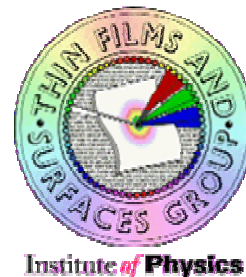


Thin Films and Surfaces Group

Newsletter



Comments from the Chair

Welcome to the May 2006 edition of the TFSG Newsletter. You will notice a different signature at the bottom of this page. At the AGM earlier this year I took over the chair of the TFSG committee from Professor Chris McConville, who has reached the end of his 3-years term. This is a good opportunity to thank Chris for the tremendous amount of work he has put into chairing the committee so successfully. Under his chair there has been a large increase in the number of TFSG-sponsored meetings, summer schools and conferences, helping many, especially younger group members to interact with other scientists in their field, which is one of the key functions of the group. Chris has also been very active in promoting the interests of the thin films and surface science community within the IoP and outside the boundaries of the 'physics world'. It is comforting to know that his experience will not be lost to the TFSG committee as he has agreed to act as co-opted member for the next three years. At the AGM also two new committee members were elected, Dr Andrew Simons and Dr Martin Lowe. Both work outside academia, a sector of our community which has been underrepresented in the committee in recent years. We hope this will help to strengthen the interaction between academic and non-academic researchers on our field.

Earlier this year the Report "International Perceptions of UK Research in Physics and Astronomy 2005" of a high calibre international evaluation panel provided some interesting reading. Alongside some very critical comments on the current funding and national evaluation system, the report also contains the following section that concerns our group directly:

"Another broad area of research that is still suffering from patchy coverage is surface science. ... The Panel believes that, while some notable work is occurring in surface science in the UK, the country as a whole does not have the expected international leadership in this important area. Nevertheless, there are world-class facilities at RAL for revealing the morphological and energetic properties of thin films that are accessed by the international physics community for this purpose. The UK is therefore well placed to move into an internationally recognised leadership position in surface science, provided that interest in this field can be sufficiently nurtured."

Obviously, some of the apparent 'patchiness' is due to the fact that the panel only looked at Physics Departments, ignoring the fact that much of surface science and thin films research in the UK is done in Chemistry and Engineering Departments. Nevertheless, we as a group must see these comments as a challenge to further increase awareness and adequate public funding for our science, which is of such central importance to many key technologies.

Dr Georg Held
(Chair TFSG)
Department of Chemistry
University of Reading
Whiteknights
READING, RG6 6AD
(g.held@reading.ac.uk)

Contents

Conferences	3
Support for Meetings and Conferences	3
Diary	3
Image Analysis for Microscopy 2006	3
Nanoscale Physics and Technology Spring Meeting	4
UK SPM 2006	4
High Power THz Sources workshop	5
PEEM Workshop	6
International Conference on Nanoscience and Technology 2006 (STM06 and Nano9)	6
Techniques of Surface Science and Catalysis Summer School 2006	6
ECOSS 24	7
13 th International Conference on Solid Films and Surfaces	7
Student Bursaries	8
Conference Reports	8
ICSOS-8	8
ISSC-15	8
Surface Science Summer School	9
International Astronomical Union, Symposium No 231	9
APS March meeting	10
Articles	12
Ice Surfaces and Interfaces Meeting	12
UKSPM 2005	13
Committee and Contact Details	14

Further details of the group and its activities, including an up to date diary of supported meetings and conferences, are to be found on our website <http://groups.iop.org/TF/>

Support for Meetings and Conferences

The committee is very happy to offer the support of the TFSG to any meeting or conference in the relevant areas of thin films and surface science organised by the UK scientific community. We would also welcome suggestions from group members for topical one-day meetings that the TFSG could organise alone or in collaboration with other IOP subject groups. If you are organising a meeting or conference and would like to find out if support is available or if you have an idea for a topic meeting, please contact Prof. Martin McCoustra (TFSG Secretary).

