



Professor Neil Manson

STUDENTS

The School has a significant commitment to postgraduate training. In 2003 we had a total of 91 PhD students, including continuing students and those completing their thesis. A total of 27 postgraduate students (including five MPhil students) commenced their program of study during the year, five of them being women.

The School, in co-operation with the ANU Graduate School, organised various activities aimed at assisting postgraduate students and broadening their education. An introductory seminar for new students was provided and various tours of the School facilities and the Department of Physics, The Faculties, were conducted. The students also met at several social functions.

Several student prizes were presented at Founder's Day on the 17th of October:

The Jagadishwar Mahanty Prize, awarded biennially for the best PhD thesis was awarded to Annette Berriman for her thesis entitled "Investigating Entrance Channel Effects in Fusion-Fission Dynamics".

The Director's Prize, for the most outstanding published research paper by a PhD student over the last year was awarded jointly to Ray Roberts and Ilya Shadrivov, for their leading contributions in "Spreading of Aqueous Liquids in Unsized Papers is by Film Flow" in *Journal of Pulp and Paper Science* 29 (2003) 123-131; and "Beam Shaping by a Periodic Structure with Negative Refraction" in *Applied Physics Letters* 82 (2003) 2820-3822 respectively.

The Graduate Program in Physical Sciences ran a seminar competition for the tenth year. Talks were presented by postgraduates from this School and The Faculties, with the sessions chaired by students. The winners were announced at the conclusion of the program and the prizes were presented at Founder's Day.

The winner of the John Carver Prize for best talk at the Graduate Student Seminar Series was:

Milica Jelasavivic, Atomic and Molecular Physics Laboratory, for her talk entitled "The Role of Resonances in Electron Scattering from Nitric Oxide (NO)".

Winner of the Director's Award was:

Elliot Fraval, Laser Physics Centre, for his talk entitled "Nuclear Spin Coherence Time Extension for Quantum Computing".

Winner of the Dean's Award was:

Ilya Shadrivov, Director's Unit, for his talk entitled "Left-handed Materials: Bending Light in a Wrong Way".

The Robert and Helen Crompton Scholarship for travel in 2003 was awarded jointly to Mr Scott Collis and Mr Elliot Fraval.

The Scholarship was awarded to Scott Collis for his outstanding work in experimental plasma physics and the award is to enable Scott to attend the 14th International Stellarator Workshop in Grefswald, Germany.

Elliot Fraval received his scholarship in recognition of the development of new experimental techniques significant to the field of quantum computing. The award is to enable Elliot to present the new measurements at the 8th International Meeting on Hole Burning, Single Molecule, and Related Spectroscopies in Montana, USA.

The staff of the School also makes a significant contribution to undergraduate education by offering a broad range of courses to enrich the undergraduate teaching program. These courses are offered in The Faculties, in the Physics, Engineering and Chemistry Departments. Also, to provide wider opportunities for ANU undergraduates at research level, the School has in recent years offered honours projects and many undergraduates have taken up this opportunity. The School supports this program by offering honours year scholarships of which there were two in the current year. It was also pleasing to note that nine students who held either vacation scholarships, honours scholarships or were visiting scholars in 2002 have continued and enrolled as PhD students in the School in 2003.

A large number of international and national visiting scholars, 32 and 51, respectively, spent three months to one year in various departments for the purpose of training and research in 2003. Lists of these scholars are available as an appendix.

Degrees Awarded & Destinations

Mr Tristram Alexander

Thesis: *Nonlinear Waves in Optics and Bose-Einstein Condensation*

Currently: Postdoctoral Fellow, Nonlinear Physics Group, RSPHysSE

Dr Rachel Butt

Thesis: *The Effect of Ground-state Spin on Fission and Quasi-fission Anisotropies*

Currently: Australian Bureau of Statistics, Canberra

Dr Christine Carmody

Thesis: *Defect Engineering on InP and InGaAs for Optoelectronic Applications*

Currently: Travelling in India

Dr Ben Corry

Thesis: Simulation Studies of Biological Ion Channels

Currently: Department of Chemistry, University of Western Australia

Dr Geoffrey Ericksson

Thesis: *The Isotropic Singularity in Cosmological Models*

Currently: Department of Mathematics, University of Queensland

Dr Chris Glover

Thesis: *Microstructural Characterisation of Implantation-induced Disorder in Compound Semiconductors*

Currently: ARC Postdoctoral Fellow, Department of Electronic Materials Engineering, RSPHysSE

Ms Sally Lloyd

Thesis: *Simulating Magnetic Islands of the H-INF Helicac Using the MHD Equilibrium Code HINT*

Currently: James Cook University

Dr Jevon Longdell

Thesis: *Quantum Information Processing in Rare Earth Ion Doped Insulators*

Currently: CSIRO

Dr Thomas McGoram

Thesis: *Multi-quasiparticle States and K-forbidden Transitions in Neutron-rich Lutetium Nuclei*

