

PARTICLE CHARACTERISATION INTEREST GROUP NEWSLETTER

July 2006

FORTHCOMING MEETINGS

THE MEASUREMENT AND CONTROL OF POWDER FLOW WEDNESDAY 13TH SEPTEMBER 2006 PRIDE PARK STADIUM, DERBY

The Particle Characterisation Interest Group in conjunction with PowdermatriX are holding a seminar that focuses on powder flow. The event will be held at Pride Park, the home of Derby County Football Club, on Wednesday 13th September.

Mike Bradley from the Wolfson Centre for Bulk Solids Handling Technology will open the meeting with an overview of the issues relating to powder flow. There will then be a series of presentations describing (i) some of the analytical techniques available for measuring flow and (ii) industrial experience with flow-related issues. The lunch session will offer a more informal opportunity to learn more about measuring flow with a number of suppliers having their analytical equipment on display. An open forum / clinic session at the end of the meeting will allow delegates to put questions to the various experts who have presented during the day.

Since powder flow behaviour is often intrinsically linked to powder particle size, the meeting will also be used to promote a DTI project led by the National Physical Laboratory (NPL) that aims to remove the variability associated with particle size measurements. Companies will be encouraged to get involved in the project by contributing particle size measurements on standard powders. The target deliverable from the project is a protocol for making measurements that ensures more consistency in data from different laboratories.

A registration form is included with this newsletter. Further information can be obtained from the PCIG Secretary.

NOVEMBER 2006

Dispersed Products in Pharmaceutical and Chemical Processing Coventry Transport Museum, CV1 1PN Wednesday 22nd November 2006

A one-day meeting organized by the Particle Characterisation Interest Group (PCIG) of the RSC will be held on Wednesday 22nd November 2006 at the Coventry Transport Museum.

An optional tour of the facilities is included along with refreshments and lunch.

Both academia and industry will be represented in the presentations covering the principles of interface science that are relevant to the formation and stability of dispersions in aqueous and nonaqueous media, fundamental concepts and laboratory techniques to study the chemical and physical properties of interfaces and the properties of emulsions and emulsifiers. The meeting will be essential for all concerned with measurement of stability, separation, particle size and other physical properties which affect performance of the product. The programme and registration form will be published shortly. Further information can be obtained from the PCIG Secretary.

UK-CHINA PARTICLE TECHNOLOGY FORUM
2-3 APRIL 2007
UNIVERSITY HOUSE, UNIVERSITY OF LEEDS

Both UK and China have developed large communities in the particle science & technology in the past few decades. However, communications between the communities in the two countries have been limited to very few individuals or small groups and there is very little collaboration in the real sense. The UK-China Particle Technology Forum aims to enhance communications between scientists and engineers from both academic institutions and industrial companies of the two countries, and to foster new and substantial collaborations.

The forum is proposed to take place every two years to be held in rotation between China and the UK. The first forum will be held at the University of Leeds in the UK. Further information can be obtained from Dr Yulong Ding at University of Leeds. Tel: 0113 343 2747 E-mail: y.ding@leeds.ac.uk

Welcome message from the PCIG chairman.
(Dr Dominic Rhodes)

As Chairman of the Royal Society of Chemistry's Particle Characterisation Interest Group [PCIG], may I extend a warm thank you to all, the delegates, speakers, poster presenters and exhibitors who have attended events over the last year including the highly successful Particulate Systems Analysis 2005 Conference and Exhibition, [PSA 2005] at the Stratford Moat House Hotel. This conference marks the continuation of the successful series of PSA conferences previously held in Bradford and Loughborough. I have started the planning for PSA2008 already and I will bring you more details as the plans come together. I hope we can keep the same feel to the meeting as we have with previous years, with a lovely balance between technical papers and personal interactions between delegates. A winning combination that many feel worked especially well.