Prof. Martin McCoustra
(Secretary TFSG)

School of Chemistry, University of Nottingham
(martin.mccoustra@nottingham.ac.uk)

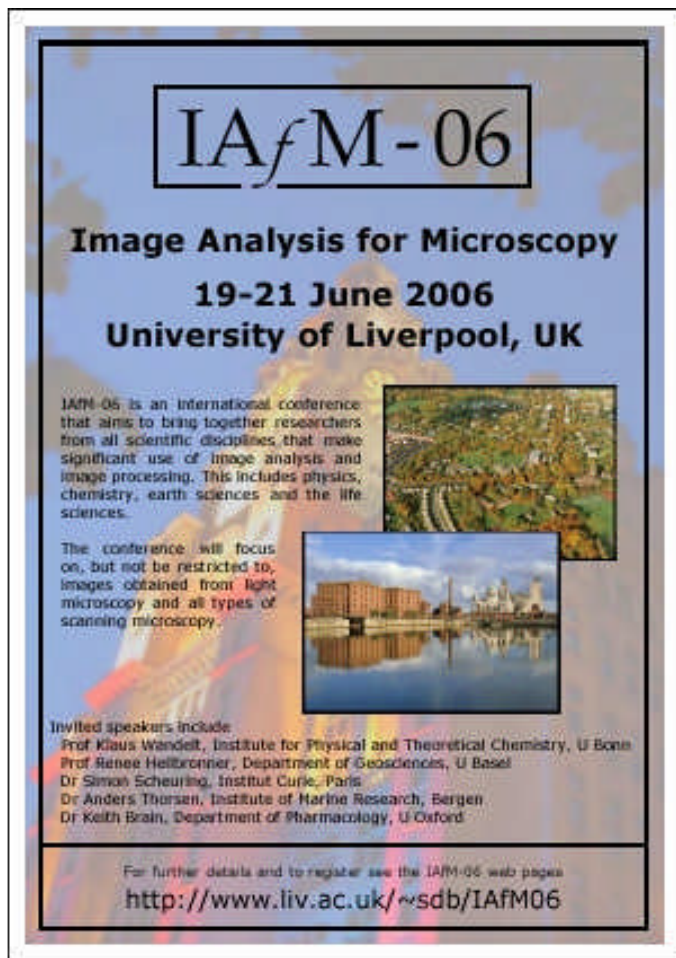
Diary

The following meetings will be of interest to group members.

Image Analysis for Microscopy 2006 **19-21 June 2006, University of Liverpool** <http://www.liv.ac.uk/~sdb/IAfM06>

IAfM-06 is an international conference that aims to bring together researchers from all scientific disciplines that make significant use of image analysis and image processing. This will include physics, chemistry, earth sciences and life sciences. The conference will focus on images obtained from microscopy, including light microscopy and all types of scanning microscopy.

The conference is aimed at all researchers who use image analysis and image processing as an integral part of their research. Research students are particularly welcome as the diverse scientific community represented at IAfM-06 will give a wider context to the analysis being carried out by any one researcher. We hope that analysis that has been applied in one field may find application in others.



The poster for the IAfM-06 conference features a blue background with a grid pattern. At the top, the title 'IAfM-06' is enclosed in a black box. Below it, the conference name 'Image Analysis for Microscopy' and dates '19-21 June 2006' are prominently displayed, followed by the location 'University of Liverpool, UK'. The central text describes the conference's aim to bring together researchers from various scientific disciplines. Two inset images are shown: one of a landscape with a path and trees, and another of a cityscape reflected in water. A list of invited speakers is provided at the bottom, including Prof. Klaus Wandelt, Prof. Renee Hellbranner, Dr. Simon Scheuring, Dr. Anders Thorsen, and Dr. Keith Brain. The website URL is repeated at the bottom.

IAfM-06
Image Analysis for Microscopy
19-21 June 2006
University of Liverpool, UK

IAfM-06 is an international conference that aims to bring together researchers from all scientific disciplines that make significant use of image analysis and image processing. This includes physics, chemistry, earth sciences and the life sciences.

