

**National Institute of Technology, Tiruchirappalli:
Performa for CV of Faculty/ Staff Members**

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|-----------------|---|----------------|---------------|
| Senior Lecturer | Department of Instrumentation and Control Engineering, National Institute of Technology, Tiruchirapalli-15, INDIA | December 2002 | November 2010 |
| Lecturer | Department of Instrumentation and Control Engineering, National Institute of Technology, Tiruchirapalli-15, INDIA | November 1997 | November 2002 |
| Lecturer | Shanmuga College of Engineering, Thanjavur, INDIA | September 1995 | October 1997 |
| Lecturer | Shanmuga Polytechnic, Thanjavur, INDIA | July 1990 | August 1995 |

8. Academic Qualifications (From Highest Degree to High School):

| Examination | Board / University | Year | Division/ Grade | Subjects |
|-------------|---|------|-----------------|--|
| Ph.D | National Institute of Technology, Tiruchirappalli | 2010 | | Analysis of uncertainty for instrumentation systems using interval methods |
| M.E. | Regional Engineering College, Tiruchirappalli | 1995 | | Power Systems |
| B.E. | Government College of Technology, Coimbatore | 1989 | | Instrumentation and Control Engineering |

9. Academic/Administrative Responsibilities within the University

| Position | Faculty/Department/Centre/Institution | From | To |
|--------------|---------------------------------------|------|---------|
| QIP Incharge | Institution | | Current |
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10. Academic/Administrative Responsibilities outside the University

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| Position | Institution | From | To |
|----------|-------------|------|----|
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11. Awards, Associateships etc.

| Year of Award | Name of the Award | Awarding Organization |
|---------------|-------------------|-----------------------|
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12. Fellowships

| Year of Award | Name of the Fellowship | Awarding Organization | From (Month/Year) | To (Month/Year) |
|---------------|------------------------|-----------------------|-------------------|-----------------|
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13. Details of Academic Work

- (i) Curriculum Development
- (ii) Courses taught at Postgraduate and Undergraduate levels

Electrical and Electronics Measurements
Instrumentation System Design
Optoelectronics and Lasers
Instrumentation Systems
Industrial Instrumentation
Power Electronics

- (iii) Projects guided at Postgraduate level
 - Capacitive Void Fraction Measurement
 - Power Electronic Converters for Electric Vehicle Traction.

- (iv) Other contribution(s)

14. Details of Major R&D Projects

| Title of Project | Funding Agency | Duration | | Status |
|--|-----------------|----------|------|--------------------|
| | | From | To | Ongoing/ Completed |
| Uncertainty Analysis of Chain error in | ISRO, Bangalore | 2007 | 2008 | Completed |

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|--|-----|----------|----------|---------|
| Instrumentation System for Space Application | | | | |
| On-line Oil Debris Monitoring Sensor | DST | Sep 2021 | Sep 2024 | Ongoing |

15. Number of PhDs guided

| Name of the PhD Scholar | Title of PhD Thesis | Role(Supervisor/ Co-Supervisor) | Year of Award |
|-------------------------|---|---------------------------------|---------------|
| Sathiya S (FT) | Piezo Actuated Cantilever Resonators For Liquid Processing and Sensing | Supervisor | 2017 |
| V. Sivakami (PT) | Experimental Investigations to Enhance Airflow Measurement of Constant Voltage Anemometer In Different Flow Regions | Supervisor | 2020 |
| Amit Pal (FT) | Void Fraction Measurement in two phase flow using capacitive sensor | Supervisor | 2022 |
| R. M. Ohol (FT-QIP) | Liquid-liquid and solid-liquid mixing enhancement using piezoelectric actuation | Supervisor | 2022 |

16. Participation in Workshops/ Symposia/ Conferences/ Colloquia /Seminars/ Schools etc. (mentioning the role)

| Date (s) | Title of Activity | Level of Event (International/ National/ Local) | Role (Participant/ Speaker/ Chairperson, Paper presenter, Any other) | Event Organized by | Venue |
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17. Workshops/ Symposia/ Conferences/ Colloquia/Seminars Organized (as Chairman/
Organizing Secretary/ Convenor / Co-Convenor)

