference on Advances in Computing, Communication, Automation and Biomedical Technology (ICACCBT) 2022

#### Guest Lecture/s Invited

- **Mr. Mark Brandon Venum**, Career Architech, Careerlabs - 'Career opportunities' for the graduate of Medical Electronics Engineering, on 17/12/2021.

#### Guest Lecture Delivered by the Department faculty

- **Dr. N Sriraam** - 'Biomedical Engineering in India: What can Graduating Seniors Expect' at University of California, San Diego, on 3<sup>rd</sup> Feb 2022.
- **Dr. Sweeti** - 'Implication of Signal Processing in Computational Neuroscience Research for Neurofeedback' at Shobhit Institute of Engineering of Technology (Deemed to be University) on 28.02.2022.
- **Tejaswini** - 'Study and Development of Signal Processing Applications for Neonatal Monitoring Assessment' at One-Week Webinar on Bridging the gap between Engineering and Medical Domains-



Its Dimensions and Perspectives" organized IEEE Bangalore, in association with IEEE Manipal & IEEE EMBS RIT at 30/03/22.

#### Faculty who obtained Ph.D degree



**Dr. Uma Arun** - has obtained her PhD degree from VTU for her work on 'Wearable ECG Monitoring System for Screening of Cardiac Activity' under the supervision of Dr. N Sriraam, Professor, Dept. of Medical Electronics Engineering, RIT.

### DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION ENGINEERING

#### Publications in National / International Journals

- Helen K Joy, Manjunath R Kounte, **B K Sujatha** - 'Design and Implementation of Deep Depth Decision Algorithm for Complexity Reduction in High Efficiency Video Coding (HEVC)', International Journal of Advanced Computer Science and Applications, Vol. 13, No. 1, 2022.
- Nisha S.L, **B K Sujatha**, Dr J. R. Raol - 'Pugachev's Nonlinear filter with Lyapunov Stability Analysis for Aircraft Parameter Estimation', Webology (ISSN: 1735-188X) Volume 19, Pages: 997-1010, 2022.
- K M Vanitha, **Viswanath Talasila** - 'Machine Learning Techniques for Automated Tremor Detection in the Presence of External Stressors', International Journal of Circuits, Systems and Signal Processing, vol. 16, pp. 551-560, 2022, E-ISSN:4464.
- B. S. Praveen Kumar, **K. R. Shobha**, Moti Lal Rinawa, Gurumeet C. Wadhawa, Tahani A. Alrebdi, David Christopher, Manoj Kumar Singh, S Magahavarao, - 'Optimization and Wear Properties for the Composites of Metal Matrix AA8011/Boron Nitride Using Taguchi Method', Journal of Nanomaterials, vol. 2022, Article ID 6957545, 10 pages, 2022, <https://doi.org/10.1155/2022/6957545>.
- Shoaib Kamal, **K. R. Shobha** - 'IOT Automation with Segmentation Techniques for Detection of Plant Seedlings in Agriculture', Wireless Communications and Mobile Computing, vol. 2022, Article ID 6466555, 10 pages, 2022. <https://doi.org/10.1155/2022/6466555>, SJR indexed Hindawi Limited, Egypt, H Index 69, ISSN 15308669.
- K. S. Bhanumathi, D. Jayadevappa, and **Satish Tunga** - 'Feedback Artificial Shuffled Shepherd Optimization-Based Deep Maxout Network for Human Emotion Recognition Using EEG Signals', International Journal of Telemedicine and Applications, Volume 2022, Article ID 3749413, <https://doi.org/10.1155/2022/3749413>.
- Priyanka Chatteraj, **Parimala Prabhakar**, Vishwanath Koti, N. Suganya Natarajan, M. Lakshminarayana, K. Arul - 'Optimization on Tribological Behaviour of AA7178/Nano Titanium Diboride Hybrid Composites Employing Taguchi Techniques', Hindawi, Journal of Nanomaterials, Volume 2022, Article ID 1619923, 8 pages. <https://doi.org/10.1155/2022/1619923>.
- Ramya H R**, Vikram Nag R C, Pramod Pavan Krishna, Disha Kulkarni - 'Machine-Learning Technique for Camera-Based Monitoring and Evaluation of Yoga Posture Nat. Volatiles & Essent. Oils', 2021; 8(6): 1091-1098.
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- Shivaraj B. Radder, Raveendra Melavanki, **Umesharaddy Radder**, Sudhir M. Hiremath, Raviraj Kusanur, Seema S. Khemalapuree - 'Synthesis, spectroscopic (FT-IR, FT-Raman, NMR), reactivity (ELF, LOL and Fukui) and docking studies on 3-(2-hydroxy-3-methoxy-phenyl) -1-(3-nitro-phenyl)-propenone by experimental and DFT methods', Journal of Molecular Structure 1255 (JAN-2022) 132443, Elsevier.
- Nisha S L**, Harish s Prabhu - & quot - 'Design and Implementation of Dual Band antenna Based Unmanned Vehicle for Search and Rescue Operations', Nat. Volatiles & Essent. Oils, 2021; 8(6): 1158-1166.
- Kusuma S M**, Ananya K, Meghana S Rashmi Harish, Sameeksha Kamath - 'Efficient Pattern Generation in cryptography supporting Edge computing', Natural Volatiles & Essential oils, volume -8 issue 6, 2021; 8(6): 1150-1157.

- **Sadananda Karthikeya G.**, Issa Elfergani, ChemseddineZebiri, Jonathan Rodriguez,Shiban K. Koul, and Raed A. Abd-Alhameed - 'A Wide-Angle Pattern Diversity Antenna System for mmWave 5G Mobile Terminals & quot', Electronics 11<sup>th</sup>, 2022, No. 4571.<https://doi.org/10.3390/electronics11040571>.
- Somanatha Pai Swapna, **Gulur Sadananda Karthikeya**, Shiban Kishen Koul, and Ananjan Basu - 'Wide-Band Directional Cavity Antenna with Low Scanning Loss for WLAN, &quot' Progress in Electromagnetics Research C, Vol. 118, 231-245, 2022,[doi:10.2528/PIERC22011603](https://doi.org/10.2528/PIERC22011603).
- Siddaraju Meghana, **Gulur Sadananda Karthikeya**, Bagepalli Keshavappa Sujatha, and Prabhakar Parimala - 'A Super Wideband Washable Antenna Demonstrated on Flannel, &quot', Progress in Electromagnetics Research Letters, Vol. 102,95-100, 2022, [doi:10.2528/PIERL21120801](https://doi.org/10.2528/PIERL21120801).
- **Karthikeya, G. S.**, Koul, S. K., Poddar, A. K., & Rohde, U. L - 'Compact Bent-Corner Orthogonal Beam Switching Antenna Module for 5G Mobile Devices', Journal of Electromagnetic Engineering and Science, 22(1), (2022). 74-83.<https://doi.org/10.26866/jees.2022.1.r.63>.

#### Paper presentation in National / International Conferences

- P. N Vrishanka, Parimala Prabhakar, Devika Shet, K Rupali - 'Automated Pet Feeder using IoT', 2021 IEEE International Conference on Mobile Networks and Wireless Communications (ICMNBC), 3<sup>rd</sup> - 4<sup>th</sup> Dec. 2021, Published on 26<sup>th</sup> January 2022, ISBN:978-1-6654-4607-5, DOI: 10.1109/ICMNBC52512.2021.9688391.Scopus indexed.

#### Guest Lecture (Invited)

- **Prof. Scarlet Daoud**, Eagle-i RF as consulting Engineer and Sage member, US - 'Concept to Production', virtual technical talk was organized by IEEE Antennas and Propagation Society Student Chapter, RIT, on 27<sup>th</sup> January 2022.

#### Guest Lecture delivered by the department faculty

- **Dr. S. G Shivaprasad Yadav** - 'Embedded ARM Controller' during the one-month internship on IoT & Embedded Systems Applications', organized by IETE Bengaluru on 28<sup>th</sup> March 2022.

#### Books Published

- Koul S. K & **Karthikeya G. S** - 'Antenna Architectures for Future Wireless devices'. <https://link.springer.com/book/10.1007/978-981-16-7783-0?noAccess=true>, (2022).

#### Funded Projects

- **Dr. B.K. Sujatha** - 'Performance characterization of flexible Wearable Antenna for dynamic IoT Connectivity', under AICTE MODROBS Scheme.

**Grant-10 lakh.**

- **Dr. B.K. Sujatha** - 'Centre of Learning for setting up Microwave and Antenna Lab', under VGST, K-FIST, Level 2.