Currently: Department of Defence, Commonwealth Government

Dr Snjezana Tomljenovic-Hanic

Thesis: *Propagation Effects in Optical Waveguides, Fibres and Devices*

Currently: Visiting Fellow, Applied Photonics Group, RSPHysSE

Dr Tessica Weijers

Thesis: *Accurate Multi-Element Energy Spectroscopy with Ion Detectors for Elastic Recoil Detection Analysis*

Currently: University of Newcastle, Callaghan (until October 2003), Department of EME, RSPHysSE (from October 2003)

Postgraduate Students

Sources of Funding:

ADFA Australian Defence Force Academy

ASS ANU Supplementary Scholarship

ANUPS Australian National University Postgraduate Scholarship

ANUPTS Australian National University Postgraduate and Tuition Fee Scholarship

APA Australian Postgraduate Award

APA(I) Australian Postgraduate Award (Industry)

CRC Cooperative Research Centre

CSIRO Supported by the Commonwealth Scientific & Industrial Research Organisation

GSS Graduate School Scholarship

IPRS International Postgraduate Research Scholarship

SPIRT ARC SPIRT Grant

RMIT Royal Melbourne Institute of Technology

VC Vice Chancellor's Supplementary Scholarship

WS RSPHysSE Supplementary Scholarship for Women

The lists include first year students who were not enrolled for the full year and continuing students who have not yet graduated.

Mr Farzand Abdullatif, MSc ANU, AUSAID (from July)

Mr Marko Alat, BSc WSyd, ANU/MPhil (from February)

Ms Annabel Alexander, BSc ANU, APA/ASS (from March)

Mr Tristram Alexander, BSc Darwin, APA (until June)

Ms Sam Ashby, BSc Sydney, APA(I)/ADC Telecommunications Australia Pty Ltd

Ms Vicki Au, BA BSc Melb, ANUPS

Mr Satyanarayan Barik, BSc Vidyasagar, India, ANUPTS (from August)

Mr Ivan Blajer, BSc Melb, ANUPS

Mr Cameron Bowles, BSc Flinders ANUPS/GSS (from February)

Mr David Brett, BSc Melb, ANUPS

Mr Phillip Brydon, BSc ANU, APA/ANU/ASS (from January)

Ms Rachel Butt, BSc ANU, APA, VC (until February)

Ms Christine Carmody, BSc UNSW, APA/CSIRO (until June)

Ms Anna Carnerup, BSc Malmö, ANUPTS, IPRS (from January)

Mr Yung-Kai Chan, BSc ANU, (self-funded)

Mr Cheng Chen, BSc (Hons) Flinders, ANUPS/GSS (from July)

Ms Victoria Coleman, BSc Flinders, APA/ASS

Mr Massimiliano Colla, MSc Pisa, OPRS/ANUPS

Mr Scott Collis, BSc Syd, ANUPS

Mr Ira Cooke, BSc JCU, APA/ASS

Ms Beata Dabrowska, BSc Warsaw, ANUPTS/ASS (from August)

