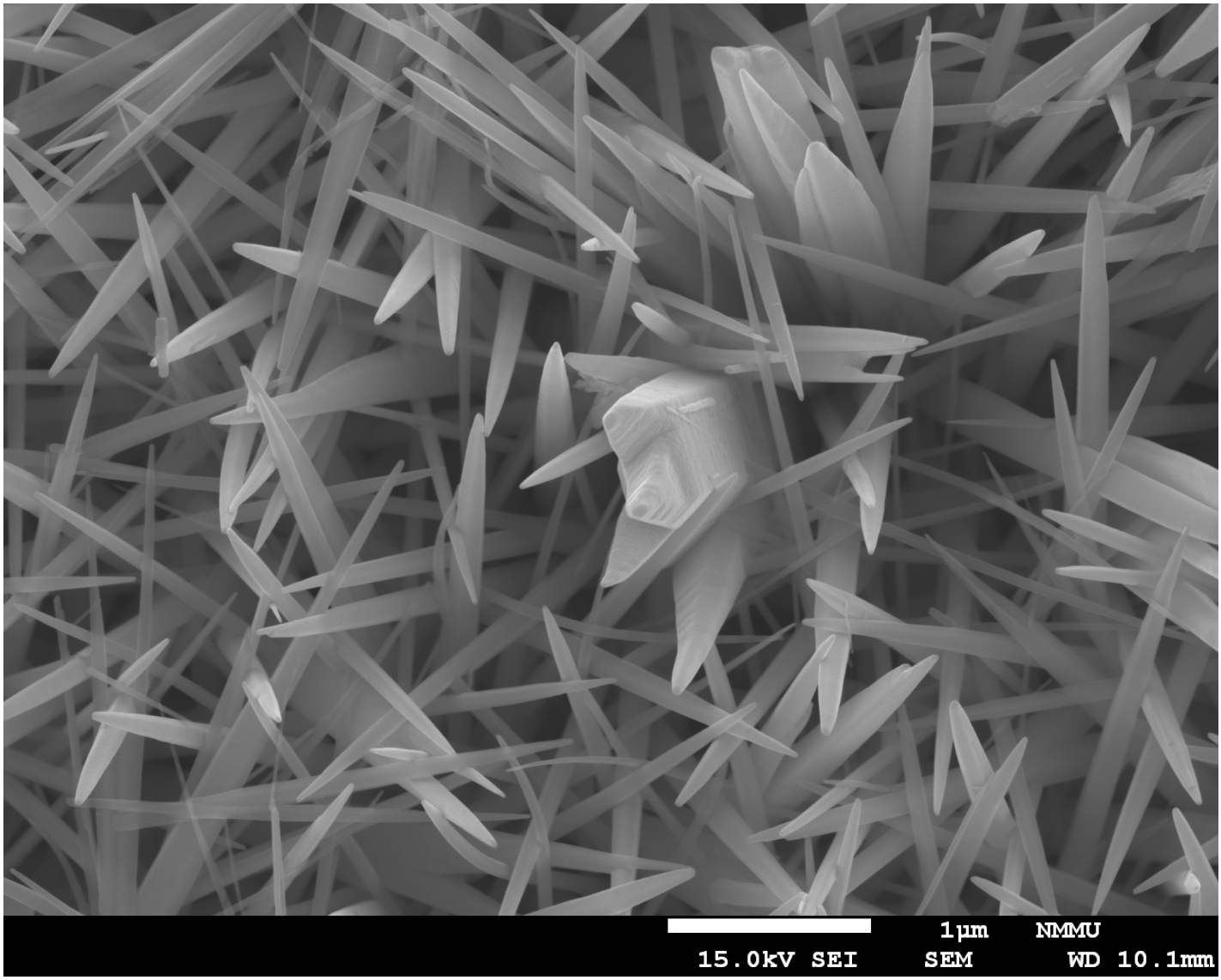
Physics Comment

A Southern African Physics Magazine

Vol. 2, Issue 1, March 2010

http://www.saip.org.za/PhysicsComment/
PhysicsComment@saip.org.za



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Cover Photograph

Courtesy of Prof. Michael Lee, Nelson Mandela Metropolitan University

The SEM micrograph shows needles of ZnO grown on silicon substrate by a hydrothermal growth method. These needles were produced from a solution of zinc nitrate hexahydrate and ammonium hydroxide at 75°C, onto a seed layer of ZnO nanoparticles. This work is part of the PhD project of Mr. Zelalem Urgessa under the guidance of Prof. Reinhardt Botha (SARChI Chair in Nanophotonics, Nelson Mandela Metropolitan University) and Dr. Tobi Oluwafemi (Walter Sisulu University). The project aims to develop high-density, highly oriented arrays of ZnO nanorods on p-type silicon substrate for solid state white light emitting devices. The micrograph was obtained with the assistance of PhD student, Mr. Jaco Olivier, on the JEOL 7001F FEGSEM, which was recently (December 2009) installed at the Nelson Mandela Metropolitan University.

