

# Dr Gary Beane

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## PROFESSIONAL SUMMARY

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Experienced scientist and project manager with a strong background in ultrafast spectroscopy, data analysis, and instrumentation. Proven track record in leading multidisciplinary teams, delivering complex projects, and communicating technical concepts to diverse audiences. Skilled in programming, signal processing, and advanced materials research.

## KEY SKILLS

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- ◆ Ultrafast spectroscopy & optics
- ◆ Device fabrication & photolithography
- ◆ Chemical synthesis (Quantum Dots, peptides)
- ◆ Simulations (COMSOL, Lumerical)
- ◆ CAD modelling
- ◆ Programming: Python, Julia, Fortran, C, Rust, JavaScript
- ◆ Data analysis & machine learning
- ◆ Signal processing
- ◆ Project management & leadership
- ◆ Scientific communication
- ◆ Linux

## PROFESSIONAL EXPERIENCE

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### FLEET RESEARCH FELLOW

**Monash University, Clayton, VIC, Australia**

📅 **Nov 2018 – Present**

- ◆ Led multidisciplinary teams in ultrafast laser optics laboratory design and commissioning.
- ◆ Managed multiple research projects from conception to completion, ensuring timely delivery.
- ◆ Supervised and mentored PhD, Honours, and undergraduate students.
- ◆ Organised faculty-wide research symposia and managed budgets as Chair, Early Career Research Network.
- ◆ Developed and implemented advanced data analysis and instrument control solutions.

### SCIENTIFIC CONSULTANT

**Freelance**

📅 **2020**

- ◆ Provided optics and sensor design expertise to biomedical industry clients.
- ◆ Delivered actionable technical solutions and clear communication to non-specialist stakeholders.

## POSTDOCTORAL RESEARCH FELLOW

**University of Notre Dame, Notre Dame, IN, USA**

 **Nov 2016 – Nov 2018**

- ◆ Designed and built a Fourier imaging microscope, resulting in high-impact publications.
- ◆ Supervised graduate students and managed laboratory operations.
- ◆ Conducted advanced microscopy and spectroscopy experiments.

## POSTDOCTORAL RESEARCH FELLOW

**University of California, Merced, CA, USA**

 **Mar 2014 – Nov 2016**

- ◆ Led synthesis and characterization of core-shell quantum dots.
- ◆ Published research on interfacial defects and transient absorbance spectroscopy.
- ◆ Managed laboratory resources and mentored research students.

## TEACHING

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### LECTURER FOR “STATISTICAL AND CONDENSED MATTER PHYSICS (PHS3102)”

**Monash University, Clayton, VIC, Australia**

 **August 2021**

I taught part of the course content (weeks 4 and 5) of this course

### LABORATORY DEMONSTRATOR FOR “CHEMISTRY 1 AND 2 (CHEM10003/4)”

**University of Melbourne, Parkville, VIC, Australia**

 **2009-2014**

Provided guidance on the performance of the practical fraction of this course, marked reports.

### LABORATORY DEMONSTRATOR FOR “PHYSICAL CHEMISTRY II (CHEM20011)”

**University of Melbourne, Parkville, VIC, Australia**

 **2009-2014**

Provided guidance on the performance of the practical fraction of this course, marked reports.

## EDUCATION

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### DOCTOR OF PHILOSOPHY – CHEMISTRY

**University of Melbourne**

 **2010 – 2014**

- ◆ Commonwealth PhD Scholarship recipient
- ◆ Research in time-resolved spectroscopy of nanomaterials

## BACHELOR OF SCIENCE (HONOURS) – PHYSICAL CHEMISTRY

University of Melbourne

📅 2009

## BACHELOR OF SCIENCE – CHEMISTRY / MATHEMATICAL PHYSICS

University of Melbourne

📅 2004 - 2008

## BACHELOR OF ARTS – POLITICAL SCIENCE

University of Melbourne

📅 2004 - 2008

## CERTIFICATIONS

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💎 Google Advanced Data Analytics Certificate (2025)

💎 Ubuntu Linux Professional Certificate by Canonical

## PRESENTATIONS AND WORKSHOPS

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Full list available upon request.

## REFERENCES

Available upon request

## ## PUBLICATIONS

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