

Consultancy projects

Faculty of ME Department are engaged in Consultancy Projects sponsored by industries. Ongoing consultancy projects on design and automation jointly undertaken by ECE, EEE, IEM, CSE and spearheaded by Mechanical faculty.

1	Energy harvesting using Triboelectric Nano generator	TE Connectivity	10.00L
2	Energy Regeneration using Micro Hydro turbine generation	TE Connectivity	8.00L
3	Large power generation (energy recovery) using Bruderer machine	TE Connectivity	8.50L
4	Characterization and Studies on Reclaimed Waste Foundry Sand as Aggregates In Building Product	Bhuwarka Castings & Forging Limited	6.10L
5	Thermal Energy Auditing of Producer Gas and Kiln units of VRPL	Viswakarma Refractory Bricks	6.00L
6	Electrical Energy Auditing and Management of BCFL	Viswakarma Refractory Bricks	5.65L
7	Performance/Reliability testing of Raspberry Pi controller	TE Connectivity India Pvt Ltd, Shirwal,	3.00L
8	Design of an Automated System to Pick and Place Gift Toys from Bowl to the Conveyor	Samson Automation Technologies [SAT]	2.30L



Team Chimera

Participated in Student Formula Japan 2017 during 5-9 Sept 2017. The team of 15 students represented RVCE, as the only Indian team. The team secured 34th position in Business Presentation out of 94 teams, while standing VI in EV category.

Solar car



Participated at the World Solar Challenge in Oct 2017, Australia in Challenger Class category and cleared 8 out of 9 parameters.

Team Krushi

The novel design of Aerial Work Platforms originally designed for aracanut harvesting is getting popularity. The tractor mounted platform capable of raising up to 40 ft was recently exhibited at

KRISHI MELA - (NOV) 2017 held in Bangalore. It was followed by enquiries for the supply of AWP for varied applications such as industrial maintenance, street light maintenance and the like. Organising committee chairman Dr. Palani Muthu personally appreciated the team effort for developing the implement. Horticulture Department, GoK has invited the team for discussing feasibility of designing AWP for harvesting Palm at Palm Growers Meet at Shimoga on 3 Jan 18. Team Krishi



members were trained on basic servicing of the tractor at Force Motors, Tumakuru for one day on 27 Jan 2018.

Ashwa Racing

Ashwa Mobility Foundation took part in Formula Bharat held in Kari Motor Speedway, Coimbatore with its Combustion prototype - RZ-X8C, from 24th to 28th January, 2018. Apart from the combustion category, Ashwa Racing also participated in the concept electric challenge - the first of its kind at Formula Bharat.

Overall, the team won 4 accolades at the event

- Acceleration: 1st (Fastest car in India - Combustion)
- Business Presentation: 2nd (Combustion)
- Business Presentation: 2nd (Electric)
- Cost Event: 3rd (Combustion)

Team is all geared up for the International event with all its grandeur: Formula Student Italy 2018, to be held over the second week of July.



MechMatters Newsletter

Department of Mechanical Engineering

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Message

To cope with the technological advances, the department has to focus Academics, Research and Training together. The present scenario of Research and Consultancy by the faculty is appreciable although involvement of all full faculty is wanting. Especially the consultancy from private sector is exceedingly good considering the number of on-going projects. Recent initiative of Ready Engineer Programme of Tata Technologies aims to build product design and manufacturing through CATIA, for which the initial response is very good. Serious involvement of faculty for its success helps to sustain this meaningful programme. Although overall development of students is taken care of the Success Index of students considering students graduated without any backlog during the four year programme needs improvement. It requires extra involvement of the faculty in Academics.

Let us work for balanced growth in Academics, Research, Consultancy and Training.

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Mech. Dept. Vision

Imparting quality education in Design, Materials, Thermal and Manufacturing with emphasis on research, sustainable technologies and entrepreneurship for societal symbiosis.

Failure will never overtake me if my determination to succeed is strong enough

By O.G. Mandino

Proficiency Course conducted

Course on Hydraulics, Pneumatics and Mechatronics with PLC programming was conducted in two batches of 20 students each in Sept / Oct 17, at Drive and Control academy, Bosch Centre. The course included simulation, analysis and execution of H&P and PLC.

