RWAM 2026 Roundtables

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How to get your first permanent university job in mathematics

Outline

Our career paths so far

Early-Career Pathways and Preparation

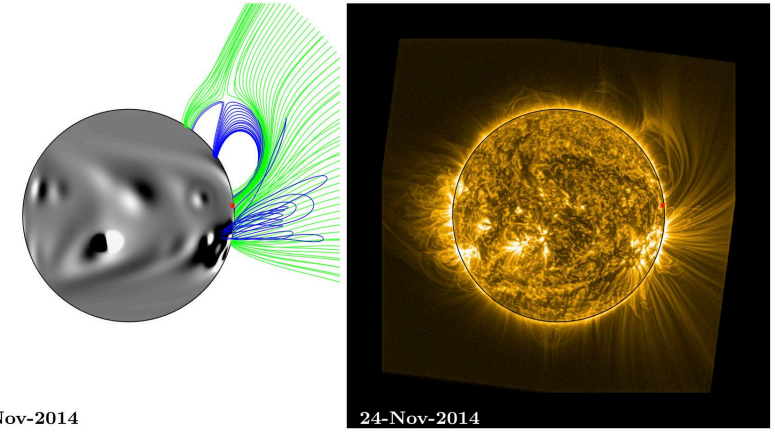
Job Applications and Interviews

Networking and Visibility

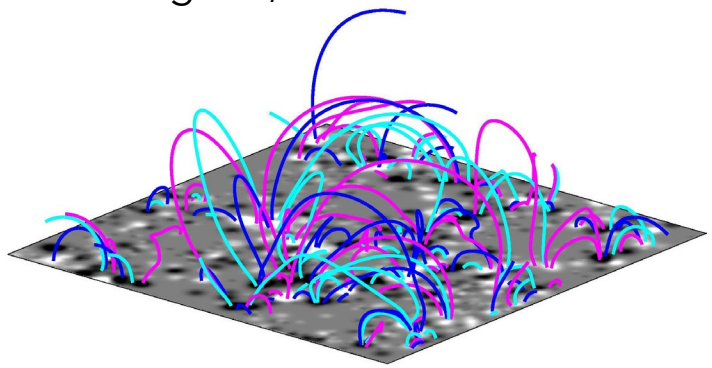
Reflection and Advice

Aim: To share constructive, practical advice

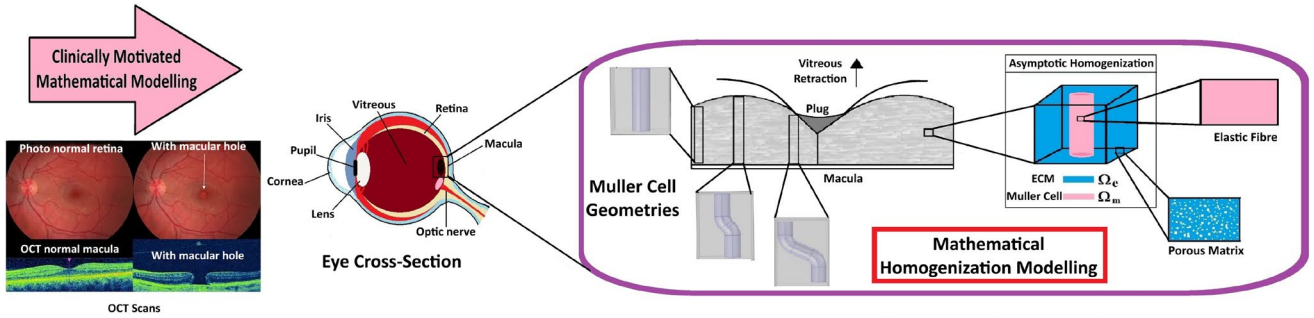
Karen Meyer



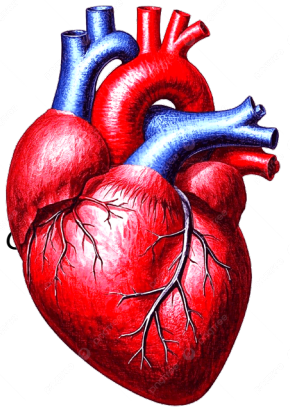
- PhD: University of St Andrews (2008-2012)
  - Applied Mathematics (Solar Physics)
  - Modelling the Sun's small-scale magnetic field
- Postdoc: St Andrews (2012-2014)
  - Continuing PhD work
  - Lecturing experience
  - Supervision of undergraduate summer research project
- Lecturer in Mathematics: Abertay University (2014-2020)
  - PhD student
  - Carnegie Research Incentive Grant (£6143, 2017)
  - PROBA-2 Guest Investigator Program (3 x 2 week collaborative visits to Royal Obs. Belgium, 2017-18)
  - Scottish Crucible and Aurora leadership programmes (2016, 2019-20)
- Lecturer in Mathematics: Dundee University (2020-present)
  - STFC Consortium Grant (~£480,000, 2022-2025)
  - 2 PhD students and 1 PDRA



Laura Miller



- PhD: University of Glasgow (2018-2022)
  - Applied Mathematics (Continuum Mechanics)
  - Multiscale Modelling of Perfusion and Mechanics in Poroelastic Biological Tissues
  - Lecturing/GTA Experience
- Postdoc: University of Glasgow (2022-2024)
