

ARINDAM GHOSH

CONTACT INFORMATION

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EDUCATION & TRAINING

DEGREE	YEAR	INSTITUTION	SUBJECT
BSc	1988 – 1991	Calcutta University	Physics (Major)
MS	1991 – 1994	Indian Institute of Science	Physics
PhD	1994 – 1999	Indian Institute of Science	Physics

RESEARCH INTEREST AND EXPERTISE

- RESEARCH INTEREST:
- Experimental condensed matter physics
 - Fundamental physics, electronic phases, effect of Coulomb interaction and magnetism in Atomically thin semiconductors and two-dimensional electron systems
 - Electrical transport and noise in atomic membranes and nanoscale devices
 - Optoelectronics and Spintronics with two-dimensional hybrid materials
- TECHNICAL EXPERTISE:
- Ultra-low temperature technology
 - High-sensitivity electrical transport measurements
 - Instrumentation
 - Nano-Device fabrication, high-resolution lithography, cleanroom practices, VLSI / ULSI technology
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ACADEMIC APPOINTMENTS

1. Postdoctoral Research Associate, University of Cambridge, UK 2000 - 2005
2. Assistant Professor, Indian Institute of Science, Bangalore, India 2005 - 2011
3. Visiting Research Fellow in Nanotechnology, IBM, T J Watson Research Center, Yorktown Heights, New York, USA May 2009 – Sept 2009
4. Associate Professor, Indian Institute of Science, Bangalore, India 2011 - 2017
5. Professor, Indian Institute of Science, Bangalore, India 2017 - Present

HONORS AND RECOGNITION

AWARD/FELLOWSHIP	YEAR
• Indian Institute of Science Alumni Fellowship	1992
• Registered researcher at the Engineering and Physical Sciences Research Council (EPSRC), UK.	2005
• The UK-India Education and Research Initiative award	2006
• IBM-IUSSTF (Indo-US Science and Technology Forum) visiting fellowship in Nanotechnology	2008
• Swarnajayanti Fellowship, Government of India	2008
• Material Research Society of India (MRSI) medal	2012
• Shanti Swarup Bhatnagar Prize	2012
• Fellowship of National Academy of Sciences, India (NASI)	2013
• Fellowship of Indian Academy of Sciences (IAS)	2015
• Oxford Instruments Young NanoScientist Award	2015
• YIM Young Scientist Award, Boston	2015
• P. K. Iyengar Memorial Award for Excellence in Experimental Physics	2016
• Fellowship of the Indian National Science Academy (INSA)	2016
• DAE Raja Ramanna Prize Lecture in Physics	2017

LEADERSHIP, COMMUNITY SERVICE AND OUTREACH ACTIVITIES

RESEARCH MENTORSHIP

GRADUATE STUDENTS (THESIS SUBMITTED/COMPLETED)

14

NAME	THESIS TITLE	YEAR OF GRADUATION
1. Amrita Singh	Probing Magnetic and Structural Properties of Metallic Nanowires Using Resistivity Noise	2011
2. Chandni U	One Dimensional Transport and Prospects of Structural Transitions in Ultra-Thin Metallic Wires	2011
3. Atindra Nath Pal	Physics of Conductivity Noise in Graphene	2012
4. Subhamoy Ghatak	Electrical Transport and Conductivity Noise in Graphene and Molybdenum Disulphide	2013
5. S. Mohanasundaram	Large Enhancement in Metal Film Piezoresistive Sensitivity with Local Inhomogenization for NanoElectromechanical Systems (Jointly with Professor Rudra Pratap, CeNSE.)	2013
6. Koushik R.	Study of Phase Transitions in Two Dimensions Using Electrical Noise	2014
7. Vidya Kochat	Impact of disorder on transport, magnetism and superconducting properties of graphene	2015
8. Saquib Shamim	Electrical transport in Si:P and Ge:P δ -doped systems	2015

9. Semonti Bhattacharyya	Electrical transport and noise in topological insulators	2016
10. Md. Ali Aamir	Impact of disorder and topology in two dimensional systems at low carrier densities	2016
11. Anindita Sahoo	Electrical transport in the hybrid structures of 2D van der Waals materials and perovskite oxide	2016
12. Kallol Roy	Optoelectronic properties of graphene-based van der Waals hybrids	2017
13. Avradip Pradhan	Study of photo-generated charge transport in Graphene-based hybrid structures	2017
14. Paritosh Karnatak	Emergent phenomena from contacts and disorder in high-mobility graphene	2017

POSTDOCTORAL RESEARCHER MENTORED	21
MASTERS/UNDERGRADUATE THESIS MENTORING	6
PROJECT STUDENT SUPERVISION	11

REVIEWER SERVICES

JOURNAL	PUBLISHER
• Current Science	Indian Academy of Science
• APL	American Institute of Physics
• Journal of Applied Physics	American Institute of Physics
• Journal of Physical Chemistry	American Chemical Society
• ACS Nano	American Chemical Society
• Nano Letters	American Chemical Society
• Physical Review B	American Physical Society
• Physical Review Letters	American Physical Society
• Nature Communications	Nature Publishing Group
• Nature Nanotechnology	Nature Publishing Group
• Nature Materials	Nature Publishing Group
• Scientific Reports	Nature Publishing Group
• Nanotechnology	IoP Publishing
• Graphene Technology	Springer-Nature

ADMINISTRATION AND TEACHING

COMMITTEES, ADMINISTRATION AND COURSE DETAILS	YEAR
• Library Committee IISc	2010 - 2015
• Council of Wardens IISc (Hostel/Mess)	2010 - 2013
• Amenities Committee IISc	2011 – 2014
• Coordinator of Integrated PhD Programme, Division of Physical Sciences	2013 - present
• Member of Office of International Relations, Indian Institute of Science	2014 - present

- Core committee member of Kishore Vaigyanik Protsahan Yojana (KVPY), Indian Institute of Science 2014 - present
- Teaching 1: Solid State Physics (PH208) 2007 - 2011
- Teaching 2: Advanced Experiments in Condensed Matter Physics (PH213) (Co-instructor) 2012 - present
- Teaching 3: Physics and Nanoscale (PH359) (Co-instructor) 2012 - present

