

MIB Newsletter

Dec 2009

MANCHESTER
1824

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MIB Brochure

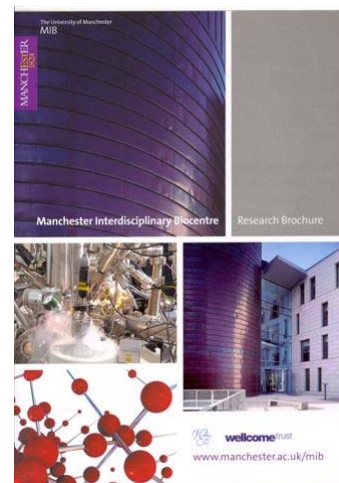
The New MIB brochure, which gives an overview of the research in MIB, is now available from MIB reception.

If you would like extra copies please let me know

[Ros Le Feuvre](#)

A pdf version is now available on our website:

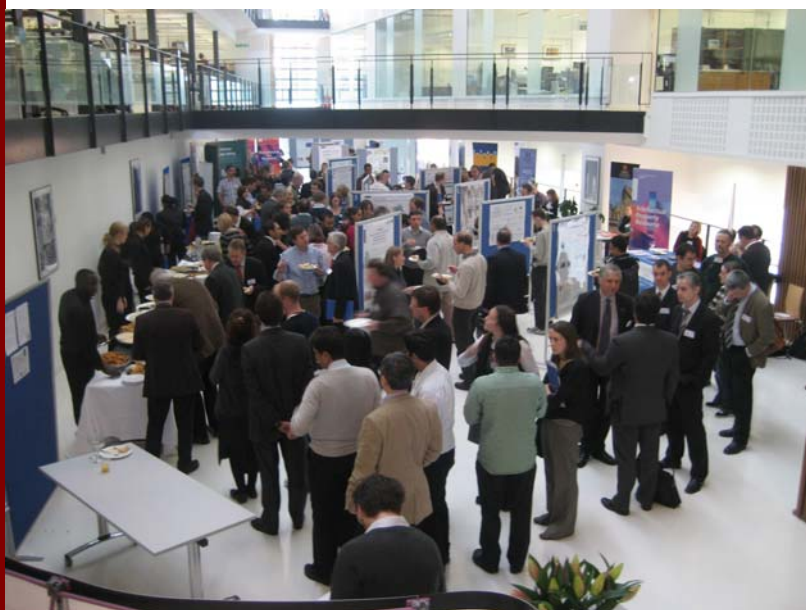
<http://www.mib.manchester.ac.uk/index.html>



Event report

Perspectives in Systems and Synthetic Biology

The first MIB "Industrial" event, "*Perspectives in Systems and Synthetic biology*" was held on Dec 1st in the MIB.



The day consisted of a series of talks discussing current and future visions of Systems and Synthetic biology. Work in these fields from MIB was also highlighted in a poster session which ran throughout the day. **Pedro Mendes** gave an overview of MIB systems biology, whilst **John McCarthy** introduced MIB synthetic biology with short talks from **David Leys** and **Simon Webb**. This event was well attended by researchers from within the MIB and from across the campus, together with members of the business relations team and external participants from industry, government agencies and academia.

Duncan McHale from AstraZeneca highlighted the potential for Systems biology in rational target selection and drug combination approaches. He stressed the need for pre-competitive activity and the importance of collaborations across the sector, particularly in relation to the limited number of models available. **Malcolm Skingle** from GSK addressed the importance of industrializing the

analysis of scientific data and the role of data standards. He discussed the Pistoia alliance which is a more agile pre-competitive alliance with 19 member organisations, the “Robot Scientist”, and Structural genomics consortium. He suggested that systems biology will drive productivity but not in the near term and that innovative partnerships will play an important role. **Cory Brouwer** from Pfizer addressed the slow adoption of systems biology, hinted that we were entering the “trough of disillusionment” and highlighted the problem of bridging the language between disciplines. **Hagan Bayley** (Univ Oxford and the RSC) stressed the importance of funding basic research without questions about impact and thus the importance of speculative academic research. He went on to demonstrate how academic and industrial relationships can work with his spin out company Oxford Nanopore technology. The importance of knowledge management in systems and synthetic biology was discussed by **Sascha Losko** (Biomax) and **Markus Fischer** (International association synthetic biology) suggested that success in this field may come but in small steps. The final industrial talk was by **Hans-Peter Meyer** from Lonza who again suggested that longer time frames will be important when looking at systems biology and highlighted the LIFT (Lonza Innovation for Future Technologies) funding of high risk but high potential research.