The conference will focus on, but not be restricted to, images obtained from light microscopy and all types of scanning microscopy.

Invited speakers include:
Prof. Klaus Wandelt, Institute for Physical and Theoretical Chemistry, U Bonn
Prof. Renee Hellbranner, Department of Geosciences, U Basel
Dr. Simon Scheuring, Institut Curie, Paris
Dr. Anders Thorsen, Institute of Marine Research, Bergen
Dr. Keith Brain, Department of Pharmacology, U Oxford

For further details and to register see the IAfM-06 web pages
<http://www.liv.ac.uk/~sdb/IAfM06>

The conference will have the following structure:

- Four half-day themed sessions
- Each session will have a lecture from an invited speaker
- Each session will have short oral contributions from participants
- Posters

Invited speakers include:

Prof Dr Klaus Wandelt, Institute for Physical and Theoretical Chemistry, University of Bonn
Understanding solid/liquid interfaces using Fourier-filtering

Prof Dr Renee Heilbronner, Department of Geosciences, University of Basel
Orientation imaging: Measuring and mapping crystallographic orientations

Dr Simon Scheuring, Institut Curie, Paris
Image analysis of atomic force microscopy data in membrane research

Dr Anders Thorsen, Institute of Marine Research, Bergen
Using particle analysis to determine reproductive characteristics of fish species

Dr Keith Brain, Department of Pharmacology, University of Oxford
Submicron optical detection of neurotransmitter release

Contributions are invited from all delegates in the form of short talks or demonstrations (approx. 20-25 minutes) or posters.

Ideally, a contribution should show, either as a demonstration or as a presentation of results, how image analysis or image processing has enabled or enhanced the scientific interpretation of images in such a way that the results are accessible to researchers in other fields.

Deadline for early registration: **19 April 2006**

Deadline for abstract submission: **19 April 2006**

Deadline for registration: **26 May 2006**

Nanoscale Physics and Technology Spring Meeting
16 Jun 2006, Department of Physics, University of Bath.
<http://www.bath.ac.uk/physics/nano.html>

A meeting including invited talks covering some of the latest advances in nanoscale physics and technology, along with an opportunity for participants to present posters reporting their own activities. The meeting includes the AGM of the IOP NPT group.

Confirmed invited speakers include

* Renee Diehl (Penn State University, USA)

* Russell Cowburn (Imperial)

* Richard Berndt (Kiel, Germany)

* Philip Lindan (Kent)

* Simon Bending (Bath)

Everyone welcome, especially those with an interest in the physics of 1-100nm scale structures, and their development for new technologies.

UK SPM 2006
28 - 29 June 2006, ExCel London
http://www.rms.org.uk/event_ukspm.html

In 2006, the annual UK SPM meeting is being co-located with MICROSCIENCE 2006. The SPM meeting (scanning probe microscopy) commences at the half-way point of MICROSCIENCE at lunchtime on Wednesday and continues until close on Thursday afternoon. There will be parallel sessions on Wednesday afternoon and Thursday morning, with a range of invited, contributed,

commercial and graduate student presentations. All topics associated with scanning probe microscopy may be covered, including main techniques such as atomic force microscopy and scanning tunnelling microscopy as well as more specialised versions. A wide variety of applications from biological molecules, biomaterials, polymers, crystals, metal and catalyst surfaces, nanostructures, nanomanipulation, instrument and probe development, and more, are likely to be explored.

New Scientific Possibilities with High Power THz Sources - a workshop to explore theory and experiments exploiting fourth generation light sources
29 - 30 June 2006, Holiday Inn Runcorn
www.srs.ac.uk/meetings/THz_sources_workshop

A Workshop to explore theory and experiments exploiting fourth generation light sources.

