



PPARC Knowledge, Innovation, Technology and Enterprise (KITE) Club



Newsletter

Issue 2
December 2003

Welcome to the KITE Club's second quarterly Newsletter for members!

Through the Newsletter, we shall keep you updated on what has been happening in our technology development programme and with business and partnership schemes, plus notification of forthcoming 'industry' events as well as other items of interest as they emerge.

In this edition, Open Forum is seeking your views on developing an enterprise culture within the community. Please send your comments to:

kiteclub@pparc.ac.uk

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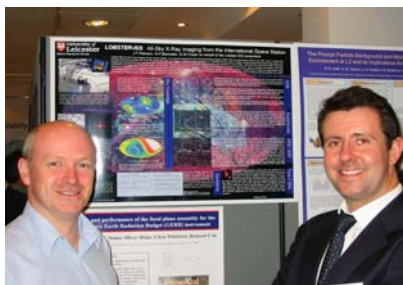
1. KITE Club Industry and Science in Space Workshop - 16 September 2003

The Industry and Science in Space Workshop was held at the Institute of Physics in London on 16 September 2003.



Lively discussion at the Industry and Science in Space Workshop

This event was sponsored by PPARC and supported by BNSC, EPSRC, NERC, CCLRC, UKISC and ASTOS. It provided an opportunity for knowledge-base research groups and businesses, engaged in the development of technology to develop closer links.



PIPSS Panel members, Andrew Holland and Chris Castelli at the Industry and Science in Space Workshop

The day consisted of three sessions. The first session focused on talks given by senior scientists, leaders from the public sector and industry, setting out a vision of science policy, future missions and the associated challenges for technology development. The workshop provided a vital opportunity to explore



Delegates listen to a series of talks from the academic community, industry and the research councils.

real industry requirements which could be satisfied by knowledge-base research groups. The second session saw presentations from representatives from the research councils and BNSC and provided the chance to ask questions regarding funding opportunities.



David Hughes, Director of Innovation at DTI, with Ian Halliday, Chief Executive of PPARC

The day concluded with a drinks reception at which David Hughes, Director of Innovation at DTI gave his perspective on the workshop.

The breadth of coverage at the workshop meant that some important issues were raised without time for discussion. Subsequent activities resulting from this event will be posted on the KITE Club web pages.

2. KITE Club Spinout Seminar - 7 October 2003

The second Spinout Seminar for PPARC-funded researchers was held at the UK Astronomy Technology Centre in the Royal Observatory Edinburgh on 7 October. Attendees from Scotland and the North of England participated in an interactive learning day in which the mysteries of business were explained by a number of physicists who have themselves established and managed companies.

If you are interested in learning more about the potential for turning your technology into a spinout business, please contact our Industry Co-ordinator, Nathan Hill, on 01223 422405 or e-mail him at: nathan.hill@qi3.co.uk

3. SET for Britain 'Commercialisation of University Research' Reception at the House of Commons - 22 October 2003

PPARC science was well represented at a recent reception for spin-out companies held at the House of Commons. As the name suggests the "Commercialisation of University Research" reception, organised by SET for Britain, invited University spin-out companies to present posters about their work and to network with each other and a parliamentary audience of approximately 40 MP's.

Hosted by Kerry Pollard JP MP (Chairman of the All-Parliamentary Group for Small Businesses) the reception attracted 62 ventures from across the science, engineering, medicine and technology fields. PPARC core science areas were well represented.



PPARC funded participants with Susan Lansdowne and Peter Fletcher (PPARC) at the House of Commons

Dr Mark Williams, a former PPARC Enterprise Fellow whose company Surfability Ltd offers an innovative product which identifies usability and navigational deficiencies in a website and accurately gauges its effectiveness as an information resource;

Dr Joy McKenny who has just completed her PPARC Enterprise Fellowship, whose product is based on a novel method for manufacturing aluminium mirrors for astronomy and solar power applications;

Roger Iles from Solarmetrics a company born out of a PIPSS collaboration. Solarmetrics specialises in measuring the effects of space weather and cosmic radiation on aircraft, passengers and crew;

Dr David Walker, another former PIPSS award holder whose company Zeeko Ltd produces computer controlled lens polishing technology which originally developed for astronomy, now has wider applications including prosthetic joints, turbine blades and the jewellery industry.

