

135. Tribology - Study of Friction, Wear and Lubrication-Workshop

<p>Chief Patron: Dr. Ashok Shettar Vice Chancellor, KLE Technological University, Hubballi.</p> <p>Patron: Prof. B. L. Desai Registrar, KLE Technological University, Hubballi.</p> <p>Dr. P. G. Tewari Principal, BVBCET, Hubballi.</p> <p>Coordinators: Dr. Krishnaraja G. Kodancha Department of Mechanical Engineering BVBCET, Hubballi.</p> <p>Shreesha M. L. Department of Mechanical Engineering BVBCET, Hubballi.</p> <p>Advisory Committee: Dr. C. S. Ramesh, Dean, Dayananda Sagar University, Bangalore. Anshuman Dube, Technical Director, Lucom Instruments Pvt. Ltd., Bangalore. Dr. I. G. Sidhalingeshwar Dr. G. U. Raju Dr. V. N. Gaitonde Dr. A. S. Badiger Dr. P. P. Revankar Arun Y. Patil</p> <p>Organizing Committee: G. R. Chalageri Santosh B. G. M. Hiremath Mantesh Choukimath Shivaprasad M. Sridhar H. Ashwin K. Nagesh Ekbote Sanjeev M. Kavaite</p>	<p>About the College</p> <p>The B. V. Bhoomaraddi College of Engineering and Technology (BVBCET) was established in 1947 by the KLE Society. BVBCET, an autonomous institute, offers 12 UC and 8 PG programs affiliated to VTU, Belgaum; recognized by AICTE, New Delhi and accredited by NDA. Current annual student intake for Undergraduate & Post Graduate programs is more than 1200. The active involvement of faculty in research has led to the recognition of 13 research centers by the University. Spread over 04 acres of land, the luxurious and picturesque campus comprises of various buildings with striking architecture. The institute has emerged as KLE Technological University from the academic year 2015-16.</p> <p>About the department</p> <p>The department offers an under-graduate program in Mechanical Engineering that covers a wide range of courses in the fields of thermal and fluid sciences, engineering design, dynamics, control, materials and manufacturing and modeling and simulation, to suit the interests of students & meet the industry requirements. The department also offers post graduate programs in Energy Systems Engineering and Machine Design. The department of Mechanical Engineering has the distinction of being recognized as a Research Center by Visvesvaraya Technological University, Belgaum.</p> <p>A sophisticated range of equipment, state-of-the-art facilities and well-equipped labs ensure that students get the very best of practical training. The CAD/CAM laboratory is well equipped to train the students in using ANSYS, Pro-E, ADAMS, CATIA, Hypermesh, LS Dyna, MasterCAM and AutoCAD 2000. A CNC laboratory with CNC turning center, CNC milling machine and a robot offers hands on training to students.</p> <p>About Hubballi City</p> <p>Hubballi is the second largest city in Karnataka and is the industrial and commercial hub of north Karnataka. A host of Engineering Institutes, Software Technology Park, Siddharudhamatt add commercial and spiritual dimensions to its character. The historical places such as Hampi, Badami, Itote and Pattadakallu are located in 100-120 kms vicinity of the city.</p>	<p>K. L. E Society's B. V. BHOOMARADDI COLLEGE OF ENGINEERING AND TECHNOLOGY Vidya Nagar, Hubballi, Karnataka 580031. (Autonomous college affiliated to VTU, Belgaum. AICTE Approved, ISO 9001-2008 Certified) <small>www.bvbcet.kle.ac</small></p>  <p>TEQIP sponsored 3 Day Workshop on "Tribology - Study of Friction, Wear and Lubrication" 28th to 29th September 2016</p> <p>Organized by: Department of Mechanical Engineering BVBCET, Hubballi.</p>  <p>In association with TSI - Karnataka Chapter</p>  <p>Convenor Dr. B. B. Kotturshettar HOD, Department of Mechanical Engineering BVBCET, Hubballi. Landline: 0836-2376280. E-mail: nod_mech@bvbcet.edu</p>
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<p>Registration Fees:</p> <p>UG/PG students : Rs. 500 /- Faculty/Research Scholars : Rs. 1,000 /- Particpante from Industry : Re. 1,500 /-</p> <p>Duly filled registration form along with the DD drawn in favor of "Principal, BVBCET", payable at Hubballi, to be sent to the below address:-</p> <p>Dr. Krishnaraja G. Kodancha Coordinator Professor, Dept. of Mechanical Engg. BVBCET, Vidyanagar, Hubballi 680031, Karnataka. Ph : +91 98865 96953 E-mail: krishnaraja@gmail.com</p> <p>Registration fee entitle the participants to the course materials, lunch and tea/coffee during the program.</p> <p>LAST DATE TO REGISTER : 20/09/2016.</p> <p>Resource Persons:</p> <p>Professionals from R&D organizations, Industries and Academic Institutes of high repute will share the workshop platform to address the wide spectrum of theoretical and practical aspects in Tribology.</p> <p>Who can participate-</p> <ul style="list-style-type: none"> Faculty members of academic institutes interested in Tribology. Research scholars working in the areas of material friction, wear and lubrication. Researchers working in National laboratories and Engineers working in Public and private sector enterprises working in the field of Tribology <div style="display: flex; justify-content: space-around;">   </div>	<p>About the Workshop:</p> <p>Tribology is the interdisciplinary science and technology of interacting surfaces in relative motion involving studies in the area of friction, wear and lubrication. The important subject of Tribology does not get appropriate coverage in the engineering curriculum in our country. Inadequate understanding about the principles and application of Tribology is one of the major reasons of failures in the industry, leading to poor productivity and higher material and energy losses. There is a strong need to promote the awareness of Tribology among our industries and academia.</p> <p>It is with this background that the Department of Mechanical Engineering, BVBCET Hubballi is organizing the workshop on "Tribology – Study of Friction, Wear and Lubrication" to reinforce the need for continued education in Tribology - an interdisciplinary science and technology. Tribology Society of India – Karnataka chapter (TSI), is engaged in a variety of initiatives to promote Tribology in India. The Society has Members from Oil & Gas, Power, Steel, Cement, Industrial R&Ds and academia from all over the country. The program is intended to provide a platform for interaction between renowned Tribologists of the country and the participants, comprising academicians, researchers and industrialists.</p> <p>Objectives of the Workshop:</p> <ul style="list-style-type: none"> To enhance the teaching competence in the relevant field. To highlight the tribological applications. To identify challenges in the field of Tribology. To explore recent developments in the area of Tribology. <p>Program Topics:</p> <p>Basics of Tribology: Friction, Wear and Lubrication, Surface Characterization in Tribology, Applied Tribology, Tribometers : Tribo-testing and performance, Bearing Tribology, Nano - Tribology, Bio - Tribology.</p> <p>There will be practical sessions – demonstrations on Tribometers.</p> <p>For further information, please contact: Shreeshaail M. L. Workshop Coordinator – Tribology Asst. Professor Department of Mechanical Engineering, BVBCET, Hubballi. Ph: + 91 - 9739766082 E-mail: shreeshaail_m@bvbc.edu</p>	<p>TEQIP sponsored 3 Day Workshop on "Tribology - Study of Friction, Wear and Lubrication" 28th to 29th September 2016</p> <p>Organized by Department of Mechanical Engineering, BVBCET, Hubballi.</p> <p>REGISTRATION FORM</p> <p>NAME :</p> <p>DESIGNATION :</p> <p>ORGANISATION :</p> <p>ADDRESS :</p> <p>MOBILE :</p> <p>E-mail ID :</p> <p>DD for Rs. :</p> <p>DU no. with Date :</p> <p>Place :</p> <p>Date :</p> <p>Signature of the Applicant :</p> <p>Signature of the Head of the Institution with seal :</p>
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TEQIP sponsored
3 Day Workshop

