Name: DR. SURAJIT KUMAR HAZRA

Designation: Associate Professor
Date of Birth: 02 April 1978

Email: surajit.hazra@juit.ac.in

Office: Department of Physics & Materials Science, JUIT, Waknaghat, Solan, H.P-173234

Office Phone: +91-1792-239345

Lab: 2D Laboratory

Education:

- **B.Sc.:** Raj College, Burdwan University (West Bengal)-1999
- **M.Sc.**: The University of Burdwan, (West Bengal)-2001
- **Ph.D.**: Indian Institute of Technology (IIT), Kharagpur (West Bengal)-2006

Research Interests:
Nanomaterials and Nanostructures, Chemical Sensors, MEMS device packaging, Hydrogen storage.

Experience (at JUIT):

Assistant Professor (Senior Grade): Department of Physics & Materials Science, Jaypee University of Information Technology, Waknaghat, *since September 2016*

Assistant Professor (Grade-II): Department of Physics & Materials Science, Jaypee University of Information Technology, Waknaghat, *August 2013 to August 2016*

Assistant Professor (Grade-I): Department of Physics & Materials Science, Jaypee University of Information Technology, Waknaghat, *from December 2010 to July 2013.*

Experience (Earlier):

1. Post-Doctoral Fellow: Seoul National University, South Korea; 2007-2008.
2. Post-Doctoral Fellow: University of Brescia; Italy; 2009-2010.
3. Post-Doctoral Fellow: Institute of Physics; Bhubaneswar, India; 2010.

Professional Recognition/Award/Prize/Certificate,Fellowshipreceived.

S.No	NameofAward	AwardingAgency	Year
1	National Eligibility Test (NET) [Category: NET-CSIR]	CSIR, New Delhi, India	2001
2	BK-21 post doctoral fellowship	South Korea	2007-2008

Publications ***(Listof papers published in SCI Journals - last ten years).***

S.No.	Author(s)	Title	Name ofJournal	Volume	Page	Year
1	A. Kashyap, P. B. Barman, and S. K. Hazra	Hydrothermal synthesis of mono/bimetallic nano-particles	AIP Conference Proceedings	2352(1)	040011	2021
2	S. Sinha, P. B. Barman, and S. K. Hazra	Optimization of molybdenum-disulfide nanomorphology by hydrothermal technique	AIP Conference Proceedings	2352(1)	040010	2021
3	Pooja Bhardwaj, Partha Bir Barman, and Surajit Kumar Hazra	Hydrogen response of palladium nanoparticles washed with different solvents	Bull Mater Sci	44	45	2021
4	Pooja Bhardwaj, Partha Bir Barman, and Surajit Kumar Hazra	Shape dependent hydrogen response in palladium nanoparticle based sensors	Materials Today: Proceedings	28(1)	218	2020
5	Pooja Bhardwaj, P.B. Barman, & S.K. Hazra	Effect of Capping-Agent Concentration on Size and Size Dispersity of Palladium Nanoparticles for	J Electron Mater 49, 6656–6670 (2020)	49	6656-6670	2020
6	Pooja, P.B. Barman, S.K. Hazra	Role of Capping Agent in Palladium Nanoparticle Based Hydrogen Sensor	Journal of Cluster Science	29(6)	1209-1216	2018
7	S Basu, SK Hazra	Graphene-Noble Metal Nano-Composites and Applications for Hydrogen Sensors	C	3(4)	29	2017
8	D Dutta, J Das, SK Hazra, CK Sarkar, S Basu	Influence of graphene growth temperature by chemical vapour deposition on the hydrogen response of palladium-graphene junction	J Mater Sci: Mater Electron	28	13217-13228	2017
9	D Dutta, E Bontempi, Y You, S Sinha, J Das, SK Hazra, CK Sarkar, S Basu	Surface topography and hydrogen sensor response of APCVD grown multilayer graphene thin films	Journal of Materials Science: Materials in Electronics	28(1)	157-166	2017
10	D. Dutta, E. Bontempi, Y. You, S. Sinha, J. Das, S.K. Hazra, C.K. Sarkar, S. Basu	Surface topography and hydrogen sensor response of APCVD grown multilayer graphene thin films	J Mater Sci: Mater Electro	DOI: 10.1007/s10854-016-5506-1	--	2017