**Grant - 40 lakh.**

- **Dr. Viswanath Talasila** - 'Enabling functional mobility through advanced gait analysis', under BIRAC - PACE.

**Grant-21.40 lakh.**

- **Dr. Viswanath Talasila** - 'Development of a Prosumer Driven Integrated SMART Grid', under DST,

**Grant-33.32 lakh.**

- **Dr. Shobha K R** and **Dr. S G Shivaprasad Yadav** - 'Setting up of Internet of things (IoT) based Sensor Network Lab', under VGST, K-FIST, Level 2.

**Grant- 40 lakh.**

- **Dr. Shobha K R, Dr. Parimala P** and **Nisha S L** - 'Design, Development and Prototyping of High Accuracy NavIC Receiver for Rapid Topographic Survey' under DST - Device Development Programme,

**Grant: 52.58 lakh.**

#### Achievement/s, Awards / Prizes by Faculty / Staff / Students

- **Dr. Shobha K R** - received 'Lifetime achievement' award under National faculty award 2021-2022 from Novel Research Academy in Jan 2022.
- **S M Kusuma** - consultancy and technical guidance in IoT and Edge Computing development for Tech

Machinery Labs TM worth Rs 100000/- from 2021 December to 2022 December.

## DEPARTMENT OF ARTIFICIAL INTELLIGENCE & MACHINE LEARNING



- Boeing has conducted Engineers Week (US) at RIT during 21<sup>st</sup> - 25<sup>th</sup> Feb 2022. As a part of this program, Boeing Engineering Connect with RIT was organized. A panel discussion was arranged on the topic 'AI Applications in Industry and Career Prospects' on Thursday 24<sup>th</sup> Feb 2022. Dr. Jagadish S Kallimani, Prof and Head, Dept of AI & ML, Dr. M N Thippeswamy, Prof and Head, Dept of CSE (AI & ML) and Dept of CSE (Cyber Security) were involved from RIT. Mr. Aravindan Krishnan, Data Scientist, Mr. Krishna Munirathnam, and Mr. Partha Adhikari, Lead Data Scientist, Systems and Analytics, were the panel members from Boeing.

### Publication in (National / International) Journals

- J. F. Banu, S. B. Rajeshwari, Jagadish S Kallimani, S. Vasanthi, A. M. Buttar et al. - 'Modeling of hyperparameter tuned hybrid cnn and lstm for prediction model', Intelligent Automation & Soft Computing, vol. 33, no.3, pp. 1393-1405, 2022.
- Varalakshmi, K.P.N., Jagadish S Kallimani - 'Readability Enhancement in Handwritten English Documents by Eliminating Noisy Characters through Convolutional Neural Network', Saini, H. S., Sayal, R., Govardhan, A., Buyya, R. (eds) Innovations in Computer Science and Engineering. Lecture Notes in Networks and Systems, (2022) vol 385. Springer, Singapore. <https://doi.org/10.1007/978-981-16-8987-1-4.6>

- Sajini, G., Jagadish S Kallimani - 'Optimized Linguistic Feature Selection Through Deep Learning Approach for Forensic Applications'. Saini, H.S., Sayal, R., Govardhan, A., Buyya, R. (eds) Innovations in Computer Science and Engineering. Lecture Notes in Networks and Systems, 2022, vol 385. Springer, Singapore. [https://doi.org/10.1007/978-981-16-8987-1\\_52](https://doi.org/10.1007/978-981-16-8987-1_52)
- Chandrika, C. P., Jagadish S Kallimani - 'Extractive Text Summarization of Kannada Text Documents Using Page Ranking Technique' Hemanth, D. J., Pelusi, D., Vuppalapati, C. (eds) Intelligent Data Communication Technologies and Internet of Things. Lecture Notes on Data Engineering and Communications Technologies, 2022 vol 101. Springer, Singapore. [https://doi.org/10.1007/978-981-16-7610-9\\_51](https://doi.org/10.1007/978-981-16-7610-9_51)
- Rajeshwari, S.B., Jagadish S Kallimani - 'Development of Optimized Linguistic Technique Using Similarity Score on BERT Model in Summarizing Hindi Text Documents'. Raj, J. S., Kamel, K., Lafata, P. (eds) Innovative Data Communication Technologies and Application. Lecture Notes on Data Engineering and Communications Technologies, 2022, vol 96. Springer, Singapore. [https://doi.org/10.1007/978-981-16-7167-8\\_56](https://doi.org/10.1007/978-981-16-7167-8_56)
- Chandrika, C.P., Jagadish S Kallimani - 'Authorship Attribution for Kannada Text Using Profile Based Approach'. In: Gunjan, V.K., Zurada, J.M. (eds) Proceedings of the 2<sup>nd</sup> International Conference on Recent Trends in Machine Learning, IoT, Smart Cities and Applications. Lecture Notes in Networks and Systems, vol 237. Springer, Singapore. [https://doi.org/10.1007/978-981-16-6407-6\\_58](https://doi.org/10.1007/978-981-16-6407-6_58)

## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING (CYBER SECURITY)

### Paper Presentation in National / International Journals

- Shilpa A and M N Thippeswamy** - 'A customized ID-CNN approach for sensor-based human activity recognition', International Journal of Advanced Technology and Engineering Exploration, Vol.9(87), Feb-2022, pp- 213-230.



### Publication in (National / International) Conferences

- **B.V Shruti and M N Thippeswamy** – 'Multi-Level Hierarchical Information Driven Risk Sensitive Routing Protocol for WSN' in International Conference on Emerging Research in Computing Information, Communication and Applications, 24<sup>th</sup> - 26<sup>th</sup> Feb 2022.

### Guest Lectures delivered by the department faculty

- **Dr. M N Thippeswamy** - 'CO and Po attainment' held in AMC college of Engineering', Bengaluru on 31<sup>st</sup> March 2022.
- **Dr. Jagadish S Kallimani**, Prof and Head, Dept of AI & ML, and **Dr. M N Thippeswamy**, Prof and Head, Dept of CSE (AI & ML) and Dept of CSE (Cyber Security) - Boeing has conducted Engineers Week (US) at RIT during 21<sup>st</sup> -25<sup>th</sup> Feb 2022. As a part of this program, a panel discussion was arranged on the topic 'AI Applications in Industry and Career Prospects' on Thursday 24<sup>th</sup> Feb 2022, RIT, Bangalore.

### Guest Lecture/s – Invited

- **Mr. T R Sridhar**, PLM- Director, RAN, Mavenir - 'Business Model Canvas', Departments of CSE, CSE (AI & ML) and ML in association with Entrepreneurship Development Cell and Internal Quality Assurance Cell, RIT, organized this event on 29<sup>th</sup> March 2022.

## DEPARTMENT OF BIOTECHNOLOGY

- The Department of Biotechnology conducted lecture series on 'Drug Discovery and Development' in association with Biocon Bristol Myers Squibb Research Center (BBRC), Bengaluru from 10<sup>th</sup> Jan to 04<sup>th</sup> Feb 2022.
- The Department of Biotechnology & Department of Chemistry, RIT organized a workshop on 'Advances in characterization techniques and applications: A material science perspective' in association with Shriram Institute for Industrial Research, Bengaluru-560067, Karnataka, India, from 07<sup>th</sup> -12<sup>th</sup> March 2022.

- A webinar on 'Emerging Trends in Biotechnology Advancements' was conducted in association with the Institute of Engineers India-Student Chapter, Ramaiah Institute of Technology from 21<sup>st</sup> -25<sup>th</sup> March 2022.



- An industrial Visit to Indo-American Hybrid Seeds (I) Pvt. Ltd, Bengaluru was organized on 06<sup>th</sup> January 2022.



- An industrial Visit to BiOZEEN, Bengaluru was organized on 28<sup>th</sup> March 2022.

### Publications in International Journals

- **P Monika, M N Chandraprabha** – 'Challenges in Healing Wound: Role of Complementary and Alternative Medicine', 8, Frontiers in Nutrition, Vol. 1791899, (2022), Pg.1-13.
- **Bindu Sadanandan, PriyaAshrit, Lokesh K** - 'High throughput comparative assessment of biofilm formation of Candida glabrata on polystyrene material', Korean Journal of Chemical Engineering, (2022), Pg.1-10.
- **Hari Krishna. R, Chandraprabha M. N, Deepa Kundagol** – 'Non-enzymatic Catalytic Oxidation of

Glucose and Dual Mode Sensing by Fluorescence/ Electrochemical Methods Using MO-GO Composites (MO = ZnO, CuO, NiO and Co<sub>3</sub>O<sub>4</sub>), Topics in Catalysis, Vol. 9, (2022).