MEMBERSHIP/ADVISORY BOARD OF PROFESSIONAL BODIES

PROFESSIONAL BODY	YEAR
• Editorial board member: Nanotechnology & Nano Features (IoP, UK)	2016 - present
• Editorial board member: Graphene Technology (Springer-Nature)	2015 - present
• International Advisory Board Member/Area chair: International Conference on Noise and Fluctuations (ICNF)	2015 - present
• International Advisory Board Member: Recent Progress in Graphene (and Novel Two-dimensional Materials) Research conference in (RPGR)	2015 - present
• American Physical Society	2011 – present
• Fellow: National Academy of Sciences, India	2013 - present
• Member: Materials Research Society	2014 - 2015
• Fellow: Indian Academy of Sciences	2015 - present
• National Co-convener: IMPRINT	2016 - present
• Fellow: Indian National Science Academy	2016 - present

CONFERENCE ORGANIZATION

CONFERENCE	ROLE	YEAR
1. Subramanyan Chandrasekhar Lecture and Discussion Meeting on Advances in Graphene, Majorana Fermions and quantum computation	Co-Organizer	2012
2. International conference on 'Novel Oxide Materials and Low Dimensional Systems'	Co-Organizer	2013
3. International Conference on Quantum Information and Quantum Computation	Co-Organizer	2013
4. Indo-Dutch Meeting on Emerging Phenomena at Low Dimensions with New Materials	Co-Organizer	2015
5. Session on NonCarbon 2D systems in Materials Research Society Fall Meeting, Boston, USA	Co-organizer	2017

GENERAL PROFESSIONAL AND OUTREACH ACTIVITIES AND ARTICLES

- Reviewer of project proposals from Department of Science and Technology (DST), Indo-French Consortium (CEFIPRA), UGC Kothari postdoctoral fellowship, IUSSTF travel grants
- Designed experiments for Asian Physics Olympiad
- Authored "Graphene and the revolution in nanoscale electronics", for Physics News (Bulletin of Indian Physics Association) (2011),

- Co-authored "Nowhere man", Nature India 2010 - An article on postdocral research scenario in India, (<http://www.nature.com/nindia/2010/100531/full/nindia.2010.73.html>)
- Co-authored Policy article: "At Long-Awaited Turning Point", on the development of NanoScience and NanoTechnology in India (Nature Nanotechnology 2015)

PUBLICATIONS

BOOK CHAPTER

1. Noise in Graphene Transistors, A. N. Pal and A. Ghosh, Chapter 13, Page 199, "Graphene and Its Fascinating Attributes" Ed. S. Pati, T. Enoki and C. N. R. Rao (World Scientific 2011)
2. Physics of Electrical Noise in Graphene, V. Kochat, S. Goswami, A. N. Pal and A. Ghosh, Chapter 5, Page 159, "Graphene: Synthesis, Properties, and Phenomena" Ed. C. N. R. Rao and A. K. Sood (Wiley-VCH 2012)
3. 2D van der Waals hybrid: Structures, properties and devices, Ali Aamir et al., Chapter in "2-D Inorganic Materials Beyond Graphene", Ed. Umesh Waghmare and C. N. R. Rao (World Scientific 2017)

PATENTS

1. Method to enhance the sensitivity of a metallic piezoresistive transducer and device thereof (2010)
2. A non-volatile opto-electronic memory/switching device from atomically thin binary hybrids of Graphene and Molybdenum di-Sulphide (MoS₂) (2013)
3. Vertical integration of nano and microparticle assemblies with atomically thin membranes and their applications in photodetection, photocatalysis, optical switching and optical sensing (2014)

JOURNAL PUBLICATIONS

SI	Authors	Title of Paper	Journal/Vol/Page/Year
93	K. Roy, T. Ahmed, H. Dubey, T. P. Sai, R. Kashid, S. Maliakal, K. Hsieh, S. Shamim, and A. Ghosh	Number-resolved single photon detection with ultra-low noise van der Waals hybrid	Advanced Materials (Accepted, 2017)
92	P. S. Mahapatra, K. Sarkar, H. R. Krishnamurthy, S. Mukerjee and A. Ghosh	Seebeck coefficient of a single van der Waals junction in twisted bilayer graphene	Nano Letters (2017) DOI:10.1021/acs.nanolett.7b03097)
91	K. Hsieh, V. Kochat, X. Zhang, Y. Gong, C. Tiwary, P. M. Ajayan, and A. Ghosh	Effect of Carrier Localization on Electrical Transport and Noise at Individual Grain Boundaries in Monolayer MoS ₂	Nano Letters 17, 5452 (2017)
90	S Islam, S Bhattacharyya, A Kandala, A Richardella, N Samarth and A. Ghosh	Bulk-impurity induced noise in large-area epitaxial thin films of topological insulators	Applied Physics Letters 111, 062107 (2017)
89	M. Praveena, T. Phanindra Sai, Riya Dutta, A. Ghosh , and J. K. Basu	Electrically tunable enhanced photoluminescence of semiconductor quantum dots on graphene	ACS Photonics 4, 1967 (2017) DOI: 10.1021/acsp Photonics.7b00266
88	A. Pradhan, A. Roy, S. Tripathi, A. Som, D. Sarkar, J. K. Mishra, K. Roy, T.	Ultra-high sensitivity infra-red detection and temperature effects in	Nanoscale 9, 9284 – 9290 (2017)

