MSSA

NEWSLETTER / NUUSBRIEF

NUUSBRIEF VAN DIE MIKROSKOPIEVEREENIGING VAN SUIDELIKE AFRIKA
NEWSLETTER OF THE MICROSCOPY SOCIETY OF SOUTHERN AFRICA
Volume 23, number 2, July 2007

EDITORIAL

Anyone who imagined that EM in South Africa is in the doldrums would just need to scan this newsletter to learn that this is absolutely not true ! New instrument installations, training courses and employment opportunities galore for electron microscopists will be found in these pages, also the announcement of a popular competition in which our community has done particularly well in the past.

It is not too late to register for the huge Microscopy and Microanalysis Conference in USA if you hurry. Contact details on page 3.

Then we have employment opportunities for a salesperson, a repairer of EM's and 3 different technical posts all at senior level. I will use my editors privilege and ask that specialists with skills in TEM and Light Microscopy pay particular attention to the post which we are advertising in our Pietermaritzburg lab on page 3. Join us in a really pleasant, varied and stimulating work environment in the mellow KZN midlands.
Mike Witcomb at Wits has just got hold of some really exciting equipment and the two positions he advertises offer great career opportunities for Scanning Electron Microscopists. Then you can join the dynamic team with Luc, drink much beer and fly the world with Anaspec or sell sophisticated analytical toys for Wirsam – all of these are fabulous opportunities for the microscopy community in SA to gain training, develop careers and see the world.

ALS are sponsoring this issue of the Newsletter, thanks to Dave Perrett and his team. Note the news of their sales and installation achievements on pages 7 and 8.

Most of you would have heard of Rick Loveland's close brush with hijackers during which he was shot at close range. We are all greatly thankful that he is on the mend. Though this is somewhat bizarre, South African, humour, I was particularly tickled by Luc's very original line of comfort and companionship offered to Dave in sending the message – "Just let me know when you are mended enough for the beer not to leak of the holes and I will come around with a few beers to drink to your survival." Our cartoonist has got hold of this and her efforts appear on page 2.

Please note the tentative programme put forward by the group who are arranging a 'mini-cionference' to substitute for our usual end-of-year gathering – on page 4.
Editor

wirsam
SCIENTIFIC & PRECISION EQUIPMENT (PTY) LTD.

Analytical Sales Manager - Wirsam Scientific
Wirsam's sales team is making space for a new position – that of an Analytical Sales manager. The position would preferably be held from our head office in Menton Road, Johannesburg, and would involved finding solutions for customer applications in terms of ICP, AA, XRF, XRD, HPLC, etc. All required training will be supplied – both in house and abroad.

Experience in either analytical techniques or in sales an advantage.

Packages will be tailored to the individuals experience and background, but will include provident fund, medical aid, a competitive basic and attractive commission. Valid driver's license and a vehicle required.

Please contact: Vicky Wirsam @ Wirsam Scientific & Precision Equipment (Pty) Ltd
Tel: +27 (11) 482 1060
Fax: +27 (11) 726 6094
Skype: wirsam.vicky
vicky@wirsam.com
www.wirsam.com

With apologies to Rick Loveland and congratulation on his plucky survival

ANASPEC cc

Head Office JHB South Africa
Support and Supply of Analytical Equipment

Hi all
Just to let you all know that we are again looking at employing a new technician and training them up in microscopy support.
If you know of any one that would like to start a career in technical support, travel the world, and get paid fairly poorly! Let us know.

Please ask them to fax their CV's to 011 794 8349. we will then read through the applications and call in those that we feel may fit in with our team and our way of supporting clients.

Yes ladies, we hear you all. You have said its time for a nice new young unattached technician, so this is your chance. Send in the CV's of the guys you may want to see visit your lab.

I can add that at this stage we have had two gentlemen apply who were born in 1946! Not sure that this may meet the lades specifications.