The industrial and academic talks were complemented by presentations from **Merlin Goldman** from the Technology Strategy Board who spoke on the commercial opportunities of systems and synthetic biology and the importance of public perception of synthetic biology (learning from the lessons of GM). This need for outreach and public understanding in synthetic biology was also stressed by **Colin Harrison** from the Chemistry Innovation Knowledge Transfer Network (CIKTN) who gave an overview of the governments drive towards low carbon dependence and knowledge based bio-energy.

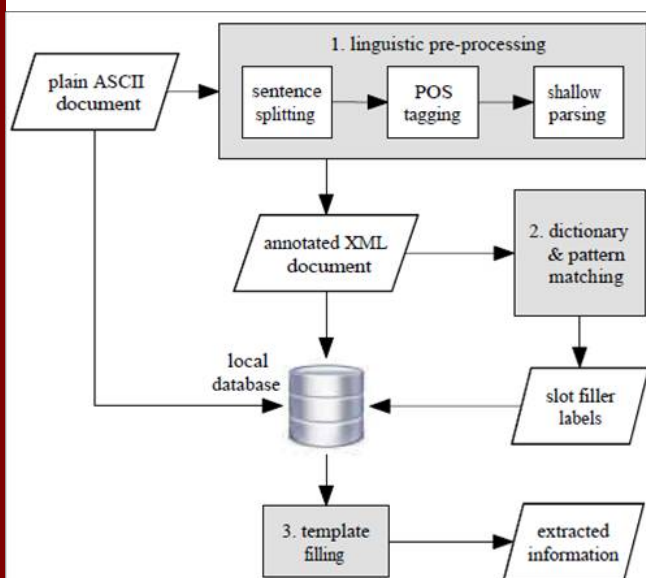
Finally the day had a section on research funding in terms of industrial collaborations with talks from **Nicolas Guernion** (EPSRC), **Prabhat Sakya** (BBSRC) and **Ian Kimber** (Univ Manchester and MRC). The discussion session at the end proved very interesting and was rounded off with a drinks reception. A special thank you must go to our sponsors who made this event possible.

Ros Le Feuvre

Pdfs of the presentations are available on the web: [talks](#)

General News

Natural Language Processing Challenge Success



A team of staff from Computer Science, MIB and MCISB consisting of: **Irena Spasic, John Keane and Goran Nenadic** took part in an international text mining challenge in the clinical/health-care domain, whose aim was the extraction of medication-related information from narrative patient records.

<https://www.i2b2.org/NLP/Medication/>.

We are pleased to announce that our team repeated the last year's success and was among the top ranked teams for the second year running. Overall, the team was ranked **third** out of 19 teams taking part, with the same significance level as the second ranked team.

Health and Safety News

Safety first..!

MIB Safety Training Courses

- **Induction H&S training** - Next year (September 2010) the compulsory H&S training for all new postgraduate students will change from the current system of one session per week, to a more intensive 2 day course (28th and 29th September). We hope this will improve attendance, and be more convenient for all participants.
- **Radiation Safety Awareness courses** - It is a requirement that anyone wishing to work with ionizing radiation must attend a Radiation Safety Awareness course run by the university Radiation Safety Unit. Booking for these courses is through the MIB Radiation Protection Supervisors, Dr Chris Storey (C.Storey@manchester.ac.uk) or Dr John Hughes (john.m.hughes@manchester.ac.uk). Please note that if you book a course and then fail to attend, without good reason or giving at least one day's notice, you will be charged a £25 fee.
- **In-house H&S training** – due to the low levels of attendance at STDU H&S training courses, we have decided to run some of the training in-house. From the New Year, we will run small-group in-house COSHH and risk assessment training courses. More details about how to book will follow in January. If you would like to see other courses run in the MIB, please contact Tanya.

