

STUDENTS



Professor Neil Manson

Introduction

The School has a significant commitment to postgraduate training. In 2004 we had a total of 89 PhD students, including continuing students and those completing their thesis. A total of 21 postgraduate students (including four MPhil students) commenced their program of study during the year, three 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 15th of October:

The Director's Award, for the most outstanding published research paper by a PhD student over the last year was awarded to Scott Edwards from Applied Mathematics for his paper entitled "Double Layers and Interparticle Forces in Colloid Science and Biology: Results for the Effect of Ionic Dispersion Forces", *Physical Review Letters* 92, (2004) 248303-1-4.

The Graduate Program in Physical Sciences ran a seminar competition for the eleventh year. Talks were presented by postgraduates from this School, The Faculties and the Australian Defense Force Academy, 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:

Kallista Stewart, Electronic Materials Engineering, for her talk entitled "Semiconductor Quantum Dot Lasers".

Winner of the Director's Prize was:

Sean Farrell, Australian Defense Force Academy, for his talk entitled "Temporal Studies of X-ray Binaries – Black Holes, Neutron Stars & Other X-rayed Sources".

Winner of the Dean's Prize was:

Hua Xia, Plasma Research Laboratory, for her talk entitled "Self-organisation: Making Order out of Mess".

The Robert and Helen Crompton Scholarship for travel in 2004 was awarded jointly to Ms Anna Carnerup, Applied Mathematics and Ms Megan O'Mara, Theoretical Physics.

The award was to enable Anna Carnerup to present her fascinating studies of inorganic abiotic material of life-like morphologies at the International Conference

on Bioastronomy in Reykjavik, Iceland, as well as to take the opportunity to undertake some associated study in Sweden and to attend the workshop on Mesoporous Crystals in Stockholm.

Megan O'Mara's award was to allow her to present her recent fascinating results on mechanism of ion permeation through bacterial CIC-type chloride channels to the Biophysical Society Conference in Long Beach, California as well as to take the opportunity to make scientific visits to other research groups working in the same field.

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 nine in the current year. It was also pleasing to note that 3 students who held either vacation scholarships, honours scholarships or were visiting scholars in 2003 have continued and enrolled as PhD students in the School in 2004. (2 students who held either vacation scholarships or were visiting scholars in 2003 continued in an honours program)

A large number of international and national visiting scholars, 21 and 23, respectively, spent three months to one year in various departments for the purpose of training and research in 2004. Lists of these scholars are available as an appendix.

Degrees Awarded and Destinations

Mr Ivan Blajer

MSc Thesis: *UV Laser Source for Atom Optics Experiments with Metastable Helium*
Currently: Software Company, Melbourne

Dr Ira Cooke

Thesis: *Structure of Single Polymer Chains in Selective Solvents*
Currently: Max-Planck-Institut für Polymerforschung, Mainz, Germany

Dr Robert Dall

Thesis: *Optical Guiding with Bright Sources of Cold 2^3S_1*

Metastable Helium

Currently: Postdoctoral Fellow, Atomic and Molecular Physics Laboratories, RSPHysSE

Mr Fenton Glass

Thesis: *Tomographic Visible Spectroscopy of Plasma Emissivity and Ion Temperatures*
Currently: IPP Forschungszentrum, Jülich, Germany

Mr Qiang Gao

Thesis: *Growth and Characterisation of (In)GaAsN Alloys for Optoelectronic Applications*
Currently: Postdoctoral Fellow, Electronic Materials Engineering, RSPHysSE

Mr Vesselin Kolev

Title: *Long-optical-resonator Passively Mode-locked Laser Prototype for Ultra-fast Pulsed Laser Ablation and Deposition Installation*
Currently: Postdoctoral Fellow, Laser Physics Centre, RSphysSE

Dr Penny Lever

Thesis: *Interdiffusion and Metalorganic Vapour Phase Epitaxial Growth of Self-Assembled InGaAs Quantum Dot Structures and Devices*
Currently: Postdoctoral Fellow, Electronic Materials Engineering, RSPHysSE

Mr Ben McMillan

Thesis: *Global Wavemodes of Dissipative Fluid Models in Strongly Three Dimensional Plasmas*
Currently: University of Sydney

Dr Clive Michael

Thesis: *Doppler Spectroscopy of Argon Plasmas in H-1NF using a Coherence Imaging Camera*
Currently: National Institute for Fusion Science, Japan

Ms Megan O'Mara

Thesis: *Computational Modelling of Ion Channels and Channel Permeation*
Currently: Postdoctoral Fellow, Biophysics Group, RSPHysSE