- **M. N. Chandrababha, R. Hari Krishna, K. Samrat, A. Sakunthala, M. Sasikumar** – 'Optical and antibacterial activity of biogenic core-shell ZnO@TiO<sub>2</sub> nanoparticles', Journal of the Indian Chemical Society, Vol.99(3), (2022), Pg. 100361.
- **Bhavya G** – 'Synthesis of a versatile Schiffbase 4-((2-hydroxy-3, 5-diiodobenzylidene) amino) benzenesulfonamide from 3,5-diiodosalicylaldehyde and sulfanilamide, structure, electronic properties, biological activity prediction and experimental antimicrobial properties', Journal of Molecular Structure, Vol. 1250, 131700? (2022), Pg. 1-10.
- **Bhavya G** – 'Schiff base (Z)-4-((furan-2-ylmethylene) amino) benzenesulfonamide: Synthesis, solvent interactions through hydrogen bond, structural and Spectral properties, quantum chemical modeling and biological studies', Journal of Molecular Liquids, Vol. 350, 118531 (2022), Pg. 1-13.
- **Bhavya G** – 'Study of the structural features and solvent effects using ab initio molecular dynamics and energy decomposition analysis of atogepant in water and ammonia', Journal of Molecular Liquids, Vol. 352, 118672 (2022), Pg. 1-11.

#### Funded Projects Ongoing

- **Dr. Bindu S & Mrs. Vijayalakshmi V** – 'Development of a Biocompatible Poly (L-Lactic Acid)- Chitosan hydrogel scaffold for neuronal regeneration', Ministry of Science & Technology, DST, Rs. 32.90 Lakhs.
- **Dr. Bhavya S G** – 'An investigation of the role of S-acylation in cardiac hypertrophy – proteomics, site-specific mutation and molecular dynamics simulations approach', DST, SERB- TARE, Rs. 18.30 Lakhs.
- **Dr. Chandra Prabha M N & Dr. Harikrishna R** – 'Design of structurally modified nanoceria with enhanced haloperoxidase activity to combat sulphate reducing bacteria (SRB) induced biocorrosion: A biomimetic approach to combat microbiologically – influenced Corrosion (MIC) of marine structures'. DST, CRG, Rs.41.83 Lakhs.

- **Dr. Chandra Prabha M N & Dr. Harikrishna** – 'Designing of Novel Biocompatible and Multifunctional Nano Ceramic Coatings for Medical Implants', VGST-KFIST L2, Rs. 30.0 Lakhs.
- **Dr. Chandra Prabha M N & Mrs. Monika P** – 'A biological strategy to enhance chronic wound healing in patients using Human Autologous Platelet – Rich Plasma'. RIT Seed Funding, RIT, Rs. 2.6 Lakhs
- **Dr. Lokesh K N** – 'Stimuli Responsive Polymeric Particles Containing Iron (III) Chelating Bioactive Ligands for Mitigation of Intracellular Labile Iron Pool (LIP)', SERB, DST, TARE, Rs. 18.30 Lakhs.
- **Dr. Bindu S & Dr. Dhamodhar P** – 'BiSEP (Biotechnology Skill Enhancement Programme), Domain: Biopharmaceutical Technology', KBITS, Govt. of Karnataka, Rs. 162.5 Lakhs.
- **Dr. Chandrababha M.N & Mrs. Sanchita Sharma** – 'Enhanced Production of Indian (Precursor of Indigo Dye) from cell suspension culture of Indigoferatinctoria and its up – scaling through bioreactor', DST, Rs. 23.72 Lakhs.

#### Guest Lecture/s – Invited

- **Dr. Shailesh Dudhgaonkar**, Director, Biocon Bristol Myers Squibb Research Center, Bengaluru – 'Introduction to Drug Discovery' on 10.01.2022.
- **Dr. Yash Muthukumar**, Principal Investigator, Biocon Bristol Myers Squibb Research Center, Bengaluru – delivered a talk on 'Molecular Biology' on 11.01.2022.
- **Dr. Prakash Subramanyam**, Senior Principal Investigator, Biocon Bristol Myers Squibb Research Center, Bengaluru – delivered a talk on 'Cellular Biology' on 12.01.2022.
- **Dr. Amit Anand**, Senior Group Leader, Biocon Bristol Myers Squibb Research Center, Bengaluru – delivered a talk on 'Cellular Biology' on 13.01.2022.
- **Dr. Madhusudhan Ravindran**, Senior Principal Investigator, Biocon Bristol Myers Squibb Research Center, Bengaluru – delivered a talk on 'In vitro Pharmacology and Automation' on 17.01.2022.
- **Dr. Deepak Mittal**, Senior Group Leader, Biocon Bristol Myers Squibb Research Center, Bengaluru – delivered a talk on 'Cancer Immunotherapy' on 17.01.2022.

Promises and Challenges on the Road to a Cure' on 18.01.2022.

- **Dr. Puneet Chopra**, Senior Group Leader, Biocon Bristol Myers Squibb Research Center, Bengaluru - delivered a talk on 'Immunomodulation for Auto-Immune Diseases' on 27.01.2022.
- **Dr. Sarita Nehra**, Research Investigator, Biocon Bristol Myers Squibb Research Center, Bengaluru - delivered a talk on 'Heart Failure' on 28.01.2022.
- **Dr. Pushpa Hegde**, Principal Investigator, Biocon Bristol Myers Squibb Research Center, Bengaluru-delivered a talk on 'Heart Failure' on 31.01.2022.
- **Dr. Prakash Vachaspati**, Associate Research Director, Biocon Bristol Myers Squibb Research Center, Bengaluru - delivered a talk on 'Introduction to DMPK' on 31.01.2022.
- **Dr. Chetana Basavaraj**, Research Director, Biocon Bristol Myers Squibb Research Center, Bengaluru - delivered a talk on 'Introduction to Translational Medicine' on 02.02.2022.
- **Dr. Gaurav Jain**, Group Leader, Biocon Bristol Myers Squibb Research Center, Bengaluru - delivered a talk on 'Bioinformatics and Data Analytics' on 03.02.2022.
- **Dr. Mukund Mandayam**, BBRC HR Head, Biocon Bristol Myers Squibb Research Center, Bengaluru - delivered a talk on 'The Importance of a Scientific Mind Set and Orientation in Drug Discovery and Development' on 04.02.2022.

## DEPARTMENT OF MATHEMATICS

- Department of Mathematics has conducted One Week Faculty Development Program on 'Computational Methods in Boundary Layer Theory' from 7<sup>th</sup> to 12<sup>th</sup> March 2022.
- Conducted Annual Mathematics Quiz (MQ) for 1st Year B.E Students on 4<sup>th</sup> March 2022 and 'Prize and Certificate Distribution', program was conducted on 23<sup>rd</sup> March 2022.



## Publications in (National / International) Journals

- **M. Girinath Reddy Dinesh P. A, Aruna A S, M. S. Basavaraj** - 'Effects of variable fluid properties on double diffusive mixed convection with chemical reaction over an accelerating surface', Biointerface Research in Applied Chemistry, Vol. 12, Pg. 5161 – 5173, 2022.
- **Y S Kalyan Chakravarthy et al** – 'Effect of Multiple Forces On Convective Micropolar Fluid Flow In A Permeable Channel With Stretching Walls Considering Second Order Slip Conditions', International Journal of Ambient Energy, 2022.
- **Sushma S, Neeraja G, Dinesh P. A, Uma. M, Nancy Samuel** - Analysis of Wavering MHD and Chemical Reaction on Casson Fluid Flow over a Stretching Sheet', Mathematical Models and Computer Simulations, Vol.14, 2022.
- **Uma M, et.al** –'A study of research publications of top NIRF ranked engineering institutions in Karnataka', Vol.69, Pg. 44-50, 2022.
- **Praveena M M, et. Al** –'Comparative study of different non-Newtonian fluid over an elaborated sheet in the view of dual stratified flow and ohmic heat', Chemical Physics Letters, Vol.784, Pg. 139096, 2022.
- **Praveena M M et. Al** – 'Effect of thermal conductivity on Blasius-Rayleigh-Stokes flow and heat transfer over a moving plate by considering magnetic dipole moment', The European Physical Journal Plus, Vol.137, Pg. 1-13, 2022
- **Praveena M M et. al** - 'Unsteady absorption flow and dissipation heat transfer over a non-Newtonian fluid',