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| Title of Activity | Level of Event (International/ National/ Local) | Date (s) | Role | Venue |
|--------------------------|--|--|-------------------------|-------------------------|
| International Conference | International Conference 19 | 2019 | Paper Scrutinizing | NIT, Tiruchirappalli |
| International Conference | 5th International Conference TIMA- 07 | January 04-06 th 2007 | Treasurer | NIT, Tiruchirappalli |
| National Conference | 4th National Conference on Instrumentation and Control (ICECON 05) | December 2006 | Organizing Secretary | NIT, Tiruchirappalli |

18. Invited Talks delivered

| Topic | Date | Inviting Organization |
|-------|------|-----------------------|
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19. Membership of Learned Societies

| Type of Membership (Ordinary Member/ Honorary Member / Life Member) | Organization | Membership No. with date |
|--|--|----------------------------------|
| Life Member | SSI | LM-31629 From the Year 2011 |
| Life Member | IEI | M-139327-2 From the Year 2009 |
| Life Member | Instrument Society of India | LM 1472 From the Year 2006 |
| Life Member | Institute of Smart Materials and Structures (ISSS) | LM 181 From the Year 2005 |
| Life Member | Indian Society for Technical Education | LM 31303 From the Year 1998 |

20. Academic Foreign Visits

| Country | Duration of Visit | Programme |
|---------|-------------------|-----------|
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21. Publications

(A) Refereed Research Journals:

| Author(s) | Title of Paper | Journal | Volume (No.) | Page number |
|-----------------------------------|--|--|--------------|-------------|
| R. M. Ohol and B. Vasuki | Design and implementation of a mixer for different physical and chemical properties liquid-liquid mixing and mixing performance evaluation with a UV-Visible spectrophotometer | <i>Materials Today Proceedings</i> | 57 | 1677-1681 |
| R. M. Ohol and B. Vasuki | Design and implementation of combined liquid pump and active-passive mixer for a drug delivery system utilizing two 1-DOF piezoelectric actuated cantilever beams | <i>Materials Today Proceedings</i> | 58 | 823-829 |
| R. M. Ohol and B. Vasuki | Macroscopic mixer for disparate property liquid-liquid mixing in aqueous sanitizer preparation | <i>Chemical Papers</i> | 76 | 701-714 |
| R. M. Ohol and B. Vasuki | Experimental Evaluation of Liquid Mixing Using Piezo Actuated Pump System | <i>Instruments and Experimental Techniques</i> | 63 | 758-766 |
| Sivakami V., Amit Pal & Vasuki B. | Realization of Constant Voltage Anemometer Using an Alternative Signal Conditioning Circuit | <i>Exp Tech</i> | | |
| Sivakami V., Vasuki B | Experimental Investigation and Uncertainty Analysis of Constant Voltage Anemometer Using Low-Cost Sensor | <i>Iran J Sci Technol Trans Electr Eng</i> | | |
| Amit Pal and B. Vasuki | A Concave Electrode Based Capacitive Sensor for Cavitation Monitoring—Experimental Evaluation | <i>IEEE Sensors Journal</i> | 20 | 2094-2105 |
| Siddharth Bardiya and B. Vasuki | Performance Enhancement of Capacitance-Type Level Measurement System using CCII-Based Interface | <i>IETE Technical Review</i> | | 1-12 |
| Amit Pal and B. Vasuki | Void fraction measurement using concave capacitor-based sensor – | <i>Elsevier Measurement</i> | 124 | 81-90 |

