



**Anusandhan
National
Research
Foundation**



ESTD: 1962
NAAC 'A++' Grade
CGPA 3.52



भारतीय विज्ञान संस्थान

ANRF PAIR Sponsored

**Two-Day Hands-On Workshop/
Management Development Program (MDP) on**

**“Fabrication and Electrical Characterization
of Memristor Devices for Neuromorphic
Computing and Non-Volatile Memory Applications”**

Organized by

ANRF PAIR Team
Shivaji University Kolhapur
(Spoke)

and

ANRF PAIR Team
IISc, Bangalore
(Hub)

Dates:
Tuesday, 27 October 2026 &
Wednesday, 28 October 2026

Venue:
School of Nanoscience and
Biotechnology, Shivaji University,
Kolhapur, Maharashtra, India

Mode:
Offline

About the Workshop

The transition from traditional von Neumann architecture to brain-inspired computing requires robust, scalable artificial synapses. This intensive two-day workshop bridges the gap between theoretical solid-state physics and practical device engineering. Participants will gain end-to-end experience in memristor fabrication, moving from thin-film synthesis to advanced neuromorphic electrical characterizations.

Key Highlights



Device Fabrication

- Substrate preparation
- Active switching layer deposition (spin coating, electrospinning, or doctor blade)
- Top-electrode fabrication using thermal evaporation system



Electrical Profiling

- Source Measure Units (Keithley 2602B)
- I-V characteristics
- Non-Volatile Memory (NVM) parameters: endurance, retention



Neuromorphic Emulation

- Excitatory Postsynaptic Currents (EPSC), PPF, LTP/LTD
- STDP using ArC ONE memristor characterization platform

From Memory Devices
to Artificial Synapses

EPSC

PPF

LTP/LTD

STDP

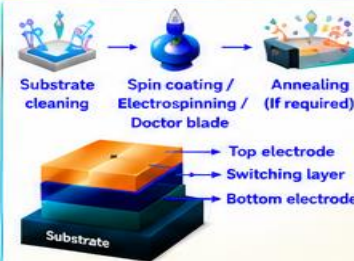
Neuromorphic Computing | Brain-Inspired | Sustainable Future

Key Highlights



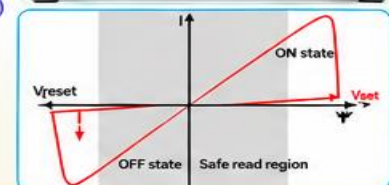
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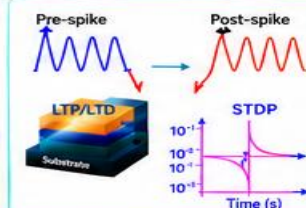
Electrical Profiling

- Source Measure Units (Keithley 2602B)
- I-V characteristics
- Non-Volatile Memory (NVM) parameters: endurance, retention



Neuromorphic Emulation

- Excitatory Postsynaptic Currents (EPSC)
- Short-term plasticity (PPF)
- Long-Term Potentiation/Depression (LTP/LTD)
- STDP using ArC ONE memristor characterization platform



Who Should Attend

Postgraduate students, Research Scholars, and Faculty members specializing in materials science, solid-state physics, and nanotechnology who want practical exposure to memristor device fabrication and testing.



Registration and Other Details

Registration Fee: Rs. 1000/- for all participants
Deadline to Apply: 26 October 2026
Registration Link: <https://sl1nk.com/v0oitr3>



Hospitality: Breakfast, tea and lunch will be provided.



Accommodation: Available in the university guest house against individual payments.



Traveling: No travelling allowance (TA) will be provided.



Certification: A certificate of participation will be provided upon successful completion of the two-day workshop.



Only 30 seats are available to ensure comprehensive hands-on training.



Participants from the IISc-PAIR Network and other spoke institutes are eligible for a fee waiver.

Patron

Prof. Rajanish . K. Kamat

Hon'ble Vice Chancellor, Shivaji University, Kolhapur

Co-Patron (s)

Prof. Jyoti. P. Jadhav

Hon'ble Pro-Vice Chancellor
Shivaji University, Kolhapur

Prof. Satyam Suwas

Project Director
IISc Hub ANRF PAIR Network

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PI, SUK Spoke,
IISc ANRF PAIR Network

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Prof. Praveen Kumar

Co- Project Director,
IISc Hub ANRF PAIR Network

Workshop Co-Ordinator

Dr. T. D. Dongale

School of Nanoscience and Biotechnology,
Shivaji University Kolhapur

Advisory Committee

Prof. Abha Misra, Co-ordinator, Vertical Functional Materials, (IISc-PAIR Network)

Prof. Ashok Raichur (IISc, Bangalore)

Prof. Abhik Choudhary (IISc, Bangalore)

Prof. P. Rajamalli (IISc, Bangalore)

Prof. Bhagawati Prasad (IISc, Bangalore)

Prof. Aditya Sadhanala (CeNSE, IISc Bangalore)

Prof. Sachin Rondiya (Co-Ordinator, SUK Spoke, IISc ANRF PAIR Network)

Local Organizing Committee

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Dr. S. C. Patil (RA, Project Staff)
Miss. P. D. Halagale (PA, Project Staff)
Miss. P. A. Patil (PA, Project Staff)

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*Together towards
Next-Generation
Memory and Intelligence*