Luc Harmsen

Managing Director, Anaspec
Office: +27 (0) 11 794 8340
Fax: +27 (0) 11 794 8349
Mobile: +27 (0) 82 4459 003

www.anaspec.co.za

This issue of the MSSA Newsletter was compiled by Tony Bruton at the Centre for Electron Microscopy at the University of KwaZulu-Natal in Pietermaritzburg. Opinions expressed in this newsletter are gained from a variety of sources and do not necessarily reflect the views of the Editor, the University, the Sponsors or MSSA. The editor may be contacted at (033) 260 5155 or by email on bruton@ukzn.ac.za. Written contributions and comment on this newsletter are welcome.

Microscopy and Microanalysis 2007

The Annual Meeting of the Microscopy Society of America and the Microbeam Analysis Society
in collaboration with International Metallographic Society

Early Registration Deadline:
Friday, July 6, 2007

For further registration information, visit our website
http://mm2007.microscopy.org/

.

August 5-9, 2007

Broward County Convention Center – Fort Lauderdale, Florida – USA

Largest Annual Scientific Conference and Commercial Exhibit in the World Specifically Related To the Field of Microscopy

Our Mission is to Promote and Communicate Advances in Microscopy

The Scientific Resource for Nanotechnology and Nanocharacterization Since 1942

"We Are The Eyes of Science."

UNIVERSITY OF KWAZULU-NATAL

CHIEF TECHNICIAN: TRANSMISSION ELECTRON MICROSCOPY
CENTRE FOR ELECTRON MICROSCOPY
FACULTY OF SCIENCE AND AGRICULTURE
(PIETERMARITZBURG CAMPUS)
CLOSING DATE: 3 August 2007

The incumbent will be expected to work as part of a dynamic multidisciplinary team in a busy service facility in the Faculty. This facility offers services to students, staff and commercial clients in Light Microscopy, Transmission and Scanning Electron Microscopy and Image Analysis Computing. This incumbent will have particular responsibility for all transmission electron microscopy functions in the Centre but must be willing to substitute for other staff members specialising in other areas.

MINIMUM REQUIREMENTS:

- BSc in biological sciences and a broad microscopy experience of not less than 2 years, at a professional level; **OR** 5 years full-time experience working in an electron microscope laboratory;
- Mastery of the operation of the Transmission Electron Microscope;
- Proven ability to operate high-level light microscopes;
- Mastery of the technique of ultramicrotomy, and a proven ability to prepare and section a wide variety of resin-embedded materials on the ultramicrotome;
- Experience and competence in performing the range of specimen preparation procedures required for Transmission Electron Microscopy, including fixation, resin embedding, negative staining, shadow casting and the specialized preparation of microbiological specimens.

ADVANTAGES:

- Experience in cryo-sectioning;
- Technical knowledge so as to perform first-level maintenance functions on the instruments;
- Experience in training and supervision in Electron Microscopy techniques;
- Working knowledge of the use of EDX analysis on the TEM.

Applicants will be required to perform a skills test covering the specified minimum requirements.
For a copy of the full advertisement or enquiries regarding this post please contact Tony Bruton at bruton@ukzn.co.za.

µMSSA 2007 workshop

Mintek 6,7 December

Given that the next full MSSA conference will be held in Botswana in 2008, we have put together a small 2 day workshop for the 6th and 7th of December 2007. This workshop will be held at Mintek in Randburg, who have kindly offered the use of their conferencing facilities.

The MSSA Executive have been approached and have provided their support for the event in that they are suggesting holding the MSSA AGM on one of the afternoons.

Please note that this is not a normal MSSA conference where the trade sponsors events and the meeting, there will be no trade displays The idea is to have a workshop of local users (and some experts) sharing information on the latest systems that are available in South Africa. All trade representatives are welcome to attend and I am sure will be present for commercial questions.

For this reason the delegates bear the full cost of this event. We are suggesting a cost of R700 PLUS VAT for MSSA members. And R800 plus VAT for non members for the two days. This cost includes a dinner on the Thursday evening at the Bright Water Commons.

The workshop will take the form of having presentations on microscopy applications in the mornings and then discussion/question and answer panels in the afternoons.
The suggested application so far are;

FEG and high resolution imaging systems.
Convenor: Prof Jannie Neethling
- Aberration corrections
- Atomic resolution applications
- FEG TEM

EDS and WDS.
Convenor: Prof Mike Lee
- Advances in detectors and applications.
- Low KV quant
- EDS combined with WDS

Confocal Microscopy.
Convenor: Dr Alan Hall
- The wide variety of confocal applications.

