

Name of Faculty Dr. Kiran Kumar Amireddy  
 Designation Assistant Professor  
 Nature of Job/Appointment Regular  
 Date of Joining 21-02-2022  
 E-mail akirankumar\_mech@cbit.ac.in



Education Qualifications	Name of the Degree	Class
Ph. D	Doctor of Philosophy (Mechanical Engineering), IIT-Madras	First with Distinction
PG	M. Tech (Design Engineering) KITS-Warangal	First with Distinction
UG	B. Tech (Mechanical Engineering) KITS-Warangal	First with Distinction

Work Experience

Teaching	03 years
Research	09 years
Industry	04 years
Others	---

Area of Specialization Ultrasonics and acoustics, Structural health monitoring, Micro and nano imaging, Metamaterials, NDT&E, Materials characterization and wave propagation, Nonlinear Ultrasonics and Composite materials

Professional Memberships AICTE, ISNT, IAAM

Responsibilities held at Institution Level --  
 Responsibilities held at Department Level --

Research Guidance B.Tech : 5; M.Tech : 3

- Awards Received
- Received Best Teacher Award in the field of R&D from CBIT, Hyderabad on 5<sup>th</sup> Sep, 2022
  - Received INSC Young Researcher -2022
  - Received "Limelight" award for Excellence in Projects for the year 2020 from Saint-Gobain Research India, Chennai.
  - Received "Best thesis Award" for my PhD thesis from Ultrasonic society of India, 2019.
  - Received "European young scientist Award" for best oral presentation at EAMC-2018, Sweden.
  - Received 'Gandian Young Technological Innovation Award' (GYTI) for the year 2018 from
  - President of India during the Festival of Innovation and Entrepreneurship (Fine) on 19th March, 2018 at Rashtrapati Bhavan, New Delhi.
  - 'Institute Best Research Award' in recognition of Quality and Quantity of the Research Work done (Awarded during 58th Institute Day celebration), at IIT Madras, Chennai, 18th April, 2017
  - "Silver Award" at the International Conference (QNDE-2017) held at Salt Lake City, Utah, USA, 2017

10. Four “Best Paper Awards” at various National Symposiums and Conferences
11. Received Travel grant under “Young Scientist award” Sponsored by Department of Science and Technology (SERB) to attend an international conference in USA
12. Received Merit certificate as best student for Overall Academic performance (Gold medal) in PostGraduation, from Kakatiya University in 2011

Courses Handled at Under Graduate / Post Graduate Level.	<p><b>Under Graduate</b>  CAD&amp;G,CAD/CAM, Engineering Drawing  Finite Element Analysis  Advanced Mechanics of Solids/Mechanics of solids-II  Design of Machine Elements</p>	<p><b>Post Graduate</b>  Fault Diagnosis of Machinery  Stress Analysis  Finite element Analysis  Applied Finite element analysis</p>
No. of Papers Published	<p>National Journals – 05  National Conference – 12</p>	<p>International Journals – 10  International Conference – 16</p>
Projects Carried out	<ol style="list-style-type: none"> <li>1. Acoustic metamaterials for super-resolution ultrasonic imaging</li> <li>2. Ultrasonic waveguides for multipoint temperature measurement</li> <li>3. Portable rheology and Temperature sensors</li> <li>4. Acoustic insulation improvement of Gypsum boards</li> </ol>	
Patents	--	
Technology Transfer	--	
Invited Speaker	<ol style="list-style-type: none"> <li>1. Delivered an invited lecture at the ATAL online FDP on Quantum Artificial intelligence at IIIT Pune (2021)</li> <li>2. Delivered an invited lecture on Quantum computing and its Algorithms at Vardhaman College of Engineering, Hyderabad (2020)</li> <li>3. Delivered an invited lecture on Quantum Algorithms at JNTUA College of Engineering, Pulivendula (2020)</li> <li>4. Delivered an invited talk as a keynote speaker at European Advanced Material Congress (EAMC), Sweden (2018)</li> </ol>	
No. of Books/Chapter Published with details	--	
Details of Short-Term Training Programs/Faculty Development Programs/Seminars/Workshops. Other Trainings ( <b>Attended and/or organized</b> ).	<ol style="list-style-type: none"> <li>1. Two Weeks Short Term Program on Robotics and Drone Organized by CBIT, Hyderabad.</li> <li>2. One week FDP on Python Basics organized by CBIT, Hyderabad.</li> <li>3. Two Weeks Advanced FDP on Electronics Systems Design organized by AICTE at KSRCT, Tamil Nadu, 2022</li> <li>4. One-week Online FDP on “Quantum Artificial Intelligence” organized by IIIT Pune, 2021</li> <li>5. Two-week Faculty Development programme on “Modeling and Optimization of Manufacturing Systems Using Intelligent Techniques”, Satyam nagalam, Tamilnadu, 2013</li> <li>6. 3-day national Level Faculty Development programme on ‘Digital Manufacturing in the global Era’, Tirupati, 2013</li> <li>7. 1-day National Work Shop on “Evolution Algorithms, For Optimization of Engineering Problems” Huzurabad, 2013</li> <li>8. 1-day National Work Shop on “Training on CNC Machining: Tools and Techniques (TCMTT 2013)” Hyderabad, 2013</li> <li>9. Two-week staff development programme on ‘Machine condition Monitoring and Fault Diagnostics’ Vijayawada, 2012</li> </ol>	

10. Two-day National Seminar on “Finite Element Methods & Its Applications”, Bangalore, 2012.
11. One-day Workshop on “Optimization Methods in Engineering Problems”, Huzurabad, 2012
12. One-day Workshop on New Paradizams in Manufacturing” at NIT-warangal, 2012