4. Neutrino Factory Industry Workshop at the Institute of Physics, London - 28 October 2003

The Accelerator Club of the High Power RF Faraday Partnership organised in conjunction with PPARC, CCLRC and Imperial College, a Neutrino Factory Workshop at the Institute of Physics. The workshop aimed to bring together industrial organisations and academic institutions with interests in the technology areas of RF, Magnets and Control Systems. Around 40 delegates registered to participate in the workshop. Each of the three technology areas had one or more short presentations on the requirements, the technical challenges that this poses and the industrial view on the technology. Each technology area had an open forum after the presentations which provided all attendees with a chance to participate and generated some interesting discussions. The chance to network over lunch was also welcomed by the delegates.

Report by Steve Bowater, HPRF Faraday Partnership

5. KITE Club ChemicalVias brokering meeting - 14 October 2003

A meeting was held for the Printed Circuit Board manufacturing industry in October to establish interest in the ChemicalVias microvia manufacturing process developed at CERN. All of the companies present were amazed at the simplicity of the method and its potential for reducing costs. Two of the companies are sending samples to CERN for processing, and a further presentation of the process has been arranged by the trade association Intellect. This will be held on 21st January 2004 in London. For information, please contact Nathan Hill at: e-mail: nathan.hill@qi3.co.uk; tel: 01223 422405.

Future Events:

6. Update on forthcoming events

An exciting range of KITE Club events are planned for 2004, all of which are currently in the development stage. More details will follow in later Newsletters and on the website but in the meantime, here is an idea of what we are planning:

- **'Smart Bio-medical Optics' Forum** to be run by Smart Optics Faraday - **8 January 2004**, Robinson College, Cambridge. Contact Catherine.Butler@siraeo.co.uk
- **Active Pixel Sensors Workshop** to include Detectors, Data Management and Image Analysis for Life Sciences breakout groups in the afternoon – **23 March 2004**, Institute of Physics, London.
- **KITE Club Healthcare Group meeting** (Special Interest Group) – **early 2004**
- **Image Analysis brokering meeting** – **early 2004**
- **Technology for Space Science brokering meeting** (following on from our successful Industry and Science in Space Workshop in September 2003) – **early 2004**
- **Spin Out Seminar** – **early 2004**
- **Healthcare synergy brokering meeting** – **early 2004**
- **PPARC Technologies for the Games Industry brokering meeting** – **mid 2004**
- Dr Dobinson of CERN in collaboration with SPAN Optics for the testing and validation for predictable networking using a high performance network emulator;
- Dr Paterson, of Imperial College in collaboration with Digital Healthcare for the computer-aided image analysis of the retinal vasculature;
- Dr Buttar of University of Sheffield in collaboration with Weston Park Hospital, Micron Semi-Conductors & RAL for the development of a prototype microstrip dosimeter for characterisation of medical radiotherapy and radiosurgery systems. PPARC will be funding this award jointly with the Department of Health (HTD funding scheme). Although the details of this are still being finalised, this will be the first such arrangement between PPARC and the Department of Health following the signing of a concordat to encourage a closer working relationship.

If you would like to contribute to the planning of any of these events, your comments and suggestions will be welcomed. Please contact either Nathan Hill, nathan.hill@qi3.ac.uk or Susan Lansdowne, susan.lansdowne@pparc.ac.uk.

If you would like to register your interest in attending any of these events please e-mail us at kiteclub@pparc.ac.uk.

