# Fellowships

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# My Career So Far

- PhD at Glasgow (2014–17).
    - "Solving Hard Subgraph Problems in Parallel"
- Researcher Co-I on EPSRC standard grant at Glasgow, with St Andrews (2017–21).
    - "Modelling and Optimisation with Graphs"
- Royal Academy of Engineering Research Fellowship at Glasgow (2021–26).
    - "Trustworthy Constraint Programming and Optimisation"
- Lecturer at Glasgow (2026–).

# RAEng Early Career Fellowships

- Must have been awarded PhD in the past four years, and should have a strong chance of getting a permanent position, but must not have one yet.
- Aimed at developing talent within engineering (interpreted broadly).
- Five years with no teaching responsibilities, to run an independent research project.
  - Minimal and only high-level oversight on my research.
  - Can supervise PhD students and recruit postdocs.
  - Career progression judged entirely upon research (quality, impact, funding, . . . ).
- They want you to develop a sustainable research group.

# The Application Process

- Whole process takes over a year.
- Thirty page proposal document:
    - Six pages on the project itself (including references and workplan).
    - Six pages on the applicant (including CV).
    - Costings, letters of support, . . .
- Multi-stage review and interview process.
- I also applied for UKRI Future Leaders Fellowship: similar process.

# Internal Selection

- University has a cap on number of applicants each year.
- Internal selection: short proposal, track record and CV, interview.
- Glasgow's internal reviewers are probably from engineering, and are not necessarily looking for the same thing that computing science or external reviewers would be.

# The Track Record and Career Development

- Fellowships are primarily about the applicant.
- Key points *for me*:
    - Consistent publication record.
    - Evidence of independent research and collaborations.
    - Prior funding.
    - Awards.
- Host institution matters too: why Glasgow?
    - Wrong answers: because I don't want to move, or because my supervisor is here.
    - For me: Glasgow has people who do algorithms theory, and people who do algorithms practice, and they actually talk to each other.
    - What is the institution offering to support the fellowship?

# The Proposal

- Must be ambitious.
    - Not more of the same (independence risk, why not a postdoc?).
    - Need to be able to sell the idea to a politician in one minute.
- Must be (mostly) feasible.
    - Plausible enough that you're willing to risk your career on it.
- Ideal: take some things you've done in a new direction, to do something that could be revolutionary.

# Collaborations and Project Partners

- Important that you are independent.
- Also important that you are supported and not isolated.
- Anything critical from other people must be backed up by strong letter of support.
- For me:
  - Industry collaborator is for knowledge exchange and a pathway to impact.
  - Academic collaborators for broadening research and increased efficiency.
  - Substantial time visiting academic collaborators.

# Costing

- Takes a long time.
- Research support office can help, but don't know what money you need.
- £500k cap (now £650k):
    - This is far less money than you might think.
    - Has to cover indirect costs, overheads.
    - Need to think of all spending in advance (travel, consumables, ...).
- £100k additional support from the College, to pay for a PhD student.

## The Reviews

- Non-specialist filtering review (engineers, not computing science).
- Specialist review (two out of four reviewers understood the research).
- Interview panel (one person out of five who understood the research).

# The Interview

- Half an hour to decide your career.
- Can be practiced, the questions are mostly fairly standard.
- Mine went somewhat off the rails. . .

# Is it Worth It?

- I get paid to work on something I actually care about and genuinely think might be important.
- I couldn't do most of this any other way.

# What Did I Get Wrong?

- First couple of attempts at applying weren't quite fashionable enough.
- Some of my work packages aren't really how I'm actually doing things.
    - That's fine though.
- Travel and PhD students a lot more expensive than pre-COVID.
    - University finances are horribly inflexible. Should have argued for a lot more wiggle room...

# Where to Start?

- Watch for internal calls.
- Support on grant writing and fellowships available through ECDP.
- Section heads should know who to talk to for help.
- Talk to existing fellows.
    - Vital that you've seen several examples of successful applications.

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