

# ALBERTO MENDEZ

## CAREER OVERVIEW

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A highly motivated individual with ten years experience in the university sector, having conducted extensive research in various fields of physics. In the last five years I have been involved in a number of large collaborative projects investigating the state of physics education across Australia. I am currently seeking a position which will utilise my strong research, project management and interpersonal skills to their fullest.

### Key Strengths

- Large knowledge base (physics, astronomy and education)
- Five years experience managing large, nationwide projects
- Advanced data handling and analysis capabilities
- Ability to learn/adapt quickly
- Track record of successfully working in teams and individually

## CAREER HISTORY

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**2008–2009**

**Project Officer**

*Department of Physics, University of Technology, Sydney*

Principal investigator for ALTC-funded, nationwide study into tertiary physics learning and teaching practices (30+ member team). Responsible for multiple survey development, administration and analysis, as well as report writing, workshop organisation and liaison with contacts across all Australian physics departments, graduates and employers.

**2007**

**Researcher**

*SUPER Research Group, School of Physics, University of Sydney*

Led various projects, including an investigation into the implementation and effectiveness of a first year lab project module, tutorial material re-writing and webpage development. Responsible for lab monitoring, design of surveys, data analysis and writing academic papers.

**2006**

**Researcher**

*First Year Teaching, School of Physics, University of Sydney*

Coordinated the implementation of various measures to provide a safety net for students at risk of failing first year physics. Responsible for producing learning material, identifying “at risk” students, organising and evaluating supplementary help sessions and report writing.

**2004–2005**

**Project Officer**

*School of Physics and Materials Engineering, Monash University*

Coordinated an AUTC-funded, nationwide study into tertiary physics learning and teaching practices at undergraduate level. Principally responsible for collection of data (questionnaires, interviews, etc), analysis, report writing, workshop organisation and liaison with contacts across all Australian physics departments. Part of 20+ member team.

**2002–2003****Researcher**

*SUPER Research Group, School of Physics, University of Sydney*

Led an initiative to monitor student participation in first year physics workshop tutorials and analyse its effect on examination results. Additionally, coordinated the running of first year physics tutorials, involving the editing and refinement of tutorial sheets, and administration and supervision of student tutors.

**1999–2001****Researcher**

*Astronomy Department, School of Physics, University of Sydney*

Provided assistance with observing, data reduction, and with instrument maintenance and development for the Sydney University Stellar Interferometer (SUSI) program. Duties included observing trips to the telescope site in Narrabri, a variety of data analysis, and report writing.

**EDUCATION**

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**1999****Master of Science in Research (Physics)**

*Astronomy Department, School of Physics, University of Sydney*

**1996****Bachelor of Science (Honours) (Physics)**

*University of Sydney*

**SKILLS AND KNOWLEDGE**

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**Technical expertise**

Web design (*Flash*, *Dreamweaver* and *html*); Data management and analysis; Database management; Survey development; MS Office suite; Acrobat; Endnote; SPSS; Photoshop; Unix; LATEX; IDL; Mathematica; Computer programming (C); Proofreading; Editing; Technical writing

**Knowledge base**

Physics education research; First year workshop tutorials; Flexible teaching and assessment methods; Astronomy; Optical interferometry; Binary stellar systems; Stellar photometry; Atmospheric seeing; Optics

**Languages**

English; Spanish

**Interests**

Travel; Photography; Hiking; Reading; Music; Football; Indoor cricket

**REFEREES**

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**Les Kirkup**

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RECENT PUBLICATIONS

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- 2009** W.J. Tango, J. Davis, A.P. Jacob, A. Mendez, J.R. North, J.W. O'Byrne, E.B. Seneta and P.G. Tuthill, *A new determination of the orbit and masses of the Be binary system  $\delta$  Scorpii*, Mon. Not. R. Astron. Soc. **396**, 842–848
- 2009** Kirkup L. and Mendez A., **Eds**, *Forging New Directions in Physics Education in Australian Universities (Service Teaching): A report of the 2007-9 ALTC Physics Project*, ISBN: 978-0-9806337-0-2
- 2009** O'Byrne J. and Mendez A., **Eds**, *Forging New Directions in Physics Education in Australian Universities (Graduates in the Workforce): A report of the 2007-9 ALTC Physics Project*, ISBN: 978-0-9806337-1-9
- 2008** Sharma M.D., Pollard J., Mendez A., Mills D., O'Byrne J., Scott D., Hagon S., Gribble J., Kirkup L., Livett M., Low D., Merchant A., Rayner A., Swan G., Zadnick M. and Zealey W., *What does a physics undergraduate education give you? A perspective from Australian physics*, European Journal of Physics, **29**, 59-72
- 2008** Mendez A., Pollard J., Sharma M.D., Mills D.R., Gribble S. J., Hagon S., Kirkup L., Livett M., Low D., Merchant A., O'Byrne J., Rayner A., Swan G., Zadnick M. and Zealey W., *Australian physics Bachelors and Honours graduates in industry: Where are they? How well prepared are they?* Australian Physics, **45** (1) 21-24
- 2006** W.J. Tango, J. Davis, M.J. Ireland, C. Aerts, K. Uytterhoeven, A.P. Jacob, A. Mendez, J.R. North, E.B. Seneta and P.G. Tuthill, *Orbital Elements, Masses and Distance to  $\lambda$  Scorpii A and B determined with the Sydney University Stellar Interferometer and High Resolution Spectroscopy*, Mon. Not. R. Astron. Soc. **370**, 884-890
- 2006** Pollard J., Sharma M.D., Mills D., Swan G. and Mendez A., *Physics Education for Australia*, Australian Physics, **43** (1), 20-26
- 2005** Sharma M.D., Mendez A. and O'Byrne J., *The Relationship Between Attendance in Student-Centred Physics Tutorials and Performance in University Examinations*, International Journal of Science Education, **27** (11), 1375-1389
- 2005** Mendez A., Feteris S., Kirkup L., Livett M., Low D., Merchant A., Mills D., Pollard J., Rayner A., Sharma M.D., Swan G., Wilson K. and Zadnik M., **Eds**, *Snapshots - Good Learning and Teaching in Physics*, ISBN: 0-7326-2064-3
- 2005** Sharma M.D., Mills D., Mendez A. and Pollard J., **Eds**, *Learning Outcomes and Curriculum Development in Physics: A Report on the 2004-5AUTC Physics Project*, ISBN: 0-7326-2063-5
- 2005** J. Davis, A. Mendez, E.B. Seneta, W.J. Tango, A.J. Booth, J.W. O'Byrne, E.D. Thorvaldson, M. Ausseloos, C. Aerts and K. Uytterhoeven, *Orbital Parameters, Masses and Distance to  $\beta$  Centauri determined with the Sydney University Stellar Interferometer and High Resolution Spectroscopy*, Mon. Not. R. Astron. Soc. **356** (4), 1362-1370