  - EPSRC Doctoral prize research fellow - A 2-year fellowship
  - *"Improved Diagnostics and Treatment of Heart Disease via Homogenized Modelling and Simulations of the Multiscale Deformations and Electrical Conductivity Within the Myocardium"*
  - Supervision of MSc research projects



- Lecturer in Mathematics: University of Strathclyde (2024 - Present)
  - PhD student supervision
  - INI-HIMR Network: *Biological Tissues – Modelling, Mechanics and Applications* (August 2025-July 2027)
  - IAA Grant - *Physics Informed Neural Networks and Liquid Crystal Based Treatment Methods for Bacterial Corneal Ulcers*
- Research interests:
  - Continuum/fluid mechanics, homogenization, asymptotic methods, porous media flows, cardiac and ocular mechanics

Where to look for academic jobs?

Jobs.ac.uk

Mailing lists eg: UK Fluids Network

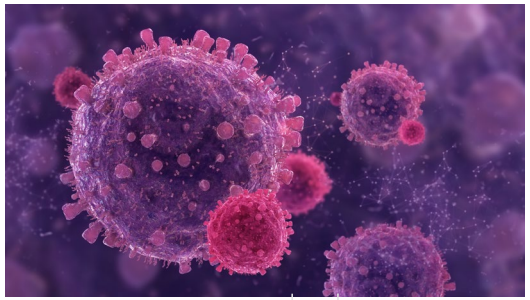
University/college webpages (especially for JRFs etc)

Academics' webpages and LinkedIn

Funders' webpages

Many Uni's offer help applying for external funding/fellowships

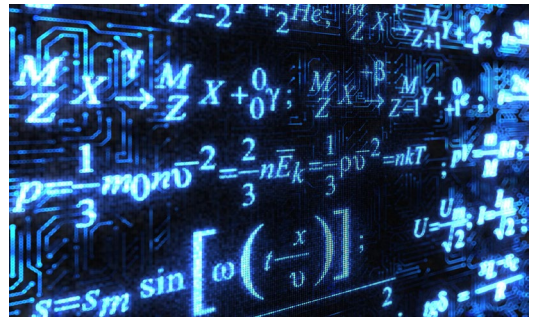
Task 1: Early-Career Pathways and Preparation



- What skills and experiences are most valued when applying for academic positions in mathematics/STEM?

- How can early career researchers balance research output, teaching experience, and service roles when building a competitive CV?

- What role do postdoctoral positions, fellowships, or industry experience play in securing a permanent role?



Why apply for money?