Invited Speakers:

Charles Albert Schmuttenmaer (Yale, USA)

Learning New Chemistry and Physics with THz Light

Xi-Cheng Zhang (Rensselaer Polytechnic Institute, Troy, NY, USA)

THz Photonics Using Ambient Air

David Plusquellic (NIST, USA)

CW THz Spectroscopy of Peptide Nanotubes and Co-solvated Crystals

S. James Allen (University of California, Santa Barbara, US)

Probing THz Dynamics in Devices and Materials with the UCSB Free-electron Laser - From Semiconductor Quantum Structures to Proteins

Boris Knyazev (Budker Institute, Russia)

Terahertz research activities at Novosibirsk free electron laser

Ulrich Schade (BESSY, Berlin, Germany)

THz Scanning Near-field Microspectroscopy Employing Coherent Synchrotron Radiation

Harvey Rutt (University of Southampton, England)

A proposed novel multiplexed near field Terahertz microscope

Nigel Scrutton (University of Manchester, England)

Scientific possibilities for a THz facility to study vibrationally mediated enzyme action

Bill Truscott (University of Manchester, England)

New science with powerful THz sources

Michael Johnson (University of Oxford, England)

Polarisation sensitive terahertz spectroscopy

Martyn Chamberlain (University of Durham, England)

TBA

Gwyn Williams (Jefferson Lab, Virginia, USA)

The High Power THz Programme at Jefferson Lab

G. Lawrence Carr (NSLS - Brookhaven National Laboratory, USA)
Controlling Light with Intense Coherent THz Pulses

PhotoEmission Electron Microscopy Workshop

11th – 12th July, 2006, Diamond Light Source

<http://www.diamond.ac.uk/News/LatestEvents/PEEMworkshop.htm>

Diamond Light Source will shortly start user operations with one of the first beamlines being the [Nanoscience beamline](#). This beamline houses a state-of-the-art PhotoEmission Electron Microscope (PEEM) with a resolution of less than 20nm, allowing spatially resolved X-ray absorption spectroscopy, X-ray photoemission spectroscopy and X-Ray Magnetic Circular and Linear Dichroism. The beamline covers the energy range 80eV to 2100eV with circular and variable linear polarisation, making it ideal to study nanomagnetism, surface catalysis, interface electronic structure and interface chemical structure.

This one and a half day workshop is designed to give a general audience an idea of the wide ranging capabilities of the Nanoscience beamline, with talks and discussions on interface magnetism, geological science, surface chemistry and the principles of X-Ray excited PEEM.

International Conference on Nanoscience and Technology 2006 (STM06 and Nano9)

July 30th - August 4 2006, Basel, Switzerland.

<http://www.icnt2006.ch/>

The scope of this conference is twofold:

- To commemorate the invention and development of SPM (25 years of STM and 20 years of AFM) and related techniques and their impact on the sciences.
- The expansion and reinforcement of nanoscience in general and its potential to unleash future technologies.

Traditionally, two conferences have been held in alternate years over the last two decades. On one hand the series of STM conferences since 1986 and on the other hand the series of Nano1 through Nano8 since 1990. To fathom whether there will be a common future the organizers will combine STM06 and Nano9 into ICN&T 2006 (International Conference on Nanoscience and Technology) under the auspices of the two respective steering committees and the NCCR (National Center of Competence in Research) Nanoscale Science, located at the University of Basel.

Topics will include:

Nanobiology and Nanomedicine,
Nanosystems, Nanomechanics and Nano-optics,
Molecular Electronics,
Quantum Computing and Spintronics
Materials Scanning Probe Microscopy Instrumentation

Techniques of Surface Sciences and Catalysis – Summer School 2006

August 13 - 26, 2006, Santa Barbara

<http://www.icmr.ucsb.edu/programs/schools2006.html> and
<http://pire-ecci.ucsb.edu/Summer Schools.htm>

Topics to be covered include experimental and theoretical approaches to understanding reactivity at the gas/solid and liquid/solid interface. The summer school will be held at the campus of the University of California, Santa Barbara, and speakers will include professors from both UCSB and other US and overseas institutions.