Sports

Girish Kollari, first sem M.Tech (PDM) represented Karnataka Baseball team in "X Baseball Federation Cup 2017" held at Nakodar (Punjab) and won Bronze medal. He also represented Karnataka Softball team in "37th Senior National Softball Championship" held at Chandigarh and won Bronze medal.

Ravindrath Chilakuri, III Sem M.Tech (PDM) represented thrice All India University level competitions, twice Wrestling and once Judo, captained Wrestling and Judo championship in Interzone VTU in Mandya in 2017.

Shreyas Kulkarni, III sem B.E. (Mech) represented India at V Asian school games, Singapore and won III place in Table Tennis, represented Karnataka at National Ranking Tournament (North, South and West zone) in 2017, Junior Doubles Bronze medallist at National Championship, Dharamshala (HP), in 2015, U-19 Team Gold medallist at National School Games, Telangana in 2016, represented Karnataka at National Ranking Tournament (North, South and East zone) in 2016, Junior Doubles Bronze medallist at National Championship, Dharamshala, Himachal Pradesh in 2017.

Vaishali Somaiah won gold medal in Triple jump in VTU Athletics 2017.



AICTE-INAE Distinguished Professor

Dr. Prasanta Kumar Panda Materials Science Division CSIR-National Aerospace Laboratories, Bangalore, is awarded INAE Distinguished Visiting Professor, under AICTE-INAE Distinguished Visiting Professorship Scheme, for a period of one year starting from June 2018 extendable up to 2020.

Completed Ph.D Viva Voce

Anjaneya G. successfully completed Ph.D. viva voce exam on his thesis "Experimental Investigations on four stroke semi-adiabatic diesel engine using potential bio oils as fuels" at VTU, Belagavi, Feb 2018.

M.Tech. Ranks

M.Tech. students who secured Gold Medal and Ranks in VTU Exams were felicitated at 17th Convocation held on 9th Jan 18, at VTU Belgavi (2015-17 batch).

Student	M.Tech, Programme	Rank
Prajwal MS	CIM	1
Krishna Bhat Kainthaje	PDM	1
Prathap Sharanappa Banigol	Tool Engineering	1
Manohar Hanumagouda Kodigoudra	Tool Engineering	2
Gireesha B V	Tool Engineering	3

Journal Publications since October 2017

V. L. Jagannatha Gupta & Ramesh S. Sharma "Experimental Studies on Strength Behaviour of Notched Glass/Epoxy Laminated Composites under Uni-axial and Bi-axial Loading", Journal of Institution of Engineers (India), ISSN 2250-0545, DOI 10.1007/s40032-017-0413-7, 2017.

Anjaneya G., Udaya Ravi M., Sunil S., Prabhakar Reddy C., "Performance Optimisation of Air Cooled Diesel Engine with Simarouba Biodiesel Blends as Substitute Fuel Using Response Surface Method," International Journal of Oil, Gas and Coal Engineering, Vol 4, No 6, November 2018, 81-87.

Gangadhar Angadi, Hebbale Narayana Rao, Narasimha Murthy*, Sridhar Ramakrishna, Salim Firdosh, Raghavendra Nagappa and Krishna Munishamaiah," Effect of screw configuration on the dispersion of nanofillers in thermoset polymers", Journal of Polymer Engineering, 37(8), 2017, 815-825.

Salim Firdosha, H.N. Narasimha Murthya,, Gangadhar Angadia, N. Raghavendra, "Investigation of water absorption characteristics of nano-gelcoat for marine application", Progress in Organic Coatings, 114(2018), 173-187.

A. Bharatish, B. Kishore Kumar, R. Rajath, H. N. Narasimhamurthy "Investigation of effect of CO2 laser parameters on drilling characteristics of rocks encountered during mining", Journal of King Soud University - Engineering Sciences.

Sandyarani Pillor, H.N. Narasimha Murthy, Prakash Hadimani, "Effect of chopped/continuous fibre, coupling agent and fibre ration on Mechanical properties of injection moulded Jute/Polypropylene composites" Journal of Natural Fibers.

