# Coordinated South African Nanotechnology Awareness Programme.

## Implementation Plan: Phase 1 - 2007/8

**17 October 2008**

*Prepared for:*

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***Prepered and submitted on behalf SANi sub-committee on Nanotechnology Awareness by the convener:***

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# EXECUTIVE SUMMARY

In November 2006, following a Project Brief on Nanotechnology Awareness (Appendix 1) released by the DST, SANi submitted a proposal to DST, titled "Coordinated South African Nanotechnology Awareness Programme" (Appendix 2), outlining a nanotechnology awareness program for South Africa. In early 2007, the DST approved an amount of R500 K for SANi to roll-out Phase 1 of the program in 2007/8. As per the DST project brief, this phase targets 'the science community at large' with the aim to create a 'sufficient force of advocates of the technology'. The funds for the rollout of the program have already been transferred by DST.

The purpose of this document is to report on activities that have been undertaken by SANi to execute this DST-sponsored Nanotechnology Awareness Program. As per the original proposal and implementation plan (Appendix 2), the schedule of activities was informed by the stated objectives of the project, which are:

- Promote and maintain an active network to be available to DST for nanotechnology implementation
- Increase public understanding of Nanotechnology.
- Increase public and private sector participation in the nanotechnology debate
- Increase participation in international collaboration by focussing on the DST international network established through joint collaboration commissions.


# Report

## Coordinated SA Nanotechnology Awareness Programme.

## Prepared for DST by the South African Nanotechnology Initiative (SANi)

### 1. INTRODUCTION

In November 2006, the DST released a Project Brief on Nanotechnology Awareness to SANi, whose purpose was to 'provide an indication of the awareness programs intended for Nanoscience and Nanotechnology'. SANi submitted a proposal to DST outlining a program over three years (2007-9). The DST approved phase 1 of the program to be implemented by SANi, focussing on the scientific community at large. An amount of R500 K was allocated for this phase, and the funds were transferred from DST to UCT for implementation of this phase. SANi formed a sub-committee to oversee the implementation of this phase of the program, and during the World Nano Economic Congress in April 2007, this sub-committee met with