Mr Robert G. Dall, BSc CQld, APA

- Mr Scott Edwards, BSc, Cert. of Adv. Studies, Tripos Cambridge, APA/ASS
- Mr Geoffrey Ericksson, BSc QLD, ANUPS (until February)
- Mr Drew Evans, BSc ANU, ANUPTS/ASS
- Mr Michael Fraser, BSc ANU, APA/ASS (from January)
- Mr Elliot Fraval, BEng (Elec) BSc (Physi) UC, BSc ANU ANUPS
- Mr Qiang Gao, MS BSc Northeastern University, China, IPRS/ANUPS
- Mr Paulus Gareso, BSc Hasanuddin University, MSc Macq, AusAID
- Ms Laura Gladkis MSc Buenos Aires, ANUPS
- Mr Fenton Glass, BSc Qld, ANUPS
- Mr Chris Glover, BSc Newcastle, ANUPS (from March)
- Ms Sangeetha Gnanapragasam, BSc, MSc, MPhil Madras, ANUPTS (from August)
- Mr Brendan Hanna, BSc UNSW, ANU/MPhil (from March)
- Ms Joanne Harrison, BSc Adelaide, BSc, APA/ASS
- Ms Judith Hazel, DipSci BSc MSc Otago, ANUPS
- Mr Ben Heslop, BE ANU, ANU/MPhil (from January)
- Mr Zohair Hussain, ANU/MPhil (from March)
- Ms Milica Jelisavcic BSc Belgr, ANUPTS
- Mr Anthony Jones, BE/BSc ANU, ANUPS (from March)
- Mr Ali Khalil, BSc MSc Cairo, ANUPS
- Ms Lydia Knuefing, BA BSc Wuppertal, ANUPTS
- Mr Vesselin Kolev, Eng-Phys Uni of Plovdiv, GSS (until October)
- Mr Santhosh Kumar, MSc Pune, ANUPTS (ARC Discovery) (from October)
- Ms Vanessa Leung, BSc Massey, GSS/ASS/WS (jointly with University of Bonn)
- Ms Penelope Lever, BE Canterbury, GSS/ASS
- Mr Peter Linardakis, BE /BIT ANU, APA/ASS
- Ms Sally Lloyd, BSc Murdoch, APA/ASS (until August)
- Mr Jevon Longdell, BSc Waikatao, MSc Auck, GSS.ASS (until May)
- Ms Pearl Louis, BSc (Hons) ANU, ANUPS
- Mr Liviu Lungu, MSc PU Bucharest, SPIRT/APA(I)
- Mrs Lily Luo, BSc Nanchang, APA/ASS
- Mr Nathan Madsen, BSc (Hons) UQ, APA/ASS (from March)
- Mr Glen McCarthy, BSc(Hons) UNSW, Dip Ed UNSW, ANUPS
- Mr Ben McMillan, BSc Melb, APA/ASS
- Mr Roger McMurtrie, BAppSc UC, ANU/MPhil (from February)
- Mr Albert Meige, BSc Galilee, France ANUPTS (from February)
- Mr Clive Michael, BSc ANU, APA/ASS
- Ms Sudha Mokkalapati, BSc Usmania, MSc Kanpur, India ANUPS
- Mr Joseph Morrall, BSc ANU, ANUPS
- Ms Eleni Notaras, B ABSc (Redfern Polymer Optics)
- Ms Megan O'Mara, BAppSc, BSc ANU, GSS/ASS
- Mr Norman Oelkers, DipPhys Heidelberg, IPRS/DAAD, EES(GSS) (Jointly with MSI)
- Mr David Oliver, Bsc, UWgong, APA/ASS (from February)
- Mr David Pretty, BSc Melb, ANUPS
- Mr Horst Punzmann, BSc Polytech Regensburg, ANUPS
- Mr Devin Ramdutt BSc UWgong, GSS/ASS (from March)
- Mr Edward H. Roberts, BE BSc NSW, MBA Deak, FIE(Aust), APA/ASS
- Mr Ray Roberts, BSc(For), ANUPTS/ASS (CRC funded)
- Ms Yinlan Ruan, BSc MSc HUST China, ANUPS
- Mr Mohammad Saadatfar, BSc Mazandaran MSc IASBS, ANUPTS
- Mr Gerd Schröder, Dipl-Phys Cologne, ANUPTS
- Mr Darryl Scott, BSc Wollongong, ANUPS
- Mr Ilya Shadrivov, MSc, Nizhny Novgorod, ANU/IPRS/ASS
- Mr Nat Smith, BSc ANU, ANUPS
- Mr Marc Spooner, BSc Ottawa, MSc Western Ontario, ANUPTS
- Ms Kallista Stewart, BSc BE, ANU, ANUPS ASS (Endowment for Excellence)
- Mr Orson Sutherland, BE ANU, APA/ASS
- Mr James A. Swansson, BA MSc Melb, APA/ASS
- Ms Snjezana Tomljenovic-Hanic, BSc Belgrade, APA(I)/ADC Telecommunications Australia Pty Ltd (until May)
- Mr Michael Turner, BSc Canberra, APA/ASS
- Ms Linda J. Uhlmann, BAppSci CQld, APA/ASS
- Mr Jeta Vedi, BE BCom, APA/ASS (from February)
- Ms Taira Vora, BSc ANU, ANUPTS (from February)
- Ms Kylie Waring, BSc Mon, APA
- Mr Klaus Wilcken, MSc Turku, IPRS ANUPS (from April)
- Mr Daniel Wilkins, BSc ANU, (Department of Geology), ANUPS (from February)
- Mr Andrew Wilkinson, BE BSc ANU, APA/ASS
- Ms Elena Wilson, BSc Viebsk State, ANUPS
- Mr Stephan Winkler, MSc Vienna, ANUPS/ANUTFS (from September)
- Ms Hua Xia, MSc Chongqing University, China, ANUPTS

Honours Students

| Name | Home University/ANU Faculty | Host Department |
|---------------------|------------------------------|-----------------|
| Mr Thomas Argue* | Physics Department, ANU | NPG |
| Mr Rene Chaustowski | Flinders University | AMPL/LPC |
| Ms Kristen Feher | Physics Department, ANU | TP |
| Mr Thomas Hanna* | Physics Department, ANU | AMPL |
| Ms Christine Henry | Department of Chemistry, ANU | AM |
| Mr Aaron Matthews | Physics Department, ANU | TP |
| Mr Michael Noakhtar | Flinders University | AMPL |
| Mr Shannon Orbons | Flinders University | EME |
| Ms Trudy Peatey | Physics Department, ANU | NP |

* received a RSPHYSSE Honours Scholarship