

# Scott Morgan

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## Education

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### Academic Qualifications

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- **Cardiff University**  
*PhD Mathematics: In Progress* 2014–Present
- **Cardiff University**  
*MMath Mathematics: First Class Honours, Best in School* 2010–2014

### Research Projects

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- **PhD Thesis (In Progress):** *Stability of Oscillatory Rotating Disk Boundary Layers*  
*Synopsis: To investigate the stabilising effects of adding modulation to a rotating disk boundary layer.*
- **MMath Thesis:** *Topics in Oscillatory Flow*  
*Synopsis: To investigate the connection between the local and global stability analyses of an oscillatory Stokes layer.*
- **Undergraduate Project (CUROP):** *Boundary Layer Flows with an Oscillatory Rotation Rate*  
*Synopsis: To develop an efficient numerical algorithm for solving a system of nonlinear time-dependent differential equations.*

### Academic Awards

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- **Recognition for Outstanding Contribution (2017)** - *Society of Industrial and Applied Mathematics*
- **Best in School Prize (2014)** - *Cardiff University*
- **Second Year Prize (2013)** - *Cardiff University*
- **First Year Prize (2012)** - *Cardiff University*
- **Calculus Prize (2011)** - *Cardiff University*

## Academic Appointments

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- **Cardiff University**  
*Associate Lecturer* January 2018–Present
  - Delivered the second year undergraduate module *Elementary Fluid Dynamics*.
- **Cardiff University**  
*Postgraduate Demonstrator* October 2014–Present
  - Devised, composed and delivered an 11-week intensive course titled *An Introduction to MATLAB* to final-year undergraduates and postgraduates.
  - Led weekly classroom based tutorial sessions on a wide variety of topics including Calculus, Group Theory, Analysis, Differential Equations and Computing.
  - Instructor in weekly drop-in sessions, handling a wide range of mathematics-based queries from students in many fields including Engineering, Physics, Economics, Biology and Chemistry.
- **Bridgend College**  
*Computing Consultant and Associate Lecturer* September 2016–Present
  - Devised, composed and delivered units for BTEC Levels 2, 3 & 4 in Automated Systems, Control Systems and Website Design & Development.
  - Delivered CPD training sessions to staff at Bridgend College using Raspberry Pi, Python and BBC Micro:bit.
  - Worked closely with industrial partners and participated in regional and national events such as the Urdd Eisteddfod, World Skills, STEM fairs and Senedd exhibitions to showcase projects to local schools, businesses and Government.

## Notable Contributions

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- **Founding member of UKFN SIG on boundary layers and complex rotating flows** (2017 - Present)
  - Awarded competitive £600 grant for *short research visits* to Leicester, Warwick and Coventry to develop collaborative ties.
- **Brilliant Club Tutor** (2018 - Present)
  - Successful in application to Brilliant Club PhD Scholars programme.
  - Developed and ran short courses aimed at talented KS3 and KS4 students from traditionally disadvantaged backgrounds.
- **STEM Ambassador** (2017 - Present)
  - Organised and ran several workshops based around computing and control technologies at primary and secondary schools in Bridgend, Cardiff and Bristol.
- **Raspberry Pi Certified Educator** (2017 - Present)
  - Developed resources and delivered extensive CPD sessions to staff at Bridgend College based around control technologies, computing and programming.
- **BSA Cardiff Committee Member** (2017 - Present)
  - Actively involved in organisation of activities including Cardiff *Science Cafe*.
- **Cardiff SIAM-IMA Student Chapter President** (2015-2017)
  - Secured competitive grant funding totalling over £2000 for conference travel and public engagement workshop sessions including external workshops on robotics, 3D printing and Raspberry Pi. Article published in *Mathematics Today*.
  - Received *Recognition for Outstanding Contribution* award for public engagement and chapter activities.
  - Organised and hosted the SIAM National Student Chapter Conference at Cardiff University.
  - Arranged highly successful, weekly *popular science* talks delivered by and to postgraduate students.
  - Organised *3-minute thesis* competition for postgraduate students.
  - Oversaw creation of new *SIAM-IMA* chapter after securing grant funding from the IMA.

## Grant Funding

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- **EPSRC Postgraduate Research Studentship** (2014-2018)  
£13,863 p/a (3.5 years)
- **LMS Education Grant** (2018)  
£425
- **UKFN Short Research Visit Grant** (2018)  
£600
- **SIAM UKIE Travel Award** (2018)  
£80
- **SIAM SNSCC Travel Award** (2017)  
€150
- **SIAM Student Travel Award** (2017)  
\$800
- **ERCOFTAC Travel Award** (2017)  
€220
- **IMA Education Grant** (2017)  
£400
- **Cardiff University Widening Access Funding** (2017)  
£500
- **SIAM Student Representative Award** (2016)  
\$700
- **Cardiff Undergraduate Research Opportunities Program (CUROP)** (2013)  
£1600 (8 weeks)

## Publications

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- Scott Morgan, Christopher Davies, *Linear stability analysis of steady and temporally periodic flow configurations using a velocity-vorticity formulation (in draft)*
- Scott Morgan, Christopher Davies, *Stability of rotating disk boundary layers with a periodically modulated rotation rate (in draft)*

## Major Conferences & Workshops

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- **Hosted:**
  - 5th SIAM National Student Chapter Conference - *Cardiff University (2016)*
- **Invited Talk:**
  - Engineering Department Seminar Series - *Warwick (2018)*
  - Department of Engineering Seminar Series - *Leicester (2017)*
  - Cardiff Science Cafe - *Cardiff (2017)*
- **Contributed Talk:**
  - PyDiff - *Cardiff (2018)*
  - DiPaRT - *Bristol (2017)*
  - UKFN SIG: Boundary layers and complex rotating flows - *Warwick (2017)*
  - SIAM Annual Meeting - *Pittsburgh (2017)*
  - ERCOFTAC SIG33 Workshop - *Siena (2017)*
  - 6th SIAM National Student Chapter Conference - *Galway (2017)*
  - Welsh Mathematics Colloquium - *Gregynog (2017)*
  - Welsh Mathematics Colloquium - *Gregynog (2016)*
- **Contributed Poster:**
  - SIAM UKIE Annual Meeting - *University of Southampton (2018)*
  - SIAM UKIE 20th Annual Meeting - *University of Cambridge (2016)*