Dr Ray Roberts

Thesis: *Liquid Penetration into Paper*
Currently: Applied Mathematics, RSPHysSE

Mr Darryl Scott

MSc Thesis: *All-Optical Real time RF Signal Processing in Rare Earth Ion Doped Crystals*
Destination: Royal Australian Navy

Dr Kylie Waring

Thesis: *Perturbations in the $B^3\Sigma_u^-$ State of Molecular Oxygen*
Currently: Australian Government Department, Canberra

Postgraduate Students

Sources of Funding:

ADFA Australian Defence Force Academy
 ASS ANU Supplementary Scholarship
 ANU/MPhil ANU Master 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
 Mr Marko Alat, BSc WSyd, ANU/MPhil
 Ms Annabel Alexander, BSc ANU, APA/ASS
 Mr Michael Anderson, BEng ANU, APA/ASS (from January)
 Ms Vicki Au, BA BSc Melb, ANUPS
 Mr Radek Bagien, ANU/MPhil (from January)
 Mr Nicholas Balcon, BSc Galilee, France, ANUPTS (from June)
 Mr Satyanarayan Barik, BSc Vidyasagar, India, ANUPTS
 Mr Ivan Blajer, BSc Melb, ANUPS (until April)
 Mr Cameron Bowles, BSc Flinders, ANUPS/GSS
 Mr David Brett, BSc Melb, ANUPS
 Mr Phillip Brydon, BSc ANU, APA/ANU/ASS
 Ms Anna Carnerup, BSc Malmö, ANUPTS, IPRS
 Mr Toen Castle, BSc(Adv) UNE, BSc(Hons) ANU, ANUPS/ASS (from March)
 Mr Yung-Kai Chan, BSc ANU, (self-funded)
 Mr Cheng Chen, BSc (Hons) Flinders, ANUPS/GSS (until September)
 Ms Victoria Coleman, BSc Flinders, APA/ASS
 Mr Massimiliano Colla, MSc Pisa, OPRS/ANUPS
 Mr Scott Collis, BSc Syd, ANUPS
 Ms Beata Dabrowska, BSc Warsaw, ANUPTS/ASS

Mr Robert G. Dall, BSc CQld, APA (until April)
 Mr Gulliver Dalton, BSc ANU, ANUPS/ASS (from February)
 Mr Brendan Dobson, BSc ANU, ANUPS (from March)
 Mr Scott Edwards, BSc, Cert. of Adv. Studies, Tripos Cambridge, APA/ASS
 Mr Drew Evans, BSc ANU, ANUPTS/ASS
 Mr Michael Fraser, BSc ANU, APA/ASS
 Mr Elliot Fraval, BEng (Elec) BSc (Physi) UC, BSc ANU, ANUPS
 Mr Darren Freeman BSc Flinders, APA/ASS/VC (from May)
 Mr Qiang Gao, MS BSc Northeastern University, China, IPRS/ANUPS (until April)
 Mr Paulus Gareso, BSc Hasanuddin, MSc Macq, AusAID
 Ms Laura Gladkis MSc Buenos Aires, ANUPS
 Mr Fenton Glass, BSc Qld, ANUPS
 Ms Sangeetha Gnanapragasam, BSc MSc MPhil Madras, ANUPTS
 Mr Brendan Hanna, BSc UNSW, ANU/MPhil (until March), ANUPS (from April)
 Ms Joanne Harrison, BSc Adelaide, BSc, APA/ASS
 Ms Judith Hazel, DipSci BSc MSc Otago, ANUPS
 Mr Ben Heslop, BE ANU, ANU/MPhil
 Mr Shaun Howard, BSc Cincinnatti, ANUPTS (from July)
 Mr Richard Hughes, MPhys Surrey, ANUPS/ANUPTS (from December)
 Mr Zohair Hussain, ANU/MPhil
 Ms Milica Jelisavcic BSc Belgr, ANUPTS
 Mr Bernt Johannessen, BSc Auckland, BSc (Hons) ANU, ANUPS/IPRS (from May)
 Mr Greg Jolley, BA Engineering NTU, ANUPS (from April)
 Mr Anthony Jones, BE/BSc ANU, ANUPS
 Mr Ali Khalil, BSc MSc Cairo, ANUPS
 Ms Lydia Knuefing, BA BSc Wuppertal, ANUPTS
 Mr Santhosh Kumar, MSc Pune, ANUPTS (ARC Discovery)
 Ms Vanessa Leung, BSc Massey, GSS/ASS/WS (jointly with University of Bonn)
 Ms Penelope Lever, BE Canterbury, GSS/ASS (until April)
 Mr Peter Linardakis, BE /BIT ANU, APA/ASS
 Ms Pearl Louis, BSc (Hons) ANU, ANUPS
 Mr Liviu Lungu, MSc PU Bucharest, SPIRT/APA(I) (until June)
 Mrs Lily Luo, BSc Nanchang, APA/ASS