Obvious:

- To travel/go to conferences/realise impact/do something cool
- To fund yourself or a student

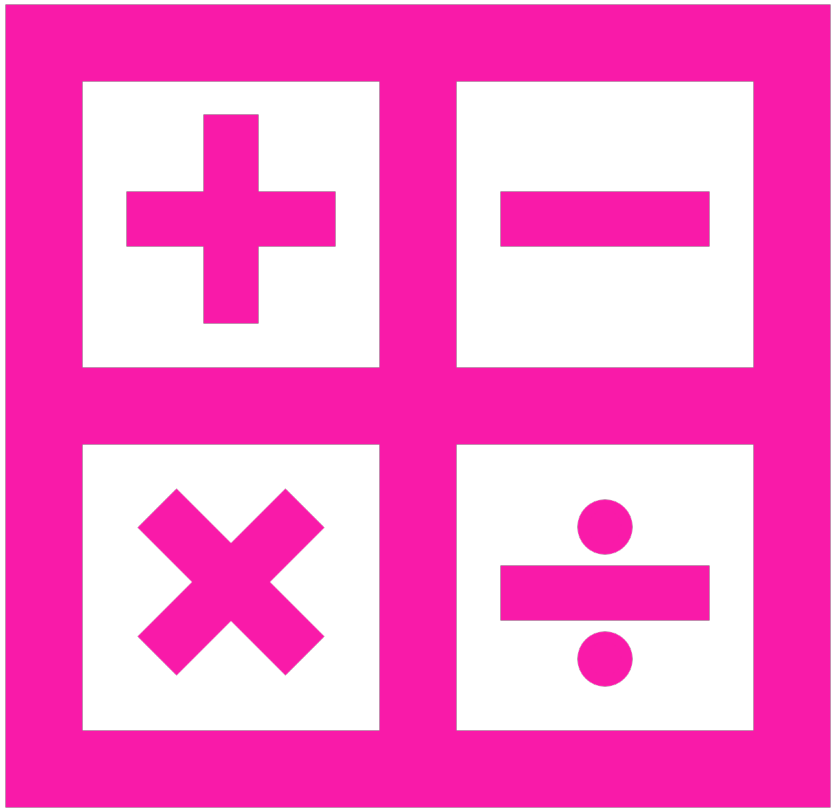
Also:

- To practise explaining why your work is important/valuable/worth funding
- For the application experience
- For CV points!

Funding Pots – projects, events, travel

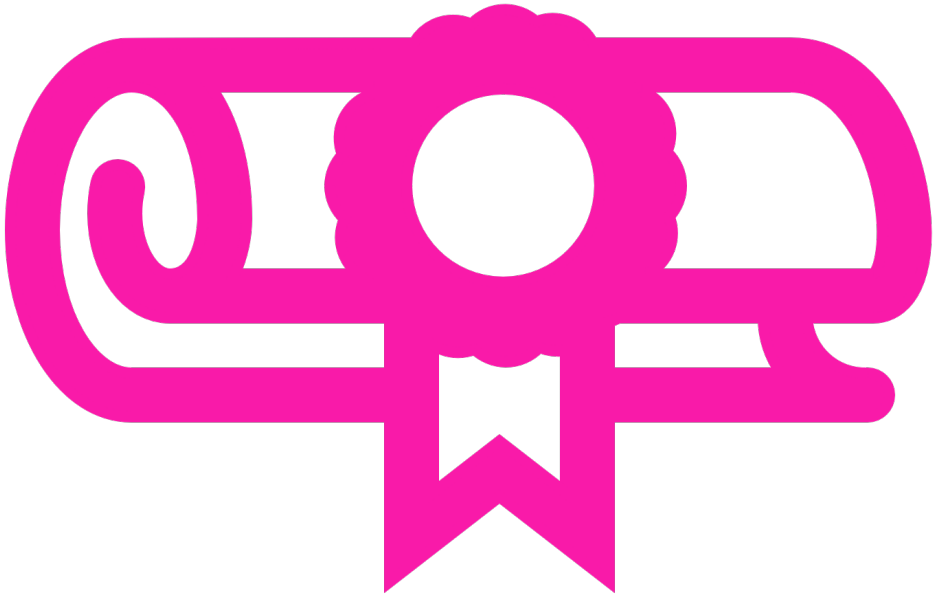
- Institute of Mathematics and its Applications (IMA)
- London Mathematical Society (LMS)
- Edinburgh Mathematical Society
- Society of Industrial and Applied Mathematics (SIAM)
- Isaac Newton Institute (INI)
- ICMS