Applications from graduate students, post-docs and early career faculty members are welcomed, and funding is available to facilitate the attendance of participants from the US and overseas.

ECOSS 24 European Congress on Surface Science
4th-8th September 2006, Paris

<http://www.ecoss24.org/>

The scientific programme of ECOSS will involve invited and contributed papers in the field of surface science, which will be presented during plenary, oral and poster sessions. Oral contributions will be organised into several parallel sessions, including topical sessions and symposia, the later being aimed at highlighting rapidly developing fields of surface science. Posters sessions will be organised as well in the two cases.

Topical Sessions:

- Adhesion, friction and tribology
- Adsorption and reactions at surfaces
- Biomaterial Interfaces
- Clusters and thin films, growth and properties
- Dynamical processes at surfaces
- Electronic properties
- Ionocovalent surfaces and interfaces
- Liquid-solid interfaces
- Manipulation at the nanoscale
- Molecular self-assembly and supra-molecular structures
- New experimental approaches for surface and interface
- Surface alloys
- Surface magnetism
- Surface structure and phase transitions

Symposia:

- Defects on oxides
- From single molecule to molecular electronics
- Plasma-surface interactions
- Ultrafast dynamics at surfaces
- Water surfaces and interfaces

13th International Conference on Solid Films and Surfaces
November 6-10, 2006 San Carlos de Bariloche, Patagonia, Argentina

<http://www.cab.cnea.gov.ar/icsfs-13/>

The ICSFS-13 conference will focus on the advanced and novel physical and chemical properties of films and surfaces. This international meeting will feature the state-of-the-art scientific achievements in the emerging fields of supramolecular objects, nanostructured materials and spintronic among others.

Student Bursaries

We are happy to encourage postgraduate students to apply for bursaries to assist their attending major national and international conferences. To be eligible for a bursary, applicants must be a student member of the TFSG or the SSUK group of the RSC and be presenting a talk or a poster at the conference. In addition, bursary recipients will be expected to prepare a one-page report on the conference that they attended for the TFSG Newsletter. Student members of the group interested in applying for a bursary to attend a conference should contact Dr. Manfred Buck (School of Chemistry, University of St Andrews) for further details. Application forms can be downloaded from the group website (<http://groups.iop.org/TF/>).

Dr. Manfred Buck
(Bursary Co-ordinator TFSG)
School of Chemistry, University of St Andrews
(mb45@st-andrews.ac.uk)

Conference Reports

8th International Conference on the Structure of Surfaces

(Munich, 21-26 August 2005)

The ICSOS conference series is probably the leading international conference on the quantification of surface structures, attracting participants from a wide range of surface science areas to discuss research topics ranging from nanoassembly using atomic manipulation to homochirality in organic crystals. The series is benefited by a single stream of talks, preventing the problem of having to decide which ones to attend! I took the opportunity to listen to majority of the talks, which were of an excellent standard, many of them given by invited speakers of renowned reputation. Even though a significant quantity of the presentations were not directly related to my own work, I was fascinated by the diversity of current research which falls under the general heading of surface science.

I had the opportunity to present part of my PhD research, "Surface stress and surface rumpling in Cu(100)_c(2x2)-Mn; a density functional theory study", in one of the poster sessions. I was very pleased with the high level of interest in my work, and encouraged by the constructive comments that I received. It was particularly beneficial to speak to D. Sander who has performed the experimental measurements on the Cu(100)/Mn surface phase. From the discussions that I had, some new questions were raised, and in particular, they highlighted issues which must be addressed as I write my thesis.

It was a great privilege to see my supervisor, D.P. Woodruff, receive the ICSOS surface structure prize, and be present at his keynote speech in the final session of the conference. Many thanks go to him for allowing me to attend ICSOS 8, and I am most grateful to the Thin Films and Surfaces Group for providing generous financial support towards the cost of attending the meeting.

