

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

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**Curriculum Vitae**

**Brief Profile:**

We are working on instrumentation and measurement systems for industrial parameters. At the moment, we are more focused on the development of application-specific sensors for condition monitoring of high voltage transformer, motor, generator, turbine, gas-insulated switchgear (GIS), power electronics converter, etc. We are also working for the development of general-purpose sensors for traditional parameters such as temperature, pressure, density, humidity, displacement, flow, level, pH, chemical markers, etc. with improved characteristics. It helps to develop 'The Classical Instrumentation Field'. For making a complete prototype of sensor, sophisticated 'state of the art' analog, digital, mixed signals electronics interface circuits are designed, tested, and fabricated (PCB).

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| 1. Name                              | Dr. Shiraz Sohail  |
| 2. Designation:                      | Assistant Professor, ICE Department<br>Room No. 321, Second floor, Lyceum<br>Building, National Institute of Technology<br>(NIT) Tiruchirappalli, Tamil Nadu, India -<br>620015. |
| 3. Office Address:                   |  |
| 4. Telephone (Direct) (Optional):    | 9775550302   |
| Telephone :                          |  |
| Extn (Optional):                     |  |
| Mobile (Optional):                   |  |
| 5. Email (Primary): ssohail@nitt.edu | Email (Secondary) :<br>shirazsohail@gmail.com  |
| 6. Field(s) of Specialization:       | 1. MEMS device<br>2. Instrumentation<br>3. Sensor Design and Fabrication<br>4. Analog Circuit Design   |

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### 7. Employment Profile

Job Title	Employer	From	To
Assistant Professor, Instrumentation and Control Engineering (ICE)	NIT Tiruchirappalli, Tamil Nadu, India	June 2020	Present
Assistant Professor, Electrical Engineering (EE)	Jamia Millia Islamia, New Delhi, India	August 2017	May 2020
Assistant Professor, Electronics and Instrumentation Engineering (EIE)	VNR Vignana Jyothi Institute of Engineering and Technology, Hyderabad, India	November 2016	July 2017
Assistant Professor, Electrical and Electronics Engineering (EEE)	NIT Sikkim, India	August 2014	February 2015

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

Examination	Board / University	Year	Division/ Grade	Subjects
Ph.D.	IIT Kharagpur	2016		Electrical Engineering
M.Tech	IIT Kharagpur	2010	8.4	Electrical Engineering
B.Tech	WBUT, Kolkata	2006	8.23	Electronics and Instrumentation Engineering

### 9. Academic/Administrative Responsibilities within the University

Position	Faculty/Department/Centre/Institution	From	To
Lab Incharge	Advanced Instrumentation and Measurement (AIM) Laboratory	2020	Present

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### 10. Academic/Administrative Responsibilities outside the University

Position	Institution	From	To
Associate Editor	IEEE Transactions on Instrumentation and Measurement (TIM)	July 2021	Present
Associate Editor	IET Science Measurement and Technology	June 2022	Present
Associate Technical Program Chair (ATPC)	39 <sup>th</sup> IEEE International Instrumentation & Measurement Technology Conference (I2MTC) 2022, Ottawa, Canada	September 2021	May 2022

### 11. Awards, Associateships etc.

Year of Award	Name of the Award	Awarding Organization
2021	Best Faculty Award 2021, Assistant Professor Grade-II	NIT TRICHY
2021	Outstanding Reviewer 2021,	IEEE Transactions on Instrumentation and Measurement TIM

### 12. Fellowships

Year of Award	Name of the Fellowship	Awarding Organization	From (Month/Year)	To (Month/Year)
2014	MANF	UGC	2014	2016
2010	PhD fellowship	MHRD	2010	2014
2008	M.Tech fellowship	MHRD	2008	2010

### 13. Details of Academic Work

#### (i) Curriculum Development-

- Automotive Instrumentation,
- Electronics for Sensor Design

#### (ii) Courses taught at Postgraduate and Undergraduate levels-

- Automotive Instrumentation,
- Electric Drives and Control,
- Electronics for Sensor Design
- Power Electronics

