

Curriculum Vitae

Personal Details

Full Name	Aditya Narayan Roy Choudhury
Profession	Post Doctoral Researcher
Education	PhD (Experimental Condensed Matter Physics)
Qualification	PhD + 2 years of Post Doctoral experience + Visiting Research experiences
Nationality	Indian
Website	www.adityaroychoudhurypublications.blogspot.com
Emails	roychoudhury.aditya.2019@gmail.com , roychoudhury.aditya@gmail.com
Skype id	roychoudhury.aditya.2019@gmail.com
Date of Birth	18 th November 1985
Permanent Address	18, Rabindra Nath Tagore Road, Santoshpur, Kolkata – 700075, India

Skills & Experiences

Research	Semiconductor device physics (MOS capacitors, transistors), Interface physics (trap states), Low temperature transport, Physics at high magnetic fields (magneto-capacitance, magneto-transport, Hall effect), Superconductivity (vortex dynamics, vortex pinning, vortex lattice elasticity effects), Superfluid density & penetration depth, Thin films
Technical	Major instrumentation and installation of laboratory equipments (high field magnets, arbitrary waveform magnets, lithography unit), Noise cancellation techniques, Wireless sample mounting, Sensitive measurements, Sample fabrication (thin film deposition – PLD, Sputtering, Thermal Evaporation) & processing (lithographic techniques, etching, cleanroom work), low temperature measurements (thin films, bulk pellets, crystal wafers), Matlab, Labview, OriginLab
Academic	Refereed publications in PRB, PRL, RSI and IEEE journals - 4, first author publications - 3, writing full papers (corresponding authorships) - 3, writing project (proposal & progress reports), best poster awards in national conferences, guiding high school, BS, & MS students in independent projects, invited research talks (non conference), own research idea publication
Teaching	Classroom teaching (secondary physics), laboratory teaching (graduate physics)

Education & Professional Affiliations

Years	Degree / Position	Affiliation	Experience
2000 - 2002	Secondary School	South Point High School, 82/7A Ballygunge Place, Ballygunge, Kolkata – 700019	Education; Passed in 1 st division; Marks - 84.5%.
2002 - 2004	Higher Secondary School (Sciences)	South Point High School, 82/7A Ballygunge Place, Ballygunge, Kolkata – 700019	Education; Passed in 1 st division; Marks - 82.3%.
August 2004 - July 2008	Graduation BTech (Major – Ceramic Technology)	Government College of Engineering and Ceramic Technology, 73 Abinash Chandra Banerjee Lane, Subhas Sarobar Park, Phool Bagan, Belehata, Kolkata – 700010	Education; 1 st Rank holder (Gold Medal); 4 times consecutive topper in 4 years; Marks - 92.5%; All India Rank – 44 (GATE* 2007). *Graduate Aptitude Test in Engineering (National Examination)
August 2008 - July 2016	PhD (Physics)	Department of Physics, Indian Institute of Science, Bangalore – 560012	Education; Marks - 83.8% ; Research - specialized instrumentation of high field magnets (including installation in other labs), arbitrary waveform magnets, noise cancellation techniques in fast magnetic fields, specialized (wireless) sample mounting techniques, high electric current circuitry, printed circuit board (PCB) design, various electronic circuits, measurements of ultra-low voltages in noisy environments, thin film deposition (thermal evaporation), MOS capacitor fabrication, magneto- capacitance, MOS admittance spectroscopy, transistor physics, semiconductor physics at high magnetic fields, MOS interface trap characterization, corresponding paper authorships, own idea publication.
August 2011	Teaching Assistant	Under Graduate Building, Indian Institute of	Teaching (laboratory); Courses taught -

- July 2012	(Graduate Physics)	Science, Bangalore – 560012	Electronics (1 semester), & Classical Mechanics (1 semester). Doubt Clearing sessions (blackboard work), Grading Assignments.
September 2013 - August 2016	Visiting Teacher (Secondary Physics)	BASE Educational Services Pvt. Ltd, 27 Bull Temple Road, Basavanagudi, Bangalore – 560004	Teaching (classroom); Number of batches (groups) taught - more than 10 (regular blackboard work, and powerpoint presentations, holding quizzes, grading assignments, holding meetings and counselling sessions after examination and evaluations)
August 2016 - February 2017	Visiting Research Associate (PhD Scholar) (Physics)	Department of Physical Sciences, Indian Institute of Science Education and Research Kolkata, West Bengal – 741246	Research - Low temperature transport (liquid nitrogen), metal-insulator transitions, metallic & insulating phase fractions, slow relaxations, percolation physics
April 2017 - April 2019	Visiting Post Doctoral Fellow & DST SERB National Post Doctoral Fellow (Physics)	Department of Condensed Matter Physics & Materials Science, Tata Institute of Fundamental Research, Mumbai – 400005	Research - Low temperature transport & magneto-transport (liquid helium 4), vortex dynamics & pinning, AC two-coil measurements (mutual inductance measurements), superconductor thin film deposition (pulsed laser deposition, sputtering), & lithographic patterning, projection photolithography set-up instrumentation, Cleanroom work (spin coating, lithographic exposure), Ion milling techniques (argon ion beam milling)
July 2019 - present	Visiting Teacher (Secondary Physics)	Rishi Aurobindo Balika Vidyapith, Santoshpur Avenue, Santoshpur, Kolkata 700075	Teaching (classroom); special classes hosted by CTS* Outreach *Cognizant Technology Solutions
August 2019 - present	Visiting Research Associate (Post Doctoral) (Physics)	Department of Condensed Matter Physics & Materials Science, S. N. Bose National Centre for Basic Sciences, Kolkata – 700106	Research (ongoing work through collaboration) - Own research idea and work plan, nonlocal vortex dynamics in superconducting thin films, Cleanroom work (spin coating, lithographic techniques, inductively coupled plasma Reactive Ion Etching)