EBSD
Convener : Prof. Rob Knutsen
- Data basis
- Sample preparation

The workshop will start at 9.00 am each day and end at about 4pm to allow for traffic.

SEM TRAINING OPTIONS

The laboratory for Microscopy and Micro analysis at the University of Pretoria will be hosting a few SEM training options in September and October of this year. The exact details of the course content was not available at the time of printing the MSSA newsletter but for further information contact Andre Botha on ajbotha@scientia.up.ac.za or TEL: 012 420 2075

They will take the form of basic SEM and then advanced SEM courses. Not all the dates are set as yet however we do have a Protrain SEM Course booked for the week of the 15th to the 19th of October 2007.
The training will include training on tungsten and FEG SEMs and also include some hints and tips on sample preparation.

Cost on the Protrain course will be R2,280.00 per person for the 5 days training.

~~~~~~~~~

ALS hosts the second in their string of seminars

The philosophy of Advanced Laboratory Solutions has always been of educating our customers. The last 2 years has seen ALS work closely with University of Pretoria on the Microscopy School. This has now become an annual course and has catered for a wide range of current and future Microscopists.

In addition, ALS has hosted a series of courses in their new facilities in Northlands Business Park. This course “Introduction to Microanalysis” was presented by Professor Michael Lee.

The July course was well attended by mostly delegates from the industrial sector. The general consensus was that the course was informative and has given delegates new insight to Microanalysis.

For more information on up-and-coming seminars, please e-mail training@advancedlab.co.za
~~~~~~~~~

NEWLY ESTABLISHED POSITIONS at:

Electron Microscope Unit, a currently expanding Central Academic Service Facility, at the University of the Witwatersrand, Johannesburg

1) Specialist Scientist responsible for a FEI Analytical Focused Ion Beam Scanning Electron Microscope (FIBSEM).

An academic permanent position at the level of Senior Lecturer (the position can be filled at a lower grade). Future promotion opportunities.

The person will be expected to have experience in both SEM and associated analytical methods. Training on the FIBSEM would be provided both locally and overseas. The person will be primarily required to teach users (funding partners, regional and national users) all aspects of the operation of the instrument, to operate the instrument for users where necessary, to hold training courses and workshops, to promote the facility nationally, to write reports, to supervise the day-to-day operation and maintenance of the facility, to undertake own and collaborative research, to publish in journals and present at conferences. This instrument and its environment offer a unique opportunity for research and publications. Interaction and teaching of other instruments within the facility will be required at times (training will be provided where necessary).

Excellent organizational, time management, interpersonal, teamwork and communication skills particularly in English are essential as are the ability to deal and work with a wide range of people. The person will report directly to the Director of the Unit.

This microscope has been funded by the NRF, Element 6, Wits, CSIR and the DST/NRF Centre of Excellence in Strong Materials at Wits who all have essentially bought time on the microscope. In addition, it will be operated as a national facility. The microscope has been delivered and installation is expected to begin shortly.

2) Senior Technician to be responsible for two Veeco Scanning Probe Microscopes.

A permanent technical position (the position could be filled at a lower grade).

Experience with such equipment would be of benefit, but not essential. Training would be provided. Working knowledge of Microsoft Office and Windows including Word, Excel and Powerpoint. The person will be required to teach users all aspects of the operation of the instruments, to operate the instruments for users where necessary, to supervise training on the microscopes and to assist with workshops, to promote the facility, to assist with writing reports, to supervise the day-to-day operation and maintenance of the facility. The person would be encouraged to undertake publishable own or collaborative research. Interaction and teaching of other instruments within the Unit would be required at times (training will be provided). Excellent communication skills particularly in English are essential, as are time management, interpersonal and teamwork skills plus the ability to deal and work with a wide variety of people.

