VIDYASAGAR COLLEGE
39 SANKAR GHOSH LANE
KOLKATA

Name Saugata Bhattacharyya

1	Name	Saugata Bhattacharyya			
2	Designation	Assistant Professor			
3	Mail ID	b.saugata@gmail.com			
4	Contact No	9073396395			
5	Date of Joining	03.09.2001			
Academic qualifications					
6	Degree	Subject	University	Year	
	Ph.D	Critical Phenomena	Jadavpur University	2001	
	M.Phil				
	MA/M.sc	Physics	Calcutta University	1994	
	BA/B.Sc	Physics	Calcutta University	1992	
PH.D. DETAILS					
7	Title of the Thesis	Phase Transitions in Restricted Geometry			
	Field of specialization under subject/ discipline	Statistical Physics			
8	PREVIOUS POSITIONS/Engagement				
9	Google scholar page:	https://scholar.google.com/citations?user=rdjhs4oAAAAJ&hl=en			
10	ORCID ID				
11	HONOURS AND AWARDS	**INSA TEACHER AWARD, 2022**			
12	CURRENT RESEARCH PROJECT/Field of Research	Statistical Physics, Nonlinear Phenomena, Diffraction theory, Quantum systems			
13	TECHNICAL UNDERSTANDING AND EXPERIENCE	Statistical Field Theory, Renormalization Group (momentum Shell and Field theory) for both static and dynamic problems, fluid mechanics			
14	SUMMARY OF RESEARCH EXPERIENCE	Handled static and dynamic critical phenomena using renormalization techniques in restricted geometry for superfluid Helium. Standard Statistical systems (both classical and quantum), Large N approximation, Scaling theory etc.			
15	EXPERIENCE OF PROJECT MANAGEMENT				

16	COMPLETE LIST OF PUBLICATIONS (Maintain Harvard Format)	1. Saha-Basu equation of state and its application to Carnot Cycle, Eur. J. Phys. (doi:10.1088/1361-6404/ac654d, 2022) 2. Rayleigh-Sommerfeld scalar diffraction by rotating apertures Journal of Physics Communications 6:085015 (doi:10.1088/2399-6528/ac8b61, 2022) 3. Saha-Basu equation of state and its application to Carnot Cycle, Eur. J. Phys. (doi:10.1088/1361-6404/ac654d, 2022) 4. Rayleigh-Sommerfeld scalar diffraction by rotating apertures Journal of Physics Communications 6:085015 (doi:10.1088/2399-6528/ac8b61, 2022) 5. Symmetries in porous flows: Recursive Solution of Brinkman equation in polygonal ducts, J. Phys. Commun. 5 085006 (doi: 10.1088/2939-6528/ac184a, 2021) 6. Explicit Derivation of the Fraunhofer Diffraction Formula for Oblique Incidence, Eur. J. Phys. 43, 015301 (doi:10.1088/1361-6404/ac2ece, 2021) 7. Rayleigh Sommerfeld Scalar Diffraction by apertures moving at relativistic speeds, Journal of Optics, Volume 23, Issue 4, id.045601, 8 pp. (doi: 10.1088/2040-8986/abdcb9, 2020) 8. Brownian Motion: An Introduction with a Historical Perspective, Indian Journal of Theoretical Physics, Vol: 67, No 3&4, pp67-98, 2019 9. Casimir Effect of a BEC inside a cylindrical tube, J. Phys. B: At. Mol. Op 8. Energy Fluctuations and Discontinuity of Specific Heat, J. Stat. Mech.: Theory and Experiment, Issue 3, article id. 03013 (doi: 10.1088/1742-5468/2015/03/P03013, 2015) 9. The Critical Casimir Force in the Superfluid Phase: Effect of Fluctuations, New J. Phys. 12 063039, 2010 10. Lambda transition in confined He4: ratio of surface specific heats above and below the bulk transition point, Phys. Rev. B, 61, 5899, 2000. 11. Hydrogen atom in magnetic field: large N expansion, Phys Letts. A, 265, 241, 2000 12. The dynamic structure factor near the Curie point, I.J.P, 73S, 171, 1999 13. Superfluid transition in a cylindrical pore: specific heat scaling function, Phys. Rev. B, 60, R746, 1999, (rapid communication) 14. Scaling function for the critical specific heat in confined geometry: spherical limit. Phys. Rev. B, 59, 3341, 1999. 15. Superfluid transition in a finite geometry: critical ultrasonics, Phys. Rev. B, 58, 15142, 1998

		16. Finite geometry specific heat scaling function near the lambda transition, Euro. Phys. Letts., 43(2), 129, 1998 17. Critical ultrasonics near the superfluid transition: finite size effects, J. Phys. A Letts, 31 , L575, 1998 18. Renormalization Group – An Introduction to the Undergraduates, in RARSP: A School for undergraduate students - 2017, Organized by Scottish Church College Kolkata, pp 55-62, 2017, ISBN: 978-93-86528-75-9 19. Ultraviolet divergences and scaling in a class of singular potentials, J.Phys.A, 36 L223-L227, 2003 20. Quantum Dynamics: the Ehrenfest view, Physics Education, p13, April 1999 **Book** 1. Nonlinear dynamics: near and far from equilibrium – (Coauthored with Professor Jayanta K Bhattacharjee, Formerly Director, HRI, Allahabad, Currently Distinguished Visiting Professor, Dept. of Physics, IITK.) Published by Springer–Verlag, Berlin (for reviews see http://www.springer.com/physics/complexity/book/978-1- 4020-5387-0?detailsPage=reviews), Published in India by Hindustan Book Agency, (TRIPS Series 7)t. Phys. 49 015301, 2016
17	Extracurricular Activities	Developing coursework for interdisciplinary field (Physics, Mathematics, Nonlinear Dynamics, Engineering etc)
18	Link to personal website (if any)	