2010 International Youth Nuclear Congress in Africa

Mosa Rasweswe

The 6th International Youth in Nuclear Congress (IYNC2010) will be held in Cape Town, South Africa from 12 to 18 July 2010. This is the first time that the Congress will be held in Africa since the inception of the series in 2000. The Congress will be jointly hosted by the International Youth Nuclear Congress (IYNC) and the South African Young Nuclear Professionals Society (SAYNPS).

President Jacob Zuma stated in his 2010 State of the Nation Address that: "This year 2010, shall be a year of action." It will indeed be full of action as we wait with bated breaths for the FIFA 2010 World Cup. In addition there is exciting action in the Science and Technology field.

The IYNC has held five successful congresses around the globe, with delegates convening in Slovakia (2000), South Korea (2002), Canada (2004), Sweden/Finland (2006), and Switzerland (2008). The recent congress in Interlaken attracted over 330 professionals from 30 countries!

IYNC2010 will see international young nuclear professionals gathering in Cape Town for a week to deliberate on the future of Nuclear Science and Technology. The event attracts about 350 young professionals and the nuclear industry experts from about 30 countries.

The IYNC network now has representatives on six continents and continues to seek out topics and activities of particular importance to the future of the nuclear industry. Through their continued involvement with IYNC these individuals share information and ideas, and build lasting professional relationships.

The objectives of IYNC are to:

- develop new approaches to communicate the benefits of nuclear power, as part of a balanced energy mix;
- promote further peaceful use of nuclear science and technology for the welfare of mankind; and
- facilitate the transfer of knowledge from the current generation of leading scientists to the next generation.

South Africa won the bid to host IYNC2010 against potential hosts: the United States of America, Russia and Brazil in Switzerland at the 5th IYNC in 2008.

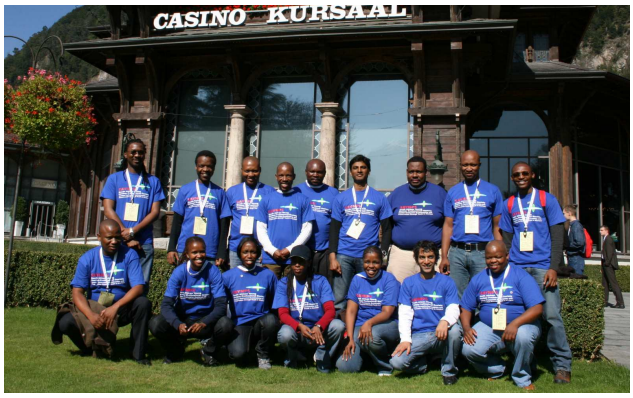

Figure 1: The South African team that attended IYNC2008 in Switzerland

The IYNC2010 technical programme will have tracks on topics such as Nuclear Fuel Cycle, Nuclear Policies, Economics and Human resources, Reactor Core Design Simulation and Modelling and Fusion Science and Technology and many more. There will also be workshops on issues such as communication strategies in the nuclear industry and new developments in nuclear energy.

The event will be held at the Cape Town International Convention Centre. Take note that the World Cup final game will be played on 11 July 2010. For more information on IYNC and the upcoming congress, please visit http://www.iync.org.

References

1. www.iync.org

Mosa Rasweswe is the Manager of Nuclear Safeguards Management at the South African Nuclear Energy Corporation (Necsa). She is the General Co-Chair for the IYNC2010 event and former Chairperson of the South African Young Nuclear Professional Society and may be emailed at Mosa.Rasweswe@iync.org.

Vuvuzelas

Jan Burger

In a letter in the February 2010 issue of the South African Medical Journal, the authors report on sound level measurements taken at different distances from a vuvuzela blown by a person without prior experience with the instrument. The measurements were carried out on a large outside lawn area. At a distance of 2 m from the bell of the vuvuzela an average of 113 dBA was recorded, and the authors point out, correctly, the severe threat of hearing damage that this high level entails. However, in practice a multitude of these horns will be sounded simultaneously during a soccer match, raising the overall sound level above 113 dBA. A calculation in which it is assumed that the inverse square law holds, air absorption is neglected and that the point sources are located on a regular 4m x 4m grid, i.e. one source per 16 m^2 of spectator area, shows that a further 7 dBA will result from the combined effect of the horns. The calculated 120 dBA could well be on the conservative side, in view of the relatively sparse density of sources assumed for the calculation. If the standard criterion for hearing conservation of 85 dBA exposure over a 40 hour week is accepted, this means that persons immersed in the assumed vuvuzela noise field are at risk after only 45 seconds' exposure at the very best.

