

MSSA

NEWSLETTER / NUUSBRIEF

NUUSBRIEF VAN DIE MIKROSKOPIEVEREENIGING

VAN SUIDELIKE AFRIKA

NEWSLETTER OF THE MICROSCOPY SOCIETY

OF SOUTHERN AFRICA

Volume 23, number 3, August 2007

EDITORIAL

Hot on the trail of the last issue a need was generated for this issue of the Newsletter due to a number of looming deadlines.

Again a mixed bag – yet another job on offer, some extracts from trade journals and MSSA information provided by Mike. See also the tentative programme for the **µMSSA meeting** in Early December on page 7.

Most significant amongst these deadlines is the closing date for the **Science Lens Competition** – remember that the organizers are looking for some new blood in this competition !! The closing date is 14 September for all categories.

The organizers of the Science Lens Competition are sponsoring this copy of the Newsletter. See their ad on the back page of this newsletter or visit their website www.saasta.ac.za. To see some spectacular images, the work of previous winners of the competition go to www.saasta.ac.za/sciencelens/winners

The Science Close-up category, which would be of particular interest to our members, is being sponsored by the Public Understanding of Biotechnology (PUB) programme this year. PUB was launched in 2003 by the Department of Science and Technology to ensure a clear, balanced

understanding of the scientific principles and issues related to biotechnology. The programme promotes public engagement through dialogue and debate to enable informed decision making. For more information, visit the PUB website at www.pub.ac.za

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Lurking in the back pages of the excellent 'Microscopy Today' publication of the Microscopy Society of America is a new 'agony column' very appropriately titled 'Dear Abbé. One of the letters in the July issue offers advice which may be of interest to EM Lab Managers in SA;



#### Dear Abbé

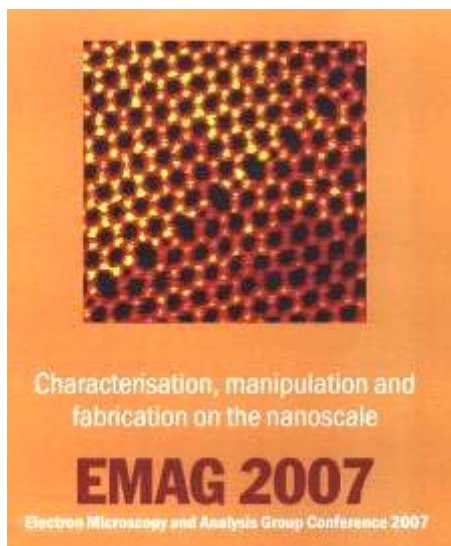
Dear Abbé,

I help run a multiuser facility housing several microscopes. I'm having a terrible time making users follow the rules, clean up after themselves, not break things – well, you get the picture. Do you have any advice on how to deal with these rude scientists?

Flustered in Frankfurt

Dear Flustered,

Quit your whining! Obviously you have taken the liberal, passive approach to lab etiquette and training. You need the "Lab Bat" by RonCo. I found that a few judicious whacks with the Lab Bat will straighten up an uncooperative user quicker than you can say "Bremsstrahlung". It's also great for attitude adjustments, encouraging productivity, and improving morale. Of course there is some advice I would offer for Lab Bat usage. Don't whack the hands – those are important for continued productivity and leave visible marks. Of course I have popped someone upside the noggin when it's obvious that cranial injury will have little effect on the mental acuity of the user. While I prefer the solid thwack of an oaken Ladd Lab Bat, some enjoy the metallic twang of the Knoll Titanium models. It's all a matter of personal preference.



I guess that a few of our members will be trudging off to Glasgow for **EMAG 2007**. May they have a great time – and perhaps someone could send in a report on the conference to act as an encouragement for others, particularly our younger members, to attend this gathering in future.

But there is plenty of time to prepare for the other big annual RMS event – **MICROSCIENCE 2008** from 23 – 26<sup>th</sup> June 2008 at ExCel in London. Your editor was fortunate to attend this event during 2006 and it has got to be the finest European forum at which one can experience the latest in microscopy equipment.



*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](mailto:bruton@ukzn.ac.za). Written contributions and comment on this newsletter are welcome.*

## LABORATORY MARKETING SPECTRUM

Local Trade magazine 'Laboratory Marketing Spectrum' is becoming an interesting read.

Who can resist not being attracted by their innovative headings conjured up by an inspired copy writer. Examples are; **'Blueberry skins found to lower cholesterol levels'**, **'Scientists cook up anti oxidant-rich pizza'** or **'Scientists develop new Biofuel with the help of Elephant dung'** .