11	D. Dutta, S.K. Hazra, J. Das, C.K. Sarkar, S. Basu	Temperature- and Hydrogen-Gas-Dependent Reversible Inversion of n-/p-Type Conductivity in CVD-Grown Multilayer Graphene (MLG)	Journal of Electronic Materials	45(6)	2861	2016
12	S.K. Hazra, S. Basu	Graphene-Oxide Nano Composites for Chemical Sensor Applications	C Journal of Carbon Research	2	12	2016
13	D. Gupta, D. Dutta, P.B. Barman, S. Basu, S.K.	A review on palladium with low dimensional configurations for chemical gas sensor applications	Sensor Lett.	14	211-233	2016
14	D. Dutta, A. Hazra, S.K. Hazra, J. Das, S. Bhattacharyya, C.K. Sarkar, S. Basu	Performance of a CVD grown graphene-based planar device for a hydrogen gas sensor	Measurement Science & Technology	26(11)	115104	2015
15	D. Gupta, D. Dutta, M. Kumar, P.B. Barman, T. Som,	Temperature dependent dual hydrogen sensor response of Pd nanoparticle decorated Al doped ZnO surfaces,	Journal of Applied Physics	118	164501	2015
17	M. Kumar, S.K. Hazra, T. Som	Role of metallic-like conductivity in unusual temperature-dependent transport in n-ZnO:Al/p-Si	Journal of Physics D	48(45)	455301	2015
18	D. Dutta, S.K. Hazra, J. Das, C.K. Sarkar, S. Basu	Studies on p-TiO_2/n-graphene heterojunction for hydrogen detection	Sensors and Actuators, B: Chemical	212	84-92	2015
19	D. Gupta, D. Dutta, M. Kumar, P.B. Barman, C.K. Sarkar, S. Basu, S.K. Hazra,	A low temperature hydrogen sensor based on palladium nanoparticles	Sensors and Actuators, B: Chemical	196	215-222	2014
20	D. Dutta, A. Hazra, J. Das, S. K. Hazra, V. N. Lakshmi, S. K. Sinha, A. Gianonchelli, C. K. Sarkar, S. Basu	Growth of Multilayer Graphene by Chemical Vapor Deposition (CVD) and Characterizations	Journal of Nano science and Molecular Nanotechnology	doi:10.4172/2324-8777.S1-004		2013

21	A. Hazra, S.K. Hazra, E. Bontempi, V.N. Lakshmi, S. Sinha, C.K. Sarkar, S. Basu	Anodically grown nanocrystalline titania thin film for hydrogen gas sensors - A comparative study of planar and MAIM device configurations	Sensors and Actuators, B: Chemical	188	787-798	2013
22	Neha Sharma, Sunanda Sharda, Dheeraj Sharma, Vineet Sharma, P.B. Barman, S.C. Katyal, S.K. Hazra, and Pankaj Sharma	Effect of Substitutional Doping on Temperature Dependent Electrical Parameters of Amorphous Se-Te Semiconductors	Electronic Materials Letters	9(5)	629-633	2013
23	S.K. Hazra, L. Borgese, S. Federici, E. Bontempi, M. Ferrari, V. Ferrari, J.R. Plaisier, X. Santarelli, G. Zerauschek, A. Lausi, L.E. Depero	Electrical resistivity of Ti-Zn mixed oxide thin films deposited by atomic layer deposition	Thin Solid Films	520(16)	5151-5154	2012
24	S.K. Kamilla, S.K. Hazra, B.K. Samantaray, S. Basu	Electrical and magneto resistance studies of bulk $Ga_{1-x}Ni_xSb$ ternary alloys	Solid State Sciences	13(1)	232-238	2011

Publications ***(Listof other papers publishedin SCI Journals)***

S.No.	Author(s)	Title	Name ofJournal	Volume	Page	Year
25	S.K. Hazra, N-K. Kim, J. Park, B. Choi, S. Lee, T-Y. Choi, D-I. Cho	Gettering by CF_4-Ar plasma-treated titanium within anodically bonded glass-silicon microcavities	Sensors and Materials	21(1)	37-51	2009
26	S.K. Hazra, S. Basu	Hydrogen sensitivity of ZnO p-n homojunctions	Sensors and Actuators, B: Chemical	117(1)	177-182	2006
27	S.K. Hazra, S.R. Tripathy, I. Alessandri, L.E. Depero, S. Basu,	Characterizations of porous titania thin films produced by electrochemical etching	Materials Science and Engineering B	133(1-3)	135-141	2006