“Tribology - Study of Friction, Wear and Lubrication”

26th to 28th September, 2016.

Venue: Department of Mechanical Engineering, KLE TECHNOLOGICAL UNIVERSITY Hubballi.

PROGRAMME SCHEDULE

DAY 1 - 26th September, 2016 (Monday)

Venue: Seminar Hall - MBA, Dept. of Mech. Engg, KLE TECHNOLOGICAL UNIVERSITY
Hubballi

- 08:00 – 09:00 am. Registration, (Mechanical Department Lobby – Ground floor)
09:00 – 09:30 am. **Registration** (Mechanical Department Lobby – 2nd floor)
- 09:30 – 10:00 am. Inaugural Session-
Chief Guest: Dr. K. Venkateswarlu, Principal Scientist, CSIR-NAL, Bangalore.
Guest of Honour: Dr. C. S. Ramesh, Dean, Dayananda Sagar University, Bangalore.
- 10:00 – 10:30 am. Group Photograph & **Hi Tea**
- 10:30 – 12:00 pm. Tech. Session 1
Theme : Tribology of metal matrix composites (MMCs)
Speaker : Dr. C. S. Ramesh, Dean, Dayananda Sagar University, Bangalore.
- 12:00 – 01:30 pm. Tech. Session 2
Theme : Tribology in Aerospace Industry.
Speaker : Dr. K. Venkateswarlu, Principal Scientist, CSIR-NAL, Bangalore.
- 01:30 – 02:15 pm. **Lunch Break**
- 02:15 – 03:45 pm. Tech. Session 3
Theme : Wear Studies.
Speaker : Dr. I.G. Siddhalingshwar, Associate Professor, KLE TECHNOLOGICAL UNIVERSITY Hubballi.
- 03:45 – 04:00 pm. **Tea Break**

End of Day 1

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DAY 2 - 27th September, 2016 (Tuesday)

Venue: Seminar Hall - MBA, Dept. of Mech. Engg, KLE TECHNOLOGICAL UNIVERSITY
Hubballi

09:00 – 09:30 am. **Breakfast** (Mechanical Department Lobby – 2nd floor)

09:30 am to 05:00 pm: DUCOM Industry experts/Demonstration.

09:30 – 10:30 am. **Tech. Session 4**
Theme : Industrial Tribology.
Speaker : Mr. Mallikarjun and expert team, *Manager – marketing & sales, South Asia, DUCOM Instruments Pvt. Ltd., Bangalore.*

10:30 – 10:45 am. **Tea Break**

10:45 – 11:45 pm. **Tech. Session 5**
Theme : Tribological approach to development of future Automotive technology.
Speaker : Mr. Rishi Mukherjee, *Product Manager, DUCOM Instruments Pvt. Ltd., Bangalore.*

11:45 – 12:45 pm. **Tech. Session 6**
Theme : Tribology - at a glance.
Speaker : Mr. Manish Kumar, *Design Engineer, R&D, DUCOM Instruments Pvt. Ltd., Bangalore.*

12:45 – 01:30 pm. **Lunch Break**

01:30 – 03:30 pm. **Practical Session 1 and 2:**
Demonstration - Tribometers
Experts: DUCOM Instruments Pvt. Ltd., Bangalore.

03:30 – 03:45 pm. **Tea Break**

03:45 – 04:45 pm. **Practical Session 3:**
Demonstration – Tribometers
Experts: DUCOM Instruments Pvt. Ltd., Bangalore.

End of day 2

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DAY 3 - 28th September, 2016 (Wednesday)

Venue: Seminar Hall - MBA, Dept. of Mech. Engg, KLE TECHNOLOGICAL UNIVERSITY
Hubballi

- 09:00 – 09:30 am. **Breakfast** (Mechanical Department Lobby – 2nd floor)
- 09:30 – 11:00 am. **Tech. Session 7**
Theme : Challenges in NVH Simulations – Role of Friction.
Speaker : Mr. Harikrishna Reddy, *Sensor Technical Specialist, Altair Engg. Pvt. Ltd., Bangalore.*
- 11:00 – 11:15 am. **Tea Break**
- 11:15 – 12:45 pm. **Tech. Session 8**
Theme : Role of thermal spray coatings in improving resistance to erosion.
Speaker : Dr. M. R. Ramesh, *Asst. Professor, Mechanical Dept., NIT-K, Surathkal.*
- 12:45 – 01:30 pm. **Lunch Break**
- 01:30 – 03:00 pm. **Tech. Session 9**
Theme : Tribology of Manufacturing Processes.
Speaker : Dr. Chakradhar D., *Asst. Professor, Mechanical Dept., NIT-K, Surathkal.*
- 03:00 – 03:30 pm. **Examination with Objective Type MCQs based on the topics covered**
- 03:30 – 03:45 pm. **Tea Break**
- 03:45 – 04:30 pm. **Concluding & Feedback Session –(Certificate to the participants)**

End of day 3

Looking forward to meet you at the next BVCET - Tribology event....

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Invited Speakers – Academic and Industry Experts

Brief Bio-data

Name	Dr. C. S. RAMESH
Date of birth	22-03-1962
Present Position Held	Dean, Dayananda Sagar University, Bangalore.

