Vedang Joshi

Contact Information

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Research Interests

Mathematical biology with applications primarily in dynamical systems and pattern formation (reaction/diffusion equations); complex networks; non-linear dynamical systems; mathematical epidemiology.

Education

University of Bristol, Bristol, UK **Jul 2018 - Present**

Master of Engineering (MEng), Engineering Mathematics
Activities and Societies: Bristol Engineering Mathematics Society, Bristol Swimming Society, IceSoc

Royal Wootton Bassett Academy Sixth Form, Swindon, UK **Jun 2016 - Jun 2018**

A-Levels: Mathematics, Further Mathematics, French, Physics, EPQ
Activities and Societies: Senior Prefect, Sixth Form Leadership Team

Papers in preparation

Klimm, F., **Joshi, V.**, Jones, N.S. and Chinnery, P.F. Mitochondrial proteins tend to be central in protein interaction networks.

Research Experience

University of Cambridge, Cambridge, UK

Research Assistant, Epidemiology and Modelling Group **Jun 2021 - Sept 2021**

- Advisors: Dr. Richard Stutt, Dr. Renata Retkute and Prof. Chris Gilligan
- Spatially-explicit stochastic dynamic epidemiological simulations on Cassava Brown Streak Disease (Uganda), Wheat Stem Rust (Ethiopia), Banana Bunchy Top (Nigeria) and Citrus Huanglongbing (USA, Australia) epidemics

Imperial College London, London, UK

Research Assistant, Biomathematics Group **Jun 2020 - Oct 2020**

- Advisors: Dr. Florian Klimm and Prof. Nick Jones
- Node-centralities in mitochondrial protein interaction networks for predicting gene essentiality.

Teaching Experience

University of Bristol, Bristol, UK

Demonstrator (Teaching Assistant) **Sept 2020 - Present**
EMAT10704 Discrete Mathematics 1: Teaching includes number systems and arithmetic, logic and proof, sets, relations and functions. Includes graph theory, and the link between continuous and discrete mathematics. Mode of teaching split between online and face-to-face learning.

Mathematics in Education and Industry, Swindon, UK

Teaching Assistant/Mentor **Jun 2020 - Sept 2020**
Advanced Mathematics Support Programme: Tutoring Year 12 maths students preparing for STEP and MAT. Helping with online tutorials, marking papers and worksheets and giving written feedback on group mathematical modelling tasks.

Shaw Ridge Primary School, Swindon, UK

Teaching Assistant **Oct 2016 - Nov 2016**
Teaching assistant for a Year 3 teacher to teach numeracy and literacy; assisted with class activity preparations.

STEM Outreach

University of Bristol, Bristol, UK

SCEEM (School of Engineering) Outreach Ambassador **Oct 2019 - Jun 2020**
The role required me to go to schools in the Bristol area and deliver STEM workshops and presentations for students ranging from 10-18 years.

Assistant, Urban Gulls Flight, Fluid and Aerodynamics Research Group **Nov 2019 - Feb 2020**
Duties included helping Cara and Anouk give talks on their research to high school students, conducting workshops and helping repair drones used in their presentations.

Volunteering

Cancer Research UK, Swindon, UK

Sales Assistant **Feb 2017 - Feb 2018**
Duties included running the till, processing stock received and getting it ready for the shop floor, keeping the shop floor tidy and tending to customer needs, with regards to any merchandise sold.

Swindon Borough Council, Swindon, UK

Assistant Librarian **Jan 2016 - Jul 2016**
Volunteering at the West Swindon Library comprised mainly of shelving and stacking books, helping people around the library with any computer issues and maintaining order in the library.

Achievements

Academic Achievement Award **2018**
Royal Wootton Bassett Academy
One of 18 recipients: For outstanding achievement in A-Level results

Award for Services to the School & Community **2018**
Royal Wootton Bassett Academy

Silver, Gold Award **2017, 2018**
Duke of Edinburgh Award

Bronze, Silver Medal **2015, 2016**
UK Mathematics Challenge

Special prize 'in appreciation of meritorious performance' **2014**
Maharashtra State Talent Search Examination, India
In the top 2% of 106000 entrants; Eligible for the National Talent Search Examination

Computer Skills

- Packages: NumPy, SciPy, SymPy, Matplotlib (Python packages)
- Languages: Python, MATLAB, limited experience in C and R
- Operating Systems: MS Windows, MacOSX, Unix/Linux (Used University of Bristol's BlueCrystal3 HPC; limited experience writing Bash scripts)
- Software: Maple, RStudio, Wolfram Mathematica, GitHub, MS Office
- Typography: LaTeX

Memberships and Affiliations

Student Member, Institute of Mathematics and it's Applications, UK **Dec 2019 - Present**

	Student Member, Australian Mathematical Society, Australia	**Jul 2020 - Present**
LANGUAGES	English	**Native proficiency**
	Marathi	**Native proficiency**
	Hindi	**Professional working proficiency**
	French	**Intermediate proficiency**
REFERENCES	**Available upon request**	