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- Industrial Electric Drives,
  - Electron devices and circuits,
  - Microprocessor and microcontroller
- (iii) Projects guided at Postgraduate level-
- Development of electronic interface circuit for an impedance sensor
  - A Non-Contact Magnetic Coupled telemetry system for passive sensor inside a sealed chamber.
  - Development of non-contact act type liquid level sensor for sealed chamber.
  - Development of capacitive level sensor and interfaced with switched capacitor based interfacing circuit.
- (iv) Other contribution(s) -

### 14. Details of Major R&D Projects

Title of Project	Funding Agency	Duration		Status
		From	To	Ongoing/ Completed
Co-PI of Project Monitoring Committee (PMC), Implementation and Enhancement of SCADA system for Water distribution headworks, Booster stations, and Overhead tanks for Tirunelveli zone, Palayamkottai zone, Melapalayam zone and Thatchanallur zone. (Rs. 81.3 Lakh)	Tirunelveli smart city Ltd	Jan 2021	Present	Ongoing
Development of	NIT Trichy Seed	April	March	Ongoing

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Meso-Scale Thin Film Sensors for Industrial Applications. (Rs. 5 Lakh)	Grant	2021	2023	
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15. Number of PhDs guided

Name of the PhD Scholar	Title of PhD Thesis	Role(Supervisor/ Co-Supervisor)	Year of Award
Mr Gopal Singh	Broad area: Sensor and electronic instrumentation	Supervisor	Ongoing
Y Maheswaran	Broad area: Sensor and electronic instrumentation	Supervisor	Ongoing

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

17. Workshops/ Symposia/ Conferences/ Colloquia/Seminars Organized (as Chairman/ Organizing Secretary/ Convenor / Co-Convenor)

Title of Activity	Level of Event (International/ National/ Local)	Date (s)	Role	Venue

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18. Invited Talks delivered

Topic	Date	Inviting Organization

19. Membership of Learned Societies

Type of Membership (Ordinary Member/ Honorary Member / Life Member )	Organization	Membership No. with date
Senior Member	IEEE	93239675

20. Academic Foreign Visits

Country	Duration of Visit	Programme

21. Publications

(A) Refereed Research Journals:

Author(s)	Title of Paper	Journal	Volume (No.)	Page numbers	Year	Impact Factor of the Journal (Optional)
Shufali Ashraf Wani, Ankur Singh Rana, Shiraz Sohail, Obaidur	Advances in DGA based condition monitoring of transformers: A review," Renewable and Sustainable Energy Reviews	Renewable and Sustainable Energy Reviews	Vol 149	p.111347	2021	

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Rahman, Shaheen Parveen, Shakeb A. Khan						
MD. Manzar Nezami, Md. Danish Equbal, Shakeb A. Khan, Sherif S. M. Ghoneim, and Shiraz Sohail	Classification of Cellulosic Insulation State Based on Smart Life Prediction Approach (SLPA)	Processes	Vol. 9(6)	p.981	2021	
MD. Manzar Nezami, Md. Danish Equbal, Shakeb A. Khan, and Shiraz Sohail	An ANFIS Based Comprehensive Correlation between Diagnostics and Destructive Parameter of Transformer's Paper Insulation	Arabian Journal for Science and Engineering	Vol 46	pp 1541- 1547	2021	
Shufali Ashraf Wani, MD. Manzar Nezami, Shakeb A. Khan, and Shiraz Sohail	A Capacitive Sensor for Detecting Insulation Degradation by Sensing 2-FAL in Transformer Oil	IEEE Transactions on Dielectric and Electrical Insulation	Vol.27,no- 6	pp. 2179- 2187	2020	
Uzma Salmaz, Tarikul Islam and Shiraz Sohail	A novel capacitive temperature sensor based on polydimethylsiloxane (PDMS)	IEEE Transactions on Instrumentation and Measurement	Vol.69,no- 10	pp. 7887- 7894	Oct,2020	