This year we commemorate 40 years since the original meeting of the Particle Size Group. The group has gone from strength to strength over the years and has managed to adapt to the changing market. The group will celebrate the event at the forthcoming powder flow meeting. However I am very pleased that throughout our 40 years we have never lost sight of our educational / training activities. The last training event continues to surprise and delight us all as to both the numbers involved and the quantity of new faces. Long may this continue.

I am saddened by the death of yet another of the founders of this area of science namely Brian Scarlett. The first time I met Brian was at a Particle Characterisation Interest Group meeting held in London. I was a young researcher at the time and still remember his eloquent talk, and encouragement and ideas he gave for my work. No one could have cared more for students than Brian and not just his own students. He encouraged his students to write, and publish their work. He would review, correct and improve their papers for their presentation on the world stage. He sent his students all over the world carrying the message of particle science and technology. He gave them unique experiences, permitting them to become well known and respected by their peers. A vision will always remain of Brian Scarlett walking through the conference halls on nearly every continent followed by his entourage of students. There are few in this industry that have not been touched by his influence. It is therefore with much pleasure that the Particle Characterisation Interest Group will manage The Brian Scarlett Scholarship Fund on behalf of the RSC, which will provide some funds to carry on Brian's influence with students in the field of Particulate Sciences for the next 7 years. The Fund is now operational and taking contributions.

I would like to take this opportunity to publicly thank Ron Buxton, Nicki Tonkinson, Maurice Wedd, Nayland Stanley-Wood, Keith Brocklehurst and the rest of the committee of the PCIG, without whose considerable efforts, the conferences, training and events would not run. I would also like to thank Nayland, as the retiring chairman, for his considerable input into the organisation over the last 40 years. Nayland was one of the speakers on the first ever PCIG meeting and has been active ever since! I have a big job following Nayland's excellent lead I think but I will do my best to keep the PCIG as active in the next 40 years as it has been in the last 40.

EventsWeb

(Dr Simon Lawson, Industrial Centre of Particle Science and Engineering, Leeds University)

EventsWeb is a free information source of global particle technology events. It is the only searchable database of particle-related events available and is an invaluable tool for industrial and academic employees seeking to undertake continuing professional development.

Organisers can market their events by simply uploading courses, conferences and seminars to the database. The site can also be used to minimise date clashes with other related events by searching for 'free' dates in the future. EventsWeb has been endorsed by the RSC Particle Characterisation Subject Group, IChemE Particle Technology Subject Group and the IOMMM Particulate Materials Group. As a result of this professional society endorsement, the site is already proving popular and has attracted the support of Freeman Technology, Malvern Instruments, Micromeritics, Quantachrome, Sympatec and TSI. As the database will only ever be as good as the events listed, we would like to invite and encourage all PCIG members to use the site to advertise their events and use the search facility. We also invite feedback from users in order to improve it and meet the needs of the community.

INDUSTRIAL CENTRE OF PARTICLE SCIENCE AND ENGINEERING

EventsWeb – a free information source of global particle technology events
supported by:

RSC Advancing the Chemical Sciences Particle Characterisation Interest Group IChemE PARTICLE TECHNOLOGY SUBJECT GROUP IOMMM The Institute of Materials, Minerals & Mining

Date: Year: Month: Search: Event type: Please Select

information and disclaimer Search add an event >

Current events 1 to 10(94 total results)

Conferences

EUFOAM 2006 - 6th European Conference on Foams, Emulsions and Applications
02/Jul/2006 to 06/Jul/2006
event location: Potsdam (Germany)

more

14th International Conference on Composites / Nano Engineering (ICCE-14)
02/Jul/2006 to 08/Jul/2006

Sponsored by:
freemantechology MALVERN INSTRUMENTS micromeritics The Science and Technology of Small Particles Quantachrome INSTRUMENTS SYMPA TSI

USEFUL WEB LINKS

Royal Society of Chemistry

<http://www.rsc.org>

Particle Characterisation Interest Group

<http://www.rsc.org/Membership/Networking/InterestGroups/ParticleCharacterisation/index.asp>

