

# SCHOOL OF PHYSICS ALUMNI & FRIENDS NEWSLETTER

## MESSAGE FROM THE HEAD



This year is a year of remarkable physics anniversaries! Here in the School of Physics we are celebrating the 400th anniversary of Galileo's first astronomical discoveries. We are also celebrating the 100th

anniversary of the year Ernest Rutherford and his students "reverse engineered" the atom and discovered the nucleus.

These two anniversaries commemorate Physics at the opposite extremes of scale: one turned outward in to deep space, the other turned inward to matter at the smallest scales. Here in the early 21st century these outward and inward journeys are still very much underway with two of the biggest Physics experiments in the world. With regard to the inward journey, we expect the Large Hadron Collider at CERN will provide a flood of data which will tell us a lot about the origin of mass

and hopefully reveal the Higgs boson. With regard to the second, the Square Kilometre Array will look back in time to the early universe and reveal the first stars and answer some of the most profound questions about the origin and evolution of the universe. We have high hopes that Australia will be chosen for the site for the SKA.

People in Physics here in Melbourne are deeply involved in these two big projects. We have been very pleased to see our people working on these and other projects recognised for their excellence by a flood of medals and awards.

In 2008 Stuart Wyithe was awarded the Edgeworth David Medal from the Royal Society of NSW and the David Syme Research Medal. In 2009 Stuart also was awarded the prestigious Pawsey Medal of the Australian Academy of Science. Stuart's research interests are in the formation of quasars and the first stars in the early universe. The Academy also recognised our distinguished and recently retired Professor Bruce McKellar who was awarded the Matthew Flinders Medal for his work on particle physics theory.

Also in 2009 we have seen Dean's awards to our staff for research and outreach. These went to Andrew Melatos for his work on sources of gravitational waves and to Roger Rassool for his science shows for primary and secondary students. A further raft of Dean's awards went to our research students Dougal Maclaurin, Paul Fraser, Michelle Strack, Andrew McCulloch and Rebecca Ryan. We are very grateful to the sponsors of these awards that make it possible to recognise the accomplishments of our students.

It is also worth noting that the new Melbourne Model curriculum has delivered into Physics record numbers of new students: our undergraduate labs have more than 400 additional students compared to the same time last year. We can look forward to their future contributions worthy of the heritage of Galileo and Rutherford!

**Professor David Jamieson**

## DR JEAN E LABY

INDUCTED TO THE 2009 VICTORIAN HONOUR ROLL OF WOMEN

The Victorian Honour Roll of Women recognises and celebrates the achievements of Victorian women. All of the inductees have used their skills, knowledge, and commitment to better their communities. They have excelled in their chosen fields and are testament to the depth of talented women we have in this State.

"Being the first female PhD in physics showed it could be done. She pushed on the doors that were locked to women and burst through them - she was truly a trailblazer" commented David Jamieson when interviewed about Jean's achievements.

In 1959 Dr Jean Laby became the first woman to receive the Doctor of Philosophy degree in physics at the University of Melbourne. Jean was one of Australia's pioneer atmospheric physicists and the sole female atmospheric physicist of her generation, and her work gained international recognition. She had several papers published in Nature, the most

prestigious scientific journal. As a role model she opened the way for women to participate equally with men within the scientific and academic world at a time when it involved obstinate gender hurdles.

There is a legion of female PhD students who have followed on from Jean's legacy. Jean and her sister, Betty spent much of their childhood at the university accompanying their father, Professor Thomas H. Laby, who was head of what is now called the School of Physics. Not only did Jean inherit her father's love of physics, but also the desire to teach. The two don't always go together. Scientists aren't always the best communicators but Jean possessed both these skills.

In 1961 she took up the position of senior lecturer at the Royal Australian Air Force Academy at Point Cook and remained the only woman on staff until 1980.

In 1975 she obtained a \$US25,000 grant for a global study of climatic impact and developed lightweight micro-electric

control systems to automate the collection of high altitude atmospheric data. Jean and her colleagues can claim to be the pioneers in an experimental technique that continues to be of critical importance today to our understanding of, and the interaction with, the earth's climate. She laid the foundations for climate change and pollution studies with the techniques they developed. Jean also travelled to South Africa and South America to undertake atmospheric research with high-altitude balloons. She camped out in fields in primitive conditions and she just put up with it, along with all the discrimination.

All up an outstanding achievement by a remarkable woman - now appropriately recognized on the Victorian Honour Roll of Women.



**"She pushed on the doors that were locked to women and burst through them"**

# OFFICIAL OPENING OF THE PHYSICS MUSEUM

THE PATHWAY TO THE FUTURE IS BUILT UPON THE PAST...

“Just 400 years ago a man put two small pieces of glass in a tube, pointed it at the sky and made discoveries that changed the world - that man was Galileo and its fair to say that his ideas shaped the world we live in today!” And so began David Jamieson in his welcome to a celebration in the School of Physics of the official opening of the museum. It may seem strange to “open” something that has been around for a while, but we felt that it was time to formally acknowledge the efforts of Ed Muirhead, former Chair of the School of Physics, and others in cultivating, shaping and building the School’s historic record.

In his address, the Vice-Chancellor Professor Glyn Davis, highlighted many of the achievements of the School and the pioneering efforts which have laid an exceptional path for successive generations of teachers and researchers. He warmly welcomed back many of the School’s graduate students, and made a special mention to Betty Laby whose family has had a long association with the School of Physics. As well as the Head, Betty & Jean’s father, Professor Thomas H. Laby was Chairman of the Optical Munitions Panel, and spearheaded the School’s contribution to the war effort with the manufacturing of optical glass and optical instruments in the Physics department - pure excellence in knowledge transfer.

Many items depicting these and other efforts have been painstakingly restored and catalogued in the collection. For almost twenty years, Ed has overseen this heroic task with the assistance of many including Anna Fairclough, Belinda Nemeč and Nick Nicola to name but a few. Together they have established what can only be described as a long lasting legacy to the School. Their work has been made possible through generous support of the Cultural Collections Group, the Russell and Mab Grimwade Miegunyah Fund Committee, the Potter Foundation and our own Friends of the Physics Museum.

As evidenced on the day, it is a fitting location for a museum with students passing constantly through normal daily interaction. So with the foundation stones well laid, we are now walking the path. Our vision is to transform the space around our museum into a magnificent flexible group learning and social interaction space for new Generation Masters students. We need support to make this project a reality and continue to investigate all possibilities.

If you have any advice or suggestions, please contact:

Ms Helen Conley,  
Physics Executive Manager  
Email: [hconley@unimelb.edu.au](mailto:hconley@unimelb.edu.au)  
Telephone: (03) 8344 5459



**Top:** Anne Muirhead, Ed Muirhead, Anita Muirhead, Mary Muirhead  
**Above:** Vice-Chancellor Professor Glyn Davis  
**Above:** Pat Spicer, Tony Klein  
**Right:** Fiona & David Caro, Val Crohn and others enjoying the opening

Photo credits: Natalie Pestana, Faculty of Science, University of Melbourne