STDU Safety Training courses

STDU H&S courses are run in the Sackville Street Building, close to MIB. They are available, free of charge, to all staff and research students. To book any of the courses, see:

<http://www.staffnet.manchester.ac.uk/employment/training/courses/>

Date	Course code	Course title
25/01/10 and 22/02/10	HS42	Laser training
25/01/10 and 22/02/10	HS98	Laser safety awareness
12/10/09	HS18	Manual handling risk assessments
03/02/10	HS7	Gas safety and regulators course
08/02/10	HS75	Safe UV practice: a users guide
09/02/10 and 11/02/10	HS15	Principles of risk assessment
10/02/10	HS50	COSHH assessment for lab based staff

General Safety Issues

- **Reminder to Users of high-speed centrifuges** - It is essential that O-rings are in place and in good condition on centrifuge rotors and on the caps of centrifuge tubes and bottles. The O-rings should be lightly smeared with silicon vacuum grease in order to ensure a good pressure-tight seal. Faulty or missing O-rings can allow leakage, which can cause rotor imbalance leading to expensive, if not potentially dangerous, damage to equipment. As a user it is your responsibility to ensure that you know how to use equipment safely and correctly.
- **Out-of-hours cards** – the current green out-of-hours cards will expire on 31/01/10. New cards will be issued from the start of January. **ANYONE** planning to work out-of-hours will need to get a new card from Tanya.
- **Health questionnaires** – have you filled in a health surveillance questionnaire? If you work in the labs, you should have registered with Occupational Health. If you have never done this, please see Tanya/Fiona for a form.

- **Update on transport issues** – following on from the document we recently sent you all which details how to transport items to/from the MIB, we would recommend lidded white plastic buckets for transporting items between university buildings, etc. These are available from Stores. Please follow the guidelines detailed in the transport document, and ensure that bucket lids are firmly secured when used.

Focus on...Housekeeping Maintaining a high standard of housekeeping is important, particularly when working in large, open-plan labs. The photos below are examples of poor housekeeping which were noted by the University Health and Safety Services whilst conducting formal inspections within the MIB.....

Remember...

- Tidy away items when you have finished with them.
- Clear away under-bench items, so that you can sit comfortably while you work.
- Label all of your bottles, etc with your name, date and the contents.
- Clear up any spills immediately.
- Report problems to your floor coordinator, or Janet England.
- Don't stockpile chemicals, plasticware, etc – only store what you need (Stores is open every day!)



Funding News

EPSRC overseas travel grants

Overseas travel grants provide funding for international travel and subsistence. You can use them to visit recognised non-UK centres to study new techniques and to travel from the UK to start or develop international collaborations. You can not apply through this route for funding solely for attending conferences or to support sabbatical absences. See the website for further information.

<http://www.epsrc.ac.uk/ResearchFunding/Opportunities/Networking/OTG/default.htm>

EPSRC Networks

The main objective of Networks is to create new interdisciplinary research communities and topics, by developing interaction between the research community and appropriate science, technology and industrial groups. The aims are to:

- Transfer experimental techniques, models and scientific insights
- Promote mobility between academe, universities and industry.

Networks are expected to lead to new collaborative multidisciplinary research proposals and some may develop into virtual centres of excellence, providing critical mass of analytical expertise.

Network proposals may be submitted at any time in the Responsive Mode. However, EPSRC may also occasionally issue specific calls for proposals which have different objectives from those listed above. EPSRC has established various initiatives to set up Networks in specific programme areas.

<http://www.epsrc.ac.uk/ResearchFunding/Opportunities/Networking/default.htm>

ERC Calls for Proposals

Advanced Grant for Life Sciences

Closing date 17th March 2010 [ERC-2010-AdG 20100317](http://www.erc.europa.eu/ERC-2010-AdG_20100317)

The ERC Advanced Investigator Grant (ERC Advanced Grant) funding scheme complements the ERC Starting Grant funding scheme by targeting researchers who have already established themselves as independent research leaders in their own right. ERC Advanced Grants allow exceptional established research leaders in any field of science, engineering and scholarship to pursue frontier research of their choice. They aim to encourage risk-taking and interdisciplinarity, and supports pioneering frontier research projects.

<http://erc.europa.eu/index.cfm?fuseaction=page.display&topicID=66> Deadline in Spring

Marie Curie International Research Staff Exchange Scheme (IRSES) Deadline 25th March 2010

http://cordis.europa.eu/fp7/dc/index.cfm?fuseaction=UserSite.FP7DetailsCallPage&call_id=245

University of Manchester EPSRC Knowledge Transfer Account

The University of Manchester was awarded an £8.3m Knowledge Transfer Account based on its plans to increase the impact, uptake and exploitation of EPSRC research investments. The University's KTA involved the development of a comprehensive portfolio of flexible support mechanisms designed to enable all EPSRC researchers the opportunity to overcome barriers as they arise in all of the possible routes to exploitation/application of the University's EPSRC research base.