PCIG International Conference, PSA 2008
2 – 4 September 2008

The Holiday Inn, Stratford upon Avon

<http://www.psa2008.com/>

CHEMSOC, the Royal Society of Chemistry's Chemical Science Network

<http://www.chemsoc.org/events/conhome.htm>

ISO, International Organisation for Standardisation

<http://www.iso.ch/iso/en/aboutiso/introduction/index.html>

Institute of Particle Science & Engineering, University of Leeds

<http://www.leeds.ac.uk/speme/ipse/events-frame.html>

EventsWeb

<http://www.particletechnology.org/eventsweb.php>

Report on ISO TC24 / SC4 meeting Cocoa Beach Florida **28th & 29th April 2006**

(Mr Maurice Wedd)

Working group 1 Representation of data analysis

CD 9276-3; CD9276-6, and terminology; Systematic Review of ISO 9276-2:2001, ISO 9276-4:2001
Substantial progress on the above items has been made. Nayland Stanley-Wood had dealt with minor English language issues on 9276-3. There will be a 4th version circulated as a CD. It is expected that this will be able to proceed to DIS at the next meeting. It was anticipated that the CS warning message could be removed from this. 2 substantial additions were proposed for 9276-6 and after circulation as a DIS then these additions will be incorporated. On ISO 9276-2 and -4, the voting closes on 6th October. There have been some suggestions from The Netherlands. With respect to the last item concerned with terms and definitions, it was noted that there was a ISO TC229 WG set up for this specific purpose. Thus liaison between the 2 TC's was vital. There were 2 possible routes forward with the definitions. The first was to adapt a chapter from Henk Merkus's forthcoming book. It is expected that a working draft ("WDO"), be available before end-May and the other route forward was to expand and enlarge the proposal from Frank Thomas of BSI-ISO. It was noted that in Stratford-upon-Avon that Resolution 131 was taken and this concerned the starting of a PWI entitled 'Particle characterisation of particulate systems – terminology'.

Working group 2 Sedimentation, Classification

ISO 13317-1/2/3 and ISO 13318-1/2 were up for 5-year systematic review and 6 countries had voted to confirm and 2 to revise (UK, Germany), 2 abstentions. Resolutions would thus be taken to revise Part 1 (General Principles) of each of the 2 aforementioned standards. At the next meeting it was proposed to examine Japanese submitted documents (possibly suitable for a Technical Note?) on gravity sedimentation. The lack of attendees was noted. The UK are requested to find and nominate a working delegate.

Prof. Dr. Dietmar Lerche was appointed as the Convenor for Working group 2.

Preliminary work items were resolved in support of the amendments.

Working Group 3 Pore Size distribution, porosity.

FDIS 15901-2, DIS 15901-3; ISO 9277:1995; PWI 9277-1; PWI 9277-2

The 15901 documents were in good shape as was Part 1 of 9277. However, work is needed on 9277-2. With reference to the 2 resolutions taken at the last meeting at Stratford-upon-Avon, then there had been good progress and it was decided to combine these into a new PWI

A new Preliminary work item entitled as PWI 9277-1 under the revised title of "Specific surface area using BET and other Methods", was established.

Working Group 5 Electrical Sensing Zone.

This group did not meet as the revision of this standard is currently being voted upon.

Working Group 6 Laser Diffraction Methods.

This standard is currently under revision. A draft circulated within the WG resulted in 56 comments.

These were systematically worked through by constructive dialog from a large assembly of working group members. Each comment was resolved in turn and our Convenor Henk Merkus agreed to revise and circulate a draft containing our deliberations. Upon agreement this draft will move forward as a CD with a view to it becoming a draft International standard (DIS) at our next meeting in Beijing.

Our stalwart Convenor wishes to retire from the task and it was resolved that Ron Iacocca of Eliy Lilley be made convenor with Henk Merkus as his deputy.

