

Anshul Choudhary

CONTACT INFORMATION	W15-1-110, ICBM University of Oldenburg 26129, Germany	anshul.choudhary@uol.de https://anshu957.github.io
RESEARCH INTERESTS	Complex networks, chaos and nonlinear dynamics, theoretical ecology, synchronization, nano-materials, complex systems and machine learning.	
EDUCATION	Indian Institute of Science Education and Research , Mohali, India Ph.D., Physics, <i>Awarded</i> : March 2016 <ul style="list-style-type: none">• Thesis Topic: <i>Dynamics on Complex Networks</i>• Advisor: Sudeshna Sinha, Ph.D Netaji Subhas Institute of Technology , Delhi, India B.E., Manufacturing Processes and Automation Engineering , May 2009 <ul style="list-style-type: none">• Thesis Topic: <i>Synthesis and characterization of ZnO- Graphene Nano-composites</i>• Advisors: Rajesh Purohit, Ph.D and Renu Pasricha, Ph.D	
SKILLS	Programming and Scripting Languages <ul style="list-style-type: none">• C, C++, SQL, LaTeX, Python (numpy, pandas, scikit-learn, NetworkX, graph-tool), MATLAB, XPP-AUTO.	
RESEARCH EXPERIENCE	Postdoctoral Researcher Department of Physics of Complex Systems, ICBM, University of Oldenburg Supervisor: Ulrike Feudel, PhD JC Bose Postdoctoral Fellow Department of Physical Sciences, IISER Mohali Supervisor: Sudeshna Sinha, PhD Research Fellow Department of Physical Sciences, IISER Mohali Supervisor: Sudeshna Sinha, PhD Research Intern Division of Material Characterization, National Physical Laboratory, Delhi Supervisor: Renu Pasricha, PhD	July 2016 to Present March 2016 to June 2016 Aug 2011 to Feb 2016 Jan 2009 to Aug 2009
REFEREED JOURNAL PUBLICATIONS	<ol style="list-style-type: none">1. Singh, G., Choudhary, A., Haranath, D., Joshi, A. G., Singh, N., Singh, S. and Pasricha, R. . “ZnO decorated luminescent graphene as a potential gas sensor at room temperature.” <i>Carbon</i>, 50:385-394, 2012.2. Kohar, V., Choudhary, A., Singh, K. P. and Sinha, S. . “Verification of scalable ultra-sensitive detection of heterogeneity in an electronic circuit.” <i>EPJ-ST</i>, 222:721-728, 2013.3. Choudhary, A., Kohar, V. and Sinha, S. . “Taming Explosive Growth through Dynamic Random Links.” <i>Scientific Reports (Nature)</i>, 4:4308, 2014.4. Choudhary, A., Kohar, V. and Sinha, S. . “Noise enhanced activity in a complex network.” <i>EPJ-B</i>, 87:1-8, 2014.	

5. Kohar, V., Ji, P., **Choudhary, A.**, Sinha, S. and Kurths, J. . “Synchronization in time-varying networks.” *Phys.Rev.E*, 90:022812, 2014.
6. **Choudhary, A.**, Kohar, V. and Sinha, S. . “Preventing catastrophes in spatially extended systems through dynamic switching of random interactions.” *Pramana*, 84:217-228, 2015.
7. **Choudhary, A.** and Sinha, S. . “Balance of interactions determines optimal survival in multi-species communities.” *PLoS One*, 10.1371 (2015).
8. Mitra, C., **Choudhary, A.**, Sinha, S., Kurths, J., Donner, R.V. . “Multiple-node basin stability in complex dynamical networks”. *Phys.Rev.E*, 95: 032317, 2017.
9. Rungta, P.D., **Choudhary, A.**, Meena, C., Sinha, S., “Are network properties consistent indicators of synchronization?” *EPL*, 117:20003 (2017).
10. **Choudhary, A.**, Mitra, C., Kohar, V., Sinha, S. and Kurths, J., “Small-world networks exhibit pronounced intermittent synchronization.” *Chaos (Fast Track)*, 27(11),111101 (2017).
Highlight: Featured article in Chaos (Issue: November 2017).
11. Mitra, C., Kittel, T., **Choudhary, A.** , Kurths, J., and Donner, R. V., “Recovery time after localized perturbations in complex dynamical networks.” *New Journal of Physics*, 19(10), 103004 (2017).
Highlight: Selected for New Journal of Physics exclusive “Highlights of 2017” collection.

