

## **Profile Page**

### **Research Interests :**

Instrumentation - Sensors system Design (Liquid Property Sensors), Smart structure based Sensors and /actuators, Smart Sensors, Liquid Level Sensors.

Bio sensors, Sensor Applications in Precision Agriculture, Aerospace.

Deep learning and Machine learning applications in Measurement systems.

### **Other Profile Links :**

#### **Google Scholar Link :**

Sathiya S [Click Here](#)

#### **Personal Web Link :**

Sathiya Sivaprakasam [Click Here](#)

### **Journal Publications :**

<b>Year</b>	<b>Journal</b>	<b>Publication</b>
2017	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, 23, 2431-2445	S Sathiya, B Vasuki, Microsystem Technologies
2016	Simple liquid pumping system using piezoelectric actuated cantilever beam, 59, 142-148	S Sathiya, M Umapathy, B Vasuki, G Uma, Instruments and Experimental Techniques
2016	A structural tailored piezo actuated cantilever shaped 2-DOF resonators for viscosity and density sensing in liquids, 247, 277–288	S Sathiya, B Vasuki, Sensors and Actuators A: Physical
2015	Performance enhanced piezo actuated resonant liquid pumping system with two degree of freedom (2-DOF) resonators, 236, 44-56	S Sathiya, M Umapathy, B Vasuki, Sensors and Actuators A: Physical

### **Conference Publications :**

<b>Year</b>	<b>Conference</b>	<b>Publication</b>
2021	2nd INTERNATIONAL CONFERENCE ON CHEMICAL, BIO & ENVIRONMENTAL ENGINEERING	Debanjan Gope, Sathiya S, PERFORMANCE INVESTIGATION ON LINEARIZATION OF THERMISTOR USING ARTIFICIAL NEURAL NETWORK APPROACH
2021	2nd INTERNATIONAL CONFERENCE ON CHEMICAL, BIO & ENVIRONMENTAL ENGINEERING	Cecil Antony, Sathiya S, A REVIEW ON LATEST TECHNOLOGIES FOR MICROPLASTIC DETECTION IN MARINE ENVIRONMENT

2021	2nd INTERNATIONAL CONFERENCE ON CHEMICAL, BIO & ENVIRONMENTAL ENGINEERING	Sathiya S, Vasuki B, INVESTIGATIONS ON THE PERFORMANCE OF LIQUID-LIQUID MIXING IN FLOW CHANNEL BASED ON CANTILEVER SHAPED 2- DOF RESONATORS
2020	Soft Computing: Theories and Applications	Afzal Sikander, Shiv Sagar Singh, Om Prakash Verma, S Sathiya, Varun Sharma, Suneel Dutt, "A New System Approximation Approach for Modelling of DC-DC Converter"
2020	Soft Computing: Theories and Applications	S Sathiya, Afzal Sikander, " Online Estimation of Liquid Viscosity and Density Based on Artificial Neural Network Approach"
2020	2020 First IEEE International Conference on Measurement, Instrumentation, Control and Automation (ICMICA)	Karchana Kumari, S Sathiya,"Structural Optimization of 2-DOF Cantilever Based Energy Harvester Using Krill-Herd Algorithm to Obtain Maximum Efficiency"
2020	2019 IEEE 5th International Conference for Convergence in Technology (I2CT)	Thulasi M. Santhi, Sathiya S, PERFORMANCE ENHANCED LIQUID LEVEL SENSING SYSTEM FOR DYNAMIC ENVIRONMENTS
2014	Seventh ISSS International Conference on Smart Materials Structures and Systems ISSS 2014, BangaloreAtIISc, Bangalore, India	Flow rate enhancement for a resonance based liquid pump with 2 DOF resonators, Sathiya. S, Vasuki. B and Sujan. Y
2013	Sensors Applications Symposium (SAS), 2013 IEEE, Galveston, Texas	A new piezoelectric laminated cantilever resonance based hydraulic pump, B Vasuki, S Sathiya, K Suresh, IEEE Xplore

### Book/Chapter Publications :

Type	Title	Publisher	Authors	ISBN/ISS N No.	Year
Online ISBN	An Intelligent Temperature Sensor with Non-linearity Compensation Using Convolutional Neural Network: Lecture Notes in Electrical Engineering	Springer, Singapore	Nancy Kumari, S. Sathiya	978-981-16-7011-4	2022
Book Series	Plant disease identification using IoT and deep learning algorithms: Artificial Intelligence for Signal Processing and Wireless Communication	De Gruyter	Sathiya S Cecil Antony, Praveen Kumar Ghodke	ISBN: 9783110734652	2022
eBook ISBN	Online Liquid Level Estimation in Dynamic Environments Using Artificial Neural Network: Artificial Intelligence (AI): Recent Trends and Applications	CRC Press	Thulasi M Santhi, S Sathiya	9781003005629	2021

