

Karabi Biswas

(http://www.facweb.iitkgp.ac.in/~karabi/f_karabi.html)

Present Designation:

Professor

Current Research Interests: Sensors, Instrumentation, Fractional order systems

Publications at a Glance

Publication	Number Published
1. Chapter in Books	6
2. International Journals	55
3. International Conferences	35
4. National Conference	11
4. Book (Edited Volume)	1
5. Patent filed	5

Project Highlights

Summary of Sponsored Projects

PI	8	301 lakhs (apx)
Co-PI	4	290 lakhs (apx)

Major projects as PI

Title	Sponsor	Amount
Development and demonstration of integrated instrumentation system for quantitative detection of water contaminants with information database for surveillance of waterborne diseases	Meity + DST	68.6 L
Development of Polymer coated CPE sensors for automated quality monitoring of water used for drinking and agriculture	SERB DST	35.42 L
An Electrochemical Sensor Based Handheld Potentiostat to Measure Urea/Creatinine Ratio in Blood and Urine	IDP DST	34.1 L
Development of Electrowetting based Microfluidic device with Controller for Clinical Diagnoses	DBT	41.45 L
Development of the fourth circuit element, "Fractance"	IIT Kgp	94.5 L

Research guidance

	Completed (10)	Ongoing (5)
PhD	5 (single) 5 (joint)	1 (single) 4 (joint)
MS	1 (single) 1 (joint)	1 (single) 1 (single)
M. Tech	35(single)	

International recognition

<ul style="list-style-type: none">• Nominated as International management committee observer for European COST Action-CA15225, a program of European Union, 2017
<ul style="list-style-type: none">• Invited to deliver talk to the Training School in University of Catania, Sicily, Italy 5-8 September, 2017: Fully funded by European Union
<ul style="list-style-type: none">• Invited to give talk to the conference (ICNR-18) devoted to the 95-th birth anniversary of Dr. Prof. Rashid. Sh.Nigmatullin, Kazan Russia, 9-12th Oct 2018: Fully funded by Russian Government
<ul style="list-style-type: none">• Two of our papers have been selected for the monograph to be published in Russian language "Fractal elements: the pioneering constructive – technological solutions" by the publisher "FIZMATLIT" (Moscow, Russia)

Award

<ul style="list-style-type: none">• AICTE Career Award for Young Teachers, 2007
<ul style="list-style-type: none">• BOYSCAST Fellowship, 2008
<ul style="list-style-type: none">• DAAD Fellowship 2012
<ul style="list-style-type: none">• Armen H. Zemanina Best Paper Award, Springer, 2013
<ul style="list-style-type: none">• AvH Friedrich Wilhelm Bessel award from Humboldt foundation, 2021

International and industry outreach

- One of the developed prototypes on "Milk adulteration detector" is undergoing field testing in National Dairy research institute (NDRI), Kalyani, WB.
- Attached to the proposed startup hub of MeitY (Ministry of Electronics and Information Technology) on 'Smart Dairy sensory solutions based on IoT enabled network' under the NCAEE (National Centre of Excellence for Electronics and ICT Applications in Agriculture and Environment).
- International collaboration with academicians from Greece, Germany, Potrugal, KAUST, UAE, Egypt, Italy, Russia
- On request supplied the fractional-order- elements developed by us at IIT Kharagpur to at least 20 researchers across the world working in the field of fractional order system.

Teaching/departmental activity

- **Courses developed:** Advanced sensing technique (core for ISP M. Tech),
- Automotive Sensors and Instrumentation and Fractional Order Circuits and Systems (running as electives)
- **Course co-ordinator** of the specialization Instrumentation and Signal Processing (ISP)