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|---|--|---|------------------|---------|
| | Analytical and experimental evaluation | <i>Journal</i> | | |
| S.Sathiya, B. Vasuki | structural tailored piezo actuated cantilever shaped 2-DOF resonators for viscosity and density sensing in liquids | <i>Sensors and Actuators</i> | 247 | 277-288 |
| S. Sathiya, B. Vasuki | Higher resonant mode effect on the performance of piezo actuated 2-DOF rectangular cantilever shaped resonators (2-DOF RCR) for liquid viscosity and density sensing | <i>Microsystem Technologies</i> | Vol 22 | 7 |
| S. Sathiya, M. Umapathy, B. Vasuki, and G.Uma | Simple liquid pumping system using piezoelectric actuated cantilever beam | <i>Experimental techniques Pieiades publishing Ltd</i> | Vol.59, No.1 | 142-148 |
| Sathiya, M. Umapathy, B. Vasuki | Performance enhanced piezo actuated resonant liquid pumping system with two degrees of freedom (2-DOF) resonators | <i>Sensors and Actuators A</i> | 236 | 44-56 |
| B.Vasuki, M. Umapathy, A. R. Senthilkumar | Uncertainty analysis of strain gage circuits: Interval method and interval algorithm | <i>International Journal on Smart Sensing and Intelligent Systems</i> | Vol.2, No.3 | 477-489 |
| B.Vasuki, M. Umapathy, S.K.Velumani | Uncertainty analysis of thermocouple circuits | <i>Sensors & Transducers Journal</i> | Vol.100, Issue 1 | 11-15 |

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|---|--|--|----------------|------------|
| Meenatchisundaram, S. Venkateswaran, P.R, G.Uma, B.Vasuki | Signal acquisition and display of pulse waveform from the radial artery using pressure sensor | <i>Modelling, Measurement and Control</i> | Vol.69, No.1-2 | 47-57 |
| B.Vasuki, M. Umamathy, G. Uma, M. Shanmugavalli | Uncertainty Analysis of Temperature Measurement System using Analytical and Interval Algorithm | <i>Instrumentation Science and Technology, Taylor and Francis Group</i> | Vol.36, No.1 | 81-87 |
| S.Nedunchelian, D.Ezhilarasi, M.Umamathy, B.Vasuki | Control of Piezo actuated structure using interval method | <i>International Journal of Instrumentation Science and Technology, Taylor & Francis Group</i> | Vol.35, No.4 | pp.385-397 |
| B.Vasuki, M.Umamathy, S.Akhilan | Uncertainty Analysis of Temperature Measuring System using Interval Arithmetic | <i>Sensors and Transducers portal</i> | Issue 10 | 1619-1624 |
| M Shanmugavalli, G Uma, B.Vasuki, M Umamathy | Design and Simulation of MEMS Devices using Interval Analysis | <i>Institute of Physics Publishing Journal of Physics</i> | Vol.137 | 601-605 |

(B) Conferences/Workshops/Symposia Proceedings

| Author(s) | Title of Abstract/Paper | Title of the Proceedings | Page numbers | Conference Theme | Venue | Year |
|------------------------------|--|--------------------------|--------------|--|---|------|
| R. M. Ohol and Dr. B. Vasuki | Design and implementation of a combined liquid pump and active-passive mixer for drug delivery system by utilizing two 1-DOF | | | International Conference on Novel Engineering Materials for Biomedical, Energy, Environment, Sensing and | National Institute of Technology, Tiruchirappalli | 2021 |

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|---|---|--|---------------|---|---|------|
| | piezoelectric actuated beams | | | Other Applications, | | |
| R. M. Ohol and Dr. B. Vasuki | Design and implementation of a mixer for disparate physical and chemical properties, liquid-liquid mixing and mixing performance evaluation with a UV-Visible spectrophotometer | | | International Chemical Engineering Conference | National Institute of Technology, Jalandhar | 2021 |
| Amit Pal, U. P. Kalyan, C. M. Harika | Capacitive Sensor for Level Measurement in Hopper/Silos - Experimental Evaluation | | 202-205 | International Conference on Intelligent Computing, Instrumentation and Control Technologies | | 2019 |
| V. Sivakami and B. Vasuki | Modified Design and Analysis of Constant Voltage Hot Wire Anemometer | | 212-216 | International Conference on Intelligent Computing, Instrumentation and Control Technologies | | 2019 |
| Amit Pal, N. Jonnavithula and B. Vasuki | A Novel Oscillator Based Signal Conditioning Circuit for Online Measurement of Capacitive Sensors | | 421-424 | International Conference on Inventive Research in Computing Applications | | 2018 |
| M. Das, V. Sivakami, Amit Pal and B. Vasuki | Analog-digital conditioning circuit for RTD temperature measurement | | pp. 1-5 | IEEE India Council International Conference (INDICON) | | 2018 |
| S. Bardiya and B. Vasuki | Performance analysis of capacitance-type liquid level measurement at | | pp. 1736-1739 | International Conference on Intelligent Computing, Instrumentation | | 2017 |