YOU HAVE BEEN WARNED!!!

This article has been re-printed with the kind permission of the South African Acoustics Institute (SAAI) and specifically Dr. Jan Burger (SAAI newsletter editor) and Mr. Klaus Weber (SAAI President). The article first appeared in the February 2010 Newsletter of SAAI.

Techtrack: Climate change science is not settled

Kelvin Kemm

The year 2009 was the 150th Anniversary of the publication of Charles Darwin's now famous book; 'The Origin of Species'.

Darwin is now lauded as a great scientist, but that was not always the case.

As a very young scientist he travelled on a famous voyage aboard HMS BEAGLE. During this long voyage he visited exotic lands, particularly isolated islands across vast expanses of ocean.

His most famous stop was on the Galapagos Islands. He noticed that similar animals exhibited distinct differences, such as tortoises on one island that ate food off the ground having rounded shells whereas almost identical tortoises on a nearby island that had to eat from shrub branches had shells with a hooded portion that allowed them to lift their heads to the low branches of the shrubs.

Darwin came to the scientific conclusion that evolution had formed animals and plants over a long period of time, to adapt to their surroundings.

He was ridiculed at home when he returned. It was so bad that people would cross to the other side of the road if he was walking towards them. This went on for years.

But other scientists were thinking, and began to realise that Darwin was right. Then the University of Cambridge awarded Darwin an honorary degree. That action changed everything. He suddenly became a sought after social guest. We look back now, with amusement, at how Darwin was treated.

However, the same thing is now happening with the concept of Climate Change. There is the body which believes that mankind is to blame. In fact, many of these people want mankind to be guilty because this provides them with a target to attack.

Those scientists who argue that maybe the too neatly packaged theory that man-made carbon dioxide is entirely to blame are attacked with venom, as Darwin was.

The Copenhagen conference on climate change is now in full swing. Possibly it will turn out to be a watershed event where real science comes to the fore, instead of emotional political opinions.

I was invited to sign a letter that was presented to the Secretary General of the United Nations in Copenhagen on 8 December. Selected scientists from around the world were invited, I was only too happy to be one of them. The letter is reproduced here.

Open Letter to Secretary-General of United Nations

Dear Secretary-General,

Climate change science is in a period of 'negative discovery' - the more we learn about this exceptionally complex and rapidly evolving field the more we realize how little we know. Truly,

the science is NOT settled.

Therefore, there is no sound reason to impose expensive and restrictive public policy decisions on the peoples of the world without first providing convincing evidence that human activities are causing dangerous climate change beyond that resulting from natural causes. Before any precipitate action is taken, we must have solid observational data demonstrating that recent changes in climate differ substantially from changes observed in the past and are well in excess of normal variations caused by solar cycles, ocean currents, weather cycles (El Niño, etc.), changes in the Earth's orbital parameters and other natural phenomena.

We the undersigned, being qualified in climate-related scientific disciplines, challenge the UNFCCC and other supporters of the United Nations Climate Change Conference to produce convincing OBSERVATIONAL EVIDENCE for their claims of dangerous human-caused global warming and other changes in climate. Projections of possible future scenarios from unproven computer models of climate are not acceptable substitutes for real world data obtained through unbiased and rigorous scientific investigation.

Specifically, we challenge supporters of the hypothesis of dangerous human-caused climate change to demonstrate that:

1. Variations in global climate in the last hundred years are significantly outside the natural range experienced in previous centuries;

2. Humanity's emissions of carbon dioxide and other 'greenhouse gases' (GHG) are having a dangerous impact on global climate;

3. Computer-based models can meaningfully replicate the impact of all of the natural factors that may significantly influence climate;

4. Sea levels are rising dangerously at a rate that has accelerated with increasing human GHG emissions, thereby threatening small islands and coastal communities;

5. The incidences of malaria and other infectious diseases are now increasing due to recent climate changes;

6. Human society and natural ecosystems cannot adapt to foreseeable climate change as they have done in the past;

7. Worldwide glacier retreat, and sea ice melting in polar regions, is unusual and related to increases in human GHG emissions;

8. Polar bears and other Arctic and Antarctic wildlife are unable to adapt to anticipated local climate change effects, independent of the causes of those changes;

9. Hurricanes, other tropical cyclones and associated extreme weather events are increasing in severity and frequency;

10. Data recorded by ground-based stations are a reliable indicator of global surface temperature trends.

It is not the responsibility of 'climate realist' scientists to prove that dangerous human-caused climate change is not happening. Rather, it is those who propose that it is, and promote massive investments to solve the supposed 'crisis, who have the obligation to convincingly demonstrate that recent changes are not mostly natural and, if we do not reduce GHG emissions, catastrophe will consequently ensue. To date, they have utterly failed to do so.

