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| CONTACT INFORMATION | School of Engineering Mathematics Queen's building University of Bristol BS15 1RZ UK | kn22417@bristol.ac.uk aa2147@cantab.ac.uk |
| EMPLOYMENT | University of Cambridge , Cambridge, UK Murray Edwards College Summer School Deputy Director Summer School Director | July 2023 – August 2024 October 2024 – August 2025 |
| | University of Cambridge , Cambridge, UK Department of Applied Mathematics and Theoretical Physics Cambridge Mathematics Open intern | July 2022 – August 2022 |
| | University of Bristol , Bristol, UK Faculty of Engineering Widening participation tutor | July 2023 – |
| EDUCATION | University of Bristol , Bristol, UK School of Electrical, Electronic and Mechanical Engineering Ph.D., Mathematics <i>Advisors: Dr Andrew Lawrie, Dr Stuart Thomson</i> <i>Thesis title: Hydrogen Ventilation in a Geological Disposal facility</i> | November 2022 – |
| | University of Cambridge , Cambridge, UK BA Mathematics <i>Courses mostly in applied mathematics.</i> | October 2019 – June 2021 |
| RESEARCH INTERESTS | <ul style="list-style-type: none"> • Experimental Fluid Dynamics • Numerical methods in Fluid Dynamics • Molecular processes in Fluids Research students Pengzhu Shi (MSc) | January 2025 – |
| TALKS AND PRESENTATIONS | Research Talks <ul style="list-style-type: none"> • British Applied Mathematics Colloquium, UEA, Norwich 'On the Mixing Behaviour of Plumes in a Confined Environment' - Poster presentation • RSO annual conference, Manchester 'How does hydrogen build up in a closed vault environment?' - Poster presentation • EFDC2 – 2nd European Fluid Dynamics Conference, Dublin 'Mixing behaviour of plumes' | 2026 2026 2025 |

- RSO annual conference, Bristol 2025
‘Hydrogen ventilation in a GDF’ - Poster presentation
- RSO advanced manufacturing webinar (Online) 2024
‘Ventilation of Hydrogen in UILW Vaults ’
- RSO annual conference, Sheffield 2024
‘Mixing Behavior of Laminar Plumes with and without a Ventilating Crossflow’
- RSO annual conference, Leeds 2023
‘Hydrogen Ventilation in a Geological Disposal Facility’
- CMP presentation day, Cambridge 2022
‘The motion of anisotropic carbon nano-particles in shear flow: a hydrodynamic perspective’
- Murray Edwards College Maths Circle, Cambridge 2019
‘Sphere packing’

UNDERGRADUATE **Lead Demonstrator** *Wrote and delivered weekly tutorials*

TEACHING

University of Bristol

EXPERIENCE

Introduction to Pure Mathematics

Sept 2024 – Dec 2024

Probability and Statistics

Jan 2025 – March 2025

Supervisor

Various colleges¹ at University of Cambridge

II Fluid Dynamics

Michaelmas 2024 - Present

Teaching Assistant

University of Bristol

Continuum mechanics

January 2024 – May 2024

Applied Linear Algebra

March 2024 – April 2024

Modelling in Applied mathematics

Sept 2024 – Dec 2024

Engineering Mathematics

Sept 2024 – January 2026

Private Tutor

A Level Mathematics (online and in-person)

October 2019 –

A Level Further Mathematics (online and in-person)

October 2019 –

A Level Physics(online)

October 2019 –

A Level Computer science (online)

October 2019 –

STEP Mathematics (online)

October 2020 –

MAT (online)

October 2020 –

OUTREACH &
ENRICHMENT

Summer School Director *Created teaching materials and timetables; made admissions decisions; delivered classes and supervisions; ran evening activities.*

Murray Edwards College, Cambridge

She Talks Science STEP summer school, for Y12

2025–

Summer School Deputy Director *Contributed to teaching materials, delivered classes, and supervisions, ran evening activities*

¹Emmanuel, Queen’s, Sidney Sussex, Murray Edwards, Magdalene, Girton, Lucy Cavendish, Fitzwilliam, Churchill and Jesus.

Murray Edwards College, Cambridge

She Talks Science STEP summer school, for Y12

2023–24

Summer School Staff *Delivered classes, and supervisions, ran evening activities***Murray Edwards College, Cambridge**

Murray Edwards STEP summer school, for Y12

2019 - 2022

University of Cambridge

Sutton Trust Summer School

2021 - 2022

Intro to Maths at Uni

July 2021

Outreach talks *Delivered research talks to help with widening participation.*

Sutton Trust Summer School

July 2024 – 2025

Insight Into Bristol Summer School

July 2024 – 2025

Next Step Bristol

November 2025

Dipont Education, Wuxi

Dipont summer camp - Specialist Maths tutor

July 2026

ADMISSIONS,
EXAMINING,
OLYMPIADS**Maths Undergraduate Admissions Interviewer** *writing questions, interviewing, assessing applicants.***Homerton College, Cambridge**

2024

Vetter *Assessing content, scope, difficulty, and clarity of wording on draft versions of papers and providing feedback.*

UK Mathematical Olympiad for Girls

2019

Pearson Vue Assessment Associate

TMUA

2024

ESAT

2024

Marker *implementing and feeding back on mark scheme.***University of Bristol**

Applied linear algebra coursework

2024

Engineering mathematics

2024

Introduction to Pure Mathematics

2024

Probability and Statistics

2025

Applied analysis B

2025

Cambridge Assessment

Sixth Term Examination Papers (STEP) II

2024 – Present

Sixth Term Examination Papers (STEP) III

2024 – Present

United Kingdom Mathematics Trust

UK Mathematical Olympiad for Girls

October 2019

SERVICE

Panellist

- Mathematics Open Day, University of Cambridge 2022
- Sutton Trust Experience Cambridge Day 2020-22
- BLUE Education Oxbridge interview seminar Oct 2025

ADDITIONAL
SKILLS

- Proficient in MATLAB, Python, C, and \LaTeX ;
- Reading and conversational proficiency in Urdu;

- Experienced with virtual teaching platforms including Zoom, Microsoft Teams, Voov, Moodle, Whereby, Lessonspace, and Blackboard;
- Skilled in developing numerical simulations using the Finite Element Method;
- High Performance Computing (Blue Crystal and Blue pebble) – experienced in running simulations and managing parallel computations.

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Dr Eve Vidalis
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REFEREES

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