Michael J Harrison
Postgraduate student
Department of Physics, University of Warwick

Interdisciplinary Surface Science Conference 15

(Cardiff University, 27th-30th August 2005)

I was very fortunate to be able to attend the Interdisciplinary Surface Science Conference held in Cardiff at the end of June. The conference was very well attended. A very diverse range of areas within the surface science field were covered over the four days of the conference, covering areas from astrochemistry to catalysis, and everywhere in between. There were a number of keynote speeches given by leaders in their area of expertise, which were very inspirational to hear. However

the majority of the time was allocated to 20 minute talks which were given by PhD students and post docs.

I gave a talk entitled 'Controlling the oxidation state of CeO_{2-x} (111) ultrathin films' on the third day. The talk was well received and there were a number of interesting questions afterwards. There were also a number of other people attending the conference who study ceria surfaces, and so the conference gave me a great opportunity to meet other people who work in the same field and to share knowledge and ideas.

Emma Wilson
Postgraduate student
Department of Chemistry, UCL

Surface Science Summer School

(The University of Nottingham, 21-26 August 2005)

The surface science summer school is a short course aiming to give an overview of the general research area to postgraduate students. It was highly recommended to me by more senior PhD students and after attending this one I think that I will pass on the advice based on the following.

There was a solid teaching part, which consisted of introducing the main characterisation techniques in surface science by both lectures and “hands on” training. As a research student, one usually focuses in the equipment available in the group for a specific system of interest. This part allowed the development of a more generic approach to the study of a material.

Moreover, alongside with the description of the techniques there were presentations of results obtained. There were examples of very elegant and meticulous set of experiments, such as the one of Prof Himpsel on nanostructures, and of novel approaches to the traditional surface science topics, such as the PEEM of the CO oxidation on Pt(111), presented by Prof Rotermund. Also, since I currently work on an inorganic system in UHV, I was fascinated by the work done in air or liquids on biological systems, something that I probably wouldn't have the opportunity to follow otherwise.

At last but not least, it was a very good introduction in the scientific community of surface science. The atmosphere was rather informal and relaxed, allowing conversation. I found both the poster session and the research proposal writing workshop particularly useful to the development of communication skills.

I would like to thank the TFSG and my supervisor, Prof Thornton, for supporting me through this.

A Papageorgiou
Postgraduate student
Department of Chemistry, Imperial College

International Astronomical Union, Symposium No 231

(Asilomar, CA, USA, August 29-September 2, 2005)

I was lucky enough to attend the IAU symposium no 231 held in Asilomar, California at the end of August 2005. The conference was titled, “Astrochemistry Throughout the Universe: Recent Successes and Current Challenges” and was extremely well attended. It was inspirational to hear so many excellent talks by the major players in the field and a great opportunity to discuss my PhD research on the desorption behaviour of mixed methanol and water ices.

A couple of the sessions were of direct relevance to me; the section on Complex Molecules discussed recent work on formation of molecules in astrophysical ices and the Basic Processes session chaired by Helen Fraser seemed to contain most of the interesting experimental astrochemistry work.

The conference setting was superb too and offered a good opportunity to explore San Francisco and the rest of the California coast – after the conference had finished, of course.

Angela Wolff
Postgraduate student
Chemistry Department, UCL

International Astronomical Union, Symposium No 231

(Asilomar, CA, USA, August 29-September 2, 2005)

The latest International Astronomical Union (IAU) symposium was held at the Asilomar conference grounds, California between 29th August and 2nd September 2005. The conference brought together scientists from all areas of astrochemistry, including astronomers, modellers and laboratory based surface scientists investigating the formation of molecules on grain surfaces in interstellar space.

The sessions covered the full range of the field, from star formation to comet observations. There were a number of sessions devoted to the formation of molecules on interstellar grains and the various processes involved. A number of talks were given on the laboratory methods used to study these types of reactions, including a session particularly relevant to my own area of research, the formation of molecular hydrogen on interstellar grain surfaces. A panel discussion was also held on one evening with discussion of the latest results and the challenges for the future of astrochemistry. There were three poster sessions where more than 240 posters were presented over the three evenings and my poster was well received by the delegates.