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| | inclined positions | | | n and Control Technologies | | |
| S. Bardiya and B. Vasuki | CCII Based Frequency-Level Characteristics of a Capacitance-Type Liquid Level Sensor | | | International Journal of Industrial Electronics and Electrical Engineering | | 2017 |
| Vasuki B, Sathiya P, Suresh K | New Piezoelectric Laminated Cantilever Resonance based Hydraulic Pump | | | IEEE Sensors Applications Symposium | | 2013 |
| Sujan, B. Vasuki, G. Uma | T-Shaped Resonating Beam Pressure Sensor | | | International Conference on Semiconductor Electronics | Grand Millenium | 2012 |
| Sujan Y, Vasuki B, G Uma, D Ezhilarasi, K Suresh | Thickness Sensor for Ferromagnetic Sheets | Proceedings of Sixth International conference of on Sensing Technology | | International conference of on Sensing Technology | | 2012 |
| Sujan Y and Vasuki B and Uma Gandhi | T-Shaped Resonating Beam Pressure Sensor | | | IEEE International Conference on Semiconductor Electronics | | 2012 |
| Y.Sujan, B. Vasuki, G. Uma, M.Umapathy, S.Harihara Krishnan | Sensitivity Enhancement of Surface Micromachined Resonant Pressure Sensor | | | International Conference on Smart Materials Structures and Systems | | 2012 |
| B. Vasuki, M.Umapathy, G.Uma, M.Shanmugavalli, S.Meenachisundaram | Uncertainty Analysis of microresonator using classical and interval methods | | | SPIE conference- Nanosensors, Microsensors and Biosensors and Systems | | 2007 |
| Neduncheliyan, S, D.Ezhilarasi, M.Umapathy, | Control of Piezo Actuated Structures using Interval Method | | 385-397 | International Journal of Instrumentation Science and | | 2007 |

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|---|--|-------------------------|------------|--|-----------------|------|
| B.Vasuki | | | | Technology | | |
| K. Dhanalakshmi, C. Chandravathanam, M. Umapathy, B. Vasuki | Vibration Control of Shape Memory Alloy Actuated Structure Using Fast Output Sampling Feedback Control | | 460 to 466 | International Congress on Computational Mechanics and Simulation | IIT Guwahati | 2006 |
| M.Shanmugavalli, G.Uma, M.Umapathy, B.Vasuki | Design and Simulation of MEMS Device using interval Analysis | | 600-605 | International MEMS Conference | | 2006 |
| B.Vasuki, M.Shanmugavalli | Uncertainty Analysis of Instrumentation Systems: Classical and interval Methods | | 3725-3728 | SICE Annual Conference | kayama, Japan | 2005 |
| M. Shanmugavalli, G.Uma, B. Vasuki, M. Umapathy | Parameter variation analysis of Cantilever beam | | 109-112 | National Conference on Instrumentation and Control Engineering | | 2007 |
| G.Uma, B.Vasuki, and S.Meenachisundar | Signal Acquisition and Display of Pulse Waveform from the radial Artery using Piezosensor | | | National Conference on Bio-Instrumentation | IISC, Bangalore | 2005 |
| M.Thirumagal, B.Vasuki | Load Frequency of isolated Wind-Diesel Hybrid Power Systems | NCEIS-2002, Proceedings | 153-157 | National Conference on Modern Trends in Electrical and Instrumentation Systems | GCT, Coimbatore | 2002 |

(C) Books & Monographs

| Author(s) | Title of Book/Monograph | Name of Publishers | Year of Publication | ISSN/ISBN Number |
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