

Short Bio-data

Name: Dr. Prasanta Chowdhury

Designation: Senior Principal Scientist

Division: Surface Engineering Division

Area of Expertise: Thin films, Magnetic multilayer, magnetic sensor, device fabrication

Specialisation: Physics of thin films and devices

Publications (Last five years):

1. Umesh P. Borole, Jakeer Khan, Harish C. Barshilia, P. Chowdhury, Design, fabrication, and characterization of giant magnetoresistance (GMR) based open-loop current sensor with U-shaped current carrying conductor, *Sensors and Actuators: A. Physical* 332 (2021) 113103.
2. Sreevidya P. V. Umesh P. Borole, Reshma Kadam Jakeer Khan, Harish C. Barshilia, and P. Chowdhury, A novel AMR based angle sensor with reduced harmonic errors for automotive applications, *Sensors and Actuators A: Physical*, **324**, 112573, 2021.
3. **Bhagaban Behera**, Umesh P Borole, Amal Sivaji, Jakeer Khan, Pradeep Kumar, CM Ananda, Harish C Barshilia, P Chowdhury, Jitendra J Jadhav, Design and development of GMR based low range pressure sensor for medical ventilator application, **Sensors and Actuators A: Physical** 321, (2021) 112581 (**I. F. 3.4**).
4. Kiruba Mangalam, S. Ann Susan Jose, Prajwal K., Prasanta Chowdhury and Harish C .Barshilia, Sputter deposited p-NiO/n-SnO₂ porous thin film heterojunction based NO₂ sensor with high selectivity and fast response, *Sensor and Actuator B: chemical*, 310, 127830, 2020
5. Usama Abbasi, Prasanta Chowdhury, Sasikala Subramaniam, Prakhar Jain, Nitin Muthe, Faisal Sheikh, Subham Banerjee and V. Kumaran, A cartridge-based Point-of-Care device for complete blood count, *Scientific report*, 9, 18583, 2019.



6. Sreevidya P. V, Umesh P Borole , Tejaswini Gawade , Jakeer Khan , C. L. Prajapat , Yogesh Kumar , Harish C. Barshilia and **P. Chowdhury**, MgO based specular spin valve with reversible minor loop and higher exchange bias for futuristic linear magnetic field sensor, **469**, 2019 165292, 2019 .
7. Piu Rajak, P.D. Kulkarni, M. Krishnan, P. Chowdhury, Somnath Battachary, Spatially resolved structure and domain wall propagation in defect induced SmCo/Co exchange spring magnetensor, Journal of Magnetism and Magnetic Materials, 491 165612, 2019
8. Sreevidya P. V , Umesh P Borole , Tejaswini Gawade , Jakeer Khan , C. L. Prajapat , Yogesh Kumar, Harish C. Barshilia and **P. Chowdhury**, Evolution of magnetoresistance behaviour at low temperatures in naturally oxidised specular spin valve systems, Journal of Magnetism and Magnetic Materials 481, 170-175, 2019.
9. Prabhanjan D. Kulkarni, P. V. Sreevidya, Jakeer Khan, P. Predeep, Harish C. Barshilia, **P. Chowdhury**, “Reduction in magnetic exchange bias in CoFe/FeMn/CoFe trilayers due to reduced pinned uncompensated moments in AFM layer”, Journal of Magnetism and Magnetic Materials, 472, 111-114, 2018.
10. Umesh P. Borole, Sasikala Subramaniam, Ishan R. Kulkarni, P. Saravanan, Harish C. Barshilia, **P. Chowdhury**, “Highly sensitive giant magnetoresistance (GMR) based ultralow differential pressure sensor” , Sensors and Actuators A, 280, 125-131, 2018.
11. S. Dhanush, M. Sreejesh, K. Bindu, **P. Chowdhury**, H.S. Nagaraja, “Synthesis and electrochemical properties of silver dendrites and silver dendrites/rGO composite for applications in paracetamol sensing” , Materials Research Bulletin, 100, 295–301, 2017.
12. P.V.Sreevidya , Jakeer Khan, Harish C. Barshilia, C.M. Ananda , **P. Chowdhury** “Development of two axes magnetometer for navigation applications” , Journal of Magnetism and Magnetic Materials, 448, 298-302, 2017.
13. Sellarajan B, P. Saravanan, S.K. Ghosh, Nagaraja, H. S. Harish C. Barshilia and **Chowdhury P**, Shape induced magnetic vortex state in hexagonal ordered CoFe nanodot arrays using ultrathin alumina shadow mask, Journal of Magnetism and Magnetic Materials, 451, 51-56, 2017.
14. M. Krishnan, P. Predeep, D.V. Sridhara Rao, C.L. Prajapat, M.R. Singh, Harish C. Barshilia and **P. Chowdhury**, “High coercivity Sm-Co thin films from elemental Sm/Co multilayer deposition and their microstructural aspects” Journal of Magnetism and Magnetic Materials, 430 (2017), 47-51, 2017
15. S. Sasikalaa, K.T. Madhavan, G. Ramesh, S. Sagar, P. Predeep and **P. Chowdhury**, “Electro-mechanical response to the harmonic actuation of the pneumatically coupled dielectric elastomer based actuators with and without load”, International Journal of Solids and Structures, 110-111, 58-86, 2017.

Subject area willing to guide the student: 4th generation magnetic sensor based on tunneling magnetoresistance

Aero / Chemistry / Computer Science / Electronics / Electrical / Mathematics / Mechanical / Physics / etc.

Physics, Electronics.