The conference provided an excellent opportunity to become completely up to date with the latest developments in the field, and to look to the next challenges in astrochemistry to come. I am grateful to the TFSG for the bursary which allowed me to attend the conference.

Susan Creighan
Postgraduate student
Department of Chemistry, UCL

APS March Meeting 2006

(Baltimore, Maryland, USA)

The five day American Physical Society annual meeting in the bustling city of Baltimore was attended by ~7000 physicists from around the world. The 45 parallel sessions ran from 8am to 5.30pm and most of modern condensed matter physics was well represented. The conference venue was superb and the sessions were well organised thematically and temporally. Publishing companies and Industry were well represented and the jobs fair was useful for checking on the type of jobs available and current typical salaries. A personal highlight was seeing that the properties of nanowires are beginning to be characterised and exploited. The long struggle to figure out the structure of Gold on the Silicon(111) surface has helped me to appreciate just how much research can be a community effort that takes place over many years.

I gave two talks (“LEED and Ab-Initio Study of the Sm/Si(111)-3x2 Reconstruction” and “Ab-Initio Studies of Properties of 2D Rare-Earth Silicide Surfaces”) which had a good attendance and ran very smoothly. It was my first conference presentation and I found it a very good way to focus my thoughts about my research; explaining and justifying my efforts to others has given me a chance to make a more objective overview of these two projects. It has made me feel more confident about what I have done so far and more aware of where further work needs to be done.

I have been enriched with new ideas and things to try and I now feel that my research has been revitalized for the remaining 6 months to 1 year of my PhD.

Christopher Eames
Postgraduate student
Department of Physics, University of York

APS March Meeting 2006

(Baltimore, Maryland, USA)

The annual March Meeting of the American Physical Society (APS) is one of the biggest physics conferences in the world. As a result, a great variety of different topics in physics are covered in dedicated symposia. This made this meeting an exciting experience for me, not only because many of the world leaders in my particular field of specialization were in attendance, but also because the APS March Meeting was an excellent opportunity to look beyond my subject area.

From my perspective one of the highlights of the APS March Meeting 2006 was Session W5 on “A Century of Critical Phenomena”. The aim of this seminar was to provide, through talks given by the scientists who shaped this field of study, a historical perspective on our modern understanding of critical phenomena. Another highlight of the conference was Session R7 on “The Experimental and Theoretical Foundations of Evolution”. This seminar linked physics to biology, and was of particular interest due to the current debate in the USA regarding evolution and the place of science in society.

I had the opportunity to give three talks at the APS March Meeting 2006. Two talks were scheduled for Session D12 on “Morphological Evolution and Instabilities”, and one talk was scheduled for Session G12 on “Self-Assembled Nanostructures: Growth and Patterning”. The titles of my talks were “Langevin Equation for the Morphological Evolution of Strained Epitaxial Films” (Session D12), “Fluctuation Regimes during the Morphological Evolution of Homoepitaxial Surfaces” (Session D12) and “Multiscale Theory of Fluctuating Interfaces: From Self-Affine to Unstable Growth” (Session G12).

The above talks brought about extensive discussions with some of the leading experts in this field. As a result, a variety of interesting ideas were developed which should be of benefit for our future work. In particular, there was opportunity to discuss the results of our work with experimentalists as well as applied mathematicians, which led to many interesting suggestions.

To conclude, I think that attendance of the APS March Meeting 2006 was of great benefit, and I wish to thank the Thin Films and Surfaces Group for the financial support provided.

Christoph A. Haselwandter
Postgraduate student
Department of Physics, Imperial College

One-day meeting 'Ice Surfaces and Interfaces'

University of Cambridge, 21st April, 2005.