On-going Sponsored Research Projects

Investigation of Dynamic Characteristics of Multilayered Sandwich Panels, AICTE, Dr Souraba S.H. and Dr. H.N. Narasimha Murthy; Investigation of Buckling Performance of Stiffened Polymer Composite Shells for Underwater Vehicle

Applications, NRB, Dr. H.N. Narasimha Murthy; Investigation of Design & Development of a Twin Screw Oil Expeller for Synthesis of Bio-Fuels, AICTE, Dr. R.S. Kulkarni, R. Chandrakumar; Investigation of Design, Development and fabrication of an indigenous 3D printing facility for metal and metal composites based 3D manufacturing, KCTG, Dr. S. Mahendra Kumar, Dr. M.S. Krupashankar; Investigation of Analysis of Strength behavior of polymer based laminated composites under bi-axial loading, AR & DB, Dr. Ramesh S. Sharma, V.L.J. Gupta; Simulation & Experimental studies on nanostructured composite thin film multi-layer coatings', DST, Dr. M.S. Krupashankara and Dr. P.V. Srihari; Microwave Assisted Sol-gel synthesis and characterization of metal oxide thin films, AICTE, Dr. M. Krishna; Development of Natural fiber based oil absorbent for commercial and industrial applications; AICTE, Dr. M.S. Krupashankar; Development of multifunctional Electrospun nanofibrous composites for protective clothing, Dr. H.N. Narasimha Murthy.

New Research Projects sanctioned

"Development and Characterization of graded microstructure using induction heat treatment processes for turbine application" AR & DB, Govt. of India, Rs.21.35 Lakhs, Principal Investigator: Dr. M.S. Krupashankar and co Investigator Dr. J.R. Nataraj.

Ph.D. Registrations

Research Centre of the Department, affiliated to VTU has presently 61 Ph.D. and four M.Sc.(Engg) scholars undertaking research under 22 faculty guides of the department, out of whom three scholars are full time researchers. Research Advisory Committee of the department periodically reviews the progress of research.

AICTE Grants received under MODROBS

Modernisation of Energy Conversion Engineering Laboratory with full-fledged engine test facility and modular diagnostic system, funded by AICTE (MODROBS), Investigators Dr. H. N. Narasimha Murthy

and R Chandra Kumar (Rs 6, 75,000/-), Oct 2017.

Invited talks by Dept Faculty

Dr S K Harish presented "Recent and emerging trends in Robotics and Artificial Intelligence" organised by The Institution of Engineers (India) in association with Bangalore Technological Institute on 27 Oct, 17.

Dr Sridhar R presented 'Synthesis of Polymer Nanocomposites Thin Films by Electrospinning for Sensor Applications' organised by Geetha Shishu Shikshana Sangha Institute of Engg & Tech for Women, Mysuru, on 12.10.17

Dr. H.D. Gopala Krishna presented "Cloud Based CAD/CAM Tools for Product Design" organised by Ramaiah Institute of Technology, Bengaluru 22nd December 2017.

Dr. H.N. Narasimha Murthy presented Manufacturing Technologies for Deep Sea Composites, at Continuing Education Programme organised by NPOL, Kochi, on 13 Dec 2017.

Dr. M Krishna, presented 'Composites for Deep Sea Applications, at Continuing Education Programme organised by NPOL, Kochi, on 13 Dec 17.

Prof. Rakesh Kumar presented "Implementation of outcome based education in thermal science: A case study organized by Dayananda Sagar College of Engineering and Indian society for Technical Education (ISTE) at 20th ISTE State Level Faculty Convention, Bengaluru on 9th December 2017.

Dr. Nataraj J R and members of Team Helios gave an invited talk on the Topic titled "All Terrain Vehicle: Challenges in Design, Fabrication and Testing." at Cambridge Institute of Technology, Bengaluru on 28.02.2018.

Awards won by Students

Shruti Muralidharan, VII Sem Mech is selected for SAEINDIA Kalpana Chawla Award 2016-17 (second place) and Abhishek Bolar, VII Sem Mech is selected for the SAEINDIA Student of the Year Award 2016-17 (third place). The awards

were presented at the SAEINDIA Foundation Annual Award Function on 5 Dec 2017 at New Delhi, where Mr. Doug Patton, President of SAE International presided as Chief Guest. Both students represent RVCE at SAEINDIA competitions as part of Team Helios Racing with Abhishek Bolar heading the team as Team Captain for 2017-18.