Business and Partnership Schemes Update:

7. PIPSS

The PIPSS Assessment Panel met on 20 August to peer review eight proposals from the 1 July closing date. Four of these proposals were successful with awards being made to the following:

- Dr Rahman of University of Glasgow in collaboration with Electron Tubes Ltd for the development of high efficiency gaseous photomultiplier devices;

The PIPSS Assessment Panel met again on 13 November to peer review three proposals from 1 October closing date. An update on successful proposals will be included on the web pages and in the next Newsletter. **The next PIPSS closing date is 1 January 2004.**

8. CASE and CASE Plus

The closing date for the 2003/2004 awarding session of CASE and CASE Plus studentships was 1 October 2003. A total of nine applications have been received but the outcome of these will not be known until the end of January 2004. An update on successful applications will be included in the next Newsletter.

9. PPARC/RSE Enterprise Fellowships

Congratulations to Charles McLachlan, University of Cambridge, the latest recipient of a PPARC/RSE Enterprise Fellowship award. Charles's Fellowship will enable him to establish a company 'Metropolis Data Consultants' focusing on image reconstruction and object detection, building on the success of a period of research and development sponsored by PPARC.

We are pleased to announce that PPARC will be continuing with the Enterprise Fellowship scheme,

jointly with the RSE, for a further two rounds, making available a total of four more Enterprise Fellowships from October 2004. The call for applications will be made in the new year on the KITE Club web pages and by direct mailing to Heads of Departments and individuals who have attended or expressed an interest in our entrepreneurial activities.

10. Knowledge Transfer Partnerships (KTP -formerly TCS)

The DTI has reported that the transition from TCS to Knowledge Transfer Partnerships (KTP) is going smoothly. With effect from 3 November, responsibility for KTPs transferred from the DTI's Small Business Service to the Key Business Technologies Directorate of the DTI's Innovation Group. PPARC will consider sponsoring KTPs that aim to transfer technology to any commercial or industrial sector from HEIs where the academic and technology expertise have been derived from developments in particle physics, astronomy, astrophysics or space science.

Further information about KTPs and how to apply is available at www.ktponline.co.uk

11. Joint RC Business Plan Competition – update on stage II progress

The RC Business Plan Competition is nearing its final stages. Twenty applicants have been invited to submit full business plans by 13 December for final judging in February 2004. PPARC has one applicant in the final twenty.

Technology Development Update:

12. PPARC Technology & Industry Advisory Panel (TIAP)

TIAP was formed in 2001 to provide advice for the Science Committee on the technology development aspects of the PPARC science programme.

The first task was to investigate the past and current state of technology development and funding within the PPARC community. Suggestions for a new revised technology strategy were presented to the Science Committee in mid-2002. Timely implementation of this strategy would result in a more secure foothold for PPARC scientists in participation and leadership roles with major instrumentation construction and development projects in the future and would ultimately lead to more effective and efficient delivery

of the scientific objectives. An Innovative Technology grants line for 'blue skies' technology developments and proof-of-concept ideas has been announced and the first batch of applications are being processed.

TIAP has also been working on a technology development roadmap. This can be a particularly useful technique for co-ordinating the development of multiple technologies, especially across multiple projects. PPARC projects arise in the seemingly diverse areas of particle physics, particle astrophysics, solar system science, astronomy and cosmology. However, there are many areas of synergy in, for example, detectors, optics, cryogenics, structures, electronics (control, readout, processing) and data mining.

A preliminary version of the roadmap containing priorities and linkages drawn from the planned projects has been constructed with information compiled in consultation with members of the PPARC community identifying key technologies. This exercise emphasised 24 high-priority technology R&D areas deemed most significant in addressing the goals/missions identified in the Science Committee strategic plan. These data form the backbone for the construction of the technology development roadmap.

The next stage in the process is to identify key UK capability and link through to the science objectives. A technology audit is presently being conducted with TIAP members visiting PPARC research departments identifying the rationale and importance of specific technology developments. This will provide linkage between the technologies required and those being developed and will also identify underpinning technology developments required to maintain UK capability.