	Pradeep, N. Ravishankar, A. Ghosh	graphene – tellurium nanowire binary hybrid	
87	S. Shamim, S. Mahapatra, G. Scappucci, W. M. Kless, M. Y. Simmons, A. Ghosh	Dephasing rates for weak localization and universal conductance fluctuations in two dimensional Si:P and Ge:P δ -layers	Scientific Reports 7, Article number: 46670 (2017)
86	P. Karnatak, T. Paul, S. Islam, A. Ghosh	1/f noise in van der Waals materials and hybrids	Advances in Physics X 2, 428 (2017)
85	A. Kinikar, T. P. Sai, S. Bhattacharyya, A. Agarwala, T. Biswas, S. Sarker, H. R. Krishnamurthy, M. Jain, V. Shenoy, A. Ghosh	Quantized edge modes in atomic-scale point contacts in graphene	Nature Nanotechnology 12, 564 (2017)
84	S. Bhattacharjee, K. L. Ganapathi, H. Chandrasekar, T. Paul, S. Mohan, A. Ghosh , S. Raghavan, N. Bhat	Nitride Dielectric Environments to Suppress Surface Optical Phonon Dominated Scattering in High Performance Multilayer MoS ₂ FETs	Advanced Electronic Materials 3, 1600358 (2017)
83	P. Karnatak, T.P. Sai, S. Goswami, S. Ghatak, S. Kaushal, A. Ghosh	Current crowding mediated large contact noise in graphene field-effect transistors	Nature Communications 7, 13703 (2016)
82	S. Shamim, B. Weber, D. W. Thompson, M. Y. Simmons, A. Ghosh	Ultra-low noise atomic scale structures for quantum circuitry in silicon	Nano Letters 16, 5779 - 5784 DOI: 10.1021/acs.nanolett.6b02513
81	S. Bhattacharyya, A. Kandala, A. Richardella, S. Islam, N. Samarth, A. Ghosh	Resistance noise in epitaxial thin films of ferromagnetic topological insulators	Applied Physics Letters 108, 082101 (2016)
80	A. Kumar, R. Kashid, A. Ghosh , V. Kumar, R. Singh	Enhanced thermionic emission and low 1/f noise in exfoliated graphene/GaN Schottky barrier diode	ACS Appl. Mater. Interfaces 8, 8213 (2016)
79	T. Paul, S. Ghatak, A. Ghosh	Percolative switching in transition metal dichalcogenide field-effect transistors at room temperature	Nanotechnology 27, 125706 (2016)
78	V. Kochat, C. S. Tiwary, T. Biswas, R. Gopalakrishnan, Kimberly Hsieh, K. Chattopadhyay, S. Raghavan, M. Jain, A. Ghosh	Magnitude and origin of electrical noise at individual grain boundaries in graphene	Nano Letters 16 (1), 562–567 (2016)
76	S. Bhattacharyya, M. Banerjee, S. Islam, C. Dasgupta, S. Elizabeth, A. Ghosh	Bulk-induced 1/f noise at the surface of three-dimensional topological insulators	ACS Nano 9 (12), 12529–12536 (2015). DOI: 10.1021/acsnano.5b06163
75	R. Venkatesh, S. Kundu, A. Pradhan, T. P. Sai, A. Ghosh , N. Ravishankar	Directed assembly of ultrathin gold nanowires over large area by dielectrophoresis	Langmuir 31, 9246 (2015)

74	P. Ghosh, S. Kumar, R. Gopalakrishnan, V. Kochat, R. Madhavan, S. Suwas, A. Ghosh , N. Ravishankar, S. Raghavan, S. Dhar	Insights on defect-mediated heterogeneous nucleation of graphene on copper	The Journal of Physical Chemistry 119 , 2513 (2015)
73	D. Paria, K. Roy, H. J. Singh, S. Kumar, S. Raghavan, A. Ghosh , Ambarish Ghosh	Ultrahigh field enhancement and photoresponse in atomically separated arrays of plasmonic dimers	Advanced Materials 27 , 1751 (2015)
72	V. Kochat, A. Sahoo, A. N. Pal, Sneha E. S., R. Gopalakrishnan, Arjun B. S., R. Tero, T. Viet Thu, S. Kaushal, H. Okada, A. Sandhu, S. Raghavan, A. Ghosh	Origin of 1/f noise in graphene produced for large scale applications in electronics	IET Circuits, Devices & Systems 9 , 52 (2015)
71	S. Ghatak, S. Mukherjee, M. Jain, D. D. Sarma, A. Ghosh	Microscopic origin of low frequency noise in MoS ₂ field-effect transistors	APL Materials 2 , 092515 (2014).
70	P. Karnatak, S. Goswami, V. Kochat, A. N. Pal, A. Ghosh	Fermi-edge transmission resonance in graphene driven by a single Coulomb impurity	Physical Review Letters 113 , 026601 (2014).
69	A. Sahoo, S. D. Ha, S. Ramanathan, A. Ghosh	Conductivity noise study of the insulator-metal transition and phase coexistence in epitaxial samarium nickelate thin films	Physical Review B 90 , 085116 (2014).
68	A Ghosh , Y Krishnan	At a long-awaited turning point	Nature nanotechnology 9 , 491 (2014).
67	S. Shamim, S. Mahapatra, G. Scappucci, W. M. Klesse, M. Y. Simmons, A Ghosh	Spontaneous breaking of time reversal symmetry in strongly interacting two dimensional electron layers in silicon and germanium	Physical Review Letters 112 , 236602 (2014).
66	R. Koushik, S. Kumar, K. R. Amin, M. Mondal, J. Jesudasan, A. Bid, P. Raychaudhuri, A. Ghosh	Correlated conductance fluctuations close to the Berezinskii-Kosterlitz-Thouless transition in ultra-thin NbN films	Physical Review Letters 111 , 197001 (2013).
65	K. Roy, M. Padmanabhan, S. Goswami, T. Phanindra Sai, Gopalakrishnan R., S. Raghavan, A. Ghosh	Multifunctional Graphene-MoS ₂ hybrid for colossal photoresponsivity and relaxation-free opto-electronic memory	Nature Nanotechnology 8 , 826 (2013).
64	K. Roy, M. Padmanabhan, S. Goswami, T. Phanindra Sai, S. Kaushal, A. Ghosh	Optically active heterostructures of graphene and ultrathin MoS ₂	Solid State Communications 175 , 35 (2013).
63	S. Ghatak, A. Ghosh	Observation of trap-assisted space charge limited conductivity in short channel MoS ₂ transistor	Applied Physics Letters 103 , 122103 (2013).
62	S. M. Mohanasundaram, R. Pratap and A. Ghosh	Cantilever Resonator With Integrated Actuation and Sensing Fabricated Using a Single Step Lithography	Sensors Journal, IEEE 13 , 440 (2013).
61	Chandni U., P. Kundu, N. Ravishankar, A. Ghosh	Tunability of electronic states in ultrathin nanowires of gold	Advanced Materials 25 , 2486 (2013)