The one-day meeting 'Ice Surfaces and Interfaces', organised by Georg Held (Cambridge) and Martin McCoustra (Nottingham) and sponsored by the Thin Films and Surfaces Group of the IoP, was held on the 21st April 2005 at Wolfson College, Cambridge. The aim of the meeting was bringing together surface scientists working in the fields of water adsorption, water-solid interfaces and adsorption on aqueous ice surfaces. About 40 participants from the UK and several other European countries were attracted by the meeting. The list of invited speakers, oral and poster contributors included theorists and experimentalists covering the spectrum from heterogeneous catalysis to atmospheric and interstellar chemistry.

The morning was devoted to the adsorption of water and thin ice layers on solid metal and oxide surfaces. Invited talks by Andrew Hodgson, Liverpool, (*Water and Mixed OH/Water Co-adsorption at Metal Surfaces*) and Angelos Michaelides, FHI Berlin, (*What DFT has to say about Ice and Nucleation at Solid Surfaces?*) and a number of contributed talks and posters set the scene of a lively discussion about structures of intact water and water dissociation on metal and oxide surfaces, demonstrating that these are still controversial issues.

The afternoon session concentrated on the adsorption on ice surfaces. Starting with invited talks by Claude Girardet, Besançon, (*Modelling the Adsorption of Small Molecules on Ice Surfaces*) and Andrew Horn, Manchester, (*Reactions of Ice and Strongly Adsorbed Water Studied by Internal and External Reflection Infrared Spectroscopy*), issues were discussed that ranged from reactions of atmospheric trace gases on ice particles to the nucleation of ice in sugar solutions – a problem crucial to the production of smooth ice cream. Two more invited talks by Helen Fraser, Strathclyde, (*Unravelling the Molecular Inventory of Interstellar Space from Chemical Processes on and in Icy Films*) and Wendy Brown, UCL, (*Adsorption and Desorption of Mixed Methanol/Water Ice on Cosmic Dust Grain Analogue Surfaces*) focussed on interstellar chemistry, where surface science techniques currently make a great impact.

During the traditional evening session in the beautiful garden of the 'Granta' pub in Cambridge the participants could enjoy the first warm spring evening of 2005. There was general agreement that this meeting was very useful and similar meetings should be held in regular intervals.

Georg Held
Department of Chemistry, Cambridge, April 2006

UK Scanning Probe Microscopy meeting 2005

University of Warwick, 21st - 22nd April, 2005.

The annual UK Scanning Probe Microscopy meeting was held in Warwick on the 21st and 22nd of March 2005 (www.warwick.ac.uk/go/spm2005). The scientific programme was arranged this year by myself and Julie Macpherson (Warwick, Department of Chemistry), while the meeting series is organised by the Royal Microscopical Society (www.rms.org.uk). The UKSPM meetings cover all scientific disciplines and our opening invited talks give an idea of the breadth of the topics explored. They were: *Atomic roughening of a chiral surface: an STM perspective* by Stephen Driver of Cambridge University, and *Multifunctional nano-mechanical biosensors for macro bio-systems analysis* by Martin Hegner of Basel University. Flemming Besenbacher, (University of Aarhus) gave a typically impressive talk on the dynamic STM imaging of nanostructures on crystal surfaces, while Werner Hofer (University of Liverpool) discussed recent progress in the quantitative understanding and simulation of STM images. There were many excellent student presentations in both oral and poster sessions and a most enjoyable conference dinner. Thirteen SPM companies supported the meeting, with several representatives contributing to the session on *Instrumentation and Probe Development*. The 2006 UKSPM meeting will be part of the larger Microscience conference (<http://www.microscience2006.org.uk>) to be held in London, 28th – 29th June.

Gavin Bell

Department of Physics, University of Warwick, April 2006

Committee and Contact Details

Chair	<p>Dr. Georg Held Department of Chemistry University of Reading Whiteknights READING, RG6 6AD (g.held@reading.ac.uk)</p>	
Honorary Secretary and Treasurer	<p>Professor Martin McCoustra School of Chemistry, University of Nottingham NOTTINGHAM, NG7 2RD (martin.mccoustra@nottingham.ac.uk)</p>	
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