### Research Projects :

Role	Project Type	Title	Funding Agency	From	To	Amount	Status	Co-Investigator
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Principal Investigator	Sponsored	DESIGN AND DEVELOPMENT OF A HIGHLY EFFICIENT MICROFLUIDIC PUMPING AND MIXING DEVICE FOR ACCURATE BIOCHEMICAL ANALYSIS WITH DEEP LEARNING METHOD	SERB	15.03.2022	14.03.2025	33 LAKHS	Ongoing	NIL
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### Events Organized :

Category	Type	Title	Venue	From	To	Designation
STC	National	EMBEDDED SYSTEM AND WIRELESS SENSOR NETWORK FOR INTERNET OF THINGS(IOT)	NIT Jalandhar	08-11-2019	08-11-2019	Coordinator
STC	National	ADVANCED MEASUREMENT SYSTEMS AND ITS APPLICATIONS	NIT Jalandhar	26-02-2020	01-03-2020	Coordinator
STC	National	INTELLECTUAL PROPERTY RIGHTS	NIT Jalandhar	18-08-2020	18-08-2020	Coordinator
STC	National	INTERNET OF THINGS FOR HEALTHCARE APPLICATIONS	NIT Jalandhar	31-08-2020	04-09-2020	Coordinator
STC	National	OPTIMIZATION AND CONTROL DESIGN TECHNIQUES: INNOVATIONS AND CHALLENGES	NIT Jalandhar	17-09-2020	21-09-2020	Coordinator
STC	National	RECENT ADVANCES IN SENSOR DESIGN AND INTERFACE CIRCUITS	NIT Jalandhar	15-10-2020	19-10-2020	Convener
STC	National	Advanced Techniques of Material Characterization for Research	NIT Jalandhar	25.10.2021	29.10.2021	Coordinator

**Professional Affiliations :**

Designation	Organization
MEMBER	IEEE MEASUREMENT AND INSTRUMENTATION SOCIETY
MEMBER	INTERNATIONAL SOCIETY OF AUTOMATION
LIFE MEMBER	BIOMEDICAL SOCIETY OF INDIA
LIFE MEMBER	IAENG

**PhD Supervised :**

Scholar Name	Research Topic	Status	Year	Co-Supervisor
Varun Chauhan		Ongoing	2021	Dr. Raviverma
Karchana Kumari	Deep learning and Machine learning applications in liquid level measurement systems	Ongoing	2021	NIL

**PG Dissertation Guided :**

Student Name	Dissertation Title	Status	Year	Co-Supervisor
Pankaj Kumar Shukla	Low cost detection of plant disease detection at early stage with convolutional neural network	Ongoing	2022	NIL
Nancy Kumari	AN INTELLIGENT TEMPERATURE SENSOR WITH NON-LINEARITY COMPENSATION USING CONVOLUTIONAL NEURAL NETWORK	Completed	2021	NIL
Debanjan Gope	PERFORMANCE INVESTIGATION ON LINEARIZATION OF THERMISTOR USING ARTIFICIAL NEURAL NETWORK APPROACH	Completed	2021	NIL
Karchana Kumari	STRUCTURAL PARAMETER OPTIMIZATION OF 2-DOF CANTILEVER BEAM AND PERFORMANCE COMPARISON WITH GENETIC ALGORITHM AND PARTICLE SWARM OPTIMIZATION ALGORITHM.	Completed	2020	NIL
Sanjeev Kumar	PERFORMANCE ENHANCED PIEZOELECTRIC CANTILEVER ENERGY HARVESTER FOR WIRELESS SENSOR NODE	Completed	2020	NIL
Thulasi. M. Santhi	PERFORMANCE ENHANCED LIQUID LEVEL SENSING SYSTEM FOR DYNAMIC ENVIRONMENTS	Completed	2019	NIL

**Admin. Responsibilities :**

Position Held	Organization	From	To
OFFICER INCHARGE	ANALYTICAL INSTRUMENTATION LAB, DEPARTMENT OF ICE, NITJ	28-02-2020	TILL DATE
INFORMATION OFFICER	DEPARTMENT OF ICE, NITJ	26-02-2019	TILL DATE
FACULTY COORDINATOR	INSTITUTE INSTRUMENTATION CENTRE, NITJ	02-03-2021	TILL DATE
WARDEN	MEGA GIRLS HOSTEL, NIT JALANDHAR	20-02-2019	TILL DATE

**Award and Honours :**

<b>Title</b>	<b>Activity</b>	<b>Given by</b>	<b>Year</b>
NATIONAL POST DOCTORAL FELLOWSHIP	POST DOCTORAL RESEARCH AT IIT MADRAS	SERB	2017
HTRA FELLOWSHIP	RESEARCH	MHRD	2012