



"The Future of Science" – Golden Key Science Colloquium

Overview

On **23 April 2005**, the inaugural Golden Key Science Colloquium provided a unique opportunity for secondary and tertiary students to discuss '**The Future of Science**' with a diverse group of industry-leading speakers. Topics included the role of ethics in science, scientific innovation in Australia, careers in science, science education, and future developments in nanotechnology and robotics. The Golden Key Science Colloquium indicated that the study of science is truly without boundaries – the future of science is, therefore, very much dependent upon those who care; those who are motivated and driven to create the kind of world *they* want to see.

Presenters (in order of appearance)

Emma Leung (President, Golden Key – University of Sydney Chapter) spoke about Golden Key's desire to make a meaningful difference in the community through facilitating educational initiatives, such as the Golden Key Science Colloquium. Emma also spoke about opportunities available for Golden Key members to engage in community service, career development and social functions to develop their personal and professional skills.

Professor David Day (Dean, Faculty of Science, The University of Sydney) spoke about the many opportunities flowing from the study of science, and the various initiatives undertaken within the Faculty of Science. Professor Day also commented that, while basic research underpinned scientific endeavours, science could be undertaken for both strategic benefit as well as practical outcomes.

Professor John Hearn (Acting Vice-Chancellor and Deputy Vice-Chancellor, The University of Sydney) provided a stirring Opening Address, speaking about the shared values of the University and Golden Key in creating opportunities for students to pursue academic excellence, while also developing students' leadership skills. Professor Hearn welcomed the initiative of the Golden Key Science Colloquium, and expressed his hope that similar events might occur in the future.

Dr Karl Kruszelnicki (JSM Fellow, Department of Physics, The University of Sydney) delivered an action-packed presentation, canvassing future developments across the many disciplines within science. Dr Kruszelnicki concluded with an inspirational mandate, encouraging students to make a difference in the world of science by commenting, 'if you try, you *might* fail – but if you never try, you've *already* failed'.

Dr Jurgen Schulte (Executive Director, Asia-Pacific Nanotechnology Forum) spoke about the role of nanotechnology as an emerging technology, with the potential to profoundly impact upon innovation and economic growth. Dr Schulte illustrated this through providing a wide range of everyday examples where nanotechnology had been successfully applied.

Dr Stefan Williams (Lecturer, The Australian Centre for Field Robotics) spoke about the potential for autonomous systems to revolutionise everyday life. The audience greatly appreciated Dr Williams' illustration of the advanced nature of research in the field of autonomous systems through videos showing robots driving, dancing to music, and even playing soccer!

Dr Calum Drummond (Chief Research Scientist, CSIRO Molecular Science) outlined the role of the CSIRO in developing scientific technologies for the benefit of Australia, and the various career opportunities within the CSIRO. In speaking about potential developments within molecular science, Dr Drummond provided insight into the future of scientific and technological innovation.

Mr Tim Longhurst (Project Director, The Futures Foundation) spoke about the role of a 'futurist', and engaged the audience in an entertaining presentation about the role of ethics in science. Through explaining the concept of an 'ecological footprint', Mr Longhurst urged attendees to 'act locally, think globally', and to consider the repercussions of their everyday actions.

Panel Discussion

The day concluded with an informal, interactive panel discussion between the audience and **Dr Calum Drummond, Mr Tim Longhurst** and **Dr Stefan Williams**. The diversity of thought-provoking questions posed reflected not only the audience's active engagement in the material that had been presented throughout the day, but also their clear interest in the world of science. The insightful answers provided by the panelists similarly showed not only their significant expertise in their fields of endeavour, but also their willingness to actively engage with student participants.

Through the 'future-focused' nature of the questions asked, it was evident that the audience was very interested in the role that they, as individual actors, could play in the future of science. Furthermore, the scope of issues indicated that the audience was not only interested in the local impact of scientific issues, but also the global impact of scientific developments. Questions canvassed issues such as the challenges inherent in maintaining a work/life balance within careers in the scientific industry, technological obsolescence, the impact of excess waste upon the environment, the socio-economic arguments for and against increased automation, renewable energy production, obtaining funding for scientific research and the importance of philanthropy in scientific research and development.

Concluding remarks

The University of Sydney Chapter of Golden Key hopes to build on the success of the inaugural Golden Key Science Colloquium, and to establish it as an annual event. We would like to thank all of our presenters, and their respective organisations, for giving freely of their time, knowledge and experience. Thanks also to NewScientist, SciSoc and the University of Sydney Union for their support of 'The Future of Science'.

For further information, please contact Emma Leung on her mobile on 0408-254-810 or via email at president@usyd.golden-key.org.



Front (L-R): Susanna Lam (President, SciSoc), Aileen Estanisalo (Education Director, GK@USYD), Terri Lin (Careers Director, GK@USYD), Tim Longhurst (Project Director, the Futures Foundation), Emma Leung (President, GK@USYD), Professor John Hearn (Deputy Vice-Chancellor, The University of Sydney), Megan Lavender (NSW Science Teachers Association), Dr Jurgen Schulte (Executive Director, Asia Pacific Nanotechnology Forum).

Back (L-R): Dr Stefan Williams (Lecturer, Australian Centre for Field Robotics), Allan Toal (Vice-President, GK@USYD), Dean Butters (Regional Director, Golden Key), Phoebe Poon (Secretary, GK@USYD), Professor David Day (Dean, Faculty of Science), Dr Karl Kruszelnicki (JSM Fellow, The University of Sydney).

Absent from photo: Dr Calum Drummond (CSIRO)