60	A. N. Pal, V. Kochat, A. Ghosh	Direct observation of valley-coherent states and nontrivial universal symmetry of graphene	Physical Review Letters 109 , 196601 (2012).
59	V. Narayan, M. Pepper, J.Griffiths, H. E. Beere, F. Sfigakis, G. Jones, D. A. Ritchie, A. Ghosh	Unconventional Metallicity and Giant Thermopower in a Strongly Interacting Two Dimensional Electron System	Physical Review B 86 , 125406 (2012)
58	Md. A. Aamir, S. Goswami, M. Baenninger, V. Tripathi, M. Pepper, I. Farrer, D. A. Ritchie, A. Ghosh	Colossal non-saturating linear magnetoresistance in two-dimensional electron systems at a GaAs/AlGaAs heterointerface	Physical Review B 86 , 081203 (R) (2012) (Editor's Suggestion)
57	S. M. Mohanasundaram, Rudra Pratap, A. Ghosh	Electromigration: A unique tool for microstructure engineering in metal films	International Journal of Applied Physics and Mathematics 2 , 146 (2012)
56	S. M. Mohanasundaram, Rudra Pratap, A. Ghosh	Two orders of magnitude increase in metal piezoresistor sensitivity through nanoscale inhomogenization	Journal Of Applied Physics 112 , 084332 (2012)
55	S. M. Mohanasundaram, Rudra Pratap, A. Ghosh	Tuning the sensitivity of a metal-based piezoresistive sensor using electromigration	Journal of Microelectromechanical Systems 21 , 1276 (2012)
54	M. Padmanabhan, K. Roy, Gopalakrishnan R., S. Raghavan, A. Ghosh	Electrochemical integration of graphene with light absorbing copper-based thin films	Journal of Physical Chemistry C 116 , 1200 (2012)
53	P. Kundu, U. Chandni, A. Ghosh , N. Ravishankar	Pristine, adherent ultrathin gold nanowires on substrates and between pre-defined contacts via a wet chemical route	Nanoscale 4 , 433 (2012)
52	S. Goswami, M. A. Aamir, C. Siegert, M. Pepper, I.Farrer, D. A. Ritchie, A. Ghosh	Transport through an electrostatically defined quantum dot lattice in a two-dimensional electron gas	Physical Review B 85 , 075427 (2012)
51	S. Ghatak, A. N. Pal, A. Ghosh	Nature of electronic states in atomically thin MoS ₂ field-effect transistors	ACS Nano 5 , 7707 (2011)
50	S. Shamim, S. Mahapatra, C. Polley, M. Y. Simmons, A. Ghosh	Suppression of low-frequency noise in two-dimensional electron gas at degenerately doped Si:P δ -layers	Physical Review B 83 , 233304 (2011)
49	A. Singh, A. Ghosh	Domain-wall creep driven by spin torque in nanoscale ferromagnetic cylinders	Physical Review B (Rapid Communications) 84 , 060407 (2011)
48	V. Kochat, A. N. Pal, Sneha E. S., Arjun B. S., A. Gairola, S. A. Shivashankar, S. Raghavan, A. Ghosh	High contrast imaging and thickness determination of graphene with in-column secondary electron microscopy	Journal of Applied Physics 110 , 014315 (2011).
47	U. Chandni, P. Kundu, A. K. Singh, N. Ravishankar, A. Ghosh	Insulating State and Breakdown of Fermi Liquid Description in Molecular-Scale Single-Crystalline Wires of Gold	ACS Nano 5 , 8398 (2011)
46	A. N. Pal, S. Ghatak, V. Kochat, Sneha E. S., Arjun B. S., S. Raghavan, A. Ghosh	Microscopic mechanism of 1/f noise in graphene: Role of energy band dispersion	ACS Nano 5 , 2075 (2011)

45	Koushik R., M. Baenninger, V. Narayan, S. Mukerjee, M. Pepper, I. Farrer, D. A. Ritchie, A. Ghosh	Evidence of gate-tunable topological excitations in two-dimensional electron systems	Physical Review B 83 , 085302 (2011)
44	S. Goswami, C. Siegert, M. Pepper, I. Farrer, D. A. Ritchie, A. Ghosh	Signatures of an Anomalous Nernst Effect in a Mesoscopic Two-Dimensional Electron System	Physical Review B 83 , 073302 (2011)
43	S. Mukhopadhyay, A. Singh, A. Ghosh	Field-tunable stochasticity in the magnetization reversal of a cylindrical nanomagnet	Physical Review B 82 , 172404 (2010)
42	S. Goswami, C. Siegert, S. Shamim, M. Pepper, I. Farrer, D. A. Ritchie, A. Ghosh	Thermoelectric properties of electrostatically tunable antidot lattices	Applied Physics Letters 97 , 132104 (2010)
41	A. N. Pal, A. A. Bol, A. Ghosh	Large low-frequency resistance noise in chemical vapor deposited graphene	Applied Physics Letters 97 , 133504 (2010)
40	A. Singh, S. Mukhopadhyay, A. Ghosh	Tracking random walk of individual domain walls in cylindrical nanomagnets with resistance noise	Physical Review Letters 105 , 067206 (2010)
39	Koushik R., A. Ghosh	Design of a cryogenic amplifier using GaAs MESFET	Indian Journal of Cryogenics 35 (1-4) , 391 (2010)
38	U. Chandni, A. Ghosh	A simple kinetic sensor to structural transitions	Physical Review B 81 , 134105 (2010)
37	U. Chandni, S. Kar-Narayan, A. Ghosh , H. S. Vijaya, S. Mohan	A fluctuation-based characterization of athermal phase transitions: Application to shape memory alloys	Acta Materialia 57 , 6113 (2009)
36	A. Singh, D. Chowdhari, A. Ghosh	Resistivity noise in crystalline magnetic nanowires and its implications to domain formation and kinetics	Applied Physics Letters 95 , 092103 (2009)
35	A. N. Pal, A. Ghosh	Ultra-low noise field-effect transistor from multilayer graphene	Applied Physics Letters 95 , 082105 (2009)
34	S. Goswami, C. Siegert, M. Baenninger, M. Pepper, I. Farrer, D. A. Ritchie, A. Ghosh	Highly enhanced thermopower in high-mobility two-dimensional electron systems at milliKelvin temperatures	Physical Review Letters 103 , 026602 (2009)
33	M. Baenninger, A. Ghosh , M. Pepper, H. E. Beere, I. Farrer, D. A. Ritchie	Magnetic field induced instabilities in localized two-dimensional electron systems	International Journal of Modern Physics B 23 , 2708 (2009)
32	S. Sarkozy, K. Das Gupta, C. Siegert, A. Ghosh , I. Farrer, H. E. beere, D. A. Ritchie, G. A. C. Jones	Low temperature transport in undoped mesoscopic structures	Applied Physics Letters 94 , 172105 (2009)
31	A. N. Pal, A. Ghosh	Resistance noise in electrically biased bilayer graphene	Physical Review Letters 102 , 126805 (2009)
30	U. Chandni, A. Ghosh , H. S. Vijaya, S. Mohan	Criticality of tuning in athermal phase transitions	Physical Review Letters 102 , 025701 (2009)
29	M. Baenninger, A. Ghosh , M. Pepper, H. E. Beere, I. Farrer, D. A. Ritchie	Magnetic-field-induced instabilities in localized two-dimensional electron systems	Physical Review B (Rapid Comm.) 78 , 161306 (R) (2008)