Waves in Random and Complex Media, Pg. 1-15, 2022

- **Srikantha N** – 'Entropy generation analysis of radiative heat transfer in Williamson fluid flowing in a microchannel with nonlinear mixed convection and Joule heating', Part E: Journal of Process Mechanical Engineering, 2022.
- **Srikantha N** – 'Magnetically propelled Carreau fluid flow over penetrable sensor surface influenced by thermal radiation, Joule heating and heat generation', Communications in Theoretical Physics, Vol.74, Pg. 25002, 2022.
- **Srikantha N** – 'Heat Transfer of Nanomaterial over an Infinite Disk with Marangoni Convection: A Modified Fourier's Heat Flux Model for Solar Thermal System Applications', Applied Sciences, Vol.24, Pg. 11609, 2022.
- **Veena B. N et al.** – 'Study of Natural Convection with Local Thermal Non Equilibrium Effects in Nanoliquid-Saturated Low Porosity Enclosures', International Journal of Applied and Computational Mathematics, Vol.8, Pg. 1-20, 2022.
- **B. Azghar Pasha, Sowmya G et.al.** – 'Numerical investigation of ferromagnetic liquid film flow over an unsteady stretching surface in the presence of radiation and aligned magnetic field' , Heat Transfer, 2022.
- **M. Girinath Reddy et. al** - 'Convective heat transfer in MHD Cu-TiO<sub>2</sub>-H<sub>2</sub>O cross nanofluid flow over three diverse surfaces', Part E: Journal of Process Mechanical Engineering, 2022.
- **M. Girinath Reddy et. al** – 'Effect of temperature-dependent viscosity on hydromagnetic unallied flow', Part E: Journal of Process Mechanical Engineering, 2022.
- **Sowmya G et al** – 'Effect of electromagnetic field on the thermal performance of longitudinal trapezoidal porous fin using DTM-Pade approximant', Heat transfer 2022.
- **Sowmya G et al** – 'Inferring optimal proportion for efficient heat transfer and depleted entropy using MgO-Ag/water hybrid nanofluid over convectively heated stretching sheet embedded in a porous medium', Waves in Random and Complex Media, Pg. 1-25, 2022.
- **Sowmya G et al** – 'LSM and DTM-Pade approximation for the combined impacts of convective and radiative heat transfer on an inclined porous longitudinal fin, Case Studies in Thermal Engineering 2022.
- **Sowmya G et al** – 'Thermal analysis of an annular fin under multi-boiling heat transfer coefficient using differential transform method with Pade approximant (DTM-Pade)', Part E: Journal of Process Mechanical Engineering, 2022.
- **Sowmya G et al** – 'Thermal stress and temperature distribution of an annular fin with variable temperature-dependent thermal properties and magnetic field using DTM-Pade approximant', Waves in Random and Complex Media, Pg. 1-29, 2022.
- **Sowmya G et al** - 'Hybrid nanoliquid flow through a microchannel with particle shape factor, slip and convective regime, International Journal of Numerical Methods for Heat & Fluid Flow, 2022.
- **Sowmya G et al** – 'Exploration of Temperature Distribution through a Longitudinal Rectangular Fin with Linear and Exponential Temperature-Dependent Thermal Conductivity Using DTM-Pade Approximant', Symmetry, Vol.14, 2022.
- **Sowmya G et al** – 'Exploration of transient heat transfer through a moving plate with exponentially temperature-dependent thermal properties, Waves in Random and Complex Media, Pg. 1-19, 2022
- **Sowmya G et al** – 'Analytical solution for temperature equation of a fin problem with variable temperature-dependent thermal properties: Application of LSM and DTM-Pade approximant', Chemical Physics Letters, Vol.793, 2022.
- **Sowmya G et al** – 'Slip flow of Walter's B liquid through the channel possessing stretched walls by employing optimal homotopy asymptotic method (OHAM)', Journal of Molecular Liquids, Vol.353, 2022.



- **Vijaya Kumar et.al.** - Effect of fluorescence quenching model on quinoline derivative with cobalt chloride metal ion using steady state and time resolved spectroscopy methods, Luminescence Willy, Pg. 1-6, 2022.

#### Guest Lecture invited

- **Dr. Arulalan Rajan**, Former Professor, Dept. of ECE, NITK, Suratkal – 'Mathematics for Engineers', 23.03.2022.

### DEPARTMENT OF CHEMISTRY

- In association with Biotechnology and Shriram Institute for Industrial Research, Bengaluru, Department of Chemistry, organized a workshop on 'Advances in characterization techniques and applications: A material science perspective', from 07<sup>th</sup> -12<sup>th</sup> March 2022.



- Hands-on Training on 'Demonstration and promotion of value addition in Jack fruit, was held at on 19-03-2022. Luminescence Society of India: Karnataka Chapter (LSIKC) supported this event and its members are participated.

#### Publications (National / International) Journals

- H M Sathyananda, P A Prashanth, **B. M. Nagabhushana** – 'Evaluation of antimycobacterial, antioxidant, and anticancer activities of CuO nanoparticles through cobalt doping', Journal of Applied Nanoscience, Vol. 12(1), January 2022, Pg.No.79-86.

- H. Muktha, **Nagaraju Kottam** – 'Carbon dots-A study of its cytotoxic activity against HepG2 and MCF-7 cell lines', journal of Materials Today: Proceedings, Vol. 49, 2022/1/1, Pg. 608-612.
- Bincy Rose Vergis, **Nagaraju Kottam, R Hari Krishna, G.N. Anil Kumar** – 'Comparison of magnetic and dielectric properties of transition metal nanospinel ferrites, MFe<sub>2</sub>O<sub>4</sub> (M= Co, Cu, Ni, Zn) synthesized by one-pot combustion route', Journal of Materials Today: Proceedings, Vol. 49, 2022/1/1, Pg. 870-877.
- S P Smrithi, **Nagaraju Kottam** – 'Heteroatom Modified Hybrid Carbon Quantum Dots Derived from Cucurbita pepo for the Visible Light Driven Photocatalytic Dye Degradation', Journal of Topics in Catalysis, 2022/1/26, Pg. 1-12.
- PravinKendrekar, **Basappa C. Yallur** – 'Facile Synthesis of Chitosan-ZnO- $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> as Hybrid Nanocatalyst and Their Application in Nitrothiopheneacetate Reduction and Cyclization of Amino thiopheneacetate', Journal of Topics in Catalysis, January 2022, Pg. 1-9.
- Vinayak Adimule, **Basappa C Yallur** – 'Crystal Structure, Morphology, Optical and Super-Capacitor Properties of Sr<sub>x</sub>:  $\alpha$ -Sb<sub>2</sub>O<sub>4</sub> Nanostructures', Journal of Anal. Bioanal. Electrochem, Vol. 14(1), 2022, Pg. 1-17.
- Vinayak Adimule, **Basappa C Yallur** – 'Studies on synthesis, characterization of Sm<sub>x</sub>ZnO: CoO nanocomposites and its effect on photo catalytic degradation of textile dyes', Journal of Topics in Catalysis, 2022, Pg. 1-11.
- VinayakAdimule, **Basappa C Yallur** – 'Studies on crystal structure, morphology, optical and photoluminescence properties of flake-like Sb doped Y2O3 nanostructures', Journal of Optics, Vol. 51(1), 2022/3, Pg. 173-183.
- Nilophar M Shaikh, **Malathi Challa** – 'Highly Active Mixed Au-Pd Nanoparticles Supported on RHA Silica Through Immobilized Ionic Liquid for Suzuki Coupling Reaction', Journal of Topics in Catalysis, 2022/1/8, Pg. 1-10.