Details of Journal Publications/  
Conferences **(National and  
International)**

**International Journal**

1. Ch.Indira Priyadarsini, T.Ratna Reddy and **Kiran Kumar Amireddy**, “Numerical Analysis of Interchangeable Battery Container”, International Journal of Research and Analytical Reviews, Volume 9, Issue 2 pp. 173-180. (2022).
2. **K. K. Amireddy**, K. Balasubramaniam and P. Rajagopal “Porous metamaterials for deep subwavelength ultrasonic imaging”. Applied Physics Letters 113, 124102, (2018); <https://doi.org/10.1063/1.504508>.
3. **K. K. Amireddy**, K. Balasubramaniam, and P. Rajagopal, “Deep subwavelength ultrasonic imaging using optimized holey structured metamaterials”, Nature Scientific Reports 7, 7777 (2017).
4. **K. K. Amireddy**, K. Balasubramaniam, and P. Rajagopal, “Holey structured metamaterial lens for subwavelength resolution in ultrasonic characterization of metallic components” Applied Physics Letters 108, 224101 (2016).
5. **K.K Amireddy** and K.R.N. Reddy, Condition Monitoring of steam turbine through Ferrography, International Journal of Advanced Materials Manufacturing & Characterization 3, Issue 1 pp 183187 (2013).

**National Journal**

1. **K. K. Amireddy**, P. Rajagopal, and K. Balasubramaniam, “Periodicity dependent properties of holey phononic crystals”, Pure and Applied Ultrasonics, Vol. 44, No. 1-2 (2022).
2. Syed Akbar Ali, M.S., **Amireddy, K. K.**, P. Rajagopal and K. Balasubramaniam, “Characterization of Deep Sub-Wavelength Sized Horizontal Cracks Using Holey-Structured Metamaterials”. Trans Indian Inst Met, (2019). <https://doi.org/10.1007/s12666-019-01684-2>.
3. **K. K. Amireddy**, P. Rajagopal, and K. Balasubramaniam, “Subwavelength resolution of delaminations”, NDT.net, The e-Journal of Non-destructive Testing–ISSN1435-4934(2016).
4. **K. K. Amireddy**, P. Rajagopal, and K. Balasubramaniam, “Holey structured metamaterials for deep sub-wavelength resolution of delaminations”, Journal of Pure and Applied Ultrasonics.

**International Conference Presentation**

1. Ch Indirapriyadarsini, P.Anjani Devi, and Amireddy Kiran Kumar, “CFD Analysis of Solar-Wind Hybrid Power Generation System”, Energy Sustainability ( AICTE-ES) during 20-21 May, 2022.
2. K. K. Amireddy, Ch, V. Sushma and Ch. Indira Priyadarshni, “Ultrasonic Evaluation of Paint Canisters”, ASME 2022 49th Annual Review of Progress in Quantitative Nondestructive Evaluation (QNDE-2022), July, 2022.
3. Kiran Kumar Amireddy, Ch. Indira Priyadarshni and P. Anjani Devi, Heat Transfer Enhancement Study with Rectangular and Trapezoidal Fins using Finite Volume Method, 2nd GEAST International conference EECC-2022
4. K. K. Amireddy, *et al.*, “Holey structured metalens for deep sub-wavelength resolution of cracks in metallic materials using ultrasound”, APCNDT, Singapore, 2017.
5. K. K. Amireddy, *et al.*, “Deep sub-wavelength ultrasonic imaging”, Proc. of QNDE-2017, Utah, USA (2017)

6. K. K. Amireddy, *et al.*, "Subwavelength Imaging of Cracks in the Metallic Materials" Proc. of the 38th Progress In Electromagnetics Research Symposium (PIERS)-2017 in St. Petersburg, Russia, (2017)
7. K. K. Amireddy, *et al.*, "Subwavelength resolution of delaminations", Proc. of 8th international symposium of NDT in Aerospace, (2016)
8. K. K. Amireddy, *et al.*, "Subwavelength resolution of cracks in metallic materials", Proc. of QNDE2016, Georgia, Atlanta, USA (2016)
9. K. K. Amireddy, *et al.*, "Ultrasonic Measurements of the Elastic Moduli of Hybrid Natural Short fiber reinforced green composites" Proceedings of APCNDT 2013, Mumbai, India, November 18-22, 2013.
10. K. K. Amireddy, *et al.*, "Condition Monitoring of Steam turbine through Ferrography", Proceedings of the Annual International Conference on Materials Processing and Characterization, Hyderabad from 16-17 march 2013.
11. K. K. Amireddy, *et al.*, "Ferrosopic Analysis of Turbine Oil Analysis", International Conference on AMMT-2013, SIT-Tumkur on 2nd may-2013.

#### **National Conferences**

1. K. K. Amireddy, *et al.*, "Holey structured periodic arrays for sub wavelength resolution", Proc. of NDE, (2016)
2. K. K. Amireddy, *et al.*, "Subwavelength ultrasonic imaging", Research scholar day, Department of Mechanical Engineering, IIT Madras (2016)
3. K. K. Amireddy, *et al.*, "Subwavelength ultrasonic imaging with holey metamaterial", Proc. of NDE-2015
4. Kiran K. K. Amireddy, *et al.*, "Ultrasonic measurements of the elastic moduli of natural fiber reinforced cellulose composites" Proc. of NDE, (2015)
5. K. K. Amireddy, *et al.*, "Applications of MEMS in Bio-Medical Field", conference on Advances in Mechanical Engineering (AIME-2012), Singapore, Huzurabad on 18th February 2012.