28	A. Singh, T. Phanindra Sai, A. Ghosh	Electrochemical fabrication of ultra-low noise metallic nanowires with hcp crystalline lattice	Applied Physics Letters 93 , 102107 (2008)
27	C. Siegert, A. Ghosh , M. Pepper, I. Farrer, D. A. Ritchie, D. Anderson, G. A. C. Jones	Oscillatory Hall effect in high-mobility two-dimensional electron gases	Physical Review B (Rapid Comm.) 78 , 081302(R) (2008) (Editor's selection)
26	C. Siegert, A. Ghosh , M. Pepper, I. Farrer, D. A. Ritchie, D. Anderson, G. A. C. Jones	Effect of orbital interference on the density of states of high-mobility two dimensional electron systems	Physical Review B 78 , 073302 (2008)
25	Chandni U., A. Ghosh , H. S. Vijaya, S. Mohan	Signature of martensitic transformation on conductivity noise in thin films of NiTi shape memory alloys	Applied Physics Letters 92 , 112110 (2008)
24	A. Singh, A. Ghosh	Stabilizing high-energy crystal structure of metallic nanowires with under-potential electrochemistry	Journal of Physical Chemistry C 112 , 3460 - 3463 (2008)
23	C. Siegert, A. Ghosh , M. Pepper, I. Farrer, D. A. Ritchie, D. Anderson, G. A. C. Jones	Sensitivity of the magnetic state of a spin lattice on itinerant electron orbital phase	Physica E - Low-Dimensional Systems & Nanostructures 40 , 1460 - 1463 (2008)
22	M. Baenninger, A. Ghosh , M. Pepper, H. E. Beere, I. Farrer, P. Atkinson, D. A. Ritchie	Quantization of hopping magnetoresistance prefactor in strongly correlated two-dimensional electron systems	Physica E - Low-Dimensional Systems & Nanostructures 40 , 1347 - 1350 (2008)
21	C. Siegert, A. Ghosh , M. Pepper, I. Farrer, D. A. Ritchie, D. Anderson, G. A. C. Jones	Field-tunable magnetic phases in a semiconductor-based two-dimensional Kondo lattice	Physica E - Low-Dimensional Systems & Nanostructures 40 , 942 - 948 (2008)
20	M. Baenninger, A. Ghosh , M. Pepper, H. E. Beere, I. Farrer, D. A. Ritchie	Low-Temperature Collapse of Electron Localisation in Two Dimensions	Physical Review Letters 100 , 016805 (2008)
19	C. Siegert, A. Ghosh , M. Pepper, I. Farrer, D. A. Ritchie	On the possibility of an intrinsic spin-lattice in high-mobility semiconductor heterostructures	Nature Physics 3 , 315 (2007)
18	D. W. Horsell, A. K. Savchenko, A. V. Kretinin, A. Ghosh , H. E. Beere, D. A. Ritchie	Effect of a mixed scattering potential on the conductance fluctuations of a quasi-ballistic wire	Physica E - Low-Dimensional Systems & Nanostructures 34 , 580 (2006)
17	D. W. Horsell, E. A. Galaktionov, A. K. Savchenko, A. V. Kretinin, A. Ghosh , H. E. Beere, D. A. Ritchie	The effect of a non-uniform scattering potential on conductance fluctuations in a quantum wire	Physica Status Solidi C 3 , 325 (2006)
16	M. Baenninger, A. Ghosh , M. Pepper, H. E. Beere, I. Farrer, P. Atkinson, D. A. Ritchie	Local transport in a disorder-stabilized correlated insulating phase	Physical Review B: Rapid Communication 72 , 241311(R) (2005)
15	A. Ghosh , M. H. Wright, C. Siegert, M. Pepper, I. Farrer, C. J. B. Ford, D. A. Ritchie	Zero-bias anomaly and Kondo-assisted quasi-ballistic 2D transport	Physical Review Letters 95 , 066603 (2005)
14	A. Ghosh , M. Pepper, H. E. Beere, D. A. Ritchie	A dynamic localization of 2D electrons at mesoscopic length scales	Physical Review B 70 , 233309 (2004)

13	A. Ghosh , C. J. B. Ford, M. Pepper, H. E. Beere, D. A. Ritchie	Possible observation of spontaneous spin polarization in mesoscopic 2D electron systems	Physical Review Letters 92 , 116601 (2004)
12	A. Ghosh , M. Pepper, H. E. Beere, D. A. Ritchie	Density-dependent instabilities in correlated 2D electron systems	Journal of Physics.: Condensed Matter 16 , 3623 (2004)
11	S. Kar, A. K. Raychaudhuri, A. Ghosh , H. v. Löhneysen, G. Weiss	Observation of non-Gaussian conductance fluctuations at low temperatures in Si:P(B) at the metal-insulator transition	Physical Review Letters 91 , 216603 (2003)
10	A. K. Raychaudhuri, S. Kar, A. Ghosh	Suppression of universal conductance fluctuations by an electric field in doped Si(P,B) near the metal-insulator transition	Physica E 18(1-3) , 284 (2003)
9	A. K. Raychaudhuri, A. Ghosh , S. Kar	Flicker noise in degenerately doped Si single crystals near the metal-insulator transition	Pramana-J Phys. 58(2) , 343 (2002)
8	A. Ghosh , A. K. Raychaudhuri	Effect of two-level systems on the spectral density of universal conductance fluctuations in doped Si	Physical Review B 65 , 033310 (2002)
7	A. Ghosh , M. Pepper, D. A. Ritchie, E. H. Linfield, R. H. Harrel, H. E. Beere, G. A. C. Jones	Electron assisted variable range hopping in strongly correlated 2D electron systems	Physica Status Solidi (b) 230 , 211 (2002)
6	A. Ghosh , A. K. Raychaudhuri	Electric-field-induced migration of oxygen ions in epitaxial metallic oxide films: Non-Debye relaxation and 1/f noise	Physical Review B 64 , 104304 (2001)
5	A. Ghosh , A. K. Raychaudhuri	Universal conductance fluctuations in three dimensional metallic single crystals of Si	Physical Review Letters 84 , 4681 (2000)
4	A. Guha, A. Ghosh , A. K. Raychaudhuri, S. Parashar, A. R. Raju, C. N. R. Rao	Nonlinear electrical conduction and broad band noise in the charge-ordered rare earth manganate $\text{Nd}_{0.5}\text{Ca}_{0.5}\text{MnO}_3$	Applied Physics Letters 75 , 3381 (1999)
3	A. Ghosh , A. K. Raychaudhuri	Conductance fluctuations near the Anderson transition	Journal of Physics: Condensed Matter 11 , L457 (1999)
2	A. Ghosh , A. K. Raychaudhuri, M. Rajeswari, R. Sreekala, T. Venkatesan	Low energy excitations in crystalline perovskite oxides: Evidence from noise experiments	Physical Review B 58 , R14665 (1998)
1	A. Ghosh , A. K. Raychaudhuri, M. Rajeswari, R. Sreekala, T. Venkatesan	Dependence of the conductivity noise of metallic oxide interconnects on the oxygen stoichiometry: A study of $\text{LaNiO}_{3-\delta}$	Journal of Physics D: Applied Physics 30 , L75 (1997)