- Nilophar Majjid Shaikh, **Malathi Challa** – 'A Novel SBA Nano-Silica Immobilized Basic Ionic liquid Catalyst for One Pot Synthesis of 2-Amino-4H-chromene Derivatives at Room Temperature in Aqueous Media', Journal of Topics in Catalysis, 2022/1/14, Pg. 1-9.
- **Sharanabasappa B Patil** – 'Medicinal significance of novel coumarin analogs: Recent studies', Journal of Results in Chemistry, Vol. 4, 2022/1/1, Pg. 100313.
- B Nagashree, **R Hari Krishna** – 'Studies on performance of plagioclase based alkali activator in polymerization of alumina refinery residue and slag from iron industry', International journal of Materials Today: Proceedings, Vol. 49, 2022/1/1, Pg. 854-859.
- Ajit Khosla, **R. Hari Krishna** - 'Investigations on the effect of NH<sub>4</sub>Cl flux on the structural and optical properties of CdSiO<sub>3</sub>:Eu<sup>3+</sup> nanophosphor', International Journal of Materials Research Innovations, 2022, <https://doi.org/10.1080/14328917.2022.20>
- K Karthikeyan, M N Chandrababha, **R Hari Krishna**, K Samrat, A Sakunthala, – 'Optical and antibacterial activity of biogenic core-shell ZnO@TiO<sub>2</sub> nanoparticles', International journal of the Indian Chemical Society, 2022/1/21, Pg. 100361.
- **Sampath Chinnam**, Vinakak Adimule, Santosh S Nandi – 'Recent Advances in the One Pot Synthesis of Coumarin Derivatives from Different Starting Materials Using Nanoparticles: A Review', International journal of Topics in Catalysis, 2022/1/27.
- Maya Pai M, Sheetal R Batakurki, **Basappa C Yallur**, Vinayak M Adimule – 'Green Synthesis of Chitosan Supported Magnetic Palladium Nanoparticles Using Epiphyllumoxypetalum Leaf Extract (Pd-CsEo/Fe<sub>3</sub>O<sub>4</sub> NPs) as Hybrid Nanocatalyst for Suzuki-Miyaura ...', Journal of Topics in Catalysis, 2022/2/2, Pg. 1-13.
- Vinayak Adimule, **Sampath Chinnam**, **Basappa C Yallur** – 'Guar gum and its nanocomposites as prospective materials for miscellaneous applications: A short review', Journal of Topics in Catalysis, 2022/2/5, Pg. 1-14.
- G Chaithra, P R Deepthi, **Malathi Challa** – 'Optical and Thermal Properties of Acid Red Doped Triglycine Acetate Crystal for Optoelectronic Applications', Journal of Crystal Research and Technology, Vol. 57(2), 2022/2, Pg. 2100130.
- R T Yogeeshwari, **R Hari Krishna** – 'Ultra-trace detection of toxic heavy metal ions using graphitic carbon functionalized Co<sub>3</sub>O<sub>4</sub> modified screen-printed electrode', International journal of Carbon Letters, Vol. 32(1), 2022/2, Pg. 181-191.
- **R Hari Krishna**, M N Chandrababha, G M Mamatha – 'Non-enzymatic Catalytic Oxidation of Glucose and Dual Mode Sensing by Fluorescence/Electrochemical Methods Using MO-GO Composites (MO= ZnO, CuO, NiO and Co<sub>3</sub>O<sub>4</sub>)', International journal of Topics in Catalysis, 2022/2/8, Pg. 1-13.
- B.N Rashmi, Sujatha F Harlapur, **K Gurushantha** – 'Facile green synthesis of lanthanum oxide nanoparticles using Centella Asiatica and Tridax plants: Photocatalytic, electrochemical sensor and antimicrobial studies', International journal of Applied Surface Science Advances, Vol. 7, 2022/2/1, Pg. 100210.
- K.B Kusuma, **K. Gurushantha** – 'Probe sonicated synthesis of bismuth oxide (Bi<sub>2</sub>O<sub>3</sub>): photocatalytic application and electrochemical sensing of ascorbic acid and lead', International Journal of Nanomaterials, Vol. 2022, 2022/2/12.
- Aatika Niza, **Sampath Chinnam**, – 'Synthesis, DFT and In Silico Anti-COVID Evaluation of Novel Tetrazole Analogues', International journal of Polycyclic Aromatic Compounds, 2022/2/16.
- Mithun Rudrapal, Ismail Celik, **Sampath Chinnam** – 'Phytocompounds as potential inhibitors of SARS-CoV-2 Mpro and PLpro through computational studies', Saudi Journal of Biological Sciences, Vol. 29(5), 2022/2/25, Pg. 3456-3465.
- Vinayak Adimule, **Basappa C Yallur**, Sheetal R Batakurki – 'Microwave Assisted Synthesis of Cr doped Gd<sub>2</sub>O<sub>3</sub> Nanostructures and Investigation on Morphology, Optical, Photoluminescence Properties', Journal of Nanoscience and Technology: An International Journal, Vol. 13(2), 2022/3/28, Pg. 45-59.

- Vinayak Adimule, Vinay S Bhat, **Basappa C Yallur** – 'Facile synthesis of novel SrO 0.5:MnO 0.5 bimetallic oxide nanostructure as a high-performance electrode material for supercapacitors', Journal of Nanomaterials and Nanotechnology, Vol. 12, 2022/3/31, Pg. 18479804211064028.

#### Book Chapter

- G.K. Prashanth, **B M Nagabhushana** – 'Applications of Inorganic Polymers in Textile Wastewater Treatment', Polymer Technology in Dye-containing Wastewater, 2022, Pg. 227-245.
- Vinayak Adimule, **Basappa C Yallur**, Adarsha H J Gowda – 'Advanced sensors based on carbon nanomaterials', Book of Carbon Nanomaterials-Based Sensors, 2022/1/1, Pg. 259-268.
- Vinayak Adimule, Santosh S Nandi, **Basappa C Yallur** – 'Devices and Sensors Based on Additively Manufactured Shape-Memory of Hybrid Nanocomposites', the Book of Shape Memory Composites Based on Polymers and Metals for 4D Printing, 2022, Pg. 341-359.
- Debdas Bhowmik and Santosh S. Nandi Vinayak Adimule, **Basappa C. Yallur** – 'A Modified Nanostructured Gd-WO<sub>3</sub>, Sensing Interface Morphology, their Voltammetric Determination and Applications in Advanced Energy Storage Devices', Book of ISBN 978-981-5039-71-1, Voltametry for Sensing Applications, 2022/2/14, Pg. 134-175.

#### Patents

- A. G. Al-Sehemi, **Sampath Chinnam, B. C. Yallur**, C. Sridevi, B. H. Jaswanth Gowda, B. KarthikaPaul, C. R. Shivanna, V. Venkata Ramaiah. Title of the invention – 'Synthesis and in silico studies of novel anti-SARS-Co-V sulfonamides as potential inhibitors against COVID-19 protein target: SARS-Co-V-2 main protease (Mpro)', Patent number: WO2022/049567 Status of the patent: International Patent published worldwide by WIPO on 10<sup>th</sup> March, 2022.
- R. Mithun, C. Ismail, **Sampath Chinnam** - Title of the invention – 'Inhibitory potential of resveratrol

and its natural analogues against RNA dependant RNA polymerase (RdRp) of Rhizopusoryzae in mucormycosis through in silico investigations'. Application number: 20221008681. Status of the patent: Indian Patent published on 11<sup>th</sup> March, 2022

- S. Bhavana, **Sampath Chinnam**, J. Sapana, T. Maneshwar, R. Mithun, N. Prashant - Title of the invention - 'In vivo anti-inflammatory activity of Punicagranatum peel extract in patients with uncontrolled diabetes mellitus'. Application number: 202241008096. Status of the patent: Indian Patent published on 25<sup>th</sup> February, 2022.
- S. Bhavana, **Sampath Chinnam**, J. Sapana, T. Maneshwar, R. Mithun, N. Prashant - Title of the invention - 'In silico screening, physicochemical and pharmacokinetic analysis of baimantuoluamide A and baimantuoluamide B alkaloids as potential anti-COVID-19 drug candidates'. Application number: 202211005677. Status of the patent: Indian Patent published on 11<sup>th</sup> February, 2022.
- S. BhavanaSujanamulk, **Sampath Chinnam**, N. Prashant, A. S. Preet, B. Neha, D. K. Bhavesh, T. Maneshwar, K. Naveen Babu, C. Raja Lakshmi, S. Sanjitha - Title of the invention – 'In vivo anti-fungal activity, spectrophotometric analysis, and molecular characterization of Woodfordiafruticosa leaf against candida isolates in patients with uncontrolled diabetes mellitus'. Application number: 202241000299. Status of the patent: Indian Patent published on 14<sup>th</sup> January, 2022.

#### Funded project

- **Dr. Nagaraju Kottam** - received grant from VTU for the project titled: Design and Development of Carbon dot (C-dot) Based Nanosensors: Detection of Environmentally and Biologically Relevant Metal Ions, sanctioned date: 18.02.2022,

**Amount: 700000/-.**

- **Dr. M.N. Manjunatha** – received grant from VGST, Govt. of Karnataka - 'Anticancer activity and molecular modeling studies of transition metal

complexes with novel substituted benzimidazole derivatives'.

**Grant: Rs. 20,00,000.00**

- **Dr. P. Murali Krishna** – received grant by 'Boeing Research & Technology-India Centre'. 'Environmental friendly coatings: To replace chrome based conversion coatings with chrome-free coatings'.