Key dates Closing dates for submission of proposals: 19th January 2010; 2nd March 2010; 26th May 2010; 16th July 2010

Eligibility Applications are only permitted for projects focused on the exploitation or application of knowledge or technology generated through EPSRC-funded research (If you do not have EPSRC funding you can join up with someone who has!). For further details on each scheme, please see guidance notes for applicants.

<http://www.eps.manchester.ac.uk/business/kta/>

Outline of funding mechanisms in this call

- Secondment Scheme
- Awards for Concept Development and Feasibility Studies
- Knowledge Transfer Fellows scheme
- Knowledge Transfer Partnerships

In addition there is also:

Horizon Scanning and Scenario Modelling Events: The activities will include facilitated events centred on specific technology /problem domains which bring together users (both existing and new partners) and academics to identify and define problems and opportunities and to develop potential strategies to solve or exploit them.

MRC Partnership grants

The Medical Research Council invites applications for its partnership grant in population and systems medicine. This aims to provide support for collaborative activities that add value to existing research or helps galvanize researchers in a particular field, or complementary fields, to address important issues that cannot be addressed through other funding arrangements. The scheme provides core funds for managed consortia and partnerships and for supporting more diverse groupings of researchers, who may lack the scale, longevity, or organization expected of an MRC centre. Funding can be provided for the following activities:

- strengthening of research activity across the field;
- boosting capability;
- encouraging collaboration, training and career development;
- establishing critical mass;

- knowledge sharing between Institutions, by establishing multi-disciplinary collaborative partnerships;
- developing consortia;
- developing strategy.

These activities may be applicable to environments such as: multi-institutional/multi-disciplinary groupings; strategic partnerships between organizations; and large scale partnerships. Support may be requested for one to five years and covers pilot, proof of principle, multidisciplinary, high risk projects; shared infrastructure; and training and capacity building. MRC will usually fund on the basis of 80 per cent of the full economic cost.

Closing date for outline applications: 21st Apr 10

<http://www.mrc.ac.uk/Fundingopportunities/Grants/Partnershipgrant/index.htm>

Funding Deadlines & Links

NERC New Investigator research grants 1st Feb 2010 <http://www.nerc.ac.uk/>

EPSRC <http://www.epsrc.ac.uk/default.htm>

BBRSC Responsive mode –13th Jan 2010, 14th April <http://www.bbsrc.ac.uk/funding/index.html>

MRC - <http://www.mrc.ac.uk/index.htm>

Wellcome Trust - <http://www.wellcome.ac.uk/Funding/Biomedical-science/index.htm>

ESRC <http://www.esrc.ac.uk/ESRCInfoCentre/index.aspx>

Leverhulme Trust Research grants March 21st 2010 <http://www.leverhulme.ac.uk/>

Royal Society – Research Grants 5th April 2010 <http://royalsociety.org/funding/>

Post Doctoral development opportunities

Below are a few opportunities highlighted on the FLS or FEPS Research staff development websites (links below) – these courses are available to all research associates and assistants across the University places permitting. More info can be found on the websites listed below:

Researcher Development Officer FEPS – Gemma Muckle

Ext. 64169 or Gemma.muckle@manchester.ac.uk

<http://www.graduatedevelopment.epf.manchester.ac.uk/resdev/>

Researcher Development in FLS – Anu Garg (covering Sarah Ashworths maternity leave)

<https://www.intranet.ls.manchester.ac.uk/research/staffdevelopment/default.aspx>

Scientific Abstracts: Friday 29 January 2010, 14:00 - 16:00

The preparation of a first-rate abstract is one of the most difficult writing challenges for any scientist. During this workshop, advice on how to write abstracts is supported by group work on practical examples. Participants are encouraged to bring an abstract that they have prepared previously.