Techtrack appears each week in Engineering News (www.engineeringnews.co.za). It has been reprinted here by permission of K. Kemm. This Techtrack appeared in Engineering News, Vol 29 No 48, 11-17 December 2009).

Kelvin Kemm is a business consultant and can be emailed at stratek@pixie.co.za.

Letter to the Editor

PROBLEMS WITH MATHEMATICS EXPERIENCED IN PHYSICS 1 MODULES TAUGHT AT NMMU IN 2009

The 2009 academic year saw the intake of the first cohort of learners from Grade 12 that had had been taught using the Outcomes Based Education (OBE) system. It soon became clear that while students are more apt to ask questions, their basic mathematical skills left much to be desired. While there may be various explanations for these problems (examinations stress, etc.), the type of error is rather similar, and was experienced in both the main physics modules, as well as the service courses. Despite the fact that the number of students making these errors was relatively low, it is still a course of concern, since the type of error is so basic, that one would not expect to see these errors at tertiary level. This is also the first time that I have experienced these errors, during a period stretching over more than 35 years.

The following are examples of errors experienced in both the F101* (July 2009) and FBB 102# (November 2009) Examinations:

1. $v_{ave} = \frac{1}{2}(u+v)t$
   $= (10+10)/2 \times 3.77$ *and this WITH a*
   $= 19.04$
   calculator at hand!

2. $\omega = 2\pi f$

$f = \left(\frac{2\pi}{\omega}\right)$

$f = \frac{n}{2L}\sqrt{\frac{T}{\mu}}$

3. $\therefore 4500 = (2\times 0.5)^{-1}\sqrt{\frac{T}{20\times 10^{-5}}}$ *(since n = 1)*

$\therefore \frac{T}{20\times 10^{-5}} = 30\sqrt{5}$

4. $circumference = 4\pi r$

5. $P = \frac{V^2}{R}$

$\therefore R = PV^2$

$k = \frac{2\pi}{\pi}$

6. $\therefore 0.2 = \frac{2\pi}{\pi}$

$\therefore \lambda = 0.2\times 2\pi$

$F = IlB\sin\theta$

7. $\therefore I = \frac{lB\sin\theta}{F}$

8. $\frac{1}{f} = \frac{1}{d_o} + \frac{1}{d_i}$ (3 different students did this!)

$\therefore f = d_o + d_i$

9. This is priceless: not only should students at a university be able to do this without thinking, but they all have calculators!

$f = \frac{4\pi}{2\pi}$

$= 0.5$

Note how many students could not change the subject of a simple equation. Also, fractions seem to be foreign to some students. Note also that the observed errors are irrespective of the race of the students involved.

* F101 is the 1st semester course of Physics for a major in BSc

FBB 102 is the 2nd semester course of Physics for Biological Sciences

Prof. Japie Engelbrecht

Head: Physics Department, Nelson Mandela Metropolitan University

Global Survey of Physicists: Still Open

http://www.aipsurveys.org/global/

The Global Survey of Physicists, reported on the last issue of Physics Comment, is still open and all physicists are encouraged to complete the survey to assist with the development of a broader picture of the status of physicists across the globe. The survey was developed by the American Institute of Physics in conjunction with the International Union of Pure and Applied Physics Conferences on Women in Physics and was partially funded by a grant from the Luce Foundation. This is the third in a series of studies of physicists across the globe and the first to target both male and female physicists. Responses to the survey are anonymous and the results will only be released in aggregated statistical form. Individual level information will not be shared or made available.

Deadline for submission of articles for the next issue is 31 May 2010.

Details on http://www.saip.org.za/PhysicsComment/

Physics 500

The Physics 500 Project aims to identify and track physicists in Industry. The purposes of the project are to:

- Identify industries in South Africa that employ physicists,
- Identify physicists working in South Africa,
- Use this information to promote physics,
- Promote collaboration between the SAIP and industry.

For more information, visit the project website at: http://www.saip.org.za/physics500/login.php

Igle Gledhill, from Pretoria

Qualifications

In 1976, BSC from Rhodes University in Physics, Chemistry, Applied Maths; in 1977, BSc(Hons) from Rhodes University in Physics

In 1983, **Ph.D.**, in **physics** at **UND**, **"Ion acoustic waves in multi-species plasmas"**

In 2001, Executive National Security Programme at SA National Defence College

Career

Started 1987 at **CSIR** in **Defence, Peace, Safety and Security** and is now a **Fellow**

Started 1985 at **Leyland Stanford Junior University** in **Space, Telecommunications and Radioscience Lab** as **"Postdoctoral Research Associate"**

Started 1983 at **University of California, Los Angeles** in **Physics** as **"Postdoctoral Research Associate"**

Survey

Why did you originally choose to study physics at university?