INVITED COLLOQUIA, LECTURES AND SEMINARS

INTERNATIONAL CONFERENCE

	CONFERENCE/MEETING	TALK TITLE	PLACE/YEAR
1	International Conference on Hopping Related Phenomena	Quantization of pre-factor in variable range hopping	Bar-Ilan Univ, Israel 2001
2	17th International Conference on Electronic Properties of Two-Dimensional Systems (EP2DS-17)	Magnetism in a tunable Kondo-lattice in semiconductor-based two-dimensional electron systems	Genova, Italy 2007
3	International Conference on Synergy between Experiment and Computation in Nanoscale Science	Experimental Observation of 2D Kondo Lattice in Nonmagnetic Semiconductor Heterostructures	Harvard Univ USA 2005
4	International Workshop on Physics of Semiconductor Devices	An alternative approach to tunable spin-FET with nonmagnetic high-mobility heterostructures	Mumbai, India 2007
5	International Conference on Nano Science and Technology	Low-frequency noise in graphene: Implication to device and physics	Mumbai, India 2007
6	International workshop on Correlated Electrons & Frustrated Magnetism 2007	Recent developments in semiconductor mesoscopies – signature of intrinsic spins	Goa, India 2007
7	International Conference on Nano Science and Technology	Low-frequency noise in graphene: Implication to device and physics	Mumbai, India 2010
8	International Conference on Quantum Effects in Solids of Today	Quantum effects on noise in Graphene	New Delhi, India 2010
9	6th International Conference on Unsolved Problems on Noise	Probing new quantum effects in graphene with noise	Kolkata, India 2012
10	International Conference on Quantum Information and Quantum Computation, IISc	Reading and manipulating valley quantum states in Graphene	Bangalore, India 2013
11	5th International Conference on Recent Progress in Graphene Research	Decoding conductivity noise in graphene	Tokyo, Japan 2013
12	International Union of Materials Research Societies – International Conference in Asia – 2013 (IUMRS-ICA-2013)	Multifunctional graphene heterostructures	Bangalore, India 2013
13	International Union of Materials Research Societies – International Conference in Asia – 2013 (IUMRS-ICA-2013)	Impact of charge and spin defects on the electrical transport in dirac materials	Bangalore, India 2013
14	Material Research Society Fall Meeting	High-sensitivity optoelectronics with Van der Waals heterostructures	Boston, USA 2014
15	Current Trends in Condensed Matter Physics	Sensitizing atomically thin membranes to light	Bhubaneswar, India 2015
16	Superconductivity on the Verge: Nanostructures and inhomogeneity	Probing superconductivity in low-dimensional systems with conductivity noise	Leiden, The Netherland 2015

17	7th IACS-APCTP-Academy Joint Conference on Emergent Phenomena in Novel Oxide Materials and Low Dimensional Systems	Spontaneous time reversal symmetry breaking in two-dimensional impurity bands in Si and Ge in the presence of strong Coulomb interaction	Coorg, India 2015
18	Topological Particles in Condensed Matter	Spontaneous time reversal symmetry breaking in interacting two-dimensional electron systems at half-filling	IISER Pune India 2015
19	International Workshop on Physics of Semiconductor Devices (IWPSD 2015)	Origin and impact of electrical noise in two dimensional semiconductors	Bangalore India 2015
20	International Graphene Innovation Conference (GRAPCHINA 2015)	Novel Photovoltaic Avenues to Light-Matter Interaction in Atomically Thin Membranes	Qingdao China 2015
21	International Conference on Frontiers of Materials	Novel photovoltaic and plasmonic avenues to amplify light-matter interaction at the atomic scale	Bangalore India 2015
22	American Physical Society Meeting 2016 (Invited)	Spontaneous time reversal symmetry breaking in atomically confined two-dimensional impurity bands in silicon and germanium	Baltimore USA 2016
23	CIMTEC 2016 - 7th Forum on New Materials (Keynote Lecture)	Origin and impact of noise in multifunctional 2D electronics	Perugia, Italy June 2016
24	International Conference on Nanoscience and Technology	Origin of electrical noise in two dimensional semiconductors	Pune, India March 2016
25	CIMTEC 2016 - 7th Forum on New Materials (Keynote Lecture)	Origin and impact of noise in multifunctional 2D electronics	Perugia, Italy June 2016
26	Asian Science Camp (Dialogue)	Making of a professional in science: Excitement, failures and ideas	Bangalore India Aug 2016
27	Advances in Biological Systems and Materials Science in NanoWorld	Multifunctional material engineering with atomic membranes	Varanasi India March 2017
28	Graphene 2017 (Lecture in Plenary Session)	Experimental observation of quantized edge conduction in graphene point contacts	Barcelona Spain March 2017
29	Open Quantum Systems (International Center for Theoretical Sciences)	Electrical access to marginally protected conduction states in graphene	Bangalore India July 2017
30	Electronic Properties of two Dimensional Systems (Invited)	Junction noise in Graphene	Pennsylvania State Univ. USA August 2017

UNIVERSITIES AND INSTITUTIONS

	UNIVERSITY/INSTITUTION	COLLOQUIUM/SEMINAR TITLE	PLACE/YEAR
1	Theory of Condensed Matter, Cavendish Laboratory	Conductance oscillations in strongly correlated 2D electron systems	Cambridge UK 2002
2	Department of Physics, University of Lancaster	Interaction-induced quantization of prefactor in variable range hopping	Lancaster, UK 2003