- Your university:
  - Impact Accelerators,
  - Pump priming
  - Travel
  - Undergraduate summer projects



Postdoctoral Fellowships

- LMS Early Career Fellowships (3-6 months post PhD)
- EPSRC Doctoral Prize (1-2 years post PhD)
- Royal Exhibition of 1851 (3 years)
- EPSRC Early Career Fellowships (3 years)
- Leverhulme Early Career Fellowships (3 years, half funding)
- Royal Society University Research Fellowship (8 years)
- Royal Society Dorothy Hodgkin Fellowship (8 years, flexible working pattern)



Applying for a fellowship

- Like applying for a job:
  - Online application form
  - CV or details of your previous achievements, publication list
  - Referees
  - **Research proposal**
  - **Budget**
  - **Statements about Research Integrity, Equality/Diversity, Career Development, Impact**
  - Go out for review, go to a panel, maybe an interview

- Vary significantly in length of application

- Similar to a grant but a fellowship is about YOU rather than just the PROJECT

Writing a research proposal

A research idea that is

- Interesting and important (to who?)
- Novel and original
- Builds on the state-of-the-art
- Different to your PhD (but can be related)
- You are the "ideal" person to do it (skillset and experience)

Who will you collaborate with?

- At your institution? Elsewhere in the UK or abroad?

What will your outputs be?

- Papers; conference attendance;
- Code? Software?
- Outreach, engagement?
- Partnerships with industry, government, experimentalists, social scientists,…
- Your own future career – where will this take you?

Keep your audience in mind

- Accessible and clear, but enough technical detail

Get as much advice and feedback as you can

- Supervisor/mentor
- "Research Development Manager" or similar
- Planned collaborators
- Other academics in your area
- Peers

Be organised

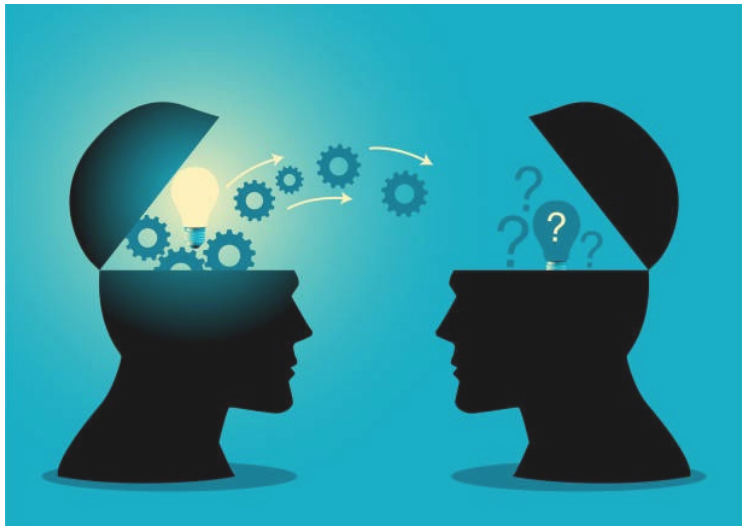
- First draft several months before the deadline
- Some Universities will run internal selection months in advance

Task 2: Job Applications and Interviews

- What strategies make an academic CV and cover letter stand out in mathematics/STEM disciplines?

- How can candidates best prepare for interviews and presentations, especially when asked to demonstrate teaching and research vision?

- What common mistakes do applicants make, and how can they be avoided?