Working Group 7 Dynamic Light Scattering

As neither the Convenor or his shadow were able to attend the meeting Mr Wedd was asked to chair the discussion.

After a troubled start, brought about by some mis-understanding and changes made to the latest draft not being perceived as being agreed in former working group sessions, the document dated 9th November 2005 and circulated as a .pdf file was used as the basis of discussion.

The official amendments tabled by the German and Japanese delegations were reviewed and incorporated. The Chairman agreed to amend the document and to circulate it to all parties for agreement prior to submitting it as a DIS.

Working Group 8. Image Analysis Methods

FDIS 13322-2

Although, the group did not meet, there was an administrative issue to note. After the Stratford-upon-Avon meeting, the draft DIS for ISO13322-1 (Dynamic Image Analysis Methods) had been revised for English language and hanging paragraphs by Alan Rawle. Unfortunately, the wrong draft was then sent for voting! Thus the current ballot would need to be cancelled and the correct draft circulated.

Working Group 9 Single Particle Light Interaction Methods

CD 21501-1; DIS 21501-2; DIS 21501-3; DIS 21501-4

Ian Marshall outlined that there were 3 documents at DIS stage. Ian will incorporate the latest suggestions and comments and a revised draft at the FDIS stage should be expected to beat the beginning of June 2006 deadline. The 4th part of 21501 needed a great deal of work though and actions and responsibilities had been laid down by Ian.

Working Group 11 Sampling Methods

During the first ballot at the DIS stage, major technical changes were proposed and accepted as being an improvement to the standard. These were incorporated into a draft discussed at the meeting.

A small number of further comments and corrections were incorporated into the latest draft prior to its submission for a second ballot at DIS. This was so resolved.

Working Group 12 Differential Electrical Mobility Analysis for Aerosol Particles

CD 15900

Gilmore Sem indicated that around 101 comments had been received on the CD document.

Responsibilities had been divided up. It was anticipated that work could be completed by 31st August.

Gilmore indicated his support for the Swiss proposal for number concentration.

Working Group 14 Accoustic Methods

This group did not meet

Working Group 15 Focused Beam Technique

Based on assistance from Franck Perrard, it was anticipated that around 6 weeks would be needed for the 'clean-up' of the CD. There were minimal editorial corrections required

Next Meeting

Having received a kind invitation from the Chinese standards organisation the committee unanimously agreed that we should accept.

Therefore we meet next in Beijing 13th 14th October 2006. This to take place at the end of the 12th International Surface and Colloid Science Conference. Spring 2007 – in conjunction with Partec at Nürnberg, Germany on March 27 – 29th.

The proposal for Korea in Autumn in October/November 2007 was left on the table to be debated at the next meeting.

The Brian Scarlett Scholarship Fund

For over 40 years Professor Brian Scarlett made a major contribution to the Particulate Sciences. During this period many hundreds of students of many nationalities have gained from Brian's tutoring and lively stimulation of debate. Over the years, Brian made a habit of taking with him on conference and overseas visits, as many of his students as the budget would permit and sometimes more. He reasoned that exposure to new people with other stimulating ideas would build the students character, broaden their understanding and improve their confidence. When one looks at the positions former students of Brian now command one can see that this philosophy was well founded.

We are therefore seeking to mark Brian's contribution to society and to the discipline of particle science and engineering, by setting up a ring-fenced fund that will be devoted to supporting student travel in this specific area. The fund will be administered by the Particle Characterisation Interest Group, under the umbrella of the Royal Society of Chemistry, who are experienced in this field and registered as a charity.