More relevant to cash-strapped Universities would be the article titled **'Sasol invests to secure scientific skills pools at Universities'**, the article states;

'Sasol will invest almost R250 million over the next eight years to establish teaching and research capacity in chemistry and chemical engineering at selected South African universities. The group is also establishing advisory boards for research and development in analytical technology, as well as in coal and gasification disciplines. "The realization that our South African universities may not be able to fully provide Sasol's future manpower needs has resulted in us helping build strategic capacity through a university collaboration programme," says Sasol executive director Nolitha Fakude.'

It would be great if some of our members have benefited from this industry windfall.

Another of Electron Microscopy's pioneers died early this year - **Dr James Hillier**. The text in his memorial notice in the RMS magazine, **infocus**, provides some interesting historical information.

We are informed that Dr Hillier co-developed and marketed the first commercially viable electron microscope in the USA while working for RCA. The article goes on to state that 'Dr Hillier did not invent the electron microscope. That distinction is often given to German Engineer, Ernst Ruska, who won the 1986 Nobel Prize in physics for his pioneering work in electron optics in the 1930's. Many others credit Reinhold Rudenberg, another German-born scientist, with major early developments in the electron microscope.'

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TRAINING FOR TECHNICIANS

After hearing from a number of University staff that there is a need for the formal training of lab staff I took a bit of a look around. So far I have only found two sources – if anyone has news of other sources of such training we would like to publicise them via the Newsletter. Listed in the previously mentioned LMS trade magazine are two such sources;

- 1) Alec Cameron and Associates – offer courses such as Laboratory Assistants workshops, Wet Chemical Analysis, Good Laboratory Practice, Industrial Microbiology and Advanced Laboratory Practice. Contact them at 011 394 0525 or email to training@laboratory solutions.co.za
- 2) National Laboratory Association – schedule attached, www.nla.org.za or 012 349 1500.



National Laboratory Association - CMeTSA

Training Course Schedule - 2007



	COURSES	DATE OF COURSE	COST P/P
1	Introduction to Estimation of Uncertainty of Measurement (GUM)	20-23 February 2007	R4260.00
2	Introduction to Measurement	1-2 March 2007	R2960.00
3	Electrical (DC LF) Metrology	5-9 March 2007	R4900.00
4	Mass Metrology	26-30 March 2007	R4900.00
5	Microbiology QA	16-18 April 2007	R3690.00
6	Time & Frequency Metrology	7-11 May 2007	R4900.00
7	Temperature Metrology	14-18 May 2007	R4900.00
8	Pressure Course	28 May-1 June 2007	R4900.00
9	Basic Capillary Gas Chromatography	29 May 2007	R 960.00
10	Dimensional Metrology	4-8 June 2007	R4900.00
11	Introduction to Estimation of Uncertainty of Measurement (GUM)	11-14 June 2007	R4900.00
12	Radio Frequency Metrology	POSTPONED	R4900.00
13	Flow Metrology	9-13 July 2007	R4900.00
14	Estimation of Uncertainty in Chemical Measurements	17-20 July 2007	R4260.00
15	Force, Torque & Hardness Metrology	23-27 July 2007	R4900.00
16	Oscilloscope Course	13-15 August 2007	R3690.00
17	Temperature Metrology	20-24 August 2007	R4900.00
18	Humidity Metrology (Part 1 - Relative Humidity)	1-2 October 2007	R2960.00
19	Humidity Metrology (Part 2 - Dew Point, Humidity Systems)	3-4 October 2007	R2960.00
20	Sterilizer & Autoclave Course	8-10 October 2007	R3690.00
21	Introduction to Measurement	11-12 October 2007	R2960.00
22	Electrical (DC LF) Metrology	15-19 October 2007	R4900.00
23	Basic Quantitation in Chromatography and Spectroscopy	23 October 2007	R1480.00
24	Mass Metrology	22-25 October 2007	R4900.00
25	Introduction to Estimation of Uncertainty of Measurement (GUM)	29 Oct - 1 Nov 2007	R4260.00
	T & M CONFERENCE & EXHIBITION 2007	19-21 November 2007	

INFORMATION:

- 1) All prices are inclusive of 14 % VAT
- 2) To register for a course please visit our web site (nla.org.za) and complete the appropriate form or contact our offices at +27 12 349 1500
- 3) Course dates are subject to demand and may either be moved or the price adjusted to accommodate a smaller number of attendees.
- 4) Fully paid up NLA members are entitled to a 10% reduction.
- 5) Detailed course information may be obtained at nla.org.za or call +27 12 349 1500
- 6) A 30% cancellation fee will be charged for cancellations made less than 5 working days prior to the course.
- 7) Venue: All courses are presented at the NLA office in Pretoria, Unless otherwise indicated.