**Grant: Rs. \$30,865**

- **Dr. Chandra Prabha M N & Dr. Harikrishna R** – received grant from DST, CRG, 'Design of structurally modified nanocereria with enhanced haloperoxidase activity to combat sulphate reducing bacteria (SRB) induced biocorrosion: A biomimetic approach to combat microbiologically – influenced Corrosion (MIC) of marine structures'.

**Grant: Rs.41.83 Lakhs.**

- **Dr. Chandra Prabha M N & Dr. Harikrishna R** – received grant from VGST-KFIST L2, 'Designing of Novel Biocompatible and Multifunctional Nano Ceramic Coatings for Medical Implants',

**Grant: Rs.30.0 Lakhs.**

#### Guest Lectures – Delivered by Department Faculty

- **Dr. B.M. Nagabhushana** – 'Agricultural Entrepreneurship and Social responsibility', seminar for Graduate students, Government First Grade College, Yelahanka, 04-01-2022.
- **Dr. B.M. Nagabhushana** – 'Research Opportunities in Low Temperature Solution Combustion process' Research Opportunities in Low Temperature Solution Combustion process' International webinar on Current research and trends in nano science and nano technology. Mahantswamy Arts, Science and Commerce College, Haunsbhavi – Haveri. February 5, 2022.

*Education is not merely a means for earning a living or an instrument for the acquisition of wealth. It is an initiation into life of spirit, a training of the human soul in the pursuit of truth and the practice of virtue.*

- Vijaya Lakshmi Pandit

## DEPARTMENT OF PHYSICS

### Publications in (National / International) Journals

- **R. M. Melavanki** – 'Effect of Fluorescence Quenching model on Quinoline Derivative with Cobalt Chloride metal ion using steady state and time resolved spectroscopic methods, Luminescence', The Journal of Biological and Chemiluminescence. DOI: 10.1002/bio.4235. 23<sup>rd</sup> March 2022. Luminescence. 2022; 1–6.
- **Kalpana Sharma & R.M. Melavanki** – 'Synthesis, Spectroscopic Characterization, Electronic and Docking Studies on Novel Chalcone Derivatives (3DPP and 5PPD) by Experimental and DFT Methods', Journal of Molecular Structure, Volume 1256, 15<sup>th</sup> May 2022, 1325531255 (2022) 132443, <https://doi.org/10.1016/j.molstruc.2022.132553>,
- **R. M. Melavanki** – 'Synthesis, spectroscopic (FT-IR, FT-Raman, NMR), reactivity (ELF, LOL and Fukui) and docking studies on 3-(2-hydroxy-3-methoxy-phenyl)-1-(3-nitro-phenyl)-propenone by experimental and DFT methods', Journal of Molecular Structure, Volume 1255, 5<sup>th</sup> May 2022, 132443, <https://doi.org/10.1016/j.molstruc.2022.132443>

### Funded Project

- **Dr. Sandhya K L** – 'Experimental investigations on developing LC nanocomposites for energy storage applications', VGST, Rs. 15 lakhs.

## DEPARTMENT OF HUMANITIES

### Publications in (National / International) Journals

- **Dr. Premila Swamy D** – 'Integrating Humanities courses with the Technical Curricula: A Study', UGC Care listed, Peer reviewed Journal-AnhadLok, Year-7, 2021, Special Issue 1, ISSN 2349-137X, pp. 190-197.
- **Dr. Premila Swamy D** – 'Negotiating Gendered Spaces and Contextualizing the Female Body:



Reading Indian Films. The American Journal of Economics and Sociology', Scopus indexed, SJR Journal, Volume 81, Issue 1, January 2022, ISSN 00029246, 15367150, pp159-172.

- **Dr. Premila Swamy D, Karnan** - 'An Assertion of Dalit Identity. Contemporary Voice of Dalit', Scopus indexed, first published in March 28, 2022, ISSN 2455-328X, pp1-11.

#### Guest Lecture delivered by the department faculty

- Mr. Diwakar P – 'Importance of Communicative English for Engineering students' The induction programme session on January 16<sup>th</sup>, 2022.

#### Faculty who obtained Ph.D. degree



**Mr. Udayakumar H M** – has been awarded the Ph.D. degree for his work 'The impact of Digital workplace on employee's performance in IT industry' from Bangalore University in February 2022 under the supervision

of Dr. Irshad Nazeer, Professor, PG Department of Management Studies, Research Centre - Presidency College affiliated to Bangalore University, Bengaluru.

### MASTER OF COMPUTER APPLICATIONS

- One-week Student Development Program on Mobile Application Development with Flutter & DART: The department of MCA, in association with CSI student Branch, IIC and Ecell conducted a one-week Student Development Program on Mobile Application Development with Flutter & DART for Developing Start-up Mobile Apps from 10<sup>th</sup> to 14<sup>th</sup> February 2022.
- Conducted one-day Workshop on "Mobile Application Development" on 08/01/2022 at the Department of Master of Computer Applications, under Technolves-MCA students Association in association with CROSSROADS (MCA Alumni). The Resource Person is Mr. Wilson S Distinguished Alumni, MCA, RIT and Full-Stack Developer, Exzatech, Bangalore.

- Value added course: Conducted a value added course on 'Software Testing' for Ramaiah College of Arts, Science and Commerce for students, from 5<sup>th</sup> January to 3<sup>rd</sup> February 2022.

#### Publications in (National / International) Journals

- S. Uma, **D. Evangelin Geetha** – 'An Integrated Multi Criteria Decision Making Model for Cloud Service Provider Selection', International Journal of Decision Support System Technology, IGI Global, DOI: 10.4018/IJDSST.286692., Vol. 14(1), (2022), pp 1-18.
- Hudhaifa Mohammed Abdulwahab, **S. Ajitha**, Mufeed Ahmed Naji Saif, Feature Selection Techniques in the context of big data: Taxonomy and analysis, Applied Intelligence, Vol.52(2), January 2022, Pg-46.
- Sujatha K, **S. Jagannatha** - 'Multi-Intellectual Schemes for Dynamic Task Scheduling and Load Balancing in Cloud Environment', published in the International Journal Webology (ISSN: 1735-188X), Vol.19(2), 2022, Pg. 1616-1642.
- Sahoo, Santosh K, **Niranjanamurthy M**, Abdullah A. et.al. – 'Intelligent Trust-Based Utility and Reusability Model: Enhanced Security Using Unmanned Aerial Vehicles on Sensor Nodes', Applied Sciences, DOI: <https://doi.org/10.3390/app12031317>, Vol.12(3), Pg. 1317. January 2022.

#### Publications - Book Chapter

- **Dr. Niranjanamurthy M** et.al. – 'Industry 4.0 and Intelligent Business Analytics for Healthcare', Nova Science Publishers, USA DOI: <https://doi.org/10.52305/MWCH6764>- 25<sup>th</sup> February 2022.

#### Paper presentation in National / International Conferences

- **Sailaja Kumar K, Evangelin Geetha D**, Manoj – 'A Recommender System for Information Diffusion', Proceedings of 3<sup>rd</sup> International Conference on Intelligent Computing, Information and Control Systems, Springer - Advances in Intelligent Systems and Computing, Vol. 1415, pp. 677-694, February 2022.
- B. K. Nirupama and **M. Niranjanamurthy** – 'Network Intrusion Detection using Decision Tree and Random

Forest', 2022 International Conference on Advances in Computing, Communication and Applied Informatics (ACCAI), 2022, pp. 1-9, doi: 10.1109/ACCAI53970.2022.9752578.

#### Achievement/s, Awards / Prizes by Faculty / Staff / Students

- **Dr. S Jagannatha** - Listed in Asia Scientist and University Rankings 'AD Scientific Index - Scientist Rankings – January 2022,
- **Dr. Niranjanamurthy M** - Listed in Asia Scientist and University Rankings 'AD Scientific Index - Scientist Rankings, January 2022.