Invited Talks (work presentations outside conferences)

Sl. No.	Month & Year	Venue / Host	Purpose
1	December, 2016	Department of Physics, Indian Institute of Science, Bangalore 560012	PhD Thesis Defense
2	February, 2017	Department of Condensed Matter Physics & Materials Science, Tata Institute of Fundamental Research, Mumbai - 400005	Post Doctoral Interview
3	September, 2019	Department of Experimental Condensed Matter Physics, Institute of Physics, Bhubaneswar - 751005	Research Collaboration

Refereed Scientific Journal Publications

Sl. No.	Journal Name	Paper Name	Authors	Year	Volume	Page No.	Special Mention
1	Review of Scientific Instruments	A 10 tesla table-top controlled waveform magnet	Aditya N. Roy Choudhury, V. Venkataraman	2012	83	045103	Corresponding authorship; this work also won the Best Poster Award at 56 th DAE SSPS (Yearly National Solid State Physics Symposium)
2	Physical Review B	Measuring the magnetic-field-dependent chemical potential of a low-density three-dimensional electron gas in n-GaAs and extracting its magnetic susceptibility	Aditya N. Roy Choudhury, V. Venkataraman	2016	93	045208	Corresponding authorship; this work also won the Best Poster Award at the Departmental Inhouse Symposium at IISc Bangalore in 2013
3	IEEE Transactions on Electron Devices	A novel technique to measure interface trap density in an MIS capacitor using time-varying magnetic	Aditya N. Roy Choudhury, V. Venkataraman	2016	63	3011	Corresponding authorship; this work also won Best Poster Award at 60 th DAE SSPS (Yearly National Solid State Physics

		fields					Symposium)
4	Physical Review Letters	Melting of the vortex lattice through intermediate hexatic fluid in an a-MoGe thin film	Indranil Roy, Surajit Dutta, Aditya N. Roy Choudhury, Somak Basistha, Ilaria Maccari, Soumyajit Mandal, John Jesudasan, Vivas Bagwe, Claudio Castellani, Lara Benfatto, Pratap Raychaudhuri	2019	122	047001	Work featured in Journal Club for Condensed Matter Physics

Scientific Conference Publications & Presentations

Sl. No.	Conference				Presentation Type	Authors	Special Mention
	Type	Name	Venue	Year			
1	National	UGC -DAE -CSR Summer School	Indore	2011	Oral	Aditya N. Roy Choudhury, V. Venkataraman	-
2	National	56 th DAE Solid State Physics Symposium (DAE SSPS 56)	Chennai	2011	Poster & Proceeding (AIP Conf. Proc. 1447, 487, 2012)	Aditya N. Roy Choudhury, V. Venkataraman	Best Poster Award
3	Inter-national	32 nd International Conference on the Physics of Semi-conductors (ICPS 32)	Austin, Texas, USA	2014	Poster	Aditya N. Roy Choudhury, V. Venkataraman	-
4	National	60 th DAE Solid State Physics Symposium (DAE SSPS 60)	Noida	2015	Poster & Proceeding (AIP Conf. Proc. 1731, 120010, 2016)	Aditya N. Roy Choudhury, V. Venkataraman	Best Poster Award
5	National	Recent Trends in Condensed Matter	Kolkata	2017	Poster	Soumyajit Mandal, Indranil Roy, Aditya N. Roy Choudhury,	Best Poster Award

		Physics				Surajit Dutta, Rini Ganguly, Pratap Raychaudhuri	
6	National	Recent Trends in Condensed Matter Physics	Kolkata	2017	Poster	Surajit Dutta, Aditya N. Roy Choudhury, Rini Ganguly, Indranil Roy, Vivas Bagwe, Somak Basistha, Soumyajit Mandal, John Jesudasan, Pratap Raychaudhuri	Best Poster Award
7	National	National Conference on Quantum Condensed Matter	Mohali	2018	Poster	John Jesudasan, Aditya N. Roy Choudhury, Somak Basistha, Harkirat Singh, Indranil Roy, Soumyajit Mandal, Surajit Dutta, Vivas Bagwe, Pratap Raychaudhuri	-
8	National	National Conference on Quantum Condensed Matter	Mohali	2018	Poster	Aditya N. Roy Choudhury, Indranil Roy, Soumyajit Mandal, Surajit Dutta, Somak Basistha, John Jesudasan, Vivas Bagwe, Pratap Raychaudhuri	
9	National	National Conference on Quantum Condensed Matter	Mohali	2018	Oral	Indranil Roy, Surajit Dutta, Aditya N. Roy Choudhury, Somak Basistha, Ilaria Maccari, Soumyajit Mandal, John Jesudasan, Vivas Bagwe, Claudio Castellani, Lara Benfatto, Pratap Raychaudhuri	-
10	National	National Conference on Quantum Condensed Matter	Mohali	2018	Poster	Soumyajit Mandal, Indranil Roy, Aditya N. Roy Choudhury, Surajit Dutta, Somak Basistha,	-