ADVERTISEMENT

All appointments will be in terms of the prevailing University Employment Equity Policy and the Employment Equity Plan of the faculty/division (available at <http://www.ukzn.ac.za/ESU>). The University reserves the right not to make an appointment or to stop the process at any stage to headhunt or re-advertise the post to meet its equity goals. Candidates who do not meet the minimum criteria will not be considered.

FACULTY OF SCIENCE AND AGRICULTURE

SCIENTIFIC/ TECHNICAL OFFICER
(GRADE 9)
SCANNING ELECTRON MICROSCOPY AND MICROANALYSIS
ELECTRON MICROSCOPE UNIT
(WESTVILLE CAMPUS)

REFERENCE NO.: SA40/2007

CLOSING DATE: 31 AUGUST 2007

The Electron Microscope Unit is looking for a motivated individual to work in a multi-user service facility supporting microscopy-based research across a wide range of disciplines. The incumbent will be responsible for the efficient running of the instruments and training of users in the operation of scanning electron microscopes and X-ray microanalysis equipment. S/he must also be familiar with the operation of light and transmission electron microscopes and ancillary preparative equipment. The incumbent is also expected to extend his/her expertise to include new areas of microscopy, and to participate actively with users in research projects. S/he will be expected to be a good communicator with the ability to work well with colleagues, users and clients.

DUTIES INCLUDE:

Instructing new users in the use of scanning electron microscopes, sample preparation equipment and X-ray microanalysis;
Monitoring the performance and output from instruments, trouble-shooting on a routine basis where required;
Performing routine maintenance of microscopes (filament changing, microscope alignment, gun cleaning);
Performing microscopy and/or elemental (X-ray) analysis of samples on behalf of external clients;
Conducting in-house demonstrations of microscopy to visiting school students.

MINIMUM REQUIREMENTS:

M.Sc. degree and 2 years experience in microscopy, during which there has been clear evidence of the ability to apply microscopy to research problems;
Knowledge of the theory and practice of scanning electron microscopy and X-ray microanalysis;
Experience in the operation of light and transmission electron microscopes and related preparative techniques;
Experience in the critical interpretation and appraisal of images and elemental data output from microscopes.

ADVANTAGE:

Tech RMS or similar microscopy qualifications.

Shortlisted applicants will be required to perform a skills test.

REMUNERATION PACKAGE: R138 989 - R234 039 per annum, inclusive of benefits.

Applicants are required to submit a covering letter highlighting their experience in, and providing evidence for, each of the minimum requirements and advantage as listed above, together with a detailed CV including the names, full addresses, fax numbers and e-mail addresses of three referees, to Mrs. S Gellately, Human Resources Administration, University of KwaZulu-Natal, Westville Campus, Private Bag X54001, Durban, 4000. Fax +27(0)31 260 7315 or e-mail: gellatel@ukzn.ac.za

ZEISS HOSTS ALZHEIMER'S REDISCOVERED SLIDES ON WORLD WIDE WEB

(from infocus the RMS magazine, June 2007)

Pathologists from around the world are being offered their first opportunity to view in microscopic detail the original research material upon which the discovery of Alzheimers disease was based, thanks to a website hosted by Carl Zeiss.

In 1906, Alois Alzheimer prepared over 250 slides of human brain tissue from a female patient he had observed closely and published his findings in 1907. That same year he began to treat a male patient and prepared more than 150 slides upon his death in 1910. Both lots of material were recently re-discovered in the basements of the University of Munich. Well preserved and of very high technical quality all the more than 400 slides have been scanned and saved as virtual slides. The virtual slides are being released progressively to be viewed over the Internet (www.zeiss.de/alzheimer)

Good one Zeiss !

To join the Royal Microscopical Society and receive your own copy of the excellent **infocus** magazine contact lucy@rms.org.uk

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Through the RMS you can enroll for a course titled '**The Microscopic Ice Age**' to be hosted at the Centre for Bioimaging, Rothamstead Research, in Herts, UK over 4 days. Dates are April 7th – 11th 2008.

The Centre for Bioimaging is a state-of-the-art facility for cryo electron microscopy in partnership with Gatan, Leica and JEOL UK.

Techniques covered will include the Tokuyasu method, rapid freezing of samples, freeze substitution, cryo-sectioning, thin film TEM, cryo-transfer and freeze fracture cryo-SEM. The focus will be on life sciences and cell biology.

Contact www.rms.org.uk/events

Why go to a conference? – Another viewpoint

Some persons are of the opinion that funding people to conferences is a waste of money. So I wondered, why do we go? Surely not everyone goes to MSSA conferences just to see Luc? No, we go for his booze! Certainly not to have a room near his in the residence if we want to sleep!