### DEPARTMENT OF MANAGEMENT STUDIES

- Faculty Development Programme on 'New Paradigms of Management Education in Next Normal' from 7<sup>th</sup> to 12<sup>th</sup> February 2022 (Online) - inaugurated by Mr. Ravindra Kaini, Management consultant and Dr. Chetan Singhai, Professor, Ramaiah Public Policy, Dr. Aravind Mallik D M, Professor, PESITM, Shivamogga, Mrs. Padmashree Rao, Psychotherapist & Counsellor, Dr. Manasa Nagabhushanam, Director (Academic), MSRIM, Bangalore, and others were the Resource Persons for the programme.
- Management Development Programme on 'Unleashing the Spirit of Entrepreneurship through New Age Start up' from 7<sup>th</sup> to 12<sup>th</sup> March 2022 (Online) - program was inaugurated by Dr. Badrinarayanan Gopalakrishnan, Head, Trade & Commerce, NITI Aayog, Govt. of India, New Delhi, and Prof. Mohan Krishnan, Senior Advisor, Infinite Sum Modelling Inc (ISM), Seattle, USA, Mr. Narendra Murthy, Co-founder, The Treasure. in, Mr. Ramani Venkat, Founder of Bizz Diagnostics, Mrs. Meenakshi Thaploo, Mentor (Product Design), Ramaiah Evolute, and others were the Resource Persons for the programme.
- Management Development Programme on 'Innovation, Digitalization and Change Management' from 21<sup>st</sup> to 26<sup>th</sup> March 2022 (Online). This program was inaugurated by Mr. Rahul Kargal, Community

Manager, SAP, and Mr. Subhankar Pattanayak, Director, SAP Industries, Suriya Prakash, Expert, Behavioural Science Specialist, and others were the Resource Persons for the programme.



- HR Summit - 2022 inaugurated by Ms. Manu Srinivasan from CreditWatch and Mr. Sanketh Ramakrishnamurthy Head Hr AuotRABit, Mr. Mohan Kumar Wipro, Mr. Rajesh Bhat – Zones LLC and others were eminent participated, date 26-03-2022.

#### Publications in (National / International) Journals

- **Dr. M. R. Shollapur** – 'Psychodynamics of Investments: Study on 'Fear' and 'Love' Among Financially Literate Investors in India', in the Journal of Asian Finance, Economics, and Business, Vol. 9 No.2 (2022) 0395-0407, DOI: 10.13105/jafeb.2022.vol.19, No.2.0395.
- **Dr. P. V. Raveendra** – 'Talent Management during Pandemic in IT Sector', Personnel Today, Feb 2022, Vol.2(1), Page No. 142-146.
- **Dr. Y. M. Satish** – 'An empirical study on the impact of learning theory on gamification-based training programmes', Emerald insight at <https://www.emerald.com/insight/1541-6518.htm>
- **Dr. A. Mahalakshmi** – 'Design and Implementation of Advanced Machine Learning Management and its impact on better Health Services. A Multiple Regression Analysis Approach', Computational and mathematical methods in Medicine, 2022, <https://DOI.org/10.1155/2022/2489116>.
- **Dr. A. Mahalakshmi** - 'A detailed overview of the Development and Implementation of Cloud computing and its effect on Financial Management

System, Korea Review of International Studies, Vol.15(1), Jan 2022, Page No. 22-30.

### Paper presentation in International / National Conference

- **Dr. Rizwana. M** – 'Implementation of e-office: A Pragmatic study on employees' attitude in R & D Institutions of power sector: India in the International Conference on 'Advances in Business Management and Intelligent System: ICABMIS-22 at Atria Institute of Technology', on 11<sup>th</sup> & 12<sup>th</sup> Feb 2022.
- **Dr. A. Mahalakshmi** – 'A study on Adaptability of E-payment amongst Micro Entrepreneurs in the District of Bangalore Rural', in the National Conference on 'Paradigm Shift in Business Management: Emerging Trends and Competitive Strategies', by Dr D Y Patil Institute of Management Studies on 4<sup>th</sup> & 5<sup>th</sup> Feb 2022.
- **Dr. A. Mahalakshmi** – 'Digital literacy amongst Micro Entrepreneurs in the District of Bangalore Rural in the National Conference on Reinventing Rural Economy: Key to Economic Revival, Countering Poverty and Unemployment', by National Institute of Rural Development and Panchayati Raj, Guwahati on 10<sup>th</sup> & 11<sup>th</sup> March 2022.

### Guest Lectures Invited

- **Mr. Mohan Kumar**, Practice Head, Wipro- 'How to face the Interview' on 03-01-2022.
- **Mr. Ramani Venkat**, Co-founder, Varnaaz Leaders Factory, Bangalore – 'Inculcating Right Attitude for Excellence' on 04-01-2022.

### Guest Lecture delivered by the department faculty:

- **Dr. Deepak R** – 'Union Budget Analysis' at PG Department of Management and Commerce on 12-02-2022.
- **Dr. Deepak R** - Panel discussion on "Budget 2022" at Department of Management Studies, Cambridge Institute of Technology, Bengaluru on 19<sup>th</sup> February, 2022.
- **Dr. Deepak R** – 'Union Budget Analysis' for MBA and M. Com Students at PG Department of Management

and Commerce, The Oxford College of Business Management (TOCBM) on 12<sup>th</sup> February, 2022.

### Achievements Awards/Prizes by Faculty / Staff / Students

- **Dr. Deepak R** completed the course on 'Python and Statistics for Financial Analysis' an online non-credit course authorized by The Hong Kong University of Science and Technology and offered through Courses on February 9<sup>th</sup>, 2022.

## PLACEMENT & TRAINING

### The main Highlights - 2022 batch (period Jan to March 2022)

#### 678 Companies visited & 1542 offers

- Highest package:  
**Apple India: Annual CTC: 31,37,930 LPA,  
Total CTC: 64,23,400 LPA**
- International Placements:  
**Sobha Constructions LLC, DUBAI:  
CTC: 5000 AED per month**
- Highest Stipend:  
**Walmart Global Tech: 90, 000/- per month**

### Achievements



- **Dr. Savitha Raani**, Placement officer, RIT - On the eve of international women's day (08-03-2022) got the award 'VARSHADA SADHAKI – 2022' by Indian Telephone Industry (IIT., Pvt. Ltd) .The award was



presented by Karnataka Hon'ble chief minister of Karnataka Mr. Basavaraj Bommai.

- ಸಾಧನೆ: 'ಅಂತಾರಾಷ್ಟ್ರೀಯ ಮಹಿಳಾ ದಿನಾಚರಣೆ' ದಿನದಂದು (08-03-2022) 'ವರ್ಷದ ಸಾಧಕಿ - 2022' ಪ್ರಶಸ್ತಿಯನ್ನು ಇಂಡಿಯನ್ ಟೆಲಿಫೋನ್ ಇಂಡಸ್ಟ್ರಿ ಡಾ. ಸವಿತಾ ರಾಣಿ ಅವರಿಗೆ ನೀಡಿತು. ಈ ಪ್ರಶಸ್ತಿಯನ್ನು ಕರ್ನಾಟಕದ ಮಾನ್ಯ ಮುಖ್ಯ ಮಂತ್ರಿಗಳಾದ ಶ್ರೀ ಬಸವರಾಜ ಬೊಮ್ಮಾಯಿ ಅವರು ಪ್ರಧಾನ ಮಾಡಿದರು.
- **Dr. Savitha Raani**, Placement officer, RIT - On the eve of International women's day received Certificate of Appreciation by INFOSYS, Bangalore on date 08-03-2022
- **Dr. Savitha Raani**, Placement officer, RIT received Certificate of Appreciation by ZS ASSOCIATES Bangalore on date 29-03-2022.

## DEPARTMENT OF SPORTS



- 'Republic Day' was celebrated in the College on 26<sup>th</sup> January 2022. Flag hoisted by Sri. M R Seetharam, Hon'ble Vice Chairman, GEF & Director, Ramaiah Institute of Technology and the program witnessed by Sri. B S Ramaprasad, Chief Executive, GEF (Engg & GS), Sri. G Ramachandra, Chief of Finance, GEF, Dr. NVR Naidu, Principal, RIT, Dr. Archana, Registrar Academic, RIT and Principals of all GEF Institutions.

## DEPARTMENT OF EXTRA-CURRICULAR ACTIVITIES



- The 'Mathrubhasha Divas' event was organized on 21<sup>st</sup> February, 2022 by the Department of Extra Curricular Activities, RIT. The event was hosted by anchors Gagan and Nidhi. Bharatanatyam was the opening dance performance followed by a Kannada speech regarding the importance of Mathrubhasha. The singing group also paid a tribute to Sri Lata Mangeshkar by performing "MILE SUR MERA TUMHARA". To engage the audience a small quiz was also hosted, the questions were related to the languages of India. To entertain the audience a small skit was played which depicted the modern TENALI RAMA KRISHNA's story.