1. Has 25+ years of teaching experience.
2. Recipient of State Government Award - Satish Dhawan Award for Young Engineers from Karnataka State Government – Outstanding Contribution to Engineering Science-2008.
3. Sudharshan Bhat Award from I.I.T. Madras 1992.
4. Best Research Publication Award by IVGSI Vision Group of Science & Technology, Karnataka 2010.
5. Guidance to Students (Ph.D): No. of students awarded – 12.
6. Visiting Professor at School of Design Engineering & Computing, Bournemouth University (U.K.) in 2012.
7. Research Area - Composites, FEM studies and Tribology.

Research Papers/ Publications

<u>Publications</u>	<u>Numbers</u>
Papers published in <u>International Refereed Journals</u>	50
Papers published in <u>National Refereed Journals</u>	05
Papers published in <u>International Conferences</u>	52
Papers published in <u>National Conferences</u>	28

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Chapters in Books	04
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Academic Qualifications:

Period	Qualification	University / Institute/ Board	Subject / field
1988-1992	PhD	Indian Institute of Technology, Madras, Chennai	Metallurgical Engineering/Composite Coatings- Academic Distinction
1986-1988	M.E	Bangalore University/MSRIT, Bangalore	Mechanical Engineering/ Metal Casting- First Class Distinction
1980-1984	B.E	Bangalore University/ U.V.C.E Bangalore	Mechanical Engineering First Class

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Invited Speakers – Academic and Industry Experts

Brief Bio-data



Brief resume of Dr K. Venkateswarlu

Dr Venkateswarlu did his degree in Metallurgical Engineering and M. Tech in Engineering Materials from NIT, Bhopal in 1995 and completed his PhD in metallurgy and materials engineering from IIT, Kharagpur in 2000. He is presently working as a Principal Scientist in Materials Science Division at National Aerospace Laboratories, Bangalore, and working in CSIR for the past 31 years. He is the recipient of Prof P. Banerjee Memorial award for his best M. Tech thesis in 1996 and after that; he had been to Japan for 6 months to undergo advanced training on NDT. In 2004, he went to University of Southern California, Los Angeles, USA for his post doc work.

In 2009, he had been to Russia and presented his work on ultra-fine grained aluminum alloys. In 2011, he had been to China and presented his talk on nanostructured Al alloys. During Sep-Oct 2014, he visited Miskolc University, Hungary and delivered talks on advances in processing of Al alloys. On his personal trips, he visited Germany, Belgium, Switzerland, France and Slovakia. In 2015, he went to Shanghai and chaired a session in an international conference and also presented an invited talk.

Dr Venkateswarlu has published ~74 International papers and 135 National and international conference papers. He has guided, 5 M. Tech and 4 PhD students, and presently 6 PhD students are working with him. He is a "Fellow" of Institution of Engineers (India) Kolkata, CSIR Raman fellow, and Professor of Academy CSIR.

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Invited Speakers – Academic and Industry Experts

Brief Bio-data

Dr. Siddhalingeswar I G

Born on March 06, 1972 at Hubli in the state of Karnataka, India, obtained undergraduate and master's degree in Mechanical Engineering from B.V.B. College of Engineering and Technology, Hubli, Karnataka, and then, joined as a faculty in the Department of Automobile Engineering in the same institute. In the year August 2011 obtained doctoral degree from Department of Metallurgical and materials Engineering, IIT, Kharagpur. He is presently working as a faculty and also as Faculty Coordinator, Academics at B.V.B. College of Engg. & Tech., Hubli, Karnataka. His research interest is Deformation processing of metal matrix composites and has nearly 20 publications in international Journals and conferences.


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Invited Speakers – Academic and Industry Experts

Brief Bio-data

Name- Dr. D. CHAKRADHAR				
Age-34 Years				
Present position / working at	Assistant Professor Department of Mechanical Engineering National Institute of Technology Karnataka, Surathkal (NITK)			
Contact Details	Email- ID- chakradhar.d@nitk.edu.in chakradhar.dupadu@gmail.com Mobile - +91-9945840896			
Education Details	Degree	Year	Subject	University/Institution
1	Ph. D	2012	Mechanical Engineering	NIT Warangal, India
2	M. Tech	2006	Advanced Manufacturing Processes	NIT Warangal, India
3	B. Tech	2004	Mechanical Engineering	SriKrishnadevaraya University, Anantapur, India

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Work Experience	<ul style="list-style-type: none"> Presently working as Assistant Professor in Department of Mechanical Engineering at National Institute of Technology Karnataka, Surathkal since November 2012. Worked as Senior Executive – Technology at Crompton Greaves Global R&D Centre, Mumbai during October 2010 to November 2012. Worked as an Assistant Professor in Department of Mechanical Engineering at Sreevidya Institute of Science and Technology, Hyderabad during Sept. 2006 to July 2007.
Publication Information	<p>International Journals</p> <ol style="list-style-type: none"> Venkatesh, D. Chakradhar, "Multi response optimization of thermally enhanced machining parameters for Inconel 718 using grey relational analysis." International Journal of Machining & Machinability of Materials (Accepted) P. Sivaliah, D. Chakradhar, "Multi objective optimization of cryogenic turning process using Taguchi based grey relational analysis." International Journal of Machining & Machinability of Materials (Accepted) Priyaranjan Sharma, D. Chakradhar, S. Narendranath, "Effect of wire diameter on surface integrity of wire electrical discharge machined Inconel 706 for gas turbine application" Journal of Manufacturing Processes (SCI, Accepted) Sharma Priyaranjan, D. Chakradhar, and S. Narendranath, "Effect of wire material on productivity and surface integrity of WEDM processed Inconel 706 for aircraft application" Journal of Materials Engineering and Performance. DOI:10.1007/s11665-016-2216-z (SCI, Accepted) Priyaranjan Sharma, D. Chakradhar, S. Narendranath, " Evaluation of WEDM performance characteristics of Inconel 706 for turbine disk application", Materials & Design, Vol. 8, 2015, pp 558 – 566. (SCI) Priyaranjan Sharma, D. Chakradhar, S. Narendranath, "Multi-response optimization of vedra process using hybrid approach while machining inconel 625 superalloy" Journal of Machining and Forming Technologies, Volume 6, 2015, Pages 107 - 116. Sachinumar, S. Narendranath and D. Chakradhar, "Effect of fly ash and sic particles on hardness and microstructure of friction stir welded MMCs", Bonfring International Journal of Industrial Engineering and Management Science, Vol. 5, No. 2, June 2015, Pages 51 -54. VenkateshGanta, D. Chakradhar, "Multi Objective Optimization of Hot Machining of 15-5PH Stainless Steel Using Grey Relation Analysis", Procedia Materials Science, Volume 5, 2014, Pages 1810-1818. Venu Gopal, D. Chakradhar "Parametric optimization in Electrochemical machining of EN31 alloy based on Grey relation approach" Applied Mechanics and Materials, 2012, Volumes 110 – 116, pp 1649-1656. D. Chakradhar, A. Venu Gopal "Multi-Objective Optimization of Electrochemical machining of EN31 steel by Grey Relational Analysis" International Journal of Modeling and Optimization, 2011, Vol.1, No.2, pp 113-117. <p>International Conference Proceedings</p> <ol style="list-style-type: none"> Sharma, Priyaranjan, D. Chakradhar, and S. Narendranath "Modelling and