Since I am in Jo'burg, I fancy Durban or PE – the sea; Cape Town – sea, wine, mountain, yes please any time in summer! Next year is Botswana, (feathered) birding is attractive (deadline for abstracts is in Feb 2008. Have you started on them yet? Me neither, but I am thinking!)

Yes, a conference is a place for students to meet people, learn new techniques, hear "famous" people talking about stuff that turns them on and no-one else cares a toss about. For example, who in their right (or left) mind cares how many carbides platinum has, real or imaginary, when you could be drinking Luc's mampoer. You can go overseas to meet people that you hope will invite you to their institution and even pay for you. Once, out of the blue, I got offered a job at Notre Dame University. You just never know. Of course some conference venues are cool. You can see an osprey on a beach hotel balcony in Mexico, go aboard the Queen Mary in Long Beach, watch turtles swimming in the sea from your hotel in Hawaii – yes, at times, there are some compensations. So work hard, spin a good story and you never know, some sucker may fund you!

Mike Witcomb

The **Microscopy Society of Southern Africa (MSSA) Trust** wishes to promote microscopy in Southern Africa and improve the microscopy skills of people. As such, it invites applications for funding towards the following areas:

- 1) promoting microscopy and science careers in Southern Africa,
- 2) towards the organization of microscopy based workshops or schools in Southern Africa,
- 3) promoting microscopy to learners in schools,
- 4) attendance at microscopy conferences or workshops in 2008.

Applications must be by **e-mail only** to the Secretary of the Trust, Alan Hall at alan.hall@up.ac.za

DEADLINE for applications is **Monday 12 November 2007**.

Applications must contain all information considered relevant including:

- 1) letter of support from the head of department or supervisor,
- 2) CV of the person or persons involved,
- 3) details of the conference, workshop, event or project planned,
- 4) specific benefits to be obtained by the person(s),
- 5) detailed budget,
- 6) details of applications made or to be made to other funding sources and their response etc.

NOTE: Applications not containing all the required information and good motivations will not be considered. The Trust will not chase any missing information.

It is normally expected that that the Trust will only partially fund the total budget.

Hopefully all applicants will be notified by mid January 2008 of the decision of the Trust. Successful applicants will be required to provide proof of attendance at the funded event or audited accounts when organizing events etc., write a detailed article on their attendance or event for the MSSA Newsletter. A presentation on what was learned/gained is expected at the scientific sessions or Technical Forum of the following MSSA conference.

Mike Witcomb
Chairperson, MSSA Trust



μ MSSA

6 & 7 DECEMBER 2007



This workshop will be held at Mintek in Randburg in place of the usual annual MSSA fall conference which has moved to Botswana next year.

The MSSA executive have given their support for the event in that they are suggesting holding the MSSA AGM on one of the afternoons.

Please note that this will not be a normal MSSA conference where the trade sponsors events and the meeting. In fact there will be no trade displays. The idea of the meeting is to have a workshop of local users and experts sharing information on the latest systems that are available in South Africa. All trade representatives are welcome and will be present for the question and answer sessions.

We are suggesting a cost of R700 PLUS VAT for MSSA members and R800 for non-members for the two days. Students may apply to MSSA for student grants. Please see the registration form for more details and a breakdown of the costing.

This cost includes a dinner on the Thursday evening at the Bright Water Commons.

The workshop will take the form of having presentations on the various microscopy applications in the mornings and then discussion/question and answer panels in the afternoons where, hopefully, we will get some good discussions going.

HIGH RESOLUTION TEM

1. Jan Neebling - Applications of HRTEM and image corrected HRTEM in materials characterization.
2. Alistair Douglas - HRTEM in the development platinum based super alloys
3. Johan Westraadt - HRTEM in the development diamond composites

X-RAY MICROANALYSIS (EDS/WDS/EBSD)

1. Mike Lee - SDD Detectors and low voltage X-ray Microanalysis
2. Craig Smith - Combined EDS/WDS analysis on a SEM
3. Speaker - Developments in automated mineral analysis. (To be confirmed)

CONFOCAL MICROSCOPY

Convener: Mr Alan Hall

Various confocal applications presented by local users

VARIABLE PRESSURE AND FIB-SEM

1. Tony Bruton - VP analysis
2. Mike Witcomb - Developments in FIB applications

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

For more details and registration forms visit the MSSA website under the NEWS page or contact as below.

www.microscopy.org.za

E-mail: luc@anaspec.co.za

Tel: 011 794 8340

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



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