PREPRINT

1. **Choudhary, A.**, Saha, A., Krueger, S., Finke, C., Rosa Jr., E., Freund, J.A., Feudel, U., “Weak-Winner Phase Synchronization”. Submitted (2018).
2. Dutta, P.S., Ramesh, A., Kooi, B., **Choudhary, A.**, Feudal, U., “Trait Dissimilarity Predicts Effects of Biodiversity on Biomass Production”. Under review (2018).
3. Chaurasia, S.S., **Choudhary, A.**, Shrimali, M. and Sinha, S., “Suppression and Revival of Oscillations through Time-varying Interaction”. Submitted (2017).

AWARDS

Travel Awards

- School on Hands-on Research in Complex Systems
by ICTP, Trieste, Italy June 2014.
- Visiting Research fellow at Potsdam Institute for Climate Impact and Research,
Potsdam, Germany July-Sept 2014

Academic Awards

- Cleared National level exams(GATE, CSIR-UGC-NET, JEST, TIFR)
for various fellowships for pursuing graduate studies Aug 2011
- Best Poster Presentation, Conference on Nonlinear Systems and Dynamics, IISER
Mohali 13-15 March 2015

PRESENTATIONS

Oral Presentation

- Institute of Electronics and Telecommunications Engineers, Delhi, India June 2006
- Perspectives in Nonlinear Dynamics, Hyderabad, India July 2013
- Conference on Nonlinear Systems and Dynamics, IIT Indore, India Dec 2013
- Inter IISER Physics Meet, IISER Pune, India Mar 2014
- Dynamics Days, CURAJ, Rajasthan, India Dec 2014
- SIAM Conference on Applications of Dynamical Systems, Utah, USA May 2017

	Poster Presentation	
	<ul style="list-style-type: none"> • Conference on Condensed Matter and Biological Systems, BHU, Varanasi, India 	Jan 2013
	<ul style="list-style-type: none"> • Hands-on Research on Complex Systems, ICTP, Trieste, Italy 	June 2014
	<ul style="list-style-type: none"> • Conference on Nonlinear Systems and Dynamics, IISER Mohali 	Mar 2015
	<ul style="list-style-type: none"> • International Symposium: Recent Advances in Nonlinear Dynamics and Complex Structures, ICBM, Germany 	June 2017
SCHOOLS	<ul style="list-style-type: none"> • DST SERC School on Nonlinear Dynamics, IISER Pune, India 	Dec 2011
ATTENDED	<ul style="list-style-type: none"> • RRI School on Statistical Physics, Bangalore, India 	April 2013
	<ul style="list-style-type: none"> • Hands-on Research in Complex Systems, Trieste, Italy 	June 2014
	<ul style="list-style-type: none"> • Winter School on Quantitative Systems Biology: Learning and Artificial Intelligence, ICTP, Italy 	Nov 2018
TEACHING	Instructor	2017 & 2018, Summer Semester
EXPERIENCE	Structure and Dynamics of Networks Department of “Theoretical Physics of Complex Systems” ICBM, University of Oldenburg.	
	Teaching Assistant	2016-2017, Winter Semester
	Praktikum Modellierung(Computational Modeling using MATLAB) Department of “Theoretical Physics of Complex Systems” ICBM, University of Oldenburg.	
	Teaching Assistant	2012-2013
	PHY212 - Modern Physics Lab Department of Physical Sciences, IISER Mohali.	
	PHY101 - Classical Mechanics 1 Department of Physical Sciences, IISER Mohali.	
INDUSTRIAL	Associate Consultant, HCL-AXON	Dec 2009 – July 2011
EXPERIENCE	<ul style="list-style-type: none"> • Implemented SAP modules for clients database according to their business requirements using ABAP language. 	
REFERENCES	Furnished upon demand.	