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	<p>optimisation of WEDM performance attributes of Inconel 706 super alloy using RSM - based PSO approach." The Ninth International Conference on Materials Technologies and Modelling (MMT-2016), Ariel University, Israel.</p> <p>2. Priyaranjan Sharma, D. Chakradhar, Narendranath S, "Multi-response optimization of WEDM process using Hybrid approach while machining Inconel 625", Int. Conf on Industrial, Mechanical and Production Engineering: Advancements and Current Trends, MANIT, Bhopal, India, November 27-29, 2014.</p> <p>3. VenkateshGanta, D. Chakradhar, "An Experimental Investigation of Hot Machining Performance Parameters using Oxy-Acetylene gas setup" 5th International & 26th All India Manufacturing Technology, Design and Research Conference (AIMTDR, 2014) December 12th-14th, 2014, IIT Guwahati, Assam, India, Pages 370 (1-6).</p> <p>4. VenkateshGanta, D. Chakradhar, "Parametric optimization in hot turning of Inconel 718 alloy using Taguchi method", 4th INTERNATIONAL ENGINEERING SYMPOSIUM (IES 2015) which is to be held at Kumamoto University, Japan, March 2015.</p> <p>5. D. Chakradhar, A. Venu Gopal, "Design and optimization of process parameters in electrochemical machining of Inconel 625 alloy using Taguchi method" is published and presented orally at the 16th International Symposium on Electromachining (ISEM-XVI) held in Shanghai, China during 15th to 23rd April 2010.</p> <p>6. D. Chakradhar, A. Venu Gopal, "Experimental study and parameter design of electrochemical machining of EN-31 steel using Taguchi method" 3rd International & 24th AIMTDR Conference, 2010, Andhra University, Vishakhapatnam (A.P), 15th to 17th December 2010.</p>					
Ph.D. Research Supervision	S.No	Name of Student	Reg. Year and Status	Thesis Title	Other Supervisor(s)	Completed/ Ongoing
	1	G. Venkatesh (ME12P03)	2012, FT	Machinability of Inconel 718 by Hot machining	None	Ongoing
	2	Sachin Kumar (ME12P10)	2012, PT	Experimental studies on Friction Stir Welding	Prof. Narendranath (Mech.)	Ongoing
	3	Priyaranjan Sharma (ME13F05)	2013, FT	Wire Electro Discharge machining	Prof. Narendranath (Mech.)	Thesis Submitted
	4	P. Sivaiah (ME14F21)	2014, FT	Cryogenic turning of 17-5 PH stainless steel	None	Ongoing
	5	Vinay Varghese (ME15F27)	2015, FT	Cryogenic milling of nickel based super	Dr. M.R Ramesh (Mech.)	Ongoing

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			alloys		
6	Sachin B (ME.16F14)	2016,FT	Machinability studies of super alloys	None	Ongoing
Other Information	Reviewer for Journals <ul style="list-style-type: none">• Artificial Intelligence for Engineering Design, Analysis and Manufacturing• International Journal of Advanced Manufacturing Technology• Sadhana - Academy Proceedings in Engineering Science• Industrial Lubrication and Tribology				

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Invited Speakers – Academic and Industry Experts

Brief Bio-data

Dr. RAMESH M.R.

Assistant Professor

Department of Mechanical Engineering National Institute of Technology Karnataka Surathkal, PO
Srinivasanagara - 575025 Mangalore DK, Karnataka State, INDIA

Phone: +91 094805 40801

+91 824 2473677

Fax: +91 824 2474058

Email: ramesdmt@gmail.com, rameshmr@nitk.edu.in

RESUME

Email: ramesdmt@gmail.com,

rameshmr@nitk.edu.in

❖ **CURRENT AREA OF RESEARCH :**
Thermal Spray Coatings, Advanced Materials Characterization, Biomaterials, Machining, Wear,
Erosion, Oxidation & Hot Corrosion, Severe Plastic Deformation, Castings

❖ **ACADEMIC RECORD**

➤ **DEGREE : Ph.D**

Institution : **Indian Institute of Technology Roorkee, Roorkee.**

Thesis Title : **Studies on the Role of HVOF Coatings in Improving Resistance to Hot
Corrosion and Erosion**

Year of completion : 2008

➤ **POST GRADUATION : M.Tech (Mechanical Engineering)**

Specialization : **Manufacturing Science and Engineering**

Institution : **M.S. Ramiah Institute of Technology, Bangalore.**

University : **Vivekwarelah Technological University.**

Year of Passing : **February 2002.**

Results : **1st class with distinction @ 75.20% aggregate (Secured university third rank)**

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- **GRADUATION** : **B.E. (Mechanical Engineering)**
 - Institution : Siddaganga Institute of Technology, Tumkur.
 - University : Bangalore University.
 - Year of Passing : Aug. 1999.
 - Results : 1st class with distinction @ 67.63% aggregate

- **PRE - DEGREE**
 - Examination Passed : S.S.L.C.
 - Year of Passing : 1993
 - Result : **75.20 %**
 - Examination Passed : P.U.C.
 - Year of Passing : 1995
 - Result : **71.16 %**

- ❖ **WORK EXPERIENCE: (present to previous)**
 - Institution : National Institute of Technology Karnataka, Surathkal
 - Designation : Assistant Professor
 - Duration : December 2012 – Till date

 - Institution : M.S.Ramiah Institute of Technology, Bangalore.
 - Designation : Associate Professor
 - Duration : April 2011 – December 2012

 - Institution : Reva Institute of Technology and Management, Bangalore.
 - Designation : Assistant Professor
 - Duration : July 2008 – April 2011

 - Institution : Nitte Institute of Technology, Bangalore.
 - Designation : Assistant Professor
 - Duration : September 2002 – July 2003, February 2008 – July 2008

 - Institution : Vivekananda Institute of Technology, Bangalore.
 - Designation : Lecturer
 - Duration : May 2000 – Oct. 2000

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◆ RESEARCH PUBLICATIONS/BOOKS:

Research Publications: 25 papers in international journals and 19 papers published in conference proceedings.