Mathematics was too rigorous and chemistry did not get down to fundamentals.

Did you enjoy your university physics? What inspired you about physics?

I enjoyed it very much indeed, except for tests on Fridays. I found it relatively easy because if you understand, you don't need to memorise.

What did you do after graduating from university with your highest physics degree?

I went to California, to the sunshine and the beach. I did two post-docs in plasma physics at UCLA and Stanford.

What made you choose a career in industry rather than a career in academia?

I am married to a chemical engineer, and like many researcher couples, we need to find two specialised jobs near to each other. Among the possibilities, the challenges in aeronautics were the most interesting.

When did your industrial career really take off?

I was forced into contract research by strategic changes as the CSIR, and left cellular automaton fluid models with regret. However, contract research in aerodynamics has proved interesting.

If you consider yourself no longer a physicist, what made you give up physics to pursue your career?

I categorise myself according to the prevailing mood of the organisation. I used to be a project manager, but now I am a physicist.

Is there a particular contribution in industry that you are especially proud of and that you attribute to your training in physics?

I have been able to collaborate in transforming the Navier-Stokes equations to arbitrarily accelerating frames, and to use the result in understanding the dynamics of accelerating aircraft.

How does your physics training help with your career?

I am not afraid of complex mathematical or algorithmic models. Most people are. Therefore, I am drawn into interesting projects, including biosciences, drug design, and coastal engineering. I am also trained to be careful about what I know and don't know, so what I contribute in these collaborations must be from a sound base.

What advice do you have for physics students thinking of embarking on a similar career?

Don't be tempted to adopt sloppy thinking.

What advice would you give to university departments to make their physics teaching and research programmes more useful for industry?

Take students on field trips. Often, career decisions and interest can be sparked by a single day in an interesting environment.

What are your perceptions about the importance of physics in present-day society?

In national terms, it's fundamentally important in at least two ways: it is important to a healthy economy, and it is important to meet the high aspirations of smart young South African scientists. In global terms, it is a global human endeavour that crosses boundaries. Explaining the importance in the economy to non-physicists is a challenging and very interesting task: also a critically necessary one in national terms.

Prizes for Physicists

TWAS Prizes 2010, Closing Date: 31 March 2010

TWAS 2010 Prizes will be awarded to individual scientists who have been working and living in a developing country for at least ten years, in recognition of an outstanding contribution to knowledge in the following eight fields of science: Agricultural Sciences, Biology, Chemistry, Earth Sciences, Engineering Sciences, Mathematics, Medical Sciences and Physics.

Candidates must meet at least one of the following qualifications:

1. Scientific research achievement of outstanding significance for the development of scientific thought.
2. Outstanding contribution to the application of Science and Technology to industry or to human well being in a developing country.

Each prize will carry a monetary award of US$ 15,000 and a plaque bearing a citation highlighting the major contribution for which the prize is awarded.

The deadline for receiving nominations is 31 March 2010.

Further details on eligibility criteria and submission procedure are available online at: http://www.twas.org, by clicking on the headings "Programmes" - "Prizes" - "TWAS Prizes" where the Word format of the nomination form might be downloaded.

Contact details: prizes@twas.org

Ernesto Illy Trieste Science Prize, Closing Date: 15 May 2010

TWAS, the academy of sciences for the developing world, is seeking nominations for the 2010 Ernesto Illy Trieste Science Prize.

The Prize, sponsored by Trieste-based Illycaffè, has been established to give international recognition and visibility to outstanding scientific achievements made by scientists living and working in developing countries.

In 2010 the prize will be given for outstanding achievements in: Renewable Energies for Environmentally Sustainable Industrial Technologies.

The prize carries a US$100,000 monetary award and medal.

The deadline for receiving nominations is 15 May 2010.

Further details on eligibility criteria and submission procedure are available online: http://www.twas.org > Programmes > Prizes, where the nomination form can also be downloaded.

For additional information, please contact: prizes@twas.org.

Funding Opportunities

IUPAP Working Group on Women in Physics Supporting Women in Physics in Developing Countries, Deadline: 6 April 2010

The IUPAP Working Group on Women in Physics have received funding to launch a seventh round of the IUPAP/UNESCO program to fund the attendance of women from developing and eastern European countries at regional conferences and schools this fall. About 20 women will be funded between USD700 & USD800 each at a maximum.