28	S.K. Hazra, S. Basu,	High sensitivity and fast response hydrogen sensors based on electrochemically etched porous titania thin films	Sensors and Actuators B	115(1)	403-411	2006
29	T. Mukherjee, S.K. Hazra, S. Basu,	Porous Titania Thin Films Grown by Anodic Oxidation for Hydrogen Sensors	Materials and Manufacturing Process	21(3)	247-251	2006
30	S.K. Hazra, S. Basu,	ZnO p-n junctions produced by a new route	Solid State Electronics	49(7)	1158-1162	2005
31	S.K. Hazra, S. Basu,	Pd/TiOx/Ti-Au (x<2) Metal-Active Insulator-Metal Hydrogen Gas Sensor at Elevated Temperatures	Sensor Letters	3(2)	179-182	2005
32	S. Basu, S.K. Hazra,	ZnO p-n homojunctions for hydrogen gas sensors at elevated temperature	Asian Journal of Physics	14(1-2)	65-69	2005
33	S.K. Hazra, S. Basu,	Stable p-ZnO thin films by oxygen control using reverse spray dynamics	Solid State Communications	133(4)	245	2005
34	S.K. Hazra, S. Roy & S. Basu	Growth of titanium dioxide thin films via a metallurgical route and characterizations for chemical gas sensors	Materials Science and Engineering B	110	195	2004

Detail of Book/Chapter:

Sl. No.	Names of All Authors in Order as in Publication	Title and Complete Reference	Type of Publication (Year)
1	A Kashyap, S Sinha, S Bhattacharya, PB Barman, SK Hazra, S Basu	Characteristic Response Transition of Reduced Graphene Oxide as Hydrogen Gas Sensor-The Effect of Temperature and Doping Concentration. In: Hazra A., Goswami R. (eds) Carbon Nanomaterial Electronics: Devices and Applications. Advances in Sustainability Science and Technology. Springer, Singapore. https://doi.org/10.1007/978-981-16-1052-3_15	Book chapter (2021)
2	A. Kashyap, S. Sinha, P. B. Barman, and S. K. Hazra	Nano Layers of 2D Graphene Versus Graphene Oxides for Sensing Hydrogen Gas, in Multilayer Thin Films - Versatile Applications for Materials Engineering. London, United Kingdom: IntechOpen, 2020 [Online]. Available: https://www.intechopen.com/chapters/68457 doi: 10.5772/intechopen.88538	Book chapter (2020)
3	Sukumar Basu, Surajit Kumar Hazra	"Graphene-Based Junction Devices for Hydrogen Sensors", in Progresses in Chemical Sensor. London, United Kingdom: IntechOpen, 2016 [Online]. Available: https://www.intechopen.com/chapters/50259 doi: 10.5772/62734	Book chapter (2016)
	Hazra S.K., Basu S.	Development of Nanostructures by Electrochemical Method for Chemical Sensors. In: Aliofkhazraei M., Makhlouf A. (eds) Handbook of Nanoelectrochemistry. Springer, Cham. https://doi.org/10.1007/978-3-319-15266-0_23	Book chapter (2016)

Research Guidance:

S. No.	Enrol. No. & Name of the Student	Names of Joint Supervisors	Level (PhD/DD/ M Tech/ M Phil /MS)	Status (Completed/ Ongoing)
1	DIKSHITA GUPTA	Dr. P.B. BARMAN	Ph.D	Completed
2	POOJA	Dr. P.B. BARMAN	Ph.D	Completed
3	ANURADHA	Dr. P.B. BARMAN	Ph.D	Ongoing
4	SHIKHA SINHA	Dr. P.B. BARMAN	Ph.D	Ongoing

Projects:

S. No.	Title of Project	PI	Co-PI	Status (Completed/ Ongoing)
1	Hydrogen storage using 2D chalcogenide and graphene layered materials	Dr. Surajit Kumar Hazra	Dr. P.B. BARMAN	Completed
2	Catalytic nanoparticle based graphene devices for the selective detection of industrial gases	Dr. P.B. BARMAN	Dr. Surajit Kumar Hazra	Completed

Membership of Professional Bodies/ National/ International Committees:

S. No.	Member Grade	From	To	Organization /Body
i.	Life member	July 2005		International Frequency Sensor Association (IFSA)
ii.	Life member	Feb. 2011		Materials Research Society of India (MRSI)
iii	Member	2016		American Chemical Society (ACS)

Any Other Information:

S. No.	Topic	Research collaboration with:
1	Oxide thin films for sensor applications	1. Institute of Physics, Bhubaneswar.