

Quantum researcher in academia

As a quantum researcher in academia, you would be based in a university and would conduct research into cutting edge technologies. You would design and model new technologies or carry out experiments using them. Alongside your research you may contribute to wider university life, for example, through teaching or supervising students.



What does the role involve?

- Applying for grants to fund research projects
- Planning, managing and conducting research projects
- Designing and testing new technologies
- Analysing results and drawing conclusions
- Writing scientific papers
- Attending conferences and presenting results
- Teaching or supervising students
- Attending meetings
- Administration



Where would I work?

Laboratories and offices within campuses or research facilities. Sometimes fieldwork could be involved. Domestic and international travel is common.



What subjects should I do well in at school?

Computer Science, Mathematics, Physics, Electronics, Chemistry.



What qualifications do I need?

Minimum bachelor's degree but ideally PhD in Computer Science, Electronic Engineering, Mathematics, Physics (or related field).



What skills and attributes are required?

Good written and verbal communication, proficient in IT, knowledge and application of programming languages, time management, problem solving, critical thinking, ability to work in a team and individually, project management, inquisitiveness, determination, resilience.



What work experience would be helpful?

Experience carrying out research projects, writing scientific reports, teamwork.



What about career progression?

This career pathway offers a great deal of progression, once a researcher has obtained a PhD they can move on to become a postdoctoral researcher, lecturer, senior lecturer and eventually a professor. Often academic researchers can also act as consultants to government and industry regarding their particular field, sometimes contributing to policies etc. Some academics also set up start-up companies to commercialise their technologies.

CASE STUDY



Dr Zixin Huang

Zixin studied Physics and Chemistry at undergraduate level, at the University of Sydney, before undertaking a PhD in quantum photonics at the same institution. She then moved to the University of Sheffield to work as part of the Quantum Communications Hub on quantum measurements testing (metrology) and (quantum enabled) super-resolution imaging technologies. She has since obtained a fellowship and moved to the Sydney Quantum Academy. Find out more about Zixin's journey at: (tinyurl.com/careersinquantum).



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