Recipients will be chosen by the IUPAP Working Group on Women in Physics by mid April, and applicants will be notified by the end of April 2010.

Only women physicists from Eastern Europe or developing countries may apply. Due to limited funding, those who have received a grant in the past, under this program, are not eligible for a second grant.

Those interested in applying for a grant should submit the following information, via e-mail as a WORD document only or as text within the e-mail. **PLEASE DO NOT SEND AS A PDF FILE.**

1. Complete contact information including name, address, e-mail and phone number.

2. Years since your Ph.D. (or undergraduate degree for graduate students) was granted.

3. Brief description of the conference or workshop you wish to attend (including date of conference, place to be held, & website if available) and if you will be making a presentation.

4. Brief statement of how attending the conference will enhance your career.

5. A breakdown of the amount of money (maximum $700/800 US) required to attend (Ex: Airfare, registration fee, meals).

6. One Letter of recommendation.

All information must be sent to Jackie Beamon-Kiene at beamon@aps.org. Applications must be received no later than 6 April 2010.

2010 TWOWS Postgraduate Fellowship, Deadline: 31 July 2010

Applications are being accepted for the TWOWS Postgraduate Training Fellowships for Women Scientists from Sub-Saharan Africa and Least-Developed Countries (LDCs) at Centres of Excellence in the South.

The TWOWS fellowship is awarded to women scientists from Sub-Saharan Africa and Least Developed Countries (LDCs) to pursue a PhD at a centre of excellence in the South in a field of the natural sciences.

Following recent discussions with donors, earlier restrictions that limited eligible research projects to those in the basic sciences have been dropped. Therefore, applications can now be accepted from female scientists in all branches of the natural sciences.

More information on the application procedure, eligibility criteria and to download the application form can be found at www.twows.org >Activities>Postgraduate Training Fellowships.

Faculty for the Future Fellowships

Faculty for the Future fellowships are awarded to women from developing and emerging economies who are preparing for PhD or post-doctoral study in the physical sciences, engineering, or related disciplines to pursue advanced graduate study at top universities in their disciplines abroad.

Launched by the Schlumberger Foundation in 2004, Faculty for the Future has grown to become a community of 110 women from 35 countries.

The long-term goal of the Faculty for the Future program is to generate conditions that result in more women pursuing scientific disciplines. Grant recipients are therefore selected as much for their leadership capabilities as for their scientific talents, and they are expected to return to their home countries to continue their academic careers and inspire other young women.

Grants are in the range of USD 25,000 to 50,000 per year, and may be renewed through to completion of studies subject to performance, self-evaluation, and recommendations from supervisors. The amount of the grant depends on the actual costs of studying and living in the chosen location.

Eligibility criteria and application process instructions can be found at New Grant Application Process or Renewal Grant Application Process.

http://www.slb.com/content/about/foundation/facultyfuture.asp

Upcoming Conferences & Schools

4th INTERNATIONAL CONFERENCE ON IMAGING TECHNIQUES IN SUBATOMIC PHYSICS, ASTROPHYSICS, MEDICINE AND BIOLOGY, Stockholm, Sweden June 8 - 11, 2010

This is the first announcement of the 4th International Conference IMAGING 2010 to be held in Stockholm, Sweden at the Royal Swedish Academy of Sciences from June 8 - 11, 2010. The conference is the fourth in a series focusing on various applications and methods using electronic detectors for imaging and is being organised by the Royal Institute of Technology, Sponsored by the Nobel Institute of Physics.

Topics to be covered include:

- Imaging Detector Systems for Nuclear and Particle Physics
- X-ray imaging in Medicine and Biology
- Computed Tomography
- PET and SPECT
- Gamma- and X-Ray Astronomy
- Imaging in Astrophysics
- Non-destructive Testing
- Security Screening

Contributions and Proceedings

Deadline for abstract submission is April 20, 2010. All accepted contributed papers will be selected for oral presentation or for poster presentation and the abstracts will be distributed at the conference. The proceedings will be published in Nucl. Instr. Meth. A after being subject to a standard peer review procedure.

For submission of the one page abstract, please go to the conference homepage at www.mi.physics.kth.se/Imaging_2010 <http://www.mi.physics.kth.se/Imaging_2010>

2010 African School on Electronic Structure Methods and Applications, July 2010

The registration for the African School on Electronic Structure Methods and Applications for 2010 is now open. Please view http://www.nithep.ac.za/general/10.php for registration details. The School will take place at AIMS, Muizenberg, Cape Town from 19 July to 30 July 2010. The School is sponsored by IUPAP (C13, C20, C14 and C10), NITheP, ICTP, SAIP, Democritos, ICMR and the MCC. The deadline for applications is 31 March 2010. There is limited space for participants, so please register early. Young faculty and senior postgraduate students are welcome to participate.