Journal Publication

- 1) M.R. Ramesh, S. Prakash, S.K. Nath, Pawan Kumar Sapra, B. Venkataraman, Solid particle erosion of HVDF sprayed WC-Co/NiCrFeSiB coatings, *Wear*, Volume 269, p197-205, 2010
- 2) M.R. Ramesh, S. Prakash, S.K. Nath, Pawan Kumar Sapra, and N. Krishnamurthy, Evaluation of thermocyclic oxidation behavior of HVDF-sprayed NiCrFeSiB coatings on boiler tube steels, *Journal of Thermal Spray Technology*, Volume 20, Issue 5, pp992-1000, 2011
- 3) N. Krishnamurthy, M. S. Murali, P. G. Mukunda, M. R. Ramesh, Characterization and wear behavior of plasma-sprayed Al₂O₃ and ZrO₂/SiO₂ coatings on cast iron substrate, *J Mater Sci*, Volume 45, pp850-858, 2010
- 4) N. Krishnamurthy, M. S. Murali, P. G. Mukunda, M. R. Ramesh, Wear Behavior of Plasma Sprayed Al₂O₃ Coatings on Cast Iron Substrate, *International Journal of Materials Science*, Volume 5, Number 2, pp157-165, 2010
- 5) Pawan Kumar Sapra, Surendra Singh, Satya Prakash, M.R. Ramesh, Elevated temperature solid particle erosion performance of Al₂O₃-3 wt% TiO₂ composite coatings, *Int. J. Surface Science and Engineering*, Volume 4, No. 4/5/6, pp360-376, 2010
- 6) N. Jegadeeswaran, Udaya Bhat K, Ramesh M R, Wear studies on wrought and heat treated Nimonic, Titanium and Superalloy, *Int. Journal of Applied Sciences and Engineering Research*, Volume 1, No. 1, p106-117, 2012
- 7) Gopi K.R, Mohandas K.N, Reddappa H.N, M.R. Ramesh, Characterization of As Cast and Heat Treated Aluminium 6061/Zircon sand/Graphite Particulate Hybrid Composites, *International Journal of Engineering and Advanced Technology*, Volume 2, Issue-5, pp340-344, 2013
- 8) N. Jegadeeswaran, Udaya Bhat, M.R. Ramesh, Oxidation Studies on As-received and HVDF Sprayed Stellite-6 Coating on Turbine Alloys at 800°C, *International Journal of Scientific Engineering Research*, Volume 4, Issue 6, p214-220, 2013
- 9) Jegadeeswaran, N., Udaya Bhat, K., Ramesh, M.R., Prakarathi, S., Hot corrosion behaviour of HVDF sprayed Stellite-6 coatings on gas turbine alloys, *Transactions of Indian Institute of Metals (Springer)*, Volume 67, Issue 1, p87-93, 2014
- 10) Jegadeeswaran N., Udaya Bhat K, Ramesh M R, Hot Corrosion Studies on As-received and HVDF Sprayed Al₂O₃-CaCrAlF₂ on Ti-3Al alloy in Salt Environment, *Procedia Engineering*, Volume 64, p1013-1019, 2013
- 11) N. Jegadeeswaran, M. R. Ramesh, K. Udaya Bhat, Combating Corrosion Degradation of Turbine Materials Using HVDF Sprayed 25% Cr₃C₂-25%Ni₂O₃ + NiCrAlY Coating, *International Journal of Corrosion*, p1-11, 2013
- 12) B. Somasundaram, Ravikiran Kadoli, and M.R. Ramesh, Evaluation of Cyclic Oxidation and Hot Corrosion Behavior of HVDF-Sprayed WC-Co/NiCrAlY Coating, *Journal of Thermal Spray Technology*, August 2014, Volume 23, Issue 6, pp 1000-1008
- 13) B.Somasundaram, Ravikiran Kadoli, M.R.Ramesh, Hot corrosion behaviour of HVDF-sprayed (Cr₃C₂-35% NiCr) + 5% Si coatings in the presence of Na₂SO₄ - 60% V₂O₅ at 700°C, *Transactions of the Indian Institute of Metals*, April 2015, Volume 68, Issue 2, pp 257-268
- 14) B.Somasundaram, Ravikiran Kadoli, M.R. Ramesh, Evaluation of Thermocyclic Oxidation Behavior of HVDF Sprayed (Cr₃C₂-35% NiCr) + 5% Si Coatings on Boiler Tube Steels, *Procedia Materials Science*, Volume 5, 2014, Pages 398-407
- 15) N. Jegadeeswaran, M. R. Ramesh, K. Udaya Bhat, Oxidation Resistance HVDF Sprayed Coating 25% Cr₃C₂-25%Ni₂O₃ + 75%NiCrAlY on Titanium Alloy, *Procedia Materials Science*, Volume 5, 2014, Pages 11-20
- 16) S. B. Mishra, Sadhana Sachan, P. K. Mishra, Ramesh M. R., Preparation and characterisation of PPEES-TiO₂ composite micro-porous UF membrane for oily water treatment, *Procedia Materials Science*, Volume 5, 2014, Pages 123-129
- 17) Nagesh S. H., Siddaraju C. S., V. Prakash, M. R. Ramesh, Characterization of brake pads by variation in composition of friction materials, *Procedia Materials Science*, Volume 5, 2014, Pages 295-302
- 18) Shanmukha Priya V., M.R. Ramesh, VPS Naidu, Bearing Health Condition Monitoring: Frequency Domain Analysis, *International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering*, Volume 3, 2014, Pages 260-268
- 19) B. Somasundaram, Ravikiran Kadoli and M.R. Ramesh, Evaluation of Thermocyclic Oxidation behavior of HVDF Sprayed WC-Co-Ni Coatings, *Benefiting International Journal of Industrial Engineering and Management Science*, Vol. 5, No. 2, June 2015, Pages 83-89

