



# One-Day Seminar on Recent Advances in Sensors for Human Healthcare Under the aegis of Public Outreach Center



**29<sup>th</sup> November 2019**

**Organized by  
Public Outreach Center  
School of Studies in Electronics & Photonics  
Institute of Renewable Energy Technology & Management  
Pt. Ravishankar Shukla University, Raipur (C.G.)**



## About Us :

Public Outreach Centre-Public Outreach Program is one of the important activities of PRSU to explain our activities to wider audiences, to describe how University contributes important Scientific, technical, Social and cultural benefits to our modern society and provides an opportunity to enthuse wide audience in all disciplines. POC actively seek to build links with the local community. Through public lectures, seminars, workshops, demonstrations, talks, and competitions, POC show various subjects and their impact in an engaging and accessible way to audiences of all ages and walks of life.

Institute of Renewable Energy Technology & Management (IRETM) is one of its kinds in central India region to cover diverse issue of solar, wind, biomass, geothermal and other renewable sources. The course is running by Pt. Ravishankar Shukla University and established under Skill Development scheme of UGC. The major objective of this programme is to upgrade skills of candidates in this field to international standards through significant industry involvement and to impart high quality education, training, research through qualified academicians & professionals.

School of Studies in Electronics & Photonics is a bridge that connects pure, basic science like physics or material science with engineering practices. Faculty and students in applied science employ fundamental physical principles to create innovative new technologies.

## Scope:

Molecules & fluids in micro & nano channels provide an excellent basis for application of Biotechnological, Medical science & Bio-nanotechnological methodologies. Lab-on-a-chip systems (LOCs) for medical research, drug development & healthcare typically consist of a set of microfluidics & sensors. LOCs may provide wide platform for transporting bio samples & sensing on a single chip. Bulk & surface acoustic wave (SAW)-based resonators (QCM & FBARs) together become a system which is extremely sensitive to traces of absorbed mass & hence can be utilized for development of high sensitivity biosensors.

The objective of this seminar is to provide students with valuable information on chemical SAW-based sensor technologies, (bio) chemical micro sensors as well as bio-sensors & their biological & environmental applications. This seminar encompasses strategies for gas sensing by means of Surface Acoustic Wave sensors, Resonant-wave based chemical microsensors for environmental pollutant monitoring and Nanostructured Materials, Molecular Materials and their Hybrids for sensors and biosensors. The seminar provides unique learning opportunity by eminent French & Indian Scientists.

## You should attend if:

You are a student (BTech/MSc/MTech/PhD) or faculty from academic Institutions & technical Institutions or executives, engineers & researchers from industry & government organizations including R&D laboratories. **There is no registration fee but submit the registration form.**

**CALL FOR ABSTRACTS-** Abstracts may be submitted for consideration for a poster presentation (Dimension 4X3 ft). Abstract Submission Guidelines - Abstracts for poster presentations may be submitted via the google form (<https://forms.gle/rUxTdEw2hVvULHY68>). An abstract must have a short, specific title (containing no abbreviations) that indicates the nature of the investigation. Abstracts are limited to 300 words.

**Last date for Registration – 27/Nov/2019**

**Online Registration-**submit via the google form using link (<https://forms.gle/rUxTdEw2hVvULHY68>).

**Offline Registration-** Duly filled-up, signed and scanned registration form should be sent to the e-mail id : [pocprsu@gmail.com](mailto:pocprsu@gmail.com) on or before **November 27, 2019**.



## Eminent Speakers :



**Prof. (Dr.) Corinne Dejours**

**Invited Talk on Resonant-wave based chemical microsensors for environmental pollutant monitoring**

Prof. (Dr.) Corinne Dejours received her Ph.D. degree in 1994 (Univ. Bordeaux, France). Since 2009 she is a full-time Professor at Bordeaux Institute of Technology (Bordeaux INP/ ENSEIRB-MATMECA), where she teaches electronic systems & instrumentation, chemical sensors & microsystems. She is responsible for the department on Embedded Electronic Systems (work-linked training) since 2013 & currently serves as head of the research group on 'Waves'. Her main research activities have been focused on surface acoustic waves sensors & currently more generally on wave-based resonant (bio) chemical microsensors at IMS laboratory (UMR CNRS 5218, Univ. Bordeaux, France). She has published 60 publications in international journals with peer review or book chapters, more than 150 conference proceedings & co-supervised 35 research projects.