Facilities available in the Unit are: FEI 600 FEG Nanolab FIBSEM + EDX – it is hoped that additional facilities will be added in the future such as electrical characterisation of nanostructures and Raman spectroscopy; FEI Quanta FEG 400 ESEM + EDX+ MiniCL; two Veeco Scanning Probe Microscopes: a CP-II with numerous attachments for both dry and wet material characterisation, and a Dimension 3100. In addition, a Zeiss Confocal Laser Scanning Microscope; Philips 200kV CM200 LaB_6 TEM + EDX + GIF + HAADF; FEI 120kV G^2 Spirit TEM + EDX + HAADF (to be delivered October/November 2007); JEM-100S 100kV TEM, plus the usual sample preparation equipment for both life and physical science applications.

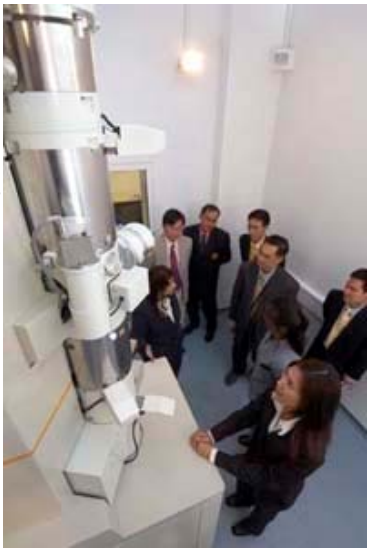
Further information and application details regarding both positions can be obtained from:
Professor Mike Witcomb, Director, Electron Microscope Unit, Private Bag 3, WITS, 2050.
Telephone: 011 717 1330/1333; 083 593 5431; Fax: 011717 6494;
E-mail: Michael.Witcomb@wits.ac.za

New centre at York gives a glimpse of the sub-atomic world

The University of York has taken a significant step into new fields of sub-atomic level materials research with the opening of the York JEOL Nanocentre. The new interdisciplinary

research and teaching centre represents a major investment in novel nanoscience capability by The University of York, The Regional development Agency, Yorkshire Forward, through them the European Union, and by JEOL. Significant developments of new materials for everything from medical science to electronics are expected to result. The new unit on the York Science Park combines resources from the University's Departments of Physics, Chemistry and Electronics, with the potential for much wider collaborations. It was officially opened on 27 April by the Chief Executive of Yorkshire Forward, Tom Riordan, and senior officials of JEOL.

Co-directed by Professor Pratibha Gai of the Departments of Chemistry and JEOL Professor of Electron Microscopy, and Professor Edward Boyes of the Departments of Physics and Electronics, it includes one of the world's most powerful electron microscopes. The sophisticated equipment should eventually allow scientists to carry out single atom analysis. One of just four similar instruments worldwide, it is the only one set up for fully remote operation in its own purpose built pod. The other unique feature of the York equipment is a special chamber which allows scientists to observe materials during natural reactions.



Plans are well advanced to add novel facilities for dynamic in-situ chemical reaction studies, including access to metastable catalytic states, under controlled conditions of gas atmosphere (and including high vacuum), and temperature.

The flagship instrumentation includes a double (TEM and STEM) aberration corrected transmission electron microscope with a sub-atomic target resolution of 1Å for imaging and <2Å for atomic column, and eventually single atom, analysis. Supporting equipment includes a research grade dual beam focused ion beam (FIB) milling system and high performance scanning electron microscopy (SEM), both of which can be operated for custom nanolithography experiments.