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- 20) N. Jagadeeswaran, K. Udaya Bhat and M. R. Ramesh, Improving Hot Corrosion Resistance of Cobalt Based Superalloy (Supero-605) Using HVDF Sprayed Oxide Alloy Powder Coating, *Trans Indian Inst Met*, Volume 68, Suppl 2, p5309-5316, 2015
- 21) Narendra Rathore, M.R.Ramesh, Design of Universal Test Rig and Virtual Experimentation of Hydraulic Circuit for Testing of Line Replacement Units, *International Journal of Scientific & Engineering Research*, Volume 6, Issue 6, 2015
- 22) B. Somasundaram, Ravikiran Kadoli, M.R. Ramesh and C.S. Ramesh, High temperature corrosion behaviour of HVDF sprayed WC-Cr-Ni coatings, *Int. J. Surface Science and Engineering*, Vol. 10, No. 4, PP400-413, 2016
- 23) Hargovind Soni, Narendra Nath S. and Ramesh M. R., Effect of machining parameters on wire electro discharge machining of shape memory alloys analyzed using Grey entropy method" is published in *Journal of material science and mechanical Engineering (JMSME) Vol.2, Issue 13 October-December, 2015* p-ISSN:2393-9056 e-ISSN: 2393-9109. And presented in the 12th INTERNATIONAL CONFERENCE ON "Advances in Mechanical, Material Science, Manufacturing, Automobile, Aerospace Engineering and Applied Physics" (AMAEAP-2015) at J N U New Delhi India on 07 Nov. 2015.
- 24) B.R. Bharath Kumar, Mritunjay Doddamani, Steven E. Zekmann, Nikhil Gupta, M.R. Ramesh, Seeram Ramakrishna, Processing of cenosphere/HDPE syntactic foams using an industrial scale polymer injection molding machine, *Materials and Design*, Volume 92, p414-423, 2016
- 25) Gajanan Anje, M. R. Ramesh, H. Shivamanda Nayaka, Shashi Bhushan Anya, Investigation of microstructure and mechanical properties of Mg-Zn/Al multilayered composite developed by accumulative roll bonding, *Perspectives in Science*, 2016, Article in Press, <http://dx.doi.org/10.1016/j.pisc.2016.04.008>
Conference proceedings
1. Hanumanthbal S, Prasanna N D, Ramesh M R, Studies on HVDF Sprayed Coatings, *Proceedings of International Conference on Challenges and Opportunities in Mechanical Engineering, Industrial Engineering and Management Studies*, M.S. Ramaiah Institute of Technology, Bangalore, p319-329, 2012
2. Chiranth B.P, Siddharaju C, Shobna R, Ramesh M R, Severe Plastic Deformation of 2 % Titanium Boride, *Proceedings of International Conference on Challenges and Opportunities in Mechanical Engineering, Industrial Engineering and Management Studies*, M.S. Ramaiah Institute of Technology, Bangalore, p428-432, 2012
3. Balakrishna, Ramesh M R, Studies on the role of HVDF sprayed carbide coatings to combat erosion of boiler tube steels, *National conference on development and opportunities in civil Engineering, Applied Sciences and Mechanical Engineering*, East west institute of Technology, Bangalore, p38, 2012
4. Jagadeeswaran, N., Udaya Bhat, K., Ramesh, M. R., Prakarthy, S, Hot corrosion behavior on as-received and HVDF coated Ti-6Al-4V alloy, *Proceedings of International Symposium for Research Scholars on Metallurgy, Materials Science and Engineering*, Indian Institute of Technology Madras, Chennai, p82, 2012
5. Jagadeeswaran N, Nagasuresh Babu N, Ramesh M R, Abrasive Wear Behaviour of Al-SiC Composite Developed by Powder Metallurgy Route, *Proceedings of the International Conference on Recent Trends in Materials And Characterization*, National Institute of Technology Karnataka, Surathkal, p258-262, 2010
6. Jagadeeswaran N, Ramesh M R, Udaya Bhat K, Adhesive and Abrasive Wear Performance of HVDF Sprayed NiCrAl Coatings On Ni-based Superalloy, *Proceedings of the International Conference on Frontiers in Mechanical Engineering*, National Institute of Technology Karnataka, Surathkal, p238-243, 2010
7. N. Jagadeeswaran, B. Somasundar, Ramesh M.R, Studies on the application of Rapid Prototype for the Medical Field", *National Conference on Design, Manufacture and Management for Next Generation*, Kongu Engineering College, Erode, p17, 2009
8. Jagadeeswaran, N., Udaya Bhat, K., Ramesh, M. R, Wear behavior on as-received and heat treated turbine blade alloys, *Proceedings of Joint Inter. Conf on Advanced Materials*, IIT Inst. of Tech., Bangalore, p19-20, 2011
9. Jagadeeswaran N, Ramesh M.R, Udaya Bhat K, Improving Hot Corrosion Resistance of Cobalt Based Superalloys Using HVDF Sprayed Oxide Alloy Powder Coating, *Proceedings of International Symposium for Research Scholars on Metallurgy, Materials Science and Engineering*, Department of Metallurgical and Materials Engineering, Indian Institute of Technology Madras, p24-30, 2014
10. Ramesh Babu N, Ramesh M R, Kiran Abhal S, U N Kempaiah, Experimental study of process variables on the bead geometry through flux cored arc welding, *International Conference on Mechanical Engineering*, Vijaya Vitala Institute of Technology, Bangalore, 21-23, August 2014
11. M.R. Ramesh, S. Prakash, S.K. Nath, Mritunjay Doddamani, Hot Corrosion-Erosion Behaviour of HVDF Sprayed NiCrAl Coatings on Boiler Tube Steels, 4th International Engineering Symposium, Kumamoto University, Japan, March 4-6, 2015
12. Dharmendra M, Jagadeeswaran N, Ramesh M. R, Udaya Bhat, K, A comparative study of oxidation resistance of Ti-3Al, HVDF sprayed stellite-6 and fused Al2O3-CoCrAlY coated Ti-3Al alloy at 800°C, *International conference on advances in materials, manufacturing and applications*, National Institute of Technology, Tiruchirappalli, April 9-11, 2015

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135.Tribology - Study of Friction, Wear and Lubrication-Workshop