Initial Sponsors:

Prof Rose Amal (University of New South Wales)	Prof George Klinzing (University of Pittsburgh/AIChE)
Dr Judith Bonsall (Unilever)	Dr Hank Merkus (Delft TU)
Prof Reg Davies (Du Pont Fellow)	Prof Brij Moudgil (University of Florida)
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Prof Ko Higishitani (University of Kyoto)	Mr Maurice Wedd (Malvern Instruments)
Dr Sue Ion (BNFL)	Prof. Richard Williams (University of Leeds)
Dr Nikolaas de Jaeger (President, International Fine Particle Research Institute)	

Further Information can be obtained from:

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Website www.brianscarlettsf.co.uk

LASER DIFFRACTION PROFICIENCY TESTING SCHEME (LDPTS)

The primary aim of the scheme is to monitor and improve measurements made using laser diffraction particle size analysers. The scheme provides laboratories with a means of independently assessing their performance using a variety of samples and enables them to demonstrate to customers and regulatory bodies, on an international basis, the validity of their results. The scheme also enables laboratories and regulatory bodies concerned with the measurement of materials for particle size to gain information on the efficacy of methods and assist in the understanding and the promotion of laser diffraction analysers for this type of analysis. LGC operates the scheme on behalf of, and under the guidance of, an independently appointed Steering Committee.

For further information and application form, please contact Keith Brocklehurst at LGC.

E-mail keith.brocklehurst@lgc.co.uk

BURSARIES

PCIG AWARDS in the form of bursaries, which may be up to £250.00 each, are available to student members of the Particle Characterisation Interest Group of the RSC in order to attend Conferences.

GENERAL BURSARY AWARDS: Consideration will be given on a case by case basis to full Particle Characterisation Interest Group members who by the receipt of such a bursary may make a contribution for the benefit of the particle characterisation community that would otherwise not be possible. These may be for travel expenses etc for attending conferences or standards meetings. The applicant must have been a full member of the PCIG for at least 1 year. Further information on either of these awards can be obtained from the Secretary

The PCIG has recently awarded a travel bursary to James Bowers, a PhD student from the Institute of Particle Science and Technology at the University of Leeds to attend the 5th World Congress on Particle Technology and Student Conference in Florida, USA on the 21st – 27th April 2006.

James reported that although over a 1000 papers were presented to the particle technology community covering every aspect of particle technology, the main focus of his visit report to the PCIG committee was on the papers presented that involved the characterization of particles. His 14 page report gave a summary of the most relevant presentations and their abstracts, along with a few selected others, which proved interesting.

James would like to express his gratitude to the Particle Characterisation Interest Group for awarding him with the travel bursary that helped send him to the conference. He learnt a great deal from the experience, which will no doubt prove invaluable to his present and future projects, within the arena of particle science and perhaps beyond.

An extract from James' report summarising the student conference is given below:

I would like to end my report with short description of the student conference which took place a few days before the main conference and attracted around 65 postgraduate students from the around the world.

During the course of this meeting every student presented a poster describing their research, which covered a wide range of topics, for example: particle sizing methods, particle self assembly, antibacterial properties of colloidal nanoparticles, health impacts of nano-particulates, synthesis of nanoparticles and many others. I found in general the quality of the research and the way in which posters were presented to be of a high standard, which sparked interesting debate and a lively enthusiastic atmosphere amongst all the participants.

In addition to the posters, 15 students were invited to give fifteen-minute presentations, of which I was one of them. Many of these were excellent, with Richard Kydd from Monash University, Australia winning first prize for his presentation regarding a novel method for the synthesis of particulates for catalysis applications. Second place was given to me for my presentation regarding the structural disjoining pressure associated with concentrated nanoparticle suspensions, and 3rd place went to Marie C. Kissinger-Kane from Florida University for her talk on the 'Characterization of the dispersion of nanoparticles in a polymer matrix.'

The conference concluded with a keynote speech by Reg Davies concerning the history of particle science and the possibilities for the future, and also the future role students of today will have to play in order to pave the way for continued development and successes in the field.

Overall the conference was a great success and a very worthwhile experience, helping to broaden students views on particle science as a whole and allowing students to present their work to an international audience, which also led to valuable networking opportunities between the prospective new generation of particle scientists.

PCIG COMMITTEE 2006/2007

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