Mr Nathan Madsen, BSc (Hons) UQ, APA/ASS

Mr Aaron Matthews, BSc Canberra, GDipSc, ANUPS/ASS (from December)

Mr Glen McCarthy, BSc(Hons) UNSW, Dip Ed UNSW, ANUPS

Mr Ben McMillan, BSc Melb, APA/ASS (until October)

Mr Roger McMurtrie, BAppSc UC, ANU/MPhil

Mr Albert Meige, BSc Galilee, France, ANUPTS

Ms Sudha Mokkapat, BSc Usmania, MSc Kanpur, India, ANUPS (from March)

Mr Joseph Morrall, BSc ANU, ANUPS

Mr Steven Morrison, BEng(Hons) Griffith, APA/ASS (from April)

Ms Eleni Notaras, B ABSc, (Redfern Polymer Optics)

Ms Megan O'Mara, BAppSc, BSc ANU, GSS/ASS (until September)

Ms Judit O'Vari, BE (Elec) BSc (Math/Psych) Adelaide, ANU/MPhil (from February)

Mr Norman Oelkers, DipPhys Heidelberg, IPRS/DAAD, EES(GSS) (jointly with MSI)

Mr David Oliver, Bsc, UWgong, APA/ASS

Mr Dan-Erik Petersen, ANUPS/ASS (from April)

Mr Benjamin Powell, BSc BLM, CQU, ANU/MPhil (from August)

Mr David Pretty, BSc Melb, ANUPS

Mr Horst Punzmann, BSc Polytech Regensburg, ANUPS

Mr Devin Ramdutt BSc UWgong, GSS/ASS

Mr Edward H. Roberts, BE BSc NSW, MBA Deak, FIE(Aust), APA/ASS

Mr Ray Roberts, BSc(For), ANUPTS/ASS (CRC funded) (until May)

Mr Christian Rosberg, MSc TU Denmark, ANUPTS/ASS (from December)

Ms Yinlan Ruan, BSc MSc HUST China, ANUPS

Mr Mohammad Saadatfar, BSc Mazandaran MSc IASBS, ANUPTS

Mr Gerd Schröder, Dipl-Phys Cologne, ANUPTS

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 Andrew Sullivan, BAppSc Victoria, ANUPS/CSIRO (from January)

Mr Orson Sutherland, BE ANU, APA/ASS

Mr James A. Swansson, BA MSc Melb, APA/ASS

Mr Michael Turner, BSc Canberra, APA/ASS

Ms Linda J. Uhlmann, BAppSci CQld, APA/ASS

Mr Jeta Vedi, BE BCom, APA/ASS

Ms Taira Vora, BSc ANU, ANUPTS

Mr Klaus Wilcken, MSc Turku, IPRS ANUPS

Mr Daniel Wilkins, BSc ANU, (Department of Geology), ANUPS

Mr Andrew Wilkinson, BE BSc ANU, APA/ASS

Ms Elena Wilson, BSc Biebsk State, ANUPS

Mr Stephan Winkler, MSc Vienna, ANUPS/ANUTFS

Ms Hua Xia, MSc Chongqing University, China, ANUPTS

Ms Jun Yu, BSc Wuxi, China, ANU/MPhil (from October)

Mr Meelis Zidikheri, BSc GradDipE Melbourne, ANUPS/ASS/CSIRO (from May)

Graduate Diploma Student

Name	Home University	Host Department
Mr Michael Lane*	Australian National University	NP

Honours Students

Name	Home University	Host Department
Adrian D'Alfonso	Melbourne University	TP
Sarah Everett*	University of Wollongong	EME
Mostyn Gale*	Flinders University	AMPL
Aaron Matthews*	Australian National University	NLPC
Andrew Molloy*	University of Newcastle	OSG
David Oliver*	Flinders University	EME
Thomas Pask*	Griffith University	AMPL
Wilson Pok*	Sydney University	EME
Sonam Shelley*	ANU	AMPL/RSES
Andy Setiawan*	University of South Australia	AMPL
Peter Smythe	University of Wollongong	LPC
Michelle Wu	University of Wollongong	AM

* received a RSPHysSE Honours Scholarship