35th ICHEP Conference, Paris, France, 21 – 28 July 2010

The 35th International Conference on High Energy Physics (ICHEP2010) will be held in Paris, France from July 21 to July 28 2010. Organisers hope that this conference will be a great success since they are expecting, among many other exciting talks, that the first LHC results will be presented.

The conference registration fees have been fixed at 450EUR. Limited funding is available for fees and travel support. Applications will be evaluated on a case-by-case basis.

All practical information regarding the conference can be found on its web site: http://www.ichep2010.fr.

Letters of invitation for visa applications will be provided on request. The organisers request that arrangements must be made in advance in order to find a hotel room in Paris in July. A list of hotels can be found on the Conference website. Cheap accommodation for students has been reserved and must be requested upon registration.

55th Annual South African Institute of Physics Conference, Pretoria, September 2010

The 55th Annual Conference of the South African Institute of Physics (SAIP), organised by the CSIR National Laser Centre, will be held from 27 September to 1 October 2010 at the CSIR International Convention Centre in Pretoria. The theme of the conference will be the 50-year celebration of the laser. Schools that will be hosted as part of this event: Nuclear Physics, 50 years of the LASER. For the first time, the host intends to solicit extended (one-page) abstracts, which are to be published in a proceedings with an ISBN number. The proceedings will be made available in electronic format.

Contact Information:

Email: saip2010@saip.org.za

URL: http://www.saip.org.za/events/saip2010/

9TH WORLD CONFERENCE ON NEUTRON RADIOGRAPHY AND RADIOGRAPHY AND TOMOGRAPHY SCHOOL, October 2010

Frikkie de Beer

The International Society for Neutron Radiology (ISNR) with the support of the South African Nuclear Energy Corporation (Necsa) are pleased to announce that the 9th World Conference on Neutron Radiography will be hosted in South Africa at Kwa-Maritane from Sunday 3rd October 2010 to Friday 8th October 2010.

The conference theme will be: "Big 5 on Neutron Radiography".

Held once every four years, this prestigious international event will provide the ideal platform from which to target a focused audience and reach all the major role players in the international neutron radiography community. We are conscious of the need to create awareness and unite the efforts of those that are in the industry and therefore look forward to welcoming the world's leading neutron radiographers and researchers to Africa to join this conference. Through joining this event, an excellent opportunity for South African researchers to gain knowledge on the details of the technique and its unique scientific areas of application is being created. If you would like more information on the Conference please view our website for updates: http://www.wcnr-9.co.za/ or http://www.isnr.de/.

We look forward to your involvement in what promises to be a most enlightening and productive event for all involved.

40th South African Chemical Institute (SACI) Convention incorporating the 3rd Federation of African Societies of Chemistry (FASC) Congress, January 2011

SACI 2011, the 40th South African Chemical Institute (SACI) Convention incorporating the 3rd Federation of African Societies of Chemistry (FASC) Congress will be held from 16 to 21 January 2011 at the University of the Witwatersrand in Johannesburg, South Africa. The biannual SACI Convention will be organised by the Gauteng Coordination Committee of SACI. The local organising committee is putting together a full, multi-session programme that will address the conference theme: Chemistry – the key to Africa's future.

The event will celebrate the UNESCO International Year of Chemistry, IYC 2011 (an IUPAC event)

The event will showcase research activities in all traditional branches of chemistry (Organic, Inorganic, Physical, Analytical, Environmental) as well as interdisciplinary areas (such as Materials chemistry, Bio-organic chemistry etc.). The programme will provide a platform for presenting work going on in the African continent, as well as in the rest of the world.

The Convention will take place six months after the 2010 World Cup Football (soccer) event to be held in South Africa. Advantage will thus be taken of the infrastructure developed for the World Cup, and in particular Johannesburg, the economic hub of South Africa. We hope to make SACI 2011 an exciting, eventful and rewarding time for all delegates. Registration fees and accommodation costs will be kept to a minimum.

The 3rd FASC Congress will be hosted at the Convention on Friday 21st January 2011. The day will be set aside for a FASC Programme on Green Chemistry

The official language of the Convention will be English

Physics Comment Editorial Policy

Physics Comment is an electronic magazine for the Physics community of South Africa, providing objective coverage of the activities of people and associations active in the physics arena. It also covers physics-related ideas, issues, developments and controversies, serving as a forum for discussion. It is not a peer review journal.