Job Application Process

Documents

CV and publication list

Cover letter – refer to the job criteria

(Research statement;

teaching statement; …)

References

References

Usually 2-3. Ideally ask people who:

(i) know you well

(ii) are respected/established in the field

(iii) are from a variety of institutions or countries

Send referees your application documents, any important things for them to mention

Interviews:

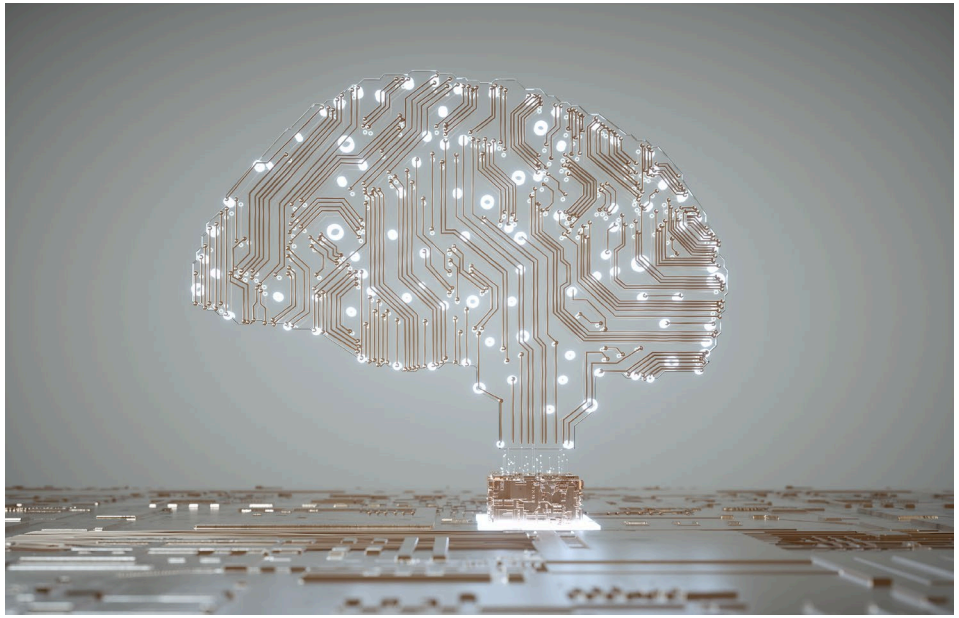
Technical and/or non-technical

Research talk/seminar

Teaching demonstration

Task 3: Networking and Visibility

- How important is networking (conferences, collaborations, departmental visibility) in securing a permanent position?
- What are effective ways to build a professional profile and reputation beyond publications?
- How can applicants leverage mentorship and peer support during the job search?



Task 4: Reflection and Advice

- What advice would you give your younger self about preparing for a permanent academic role?
- How can institutions better support early career researchers in navigating the transition to permanent positions?

Presenting at a Conference

Always a good idea to present – easier for people to know who you are and what you do

- **Poster**:
  - Make it eye-catching and easy to digest (not a wall of dense text and equations!)
  - Prep a 2-minute introduction
  - Stand by your poster and chat with people

- **Talk**:
  - Judge your audience
  - Tell a story
  - Practise
  - Keep to time!

Conference Networking Tips

Before

- Prep a 30s “elevator pitch” to explain who you are and what you do
- Plan who you want to talk to/what sessions you want to attend

During

- Say hello to someone new (you don’t have to talk about maths!)
- Ask a question after a talk

Afterwards

- Make some notes on who you spoke to/what about
- Follow up – drop them an email/add them on LinkedIn/ask them if they can share their paper/slides etc

Final tips for navigating your “early career”

- Look people up (personal webpages, google scholar, LinkedIn)
  - Senior people – what grants have they got/are they hiring?
  - People just further along than you – what career path have they followed? What do they have on their CV? How do they present themselves online?
- Advertise yourself
  - Make a website, talk to people, get involved and help out
- Find your niche
- Ask for help and advice from a variety of sources
  - Supervisor, mentor, peers and friends
- Have a plan (and adapt it if necessary)

Any final advice from the room?