

N I R A J

KUSHWAHA

CONTACT INFO

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CURRENT POSITION

RESIDENT SCIENTIST / PHD CANDIDATE **2021-**
Complexity Science Hub Vienna | Josefstädter Str. 39, 1080 Vienna
(Supervisor: Dr. Edward D. Lee, Prof. Stefan Thurner)

- Discovering mesoscale for chains of armed conflicts
- Building dynamical models to explain population-level scaling in sessile organisms
- Joint affiliation with the Department of Physics, University of Vienna (Supervisor: Prof. Christoph Dellago)

EXPERIENCE

MASTER THESIS INTERN **2019-2020**
Complex Systems Lab, IIT Indore | Khandwa Rd, Simrol, Madhya Pradesh 453552
(Supervisor: Prof. Sarika Jalan)

- Worked on my master thesis for a year

WINTER INTERN **2018**
Astrophysical Sciences Division, Bhabha Atomic Research Station | Anushaktinagar, Mumbai - 400 094
(Supervisor: Mr. Bitan Ghosal)

- Main project topic: "Synchrotron emission by charged particles in a non-uniform magnetic field"
- Minor project on data analysis of radiation data from "Major Atmospheric Cerenkov Experiment Telescope"

EDUCATION

MSc. IN PHYSICS

2018-2020

Indian Institute of Technology (IIT) Indore | Khandwa Rd, Simrol, Madhya Pradesh 453552

- Thesis topic: "Engineering chimera and novel technique based on machine learning"
- Minor project on, "Crop classification using satellite imagery"
- Minor project on, "Credit card fraud detection"

BSc. IN PHYSICS(HONS.)

2015-2018

Institute of Science- BHU | Ajagara, Varanasi, Uttar Pradesh 221005

High school diploma

2010-2014

Atomic Energy Central School | Tarapur, India

ACHIEVEMENTS

National level exams

- Top 1% national level toppers (All India Rank=66) in National Graduate Physics Examination-2018
- All India Rank=432 in the national entrance exam for the Indian Institute of Technology in 2018

Awards

- Gold medal in National Science Olympiad conducted by All India Science Teacher's Association

PUBLICATIONS

Articles

Kushwaha, Niraj and Edward D Lee (2022). "Discovering the mesoscale for chains of conflict". In: *arXiv preprint arXiv:2212.02652*.

Kushwaha, Niraj, Naveen Kumar Mendola, Saptarshi Ghosh, Ajay Deep Kachhvah, and Sarika Jalan (2021). "Machine learning assisted chimera and solitary states in networks". In: *Frontiers in Physics* 9, p. 513969.

CONFERENCES

CONFERENCE ON COMPLEX SYSTEMS

2022

Palma de Mallorca, Spain

- Gave a talk on "Multiscale causal structure in armed conflicts"
- Presented a poster

THE GERMAN PHYSICS SOCIETY MEETING

2022

Regensburg, Germany

- Gave a talk on "Multiscale causal structure in armed conflicts"

CONFERENCE ON COMPLEX SYSTEMS

2020

Online

- Gave a talk on "Machine Learning assisted Chimera states in Networks"

HARVARD COLLEGE US-INDIA INITIATIVE

2017

Mumbai, India

- Delegate

SCHOOLS AND WORKSHOPS

LIPARI SCHOOL ON COMPUTATIONAL COMPLEX AND SOCIAL SYSTEMS <i>Lipari, Italy</i>	2022
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BIGSSS SUMMER SCHOOL <i>Groningen, Netherlands</i>	2022
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- Project topic: "Dynamical reciprocity in office spaces"

THE GREAT RESIGNATION WORKSHOP <i>Vienna, Austria</i>	2022
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GIAN WORKSHOP <i>Indore, India</i>	2018
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- Topic of workshop: "Network Science- from structure to dynamic"

OTHER ACTIVITIES

Volunteering work	<ul style="list-style-type: none">• Started an NGO with college friends at BHU to educate underprivileged kids in Varanasi• Worked as a climate counsellor for the International Centre for Culture and Education• Volunteer at the Buddy Project, Vielmehr für Alle! in Vienna
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Online Courses	<ul style="list-style-type: none">• "Network Dynamics of Social Behaviour" by University of Pennsylvania• "From big bang to dark energy by Prof. Hitoshi Murayama" by University of Tokyo• "Social Norms, Social change" by UNICEF• "Digital media marketing" by Internshala
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