**Prof. (Dr.) J.V. Yakhmi**

**Invited Talk on Nanostructured Materials, Molecular Materials and their Hybrids for sensors and biosensors**

Prof. (Dr.) J.V. Yakhmi is a DAE Raja Ramanna fellow at the Homi Bhabha National Institute - a Deemed University of DAE at Mumbai. Before retirement from Bhabha Atomic Research Centre in 2010, where he spent a research career of 45 years, he was Associate Director of Physics Group & Head, Technical Physics & Prototype Engineering Division at BARC, & Adviser to the Chairman of Indian Atomic Energy Commission. Dr. Yakhmi's research interests include use of molecular materials for fabrication of Sensors, Bio-sensors, & Organic Electronic Devices. He has published 387 papers in International journals & 68 Review articles in Journals/Books, & has a Google Scholar h-Index of 48. Besides, he has delivered 415 Invited Lectures of which 150 were delivered in reputed International labs abroad and 48 at International conferences. He has published two books of ghazals titled **Izhaar** in 2004 and **Ehsaas** in 2014

### Patron

### Hon'ble Prof. Keshari Lal Verma

Vice-Chancellor,

Pt. Ravishankar Shukla University, Raipur Chhattisgarh

### Dr. Kallol Kumar Ghosh

Professor of Chemistry  
Director Public Outreach Centre  
Dean, Faculty of Science  
Pt. Ravishankar Shukla University  
Raipur 492 010, India

### Dr. Sanjay Tiwari

Professor & Head  
Coordinator: B.Voc. in Institute of RETM  
S.O.S. in Electronics & Photonics  
Pt. Ravishankar Shukla University  
Raipur -492010 Chhattisgarh India  
Email: pocprsu@gmail.com

### Host Faculty

### Local Organizing Committee

#### Dr. Kavita Thakur-Professor (Electronics)

Dr. Alka Panda  
Gajendra Singh Rathore 9827966082  
B. Gopal Krishna 8349640006  
Yogesh Dongre 9098971420

Dharmendra Kumar, Naman Shukla, Rupa Patel,  
Neha Dewangan, Likhendra Sahu, Vivek Kumar,  
Sandeep Rana, Aditya Padhy Amrit Shende,  
Suryakant Chakradhari



# Recent Advances in Sensors for Human Healthcare

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## Registration Form

**Online Registration**-submit via the google form using link (<https://forms.gle/rUxTdEw2hVvULHY68>)

1. Title (Mr./Ms./Mrs./Dr./Prof.): .....
2. Full Name: .....
3. Designation: .....
4. Date of Birth: .....
5. Gender: Male / Female .....
6. Name of the Institution : .....
7. Address for Correspondence: .....
8. E-mail: .....
9. Phone: .....
- Place:.....
- Date: .....

Signature of the Applicant

**Note:** Duly filled-up, signed and scanned registration form should be sent to the e-mail id: **scanned form to pocprsu@gmail.com on or before November 27, 2019.**

### Celebrations of 161<sup>st</sup> Anniversary of Acharya Sir Jagadish Chandra Bose



Acharya Sir Jagadish Chandra Bose is the first modern Indian scientist who pioneered breakthroughs in radio communication, semiconductor devices and plant electrophysiology. His demonstration of wireless millimeter wave propagation in Calcutta in 1895, a first in the world, was a major achievement that led to the foundation for the development of modern wireless communication from radio to satellite communication. The demonstration was possible only because of his ingenious fabrication of a number of novel devices associated with wave generation, propagation and detection. In the process, he designed the earliest waveguide and Horn Antenna — an integral part of the present day microwave engineering. His Galena detector was the first semiconductor device in the world, as was his prototype of an early Photovoltaic cell. His experiments often provided glimpses of phenomena that would be re-discovered much later by others - like the optical rotation of light and evanescent waves - which are crucial ingredients in modern scientific research on biological macromolecules (CD spectroscopy, TIRF microscopy and Surface Plasmon Resonance).