[Book a place on this course](#)

Interview skills: up close and personal: Friday 19 February 2010, 13:00 - 16:00 This workshop provides you with advice on preparing for interviews and how to develop a successful interview technique. [Book a place on this course](#)

Researchers in Residence information session: Wednesday 20 January 2010, 12:00 - 13:30

This short information session gives you all you need to know about the Researchers in Residence scheme, which is open to researchers who are funded (directly or indirectly) by a UK Research Council or the Wellcome Trust. Come along to hear past participants share their stories, and get an overview of how it works from a regional co-ordinator of this national scheme.

Researchers in Residence enables researchers to spend some time engaging and inspiring secondary school students, and aims to "provide researchers with the opportunity to develop and use effective communication, management and teamwork skills by working with young people."

Find out about this scheme at:

<http://www.researchersinresidence.ac.uk/cms/researchers/> [Book a place on this session](#)

Principles of Fellowship Applications: Wednesday 24 February 2010, 13:00 - 17:00 This half day session provides the opportunity to find out about the fellowship funding process and the internal procedures for support. The day will offer the chance to hear from Prof Nigel Scrutton, FLS Associate Dean for Research, current fellows and academic panel members.

At the close of this session the 2010 FLS Small Grant Award will be launched, offering the chance to win funding to support career development. This is annual workshop and will be offered again in March 2011. [Book a place on this course](#)

Win it or bin it? An interactive grant reviewing workshop: Tuesday 13 April 2010, 09:00 - 17:00 This interactive workshop will take a critical look at the written application for research funding. Participants will critically review grant applications and together identify the characteristics of a successful funding application, under the guidance of funding panel members. This is an annual workshop and will be offered again in April 2011. [Book a place on this course](#)

Funding - Researcher Development

External Training and Development Fund for Researchers in the Faculty of Engineering and Physical Sciences

Have you ever seen an external opportunity for your development, but not had the funds to attend? This fund could meet your needs. The Faculty of EPS Graduate Development and Researcher Development team works to support the professional development of researchers: helping to develop a range of transferable skills which are useful across disciplines and in different career paths. This fund aims to support Researchers to participate in training and development activities which are not currently available within the University of Manchester, and to enable uptake of development events offered at regional or national level. Note: The fund cannot be used for discipline-specific or research-related training, (technical, equipment or Health and Safety training.

Applications closing dates: Monday 1 March 2010, Tuesday 1 June 2010

You will receive confirmation of successful applications within two weeks of the application closing date. If you require funding that does not coincide with these application dates then please feel free to contact us to see what can be arranged.

For full details and applications: Please ensure that you read the guidance notes before applying and check that similar opportunities are not already available from [STDU](#), other Faculties [Research Staff](#) / [Postgraduates](#) or other training providers such as the [Manchester Enterprise Centre](#), [UMIP](#) or the [Careers Service](#).

Download the [Guidance Notes](#) - Details of eligibility, what can be funded, application notes and assessment criteria. Download the [Application Form \(Word\)](#) or [Application Form \(PDF\)](#)

Further information and enquiries contact Dr. Gemma Muckle:

Gemma.muckle@manchester.ac.uk

SET for Britain

Entitled SET for BRITAIN, this event will be held in the House of Commons on Monday 8 March 2010 between noon and 9 pm in the run up to National Science and Engineering Week 2010. The day will be divided into three sessions. Applications are invited from early-stage and early-career research scientists, engineers and technologists who wish to exhibit posters in one of the following three areas:

- Physical Sciences (Chemistry and Physics)
- Engineering
- Biological and Biomedical Science

Deadline: Monday 21st December!

A wide range of important scientific and engineering institutions are lending their support to this event, including the Society of Biology, the Institute of Physics, the Royal Academy of Engineering, and the Royal Society of Chemistry. This reflects the importance we all attach to the encouragement of researchers at this stage in their careers.

Prizes will be awarded for the best scientific posters presented in each discipline, including the Westminster Medal which will be awarded in memory of the late Dr Eric Wharton, who did so much to establish SET for BRITAIN as a regular event in the Parliamentary calendar. Full details of the competition and exhibition including the application form can be found on the SET for BRITAIN website at: www.SETforBRITAIN.org.uk.

Congratulations

[TOP](#)

Recent Grant awards

Congratulations to **Ardeshir Bayat** who has been awarded £9K from the Wellcome Trust for his research on the "Quality of Life Assessment in Dupuytren's Disease".