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MD. Manzar Nezami, Shufali Ashraf Wani, Shakeb A. Khan, Neeraj Khera, and Shiraz Sohail	A Comb Type Capacitive 2-FAL Sensor for Transformer Oil with Improved Sensitivity	IEEE Transactions on Instrumentation and Measurement	Vol.69(7)	pp. 4524- 4532	2020	
Shiraz Sohail, Zainul Abdin Jaffery, and Karabi Biswas	Jigsaw Electrode Design for Electrowetting Devices	IET Micro & Nano Letters,	Vol.14( 10)	pp. 1046- 1051	2019	
MD. Manzar Nezami, Shufali Ashraf Wani, Shakeb A. Khan, Neeraj Khera and Shiraz Sohail	An MIP Based Novel Capacitive Sensor to Detect 2-FAL Concentration in Transformer Oil	IEEE Sensor Journal	Vol.18(1)	pp. 7924- 7931	2018	
Shiraz Sohail, Zainul Abdin Jaffery and Karabi Biswas	Study of threshold voltage for different electrode shapes in electrowetting device	Materials Research Express	Vol.6(4)	p.046414	2018	
Shiraz Sohail, Ershad Ali Mistri,	Fabrication and Performance Study of BST/Teflon Nanocomposite Thin Film for Low	Sensors and Actuators A: Physical	Vol.238	pp.122- 132	2016	



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Afzal Khan, Susanta Banerjee and Karabi Biswas	Voltage Electrowetting Devices					
Shiraz Sohail and Karabi Biswas	Dynamic Sensing of Liquid Droplet in Electrowetting Devices	Sensor Letters	Vol. 13(9)	pp. 721-734	2015	
Afzal Khan, Shiraz Sohail and Chacko Jacob	The fabrication of stable superhydrophobic surfaces using a thin Au/Pd coating over a hydrophilic 3C-SiC nanorod network	Applied Surface Science	Vol.353	pp. 964-972	2015	
Shiraz Sohail, Soumen Das and Karabi Biswas	Effect of Interface Layer Capacitance on Polydimethylsiloxane in Electrowetting-on-Dielectric Actuation	Journal of Experimental Physics	Vol.15	p.426435	2015	
Afzal Khan, Shiraz Sohail and Chacko Jacob	Adhesion of Water Droplets by Low Voltage Electrowetting on a Superhydrophobic Surface of a 3C-SiC Nanorod Network	Materials Research Express	Vol.2(12)	pp.125004	2015	

(B) Conferences/Workshops/Symposia Proceedings

Author(s)	Title of Abstract/Paper	Title of the Proceedings	Page numbers	Conference Theme	Venue	Year
Shiraz Sohail and Karabi Biswas	A novel approach for droplet position sensing in electrowetting devices	IEEE SENSOR 2013			Baltimore, Maryland, USA.	November 2013

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Shiraz Sohail, Debanjan Das, Soumen Das and Karabi Biswas	Study of PDMS as dielectric layer in electrowetting devices	IWPSD 2013			Noida (New Delhi), India	December 2013
Vikram Singh, Shiraz Sohail, Asmita Bose, Suman Agarwal, Swetank Ambar and Karabi Biswas	Wireless control of electrowetting devices	ICIIS 2013			Peradeniya, Sri Lanka	December 2013
Shiraz Sohail, Debanjan Das, Soumen Das and Karabi Biswas	Electrowetting-on-dielectric induced droplet actuation in MxN Array of electrode	COMSOL 2011			Bangalore, India	November (2011)
Debanjan Das, Shiraz Sohail, Soumen Das and Karabi Biswas	Voltage and capacitance analysis of EWOD system using COMSOL	COMSOL 2011			Bangalore, India	November (2011)
Gopal Singh, Umamathy Mangalanathan, Uma Gandhi, and shiraz sohail	Improved Resistance to Digital Converter for Low-Value Resistive Sensor with Lead Wire Compensation	IEEE TENSYPMP 2022 Conference,			Bombay, India	July 2022

**(C) Books & Monographs**

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