						John Jesudasan, Vivas Bagwe, Pratap Raychaudhuri	
11	National	National Conference on Quantum Condensed Matter	Mohali	2018	Poster	Surajit Dutta, Indranil Roy, Aditya N. Roy Choudhury, Somak Basistha, Ilaria Maccari, Soumyajit Mandal, John Jesudasan, Vivas Bagwe, Claudio Castellani, Lara Benfatto, Pratap Raychaudhuri	Best Poster Award
12	National	National Conference on Quantum Condensed Matter	Mohali	2018	Poster	Somak Basistha, Aditya N. Roy Choudhury, John Jesudasan, Surajit Dutta, Indranil Roy, Soumyajit Mandal, Vivas Bagwe, Pratap Raychaudhuri	-

Referees

Sl. No.	Referee's Name & Email	Referee's Affiliation	My Affiliation	My Role	My Comments
1	Prof. (Dr.) Asis K Bandyopadhyay asisbanerjee1000@gmail.com	Principal (Retired), Government College of Engineering & Ceramic Technology, Kolkata - 700010	B. Tech. Student (Ceramic Technology)	I did my college B.Tech. 4 th year research project under him	Prof. Bandyopadhyay introduced me to research
2	Prof. Venki Venkataraman* venki.venkataraman@gmail.com	Professor & Ex-Chairman, Department of Physics, Indian Institute of Science, Bangalore - 560012	PhD Scholar	I did my PhD under his guidance	I started my research career in the field of semiconductors under him; he taught me to do research; I wrote my first papers under him
3	Prof. Bikramjit Basu bikram.iisc	Materials Research Centre, Indian Institute of Science, Bangalore - 560012	Collaboration while PhD	I worked along with his students during my	He used my research skills, and applied my instrument,

	@gmail.com			PhD	during my PhD
4	Prof. Bhavtosh Bansal bhavtosh.bansal@gmail.com	Department of Physical Sciences, Indian Institute of Science Education and Research, Kolkata - 741246	Visiting Research Scholar	In between my PhD thesis defense and award of PhD I was visiting his laboratory	I was considering & exploring research fields other than semiconductors under him
5	Prof. Pratap Raychaudhuri praychaudhuri2014@gmail.com	Department of Condensed Matter Physics & Materials Science, Tata Institute of Fundamental Research, Mumbai - 400005	Institute Post Doctoral Fellow & DST SERB National Post Doctoral Fellow	I did Post Doctoral research work in his laboratory	I learned the field of superconductivity in his laboratory
6	Prof. Atindra Nath Pal atin.pal@gmail.com	Department of Condensed Matter Physics & Materials Science, S N Bose National Centre for Basic Sciences, Kolkata - 700106	Visiting Research Associate	I came up with my own research topic & collaborated with him	He supported my independent research ideas & plans

* Note – It has been informed that Prof. Venkataraman is very ill and has been in the state of coma since the middle of 2019. However, what he wrote as a recommendation for me, supporting my application for DST SERB National Post Doctoral Fellowship, is made available (formal DST SERB document) at – the research proposal link of <https://adityaroychoudhurypublications.blogspot.com/2019/04/post-doctoral-fellowship-work-reports.html>.

Extra-curricular Education & Experiences

Sl. No.	Work	Role	Supervision	Years
1	Sketching & Painting Education	Pastel, water color	Mr. Satadal Biswas, Kolkata (Tutor)	1997-2000
2	Oil Painting Education	Canvas	Mr. Satadal Biswas, Kolkata (Private Tutor)	2007-2008
3	IISc Music Team (Rhythmica) Member	Vocals, percussions (stage performer)	General music audience, Indian Institute of Science, Bangalore - 560012	2008-2016
4	Cultural Committee Member, Spandan The IISc Bengali Association,	Organization & arrangement of stage	Spandan, Indian Institute of Science, Bangalore - 560012	2010-2011

	Indian Institute of Science, Bangalore - 560012	performances		
5	Assistant Cultural Secretary, Spandan The IISc Bengali Association, Indian Institute of Science, Bangalore - 560012	Organization & arrangement of stage performances	Spandan, Indian Institute of Science, Bangalore - 560012	2011 -2012
6	Electronic Keyboard Education	Piano	Mr. Avik Chakravarty, Bangalore (Tutor)	2011 -2013
7	Music Club Convener, IISc Gymkhana, Indian Institute of Science, Bangalore - 560012	Organization & arrangement of stage performances	Indian Institute of Science, Bangalore - 560012	2015 -2016