Seminars

[TOP](#)

MIB Research Forum Talks

Thursday 21st Jan

Sabine Flitsch - *Using Glycoarrays to study Glycomes.*

Andrew Doig -

Peter Gardner - *Resonant Mie scattering in infrared spectroscopy of biological cells - understanding the "dispersion artifact"*

Next dates will be: Thursday 25th Feb and Thursday 25th Mar

MIB International Seminar Series 12.00pm MIB LT

Thursday 14th Jan

Prof. Paul Freemont, Imperial College, London

"Higher-order spatial organisation of functional compartments in human fibroblast nuclei: developing interdisciplinary tools and approaches"

Abstract: The nuclei of higher eukaryotic cells display functional compartmentalisation, and some such nuclear compartments are known to follow a degree of spatial organisation. However, the relationship between the spatial configuration of nuclear compartments and essential nuclear functions like genome regulation, maintenance, replication and transcription is highly complex and not fully understood. Nuclear architecture is also dynamic, and can undergo dramatic reorganisation during cell differentiation, proliferation and tumourigenesis. The rules that oversee spatial organisation in the nucleus remain unclear and controversial, with many of the current concepts based on confocal light microscopy images of single fluorescently-labelled nuclei in different physiological states. To address this we have undertaken a systems-level approach to capture multiple 3D confocal microscopy images of nuclear compartments from normal and transformed cell lines. We have developed computational tools to combine different images to give aggregate maps which have revealed remarkable spatial preferences for several functional compartments the results of which will be presented in the talk.

References:

KJ McManus, DA Stephens, NM Adams, SA Islam, PS Freemont, MJ Hendzel. The transcriptional Regulator CBP has defined spatial associations with interphase nuclei. PLoS Comput. Biol 2: e139

(2006)

C Shiels, NA Adams, S A Islam, D A Stephens, PS Freemont. Quantitative Analysis of Cell Nuclear Organisation, PLoS Computational Biology 3, 1161-1168 (2007)

RA Russell, NA Adams, DA Stephens, E Batty, K Jensen, PS Freemont. Segmentation of fluorescence microscopy images for quantitative analysis of cell nuclear architecture. Biophys J 96, 1-11 (2009)

Wednesday 10th Feb

Professor Dan Tawfik, Weizmann Institute, Israel

A full list of these can be found at:

<http://www.mib.ac.uk/aboutus/newsandevents/news/ISS/iss%20full%20list.html>

Seminars throughout the University

can be found at:

- [Faculty of Life Sciences](#)
- [School of Materials](#)
- [School of Physics and Astronomy](#)
- [School of Chemistry](#)
- [SCEAS](#)

Publications

Pang J, Scrutton NS, Visser SP, Sutcliffe MJ. Assignment of the Vibrational Spectra of Enzyme-Bound Tryptophan Tryptophyl Quinones Using a Combined QM/MM Approach. J Phys Chem A. 2009 Dec 1. [Epub ahead of print] [Abstract](#)

Adalbjörnsson BV, Toogood HS, Fryszkowska A, Pudney CR, Jowitt TA, Leys D, Scrutton NS. Biocatalysis with Thermostable Enzymes: Structure and Properties of a Thermophilic 'ene'-reductase related to Old Yellow Enzyme. Chembiochem. 2009 Nov 26. [Epub ahead of print] [Abstract](#)

Attwood TK, Kell DB, McDermott P, Marsh J, Pettifer SR, Thorne D. Calling International Rescue: knowledge lost in literature and data landslide! Biochem J. 2009 Dec 10;424(3):317-33. [Abstract](#)

Allwood JW, Goodacre R. An introduction to liquid chromatography-mass spectrometry instrumentation applied in plant metabolomic analyses. Phytochem Anal. 2009 Nov 19. [Epub ahead of print] [Abstract](#)

Brown MD, Hart C, Gazi E, **Gardner P, Lockyer N**, Clarke N. Influence of omega-6 PUFA arachidonic acid and bone marrow adipocytes on metastatic spread from prostate cancer. Br J Cancer. 2009 Dec 8. [Epub ahead of print] [Abstract](#)

John S. Fletcher, Cellular imaging with secondary ion mass spectrometry *Analyst*, 2009, **134**, 2204 [Abstract](#)

Please send comments and items for inclusion in this newsletter to:

[Ros Le Feuvre](#) (Next edition deadline 18th Jan 2010)