13. B. Somasundaram, Ravikiran Kadali, M. R. Ramesh, High temperature oxidation studies of HVOF sprayed WC-Co-Ni coating on boiler tube steels, International conference on advances in materials, manufacturing and applications, National Institute of Technology, Tiruchirappalli, April 9-11, 2015
14. Siddaraju C., N. D. Prasanna, M. R. Ramesh, M. K. Muralidharan, Studies on structure and corrosion characteristics of S_{400/25} ductile iron subjected austempering heat treatment, International conference on advances in materials, manufacturing and applications, National Institute of Technology, Tiruchirappalli, April 9-11, 2015
15. Bhaskar M., M. R. Ramesh, Srikanth Boritha, M. Krishna, Varroo Krishna Balu, Solid state amorphization of Mg-Zn-Ca systems studied through planetary ball milling, International conference on advances in materials, manufacturing and applications, National Institute of Technology, Tiruchirappalli, April 9-11, 2015
16. Shanmukha Priya V., M.R. Ramesh and VPS Nadu, Bearing Fault Classification Using Support Vector Machines, National conference on health monitoring and fault detection in aerospace systems, Vikram sarabhai space centre, Thiruvananthapuram, May 22-23, 2015
17. Nithin H.S., Vijay Desai and Ramesh M.R., An Investigation on high temperature erosion behaviour of Plasma sprayed CoCrAlY/Al₂O₃/TiN on Fe and Ni based alloys, International conference on computational methods in engineering and health sciences, University putra malaysia, Malaysia, December 19-20, 2015
18. Athul Sathyanath, Eswaran M., M.R. Ramesh and G.R. Reddy, Numerical Study On Tuned Liquid Damper For Mitigation Of Structural Response, Aired National Conference on Fluid Mechanics and Fluid Power, National Institute Of Technology Karnataka Surathkal, December 14-16, 2015
19. Gajanan Anne, M. R. Ramesh, N. Shivananda Nayaka, Shashi Bhushan Anya, Investigation of microstructure and mechanical properties of Mg/Al multilayered composite developed by accumulative roll bonding, International Conference on Recent Trends in Engineering and Material Sciences, Jaipur National University, Jaipur, India, March 17-19, 2016

Book:

Co-authored book titled "Elements of Mechanical Engineering" – A text book for VII semester B.E. of VTU syllabus, Suggi Publishing, Bangalore.

♦ RESEARCH PROJECT:

Principle Investigator for the project "Development of HVOF sprayed cermets coatings in improving resistance to hot corrosion and erosion of gas turbine alloys" granted by All India Council for Technical Education during 2013 with funding of Rs 18,10,000

♦ RESEARCH STUDENTS REGISTERED FOR PHD UNDER GUIDANCE:

- Mr. Jegadeeswaran N. awarded PhD at NITK, Surathkal in the year 2014.
- Mr. Somasundar B. awarded PhD at NITK, Surathkal in the year 2015.
- Mr. Gajanan Anne Registered for PhD at NITK, Surathkal in the year 2013 (Supervisor)
- Mr. Veeresh Nayak Registered for PhD at NITK, Surathkal in the year 2014 (Supervisor)
- Mr. Nithin Gowda Registered for PhD at NITK, Surathkal in the year 2014 (Co-supervisor)
- Mr. Ramesh Babu N. Registered for PhD at NITK, Surathkal in the year 2013 (Supervisor)
- Mr. Mahantayya Mathapati Registered for PhD at NITK, Surathkal in the year 2014 (Supervisor)
- Mr. Timothy Harold Gonsalves Registered for PhD at NITK, Surathkal in the year 2014 (Co-supervisor)

♦ PERSONAL DETAILS

Father's Name	:	Rangarasaiah M.R.
Date of Birth	:	7 th October 1977
Nationality	:	Indian
Gender	:	Male
Marital Status	:	Married
Languages Known	:	Kannada, English & Hindi

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Invited Speakers – Academic and Industry Experts

Brief Bio-data

[Kind Request: If not in the below format, you can forward us the bio-data in any other format which has below information's.]

<p>Name - Hari Krishna Reddy</p> <p>Age / DOB- 29 Years – 21-01-1987</p>	 <p style="text-align: center;">Photo</p>
Present position / working at	Altair India Pvt Ltd.
Contact Details	<p>Email- ID - hkrish.reddy.itsc@gmail.com</p> <p>Mobile / Off. Landline - +91- 9591756245</p>
Education Details	<ul style="list-style-type: none"> ➤ M.E. in Mechanical Engineering, Indian Institute of Science, 2010. Dissertation Title: Analytical and Numerical Prediction of Breakout Noise from Non Circular Cylindrical Shells. Overall CGPA: 6.8/8.0 ➤ B.E. in Mechanical Engineering, Omsania University, 2008. Dissertation Title: Development of Web Based Inventory Management System for a Typical Manufacturing Industry Overall Percentage: 84.4%, 1st Rank (University Gold Medalist).
Work Experience	<ul style="list-style-type: none"> ➤ Working at Altair Engineering Technologies, Bangalore since Aug 2014 to till date. ➤ Worked as Sr. Engineer at EATON Technologies, Pune since Nov 2013 to Aug 2014. ➤ Worked as Deputy Manager at Mahindra Engineering Services (MES, M&M), Chennai since Aug 2011 to Oct 2013.
Achievements and Awards	<ul style="list-style-type: none"> ➤ Received "Beyond and Above Excellence" award for analyzing and solving the transmission rattle problems in Medium Duty vehicle with Eaton Transmissions. ➤ "Spot Award" for good performance at Mahindra &

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	<p>Mahindra, Chennai.</p> <ul style="list-style-type: none"> ➤ Awarded "Prof. Abid Ali Gold Medal" by University College of Engineering, Osmania University, being the University Topper. ➤ Awarded "Rank Certificate" by University College of Engineering (UCE), Osmania University, for achieving highest percentage. ➤ Received "Best Project Award" among B.E. Mechanical Engineering students, UCE, O.U., for the year 2008. ➤ Received a "Best Research Paper" Award in Students Category for the paper entitled "Analytical and Numerical prediction of Breakout Noise from Non-Circular Sandwich Shells" at National Symposium of Acoustics (NSA 2010), Haridwar, India.
Publication Information	<ul style="list-style-type: none"> ➤ M. Hari Krishna Reddy, J. Prajith, V. Vishal Chaudhari, and MansinhKumbhar, "Automation & Optimization of Automotive Engine Mounting System", SAE Paper (under preparation). ➤ M.L. Munjal, G. H. Gowtham, B.Venkatesam and M. Hari Krishna Reddy, "Prediction of Break out noise from an Elliptical Duct", Noise Control engineering Journal 58(3)(2010). ➤ M. Hari Krishna Reddy N. L. Ganapathi Prasad and M. L. Munjal, "Prediction and Verification of Flexural Vibration and Breakout Noise from Circular Annular Endplates", The 2010 LMS User India conference, Pune, India. ➤ M. Hari Krishna Reddy and M. L. Munjal, "Analytical and Numerical prediction of Breakout Noise from Non-Circular Sandwich Shells", National Symposium of Acoustics (NSA 2010). ➤ M. Hari Krishna Reddy and N.K. VijayaSree, "High Temperature Reliability of Advanced Ceramics", COMPOSIT 2007, IIT Kharagpur.
Any other info to share	


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Invited Speakers – Academic and Industry Experts

Brief Bio-data

(Kind Request: if not in the below format, you can forward us the bio-data in any other format which has below information's.)