3	Raman Research Institute	Designing Magnetism with Electricity in Small Systems	Bangalore, Indian 2007
4	Harvard University	Magnetism in a tunable Kondo-lattice in semiconductor-based two-dimensional electron systems	Boston, USA 2007
5	Massachusetts Institute of Technology	Magnetism in a tunable Kondo-lattice in semiconductor-based two-dimensional electron systems	Boston, USA 2007
6	Center for NanoScience and Engineering, IISc	Probing Nanomaterials with Noise and Local Thermodynamics	Bangalore, India 2007
7	Department of Materials Science & Metallurgy, University of Cambridge	Conductivity Noise at Phase Transitions	Cambridge, UK 2008
8	Indian Institute of Technology Chennai	Nanoelectronics – With particles in a small box	Chennai, India 2008
9	Indian Institute of Technology Kanpur	Intrinsic Magnetism in High-Mobility Semiconductor - A Bottom-Up Route to Spin-Electronics?	Kanpur, India 2008
10	Materials Engineering Department, Indian Institute of Science	Graphene: The Atomic Membrane of Carbon	Bangalore, India 2009
11	Jawaharlal Nehru Center for Advanced Scientific Research	Sensing structural Phase Transitions with Conductivity Noise	Bangalore, India 2010
12	Department of Chemical Engineering, IISc	Graphene: From Physics to Devices	Bangalore, India 2010
13	Raman Research Institute	Graphene: Experimental Aspects	Bangalore, India 2010
14	Bangalore University	Graphene: From Physics to Devices	Bangalore, India 2011
15	Christ University, Bangalore	Graphene: From Physics to Devices	Bangalore, India 2011
16	Delhi University	New Frontiers of Science and Technology with Graphene	Delhi, India 2011
17	Harishchandra Research Institute	Probing Quantum Effects in transport in Graphene with Noise	Allahabad, India 2011
18	Solid State Physical Laboratory	Graphene: Growth, properties and applications	Delhi India 2011
19	CAPE – Cambridge University	Origin of Flicker Noise in Ultra-Flat NanoElectronics	Cambridge UK 2012
20	Center for NanoScience and Engineering	Recent Trends in Ultra-Flat Electronics	Bangalore, India 2012
21	Zernike Institute for Materials Groningen University	Origin of Flicker Noise in Ultra-Flat NanoElectronics	Groningen, The Netherlands 2012
22	Harishchandra Research Institute	Electron transport in ultra-flat Dirac Materials	Allahabad, India 2013

23	Center for NanoScience and Engineering: IEEE Bangalore Chapter	Sensing light and matter with graphene	Bangalore, India 2013
24	National Physical Laboratories	Recent Trends in Ultra-flat Electronics	Delhi India 2013
25	Indian Institute of Technology Chennai	Graphene heterostructures: A New Platform for Quantum Electronics and Light-Matter Interaction	Chennai India 2014
26	Pennsylvania State University	Van der Waal Heterostructures: Quantum Electronics to Light-Matter Interaction	Penn State Univ, USA 2014
27	Virginia Commonwealth University	Van der Waal Heterostructures: Quantum Electronics to Light-Matter Interaction	Richmond, USA 2014
28	California Institute of Technology	Van der Waal Heterostructures: Quantum Electronics to Light-Matter Interaction	Caltech, USA 2014
29	Zernike Institute for Materials Groningen University	Sensitizing atomically thin membranes to light	Groningen, The Netherlands 2015
30	Exeter University	New photovoltaic and plasmonic avenues to amplify light matter interaction at the atomic scale	Exeter, UK 2015
31	University College London	New photovoltaic and plasmonic avenues to amplify light matter interaction at the atomic scale	London, UK 2015
32	Cambridge University	New photovoltaic and plasmonic avenues to amplify light matter interaction at the atomic scale	Cambridge, UK 2015
33	Manchester University	New photovoltaic and plasmonic avenues to amplify light matter interaction at the atomic scale	Manchester, UK 2015
34	Rice University	Sensitizing atomically thin membranes to light	Houston, USA 2015
35	Saha Institute of Nuclear Physics	From quantum electronics to light-matter interaction with van der Waals heterostructures	Kolkata, India 2016
36	Tata Institute of Fundamental Research	Towards number-resolved single photon detection with van der Waals hybrids	Mumbai, India Oct 2016
37	Indian Institute of Science - BTNT	Sensing individual photons with atomic membranes	Bangalore, India Nov 2016
38	Ramaiah Institute of Technology	NanoElectronics: Emerging trends	Bangalore India Jan 2017
39	Sri Dharmasthala Manjunatheshwara College – Academy lecture series	Quantum Hall Effect/2D topology	Mangalore India Mar 2017
40	Jawaharlal Nehru Center for Advanced Scientific Research	Experimental observation of quantized edge conduction in graphene point contacts	Bangalore India Apr 2017

INTERNATIONAL BILATERAL MEETINGS/CONFERENCES

	CONFERENCE/MEETING	TALK TITLE	PLACE/YEAR
1	Indo-Australia Symposium on Multifunctional Nanomaterials, Nanostructures and Applications	Sensing atomic scale variations in structural and electronic properties of nanodevices with Noise	Delhi, India 2007
2	Indo-Japan Conference on Graphene, Jawaharlal Nehru Center for Advanced Scientific Research	Origin of Low-Frequency Noise in Graphene Transistors	Bangalore India 2009
3	Indo-Australian Workshop at Materials Engineering Dept IISc	Quantum Electronics with Nanomaterials	Bangalore India 2011
4	Indo-Brazil Discussion Meeting on Advances in Graphene and Nanotubes	Exploring New Phenomena in Graphene with Noise	Foz do Iguacu, Brazil 2011
5	Indo-Israel Meeting on Condensed Matter Physics	Probing new quantum effects in graphene with noise	Kochin India 2011
6	Indo-Taiwan on Nano Devices at JNASR	Achieving enhanced electronic and optoelectronic functionality with hybrids of atomically thin semiconductor membranes	Bangalore India 2012
7	Indo-Japan Meeting on Molecular and Supramolecular Materials	Exploring New Phenomena in Graphene with Noise	Tokyo Japan 2012
8	APCTP-IACS joint conference on Physics of Novel and Emerging Materials	Achieving enhanced electronic and optoelectronic functionality with hybrids of atomically thin semiconductor membranes	Pohang South Korea 2012
9	Indo-Japan Conference on New Functionalities in Electronic and Magnetic Materials	Realization and characterization of electro-optic properties of Graphene hybrids	Bangalore India 2012
10	Indo-US workshop on Advanced and Nano-Structure Materials JNCASR	Achieving enhanced electronic and optoelectronic functionality with hybrids of atomically thin semiconductor membranes	Bangalore India 2013
11	APCTP-IACS-IISC 5 th International Conference on Novel Oxide Materials and Low Dimensional Systems	Impact of charge and spin defects on the electrical transport in dirac materials	Bangalore India 2013
12	Indo-UK Scientific Seminar: From Graphene Analogues to Topological Insulators	Graphene heterostructures: Light-matter interaction to quantum many-body effects	Kolkata India 2014
13	6-th Indo-Japan Seminar "Physics and Design of Multi-Functional Correlated Materials"	New Strong Correlation Effects in Graphene: Spin, Valleys and Disorder	Tokyo Japan 2014
14	Indo-Japan Programme on Graphene and Related Materials	Sensitizing atomically thin membranes to light	Bangalore India 2014
15	Indo-US Conference on the Physics and Chemistry of Graphene and other Single and Bilayer materials	Sensitizing atomically thin membranes to light	Bangalore India 2014
16	The 8th India-Singapore symposium on Condensed Matter Physics	Sensitizing atomically thin membranes to light	Kanpur, India 2015
17	Indo-Japan conference on emergent phenomena in transition-metal compounds and related materials	Spontaneous time reversal symmetry breaking in interacting two dimensional electron systems at half filling	Bangalore, India 2016