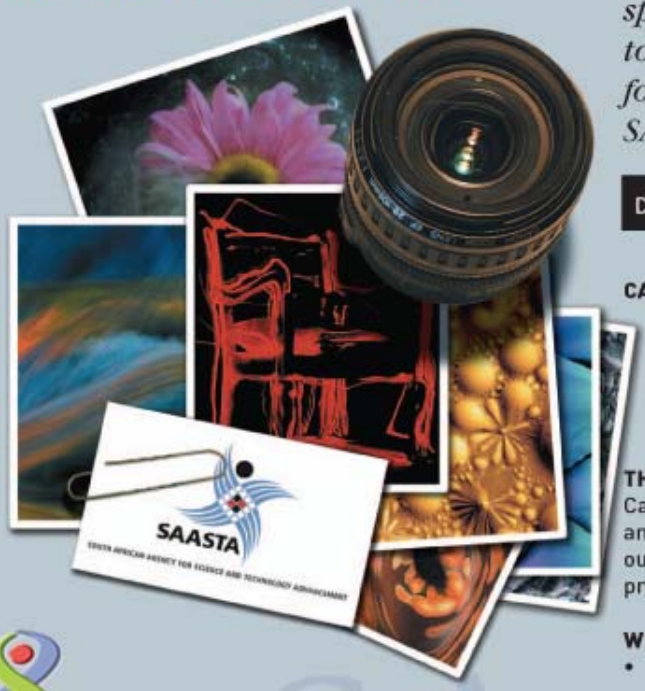
Professor Gai said: "This instrumentation – a world first with planned in situ capabilities – will form the technical foundation for major new scientific initiatives in Nanomaterials research. It's going to take us into a new and completely different world – that's the really exciting part about it."

Mike Hepburn, Managing Director of JEOL (UK) Ltd, said "We take on a limited number of these projects, and are delighted to be working with York University as well as Professor Gai and Professor Boyes. The centre is unique in that although York does not have a history of research in this area, this centre has been set up from almost nothing, to rival institutes on the worldwide stage. This shows the commitment and ambition of York University and Yorkshire Forward and is the primary reason that JEOL are proud to be involved in this innovative partnership".

SA SCIENCE LENS

a Photographic Competition to Celebrate Science

Capture stunning, dramatic, spectacular images related to science and technology for the fifth round of the SA Science Lens competition.



DEADLINE: 14 September 2007

CATEGORIES

- Science in Action
- Science as Art
- Science Close-up
- On My Plate
- I See S&T (for learners)

THE CHALLENGE

Capture the beauty and excitement of science and technology on film. Show how it benefits our daily lives. The competition is open to professional photographers and amateurs.

WHAT'S IN IT FOR YOU?

- Prize for overall winner of SA Science Lens 2007: **Canon EOS400D with 18-55mm lens kit**
- Prizes for the first four categories: **- a first prize of R10 000 and - two R2 500 prizes for runners-up**
- **State-of-the-art Canon cameras** for winners and their schools in the I See S&T Category

www.saasta.ac.za/sciencelens

PUBLIC UNDERSTANDING OF BIOTECHNOLOGY

ORGANISED AND SPONSORED BY THE SOUTH AFRICAN AGENCY FOR SCIENCE AND TECHNOLOGY ADVANCEMENT (SAASTA)

in partnership with BRISTISH COUNCIL SA

Supported by Canon SA

Canon

BRITISH COUNCIL

SAASTA

JEOL enjoys another successful year in South Africa

Adding to successes of JEOL and ALS, JEOL can now boost 58 operational Electron Optical systems in Southern Africa. These systems include instruments that are 30 years old to the latest 2007 models. These successes come from 2 main factors, ALS delivers what their promise and the local knowledge and expertise is of a very high level ensuring smooth installation and application training.

2007 has seen the successfully installation of the latest JSM-7500F FEGSEM at ElementSix. This instrument is the first of its kind in Africa as it combines Cold FEG, Low kV, Immersion Lens and Electron Filtered Imaging technology with better than 1nm resolution and an additional four Imaging Detectors for true Nano particle characterization.

In process is the installation of the new JSM-6390LV Low Vacuum Tungsten Cathode SEM at University Fort Hare. This new LVSEM has a resolution capability of 3nm on site and will have the latest EDS technology on the market today. ALS has help put into place facilities and additional equipment to ensure the training of our future Microscopists.

The National Health Laboratory Services have acquired two new JEM-1011 TEMs for the Anatomical Pathology Laboratories in Cape Town. These add to their existing fleet of JEOL TEMs. This is the ninth in the series of JEOL JEM-101X instruments in Southern Africa and are all operational systems bringing the tally of the 18 JEOL TEMs used across the region.

JEOL customers in Southern Africa have always enjoyed a high level of support and trust from ALS/JEOL and this philosophy will continue into the future with new technology improvements and valued added services.