Physics Comment publishes innovative reports, features, news, reviews, and other material, which explore and promote the many facets of physics. Physics Comment endeavours to:

- support and inform the physics community
- promote membership of the South African Institute of Physics
- promote the understanding of physics to interested parties and the general public
- represent the readers' point of view
- focus on issues and topics of importance and of interest to the physics community

We accept submissions on any physics-related subject, which endeavours to inform readers and to encourage writers in their own researches. We aim to be politically, socially and geographically inclusive in the articles, which we commission and receive. Therefore we shall not discriminate according to political or religious views. Physics Comment does not support or endorse any individual politician or political party. However, contributions, which are being published, may contain personal opinions of the authors.

It is our desire to present unfettered the opinions and research of our readers and contributors. All articles submitted for publication are subject to editorial revision. Such revisions, if necessary, will be made in cooperation with the author.

The views expressed in published articles are those of the authors and are not attributed to the Editorial

The Editor will make the final determination of the suitability of the articles for publication.

Declaration by Author

When an author submits material for publication, this means:

1. The author(s) assures the material is original, his/her own work and is not under any legal restriction for publication online (e.g., previous copyright ownership).
2. The author allows PC to edit the work for clarity, presentation, including making appropriate hypermedia links within the work.
3. The author gives PC permission to publish the work and make it accessible in the Magazine's archives indefinitely after publication. The author may retain all other rights by requesting a copyright statement be placed on the work.
4. Authors should respect intellectual integrity by accrediting the author of any published work, which is being quoted.

Publication Deadlines

Physics Comment is published four times a year.

Issue	Closing Date	Publication Date
Issue 1	28 February	15 March
Issue 2	31 May	15 June
Issue 3	31 August	15 September
Issue 4	30 November	15 December

Specification and Submission of Content

1. Editorial Tone. As the voice of the physics community, the magazine will create a provocative, stimulating, and thoughtful dialogue with the readers; and provide a variety of perspectives that reflects the dynamism of the physics community.
2. Article types. The magazine is devoted to articles, reports, interesting facts, announcements and recent developments in several areas related to physics:
3. Manuscripts. Solicited manuscripts will be judged first for reader interest, accuracy and writing quality. The editor reserves the right to request rewrite, reject, and/or edit for length, organization, sense, grammar, and punctuation.
4. Re-use. The publisher reserves the right to reuse the printed piece in full or in part in other publications.
5. Submission and Format. Manuscripts must be submitted to the editor on or before the designated due date Manuscripts must be submitted electronically, on the prescribed Microsoft Word template available for download from http://www.saip.org.za/PhysicsComment/. Manuscripts are to be submitted directly to the editor: PhysicsComment@saip.org.za.
6. Style. AP style is followed for punctuation, capitalization, italics and quotations.
7. Photography and Illustration. All solicited photography and illustration should be part of an article and will be judged first for technical quality and editorial appropriateness. The editor and art director reserve the right to request revision or reject any material that does not meet their criteria. The publisher reserves full rights to all solicited photography and illustration, including the right to reprint or reuse graphic material in other publications.

Categories of content contributions

Technical articles and reports: These are generic articles of about 1 500 words plus diagrams and pictures. A technical article covers a relevant feature topic. Articles are authored by the writer and publishing a 40-word resume of the author could enhance its credibility. By submitting an article that has been previously published the author confirms that he/she has the right to do so, and that all the necessary permissions have been received. Acknowledgement must be made within the article.

News: These are short editorial items usually not more than 250 words. Full colour pictures must be clearly referenced on the editorial submission and on the picture or picture file.

Advertorials: Advertorials could be published when supplied by the client. We recommend a maximum of 500 words plus one or two pictures for maximum impact. A PDF file of the laid out advertorial should be emailed by the client along with an MS Word file of the text and separate image files of the pictures. It is the client's responsibility to ensure that the advertorial is correct as it is in fact a paid for advert page.

Letters to the Editor: Letters to the Editor are encouraged. The Editor reserves the right to edit for length and format. The Editor will not change the political position of the initial letter. Physics Comment does not publish anonymous letters.

Advertising Policy: The Editorial Board will determine advertising prices for Physics Comment, subject to approval by SAIP Council. The objective will be to obtain revenue to maintain and develop the magazine. Physics Comment offers classified advertising to subscribers of the magazine for free. The advertisements must be a maximum of 60 words including the telephone number, and there is a limit of three free classifieds per subscriber, per issue. Advertisements may include a photo, which may be reduced in size or resolution by the editor to optimize loading time. All items or opportunities, which are being advertised for free, should be physics-related. The Editor reserves the right to refuse any advertising, which does not conform to the objectives of the magazine.

Submission of Articles

All articles must be submitted on the prescribed template available for download from:

http://www.saip.org.za/PhysicsComment/