## MSRIT ALUMNI ASSOCIATION



- MSRIT Alumni Association organized Laptop distribution, Merit and Means Scholarships award, and School Bags distribution program on 19<sup>th</sup> April 2022. Sri M R Seetharam, Vice Chairman, Gokula Education Foundation and Director, MSRIT was the Chief Guest. The program was presided over by Sri. Tallam Venkatesh, President, MSRITAA. Other Dignitaries present were Sri B S Ramaprasad, Chief Executive, GEF (Engg& Sci.), Dr. NVR Naidu, Principal, MSRIT, Sri Venkatsubramaniam, MD, Trilex, and Sri Govinda Raju Srinivas, Director, SGI Engineer's Private Limited.
- Twenty-five laptops were given to the deserving students of the institute. The association has provided 56 laptops till today to the students.
- During the program, Full Scholarships towards Merit and Means were awarded to five students. The association profusely thank to the contribution of Sri. Tallam Venkatesh, Sri K Kannan, Sri Krishnaprasad C, R Venkatesh, Rahul De, Master Rachamadu, Shova International, towards the Scholarship.

- The association also distributed School Bags and Stationery items to the children of support staff during the program. Every year association provides this support to children of support staff. This year 191 children were supported under this scheme.

## NEW APPOINTMENTS

### Department of Electrical & Electronics Engineering



**Dr. B. V. Sumangala** joined as Associate Professor, completed her B.E in 1983 and M.E in 1989 from U.V.C.E, Bangalore. She has obtained Ph.D from IISc, Bangalore in the year, 2005. She has over 35 years of Academic

experience and executed various funded projects. Her research interest are Insulation and High Voltage Engineering, Surge phenomena in Transformers, Power systems, Expert System applications to power systems and Power electronics.



**Dr. R Subha** joined as Associate Professor, completed her B.Tech in 2001 and M. Tech in 2004 from Pondicherry Engineering College, Pondicherry. She obtained her Ph.D degree from Pondicherry Engineering College, Pondicherry

University in 2018 for her thesis titled "Intelligent Techniques for Enhanced Power Extraction from Photovoltaic Systems for Standalone Applications". Her areas of interests are Solar PV Systems, Artificial Intelligence and Machine Learning, and Electrical Drives.



**Dr. Hemachandra Gudimindla**, joined as Associate Professor, completed his B.Tech in 2009 and M. Tech in 2013 from JNTU, Anantpur. He obtained his Ph.D degree from NITK, Surathkal in 2018 for his thesis titled "Design

of Adaptive Robust controllers for Renewable Energy sources Integrated Smart Grid System". His areas of interests are Distributed operations and control.



**Dr. Nellamsetti Kiran Kumar** joined as Associate Professor, completed his B.Tech in 2011 from JNTUK and M.Tech in 2014 from GITAM. He obtained his Ph.D degree from VIT, Vellore in 2021 for his thesis titled "Analysis of Load frequency Control in island hybrid power system with different energy storage system". His areas of interests are Power system operations and control, Microgrid, Energy Storage Technology, Renewable Energy Sources.

### Department of Electronics & Communication Engineering



**Dr. D. Jaya Prasanna Kumar**, has joined the department of chemical engineering as Assistant Professor on Feb-2022. His research areas include oscillatory reactions, Nano synthesis and applications, continuous flow reactors, and solar panels. He has done his Ph.D. from IIT Gandhinagar.

### Department of Computer Science & Engineering



**Dr. Dayananda R. B.**, joined as Associate Professor in Department of Computer Science and Engineering, MSRIT, Bengaluru. He has academic experience of more 15 years. His research mainly focuses on Design and Development of a Cloud Computing Architecture for data security and on machine learning. Research supervisor at VTU guiding 5 students at present. Published more than 25 papers in reputed journals and conferences.

*If you Don't build your dream, someone else will hire you to help them build theirs.*

*- Dhirubhai Ambani*

### Department of Information Science & Engineering



**Dr. Geetha V** joined as an associate professor in Information Science and Engineering department of MSRIT. She is interested in subjects related to Computer Network & Security. She worked in R V College of Engineering from 2005 till 2021. She has published many research articles in journals and conferences.



**Dr. Shivanna K** joined as Assistant Professor in Information Science and Engineering, he received the B.E and M. Tech Degree. degree in Computer Science and Engineering from Visvesvaraya Technological University, Belagavi, He also received a Ph. D Degree from the Visvesvaraya Technological University, Belagavi, in the year 2021. He has 13 years of teaching experience including research and development. His current research interest includes cryptography, network security, in particular cloud data security and block chain technology.

### Department of Humanities



**Mr Diwakar**, joined as a Teaching Assistant in the Department of Humanities, RIT. He is pursuing Ph. D in English Language from Christ University, Bengaluru. He is an author, teacher trainer and researcher. He has more than fifteen years of experience in teaching English Literature and English Linguistics. He has authored four books and the softcopies are downloaded across the world by the teachers and students of various universities. He was awarded as the best teacher of English for the academic year 2011-12 by the Government of Karnataka.



## GRADUATION DAY



## FORTHCOMING EVENTS

- 4<sup>th</sup> International Conference on Recent Advances in Engineering Sciences [ICRAES - 2022] on 13<sup>th</sup> and 14<sup>th</sup> October, 2022
- International Conference on Applied Research in Engineering Sciences (ICARES - 2022) on 24<sup>th</sup> and 25<sup>th</sup> November, 2022
- 4<sup>th</sup> International Conference on Circuits, Control, Communication and Computing (I4C - 2022) on 21<sup>st</sup> - 23<sup>rd</sup> December, 2022

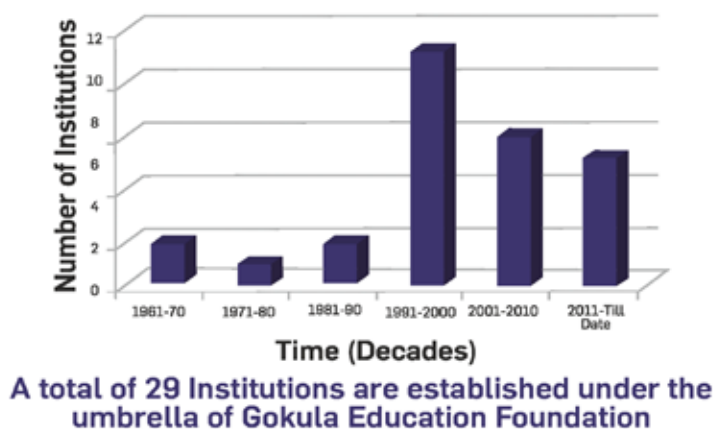
## Highlights of Ramaiah Institute of Technology

- Strategically located in the heart of Bengaluru City offering excellent connectivity and convenience.
- Proven track record spanning 60 years, in Engineering Education.
- Outstanding placement record up to 90-95% accomplished year on year.
- Faculty-Student the ratio of 1:15 among the best in the industry.
- Highly qualified and committed faculty, constantly evolving teaching-learning methodology.
- State-of-the-art infrastructure and facilities are comparable to international standards.
- Focus on all-round development to enable professionals to deliver in a dynamic ecosystem.
- Industry oriented instructional content to ensure strong synergy with the changing requirements.
- Several departments involved in various prominent projects.
- A solid association with leading names in the industry.

## Various Institutions / Centres Under Gokula Education Foundation (GEF)

Ramaiah Advanced Testing Laboratory	Ramaiah University of Applied Sciences
Ramaiah Memorial Hospital	Ramaiah International Centre for Public Health Innovation
Ramaiah Medical College Hospital	Ramaiah Quality Assurance Cell
Ramaiah Institute of Nursing Education & Research	Ramaiah Officers IAS Academy
Ramaiah Institute of Physical Medicine & Rehabilitation (Physiotherapy)	Ramaiah Sunshine Ayurveda Centre, Penang, Malaysia
Ramaiah Medical College	Ramaiah Innovation Centre for Healthcare Technologies
Ramaiah College of Law	Ramaiah Public Policy Centre
Ramaiah Institute of Management	Ramaiah Clinic
Ramaiah College of Education	Ramaiah Neha Prakash Hospital
Ramaiah Composite Pre-University College	Ramaiah Leena Hospital
Ramaiah College of Arts, Science & Commerce	Ramaiah Harsha Hospital
Ramaiah Polytechnic	Ramaiah Clinical Research Centre
Ramaiah Institute of Technology	Ramaiah INDIC Speciality Ayurveda
Ramaiah High School	Ramaiah International Medical School
Ramaiah Vidyaniketan	

## **RAMAIAH** Institute of Technology **Growth of the GEF family of Institutions**



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