NATIONAL CONFERENCE, WORKSHOPS AND MEETINGS

	CONFERENCE/MEETING	TALK TITLE	PLACE/YEAR
1	National conference on Recent Advances in Material Sciences	Disorder-induced magnetism in high-quality nonmagnetic semiconductors	Kurukshetra, India 2006
2	K. S. Krishnan discussion meeting on Frontiers in Quantum Science	Exfoliation-based top-down approach to few-layer graphene: An experimental perspective	Chennai, India 2006
3	Indian Condensed Matter Workshop organized by International Center for Theoretical Sciences	Revisiting metal-insulator transition in two dimensions	Mahabaleswar, India 2008
4	Bangalore Area Statistical mechanics Meeting	Fluctuation Statistics at Athermal Phase Transitions	Bangalore, India 2009
5	Indian Science Congress	NanoElectronics: New Materials, Devices and Functionality	NEHU, Shillong, India 2009
6	DST NanoSchool at SN Bose National Center for Basic Sciences	New Physics and Technology with Graphene	Kolkata, India 2009
7	Discussion Meeting on Statistical and Condensed Matter Physics, IIT Guwahati	Fluctuation Statistics at Athermal Phase Transitions	Guwahati, India 2009
8	54th DAE Solid State Physics Symposium	Evidence of New Order in Low-density Mesoscopic Two-Dimensional Electron Systems	Vadodara, India 2009
9	Condensed Matter Programme by International Center for Theoretical Sciences	Some Recent Experiments on Spontaneous Spin Effects in Semiconductors	Mahabaleswar, India 2008
10	JNC Research Conference on the Physics of New Materials	Low-Frequency Noise in Graphene: Implication to Device and Physics	Kolkata, India 2010
11	ANM CGCRI	Graphene: From Physics to Devices	Kolkata, India 2010
12	Bangalore Nano	New Frontiers of Science and Technology with Graphene	Bangalore, India 2010
13	ICTS Conference	Quantum effects on noise in Graphene	Mysore, India 2010
14	Indian NanoElectronics User Program, IISc	Quantum Nanoelectronics	Bangalore, India 2010
15	DST School at SSCU Department IISc	New Physics and Technology with Graphene	Bangalore, India 2011
16	Conference on Strongly correlated systems at Harishchandra Research Institute	Sensing structural phase transitions with conductivity noise	Allahabad, India 2011
17	ICTS Conference on Strongly Correlated systems IISc	Non-Universal Conductance Fluctuations in Graphene	Bangalore India 2011
18	National Conference on NanoAgriculture and Food Security	New Frontiers of Science and Technology with Graphene	Coimbatore India 2011

19	SMA – Materials Engineering	Sensing structural phase transitions with conductivity noise	Bangalore, India 2011
20	CQIQC School on Quantum Computation	Quantum Dots	Bangalore India 2012
21	Material Research Society of India Meeting	Exploring Universality of Conductance Fluctuations in Disordered Graphene	Chandigarh India 2012
22	Conference at SN Bose National Center for Advanced Scientific Research	Origin of Flicker Noise in Ultra-thin Membranes	Kolkata, India 2012
23	JNCASR-Cambridge-SSL Winter School	Graphene heterostructures: A New Platform for Quantum Electronics and Light-Matter Interaction	Bangalore, India 2013
24	Conference on Functional Metalorganics and Hybrids	Achieving enhanced electronic and optoelectronic functionality with hybrids of atomically thin semiconductor membranes	Kolkata, India 2013
25	Nano India 2013 at CSIR-National Institute for Interdisciplinary Science and Technology (NIIST)	Achieving enhanced electronic and optoelectronic functionality with hybrids of atomically thin semiconductor membranes	Thiruvananthapuram India 2013
26	Condensed Matter Days Calcutta University	High-sensitivity optoelectronics with van der waals heterostructures	Kolkata India 2014
27	11 th JNC Research Conference on Chemistry of Materials	Engineering multifunctional layered hybrids	Alleppy India 2015
28	Bringing The Nano World Together Oxford Instruments	Engineering multifunctional layered hybrids	Chennai India 2015
29	81st Annual Meeting of Indian Academy of Sciences	Multifunctional electronics with atomically thin membranes	IISER Pune India 2015
28	8th ISSS National Conference on MEMS, Smart Materials, Structures and Systems	High-sensitivity electro-structural sensing at nanoscale	Kanpur, India Sept 2016
29	Discussion Meeting on Synchrotron Techniques in Material Research	Optoelectronics of van der Waals Interfaces	Dooars India Mar 2017
30	Nano India	New Applications of van der Waals Solids in Electronics and Optoelectronics	New Delhi India Mar 2017
31	Perspectives in graphene and graphene like 2d materials	Origin and impact of noise in multifunctional 2d electronics	JNU New Delhi India Mar 2017

CONFERENCE SEMINARS (CONTRIBUTED)

	CONFERENCE/MEETING	TALK TITLE	PLACE/YEAR
1	International Conference on Noise in Physical Systems and 1/f Fluctuations	1/f noise near metal-insulator transition in doped semiconductors	Florida, USA 2001
2	March American Physical Society Meeting	Quantization of prefactor in variable range hopping	Astin, USA 2003

3	International Conference on the Physics of Semiconductors (ICPS-27),	Possible evidence of spontaneous spin polarization in semiconductor heterostructures	Flagstaff, Arizona, USA 2004
4	International Conference on Physics of Semiconductors	Magnetic Field-Induced Instabilities in Localized Electron Systems	Rio de Janeiro, Brazil 2008
5	International Conference on Physics of Semiconductors	Anomalous Hall Effect and Intrinsic Localized Spins in High-Mobility Nonmagnetic Heterostructures	Rio de Janeiro, Brazil 2008
6	American Physical Society Meeting 2014	Reading valley-hybridization and universal symmetry of graphene with mesoscopic conductance fluctuations	Denver USA 2014
7	American Physical Society Meeting 2015	Conductivity noise as a transport-based probe to study the charge-carrier transmission across grain boundaries in polycrystalline graphene	Baltimore, USA 2015
8	American Physical Society Meeting 2015	Ultra-low noise atomically patterned nanostructures in Si	Baltimore, USA 2015