<p>Name - MANISH KUMAR</p> <p>Age / DOB -Sept 19, 1990 (26 Yrs)</p>	
Present position / working at	Design Engineer (Research and Development), Mechanical Division at DUCOM Instruments Pvt. Ltd., Bengaluru
Contact Details	Email- ID - manish.k@ducom.com Mobile / Off. Landline - +91-9900049115
Education Details	B.Tech (Mechanical Engineering)- IIT(BHU), Varanasi M.Tech (Machine Design)- IIT(BHU), Varanasi
Work Experience	2 years 2 months
Achievements and Awards	
Publication Information	
Any other info to share	

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AGENDA

About the Workshop:

Tribology is the interdisciplinary science and technology of interacting surfaces in relative motion involving studies in the area of friction, wear and lubrication. The important subject of Tribology does not get appropriate coverage in the engineering curriculum in our country. Inadequate understanding about the principles and application of Tribology is one of the major reasons of failures in the industry, leading to poor productivity and higher material and energy losses. There is a strong need to promote the awareness of Tribology among our industries and academia.

It is with this background that the Department of Mechanical Engineering, BVCET Hubballi is organizing the workshop on "Tribology – Study of Friction, Wear and Lubrication" **to reinforce the need for continued education in Tribology - an interdisciplinary science and technology**, Tribology Society of India – Karnataka chapter (TSI), is engaged in a variety of initiatives to promote Tribology in India. The Society has Members from Oil & Gas, Power, Steel, Cement, Industrial R&Ds and academia from all over the country. **The program is intended to provide a platform for interaction between renowned Tribologists of the country and the participants, comprising academicians, researchers and industrialists.**

Program Topics covered:

Basics of Tribology: Friction, Wear and Lubrication, Surface Characterization in Tribology, Applied Tribology, Tribometers: Tribo-testing and performance, Bearing Tribology, Nano - Tribology, Bio - Tribology.

ABOUT PRACTICAL TRAINING

Demonstration on 3 tribometers –

1. LRT – Linear reciprocating tribometer.
2. Single v-block Tribometer.
3. Scratch testing machine – POD machine.

OUTCOMES BVCET TRIBOLOGY WORKSHOP 2016

Outcomes of the Workshop:

- Enhanced the teaching competence in the relevant field.
- Got thorough highlight/s about different tribological applications.
- Identified challenges in the field of Tribology.
- Explored recent developments in the area of Tribology.

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Registration details of all Participants -

CATEGORY		Total No. of Participants	Remarks
S	Students UG / PG	47	
F	Faculty / Research Scholar	11	
I	Industry Participants	01	
Total		59	

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Registration Details [CATEGORY: UG/PG STUDENT]

Sl. No.	NAME	INSTITUTION / UNIVERSITY
1.	Akshaykumar A Vernekar	KLE Tech University, BVB Campus Hubli.
2.	Amith S	
3.	Anil Virupakshappa Maradi	
4.	Chetan C Jadhav	
5.	Gupta Anish kumar Kamlesh Prasad	
6.	Jagadish Banappanavar	
7.	Kirankumar Sakri	
8.	Mahantesh Tirkki	
9.	Mallikarjun	
10.	Mohammedhussain Tahasildar K	
11.	Rahul S Naik	
12.	Rajashekhkar V	
13.	Ramappa Madar	
14.	Ramesh Konaraddi	
15.	Ramesh Tigadi	
16.	Santosh Setty S	
17.	Savitri Ramesh Bagari	
18.	Suhas Kulkarni	
19.	Sunil Jagadish Gejji	
20.	Vadiraj M Korti	
21.	Vishal Shivanand Bhairashetti	
22.	Gurudatta Nagesh Vernekar	
23.	Jishaan Sirsangi	
24.	Sharanagouda Biradar	

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25.	Sagar S Girimath	KLE Tech University, BVB Campus Hubli.
26.	Vivek Magadum	
27.	Naik PAragpushp Pandurang	
28.	Manoj D Bagare	
29.	Maresh S Rashinkar	
30.	Mohammadhanif Tatwanagi	
31.	Chetanakumar Shankar Chavan	
32.	Sidramappagoud Patil	
33.	Chandrashekhar Hiremath	
34.	Ganesh M Mudennavar	
35.	Jyotiba Ashok Jadhav	KLE Tech University, BVB Campus Hubli.
36.	Santosh Naik	
37.	Tulajaram D Kamble	SDMCET, Dharwad (Mob- 7204137476)
38.	Pavan Mutalikdesai	
39.	Niteesh V Havalagi	
40.	Arun Huddhar	JNNCE, Shivamogga (Mob- 9901931727)
41.	Jagadeesh M Kadroli	VDRIT, Haliyal (Mob- 9986585197)
42.	Rajat M.L.	PDA College of Engineering, Gulburga (9742570863 ; 7259576075 ; 7204545868 ; 9739474646)
43.	Syed Shahrulk Md.	
44.	Youhizama	
45.	Syed Arifuddin	
46.	Md. Zafar Ali	Student Intern – Altair India Pvt. Ltd. Bangalore. (Mob- 9945402378)
47.	Chandan Ravi B. R.	

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Registration Details [CATEGORY: Faculty / Research Scholars]

Sl. No.	NAME	INSTITUTION / UNIVERSITY	Contact details	E-mail ID
1.	Adarsh Patil	KLE Tech University, BVB Campus Hubli.	8971349747	adarsh@bvb.edu
2.	Prabhakar M Bhovi		7899932959	prabhakar_mb@bvb.edu
3.	Balachandra S Halemani		9738347126	balachandra@bvb.edu
4.	V A Goudar		9886269290	goudar@bvb.edu
5.	Dr. CC Hadimani		9845276430	cc_hadimani@bvb.edu
6.	Dr. A.M. Sajjan		9448801139	Am_sajjan@bvb.edu
7.	Praveenkumar M. Petkar		9964476030	praveenkumar@bvb.edu
8.	Vinod Kumar V. Meti		9986356557	vinod_meti@bvb.edu
9.	V. Komalapur		9886622468	vkomalapur@gmail.com
10.	Shivaprakash M. V.		KLEIT, Hubli	9886546495
11.	Rajeev K. Tavildar	KLS Gogle Institute of Technology, Belagavi	9972712121	rktavildar@git.edu

Registration Details [CATEGORY: Industry Participants]

Sl. No.	NAME	Industry / Organization	Contact details	E-mail ID
1.	Avinash Kumar	JSW Steel Ltd., Bellary	9480694815	avinashasitis@gmail.com