# Vedang Joshi

CONTACT Information Department of

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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; computational neuroscience.

EDUCATION

## University of Bristol, Bristol, UK

Jul 2018 - Present

MEng, Engineering Mathematics

Activities and Societies: Bristol Engineering Mathematics Society, IceSoc

## Royal Wootton Bassett Academy, 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

- Upcoming summer internship.
- Advisors: Dr. Rich 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, MS Office
- Typography: LATEX

MEMBERSHIPS AND Student Member, Institute of Mathematics and it's Applications, UK Affiliations

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 Prof. Anthony Mulholland

Head of the Department of Engineering Mathematics,

University of Bristol,

Merchant Venturers Building, Woodland Road, Bristol,

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