Nikhil Bhat and Pratik Mahapurush of VI sem finished II place in the quarterfinal round of aQuest - A national level quiz held in Chennai on 7 Jan 18. They will participate in semi-final round scheduled to be held at Kolkata. Finals will be held in Bangalore. The finalists will have opportunity to get placed in Hitachi company.



Faculty Awards



Prof. M. S. Krupashankara received Sir M Visvesvaraya Manufacturing Excellence Award from Sri. R V Deshpande, Minister for Medium & Heavy Industries and Dr. M.C. Mohan Kumari, Minister for Small Scale Industries & Sugar on 24 Nov. 2017 at Invest Karnataka Summit 2017.

Dr. N. Shanmukha got Best Teacher Award for the academic year 2016-17 at RVCE-ISTE Chapter at Teachers day celebration on 23 Sept 2017.



Jinka Ranganayakulu has won best paper award for the research paper titled 'Multi-objective Optimization using Taguchi's Loss Function based Principal Component Analysis in Electrochemical Discharge Machining of Borosilicate Glass with direct and hybrid Electrolytes', at SSN College of Engineering, Chennai, Feb 2018.

Recognitions

Dr. J.R Nataraj, is nominated as Treasurer, Dr. M S Krupashankara as the Executive Council Member of ASM International (Bangalore Chapter) for three years.

Shivaraj Nataraj - Best in cultural activity

Shivaraj Nataraj, VIII Sem Mech is one of few Carnatic beatboxers in the world. Carnatic beat boxing is the art of mixing Konnakol, the language of Carnatic rhythm, with beat boxing, the art of vocal percussion, which reproduces the sound of drums and other special effects completely through the mouth and vocal chord. He represented India at "La Voce Artistica", a world vocal convention, at Ravenna, Italy along with Bangalorean jazz Carnatic vocalist, Varijashree Venugopal. It is a conference of four days held in Oct 17 and was attended by some of the best vocal musicians, as well as the best ENT specialists all over the world. He is part of Progressive Carnatic Fusion band Project Mishram, consisting of a majority of RVCE students, and together they have won over 30 competitions all over the country in the last two years.

New lab Infrastructure

8-channel FFT Analyzer attached with DEWEsoft professional Software from Singapore along with Upgraded Data Acquisition System was procured from DJB instruments, UK for Design Laboratory for Rs. 6.83 lakhs.

Industrial Visit

Thirty eight students of Mech. Engg. (UG & PG) visited WEIR minerals factory, Bangalore on 10 Oct 2017 as part of IIC initiation and got exposure to Positive displacement pumps, Mill liners, Mine dewatering systems, Knife gate valves, Hydrocyclones, etc.

Students Achievements in NCC

It is a proud moment to NCC-RVCE for being the best NCC Institution trophy winners of Karnataka and Goa directorate. Five cadets were part of Republic Day Parade 2018-Delhi.

Among them we are proud to have Cadet Payal Shetty 4th sem Mechanical Engineering. She is awarded with DDG commendation card for her achievements and had got an opportunity to meet Vice President of India, army chief and many other dignitaries.



Scholarship Awarded

Syed Jabiulla pursuing full time PhD under Dr. L. J. Kirthan is awarded fellowship by the Directorate of Minorities Fellowship for Minority students for 2016-17. He is working on Influence of heat treatment on fracture toughness of Titanium based MMC.

Lecture by Kennametal experts

Expert from Kennametal, Vaishali Jagannath, Alok Bhaskar and Ramesh S Rao conducted classes on cutting tools for PG students of Mech. Engg. during 5-13 Mar. 2018.

Recent Achievements of Innovative Projects

Team Helios

Team Helios Racing unveiled this season's prototype showcasing the running vehicle on 2 Jan 18. The team participated in Enduro Student India 2017, Coimbatore on 3 Jan 18 and stood V place in overall ranking, II in costing, IV in Business Plan.