The resulting comprehensive technology development roadmap document including time framing and linkages to projects will be revisited frequently to update the contents as planned projects are revised and new ones arise. The expected benefits of using a roadmap approach include increasing capacity and ability to participate and take a leading role in major UK and international science ventures and to capitalise on emerging opportunities through early and improved access to leading-edge technology.

Further information on the role of TIAP, and on the Innovative Technology Fund, can be found on the PPARC web site.

Special Feature:

13. An interview with Joy McKenny

Joy McKenny has an M.Sci in Physics with Astrophysics from Queen's University, Belfast. She studied for a PhD at the University of Durham in the VHE Gamma Ray Astronomy Group. It was here that she was introduced to the concept of making mirrors for ground based gamma ray telescopes. Initially meant to be a distraction from data analysis it became less and less of a sideline. It didn't necessarily change her life but it certainly showed her a new path. Joy was awarded a RSE/PPARC Enterprise Fellowship in 2002/3 to commercialise the manufacture of these mirrors. Together with two fellow gamma ray astronomers she will set up a company in the North-East to make these mirrors.



What made you decide to pursue a research career in physics and astrophysics?

Astronomy was always something that I had an interest in. I had a very good physics teacher in secondary school who was very encouraging.

You are already a successful researcher, what do you consider to have been your greatest achievement to date?

My greatest achievement to date has been completing my PhD thesis. Writing such a long document did not come easily to me and I was delighted to have it finished. All I have to do now is survive the viva!

As an RSE/PPARC Enterprise Fellow, are you likely to remain in academia or have you now become more attracted to working in the private sector?

I am more likely to pursue a career in the private sector. I made a conscious decision after attending one of the GRAD courses not to continue with academia. For me the great attraction of the Enterprise Fellowship was that it formed a bridge between academia and the private sector while allowing me to continue with some of the work I had done during my PhD.

You recently attended the 'Commercialisation of University Research' reception held at the House of Commons, what sort of impact do you think these type of events have in promoting commercialisation?

I think that any event that gets people from different disciplines together is a good thing that is bound to breed new ideas. The people who attended this event were already involved in commercialisation. However I do think that it's very important to publicise technology and services that are made possible thanks to research institutes and Universities.

PPARC is currently developing a policy on Women in Science issues. What do you think the major issues for women in science are?

Academic science is a fast moving field to work in. Six months away from research can be like an age. This makes it especially difficult for women who would like to have a family to take a break from their academic career.

A great deal of the issues facing women in science face men also – for instance the availability of permanent positions. People go from short-term contract to short-term contract sometimes on opposite sides of the world, making it difficult to grow roots and settle in any one place.

What do you think needs to be done to encourage greater numbers of younger people in to the field of physics and astrophysics?

From personal experience, I always enjoyed science and maths subjects at school even though they were branded as hard subjects. Young children are told that maths and sciences are difficult subjects which is not true for all children. I think a lot of children are put off maths and physics because they are perceived to be difficult, preventing some from even giving them a chance.

Children should be encouraged to try all subjects with an open mind and without external prejudices. I must admit though that enthusiastic teachers help a lot.

14. Open Forum

In this edition, Open Forum is seeking your views on the following:

Whilst our core activity is scientific research, PPARC through its mission and KITE Club aims to encourage the formation of spinout companies that create value for the UK economy. Although several such companies have been established in the last few years and others are in the process of formation, only a small number of PPARC researchers are prepared to commercialise their research results or particular technology.

What do you think can be done to stimulate a greater enterprise culture within our scientific community?

Please send your KITE views to:

[Kiteclub@pparc.ac.uk](mailto:kiteclub@pparc.ac.uk)

As well as seeking your ideas for the KITE Club in general, we would also be delighted to assist you find contacts whether it be for solving problems, exploring new collaboration possibilities or just to exchange views and ideas. If we can be of help, please e-mail us at kiteclub@pparc.ac.uk.

PPARC would like to wish all KITE Club members a Merry Christmas and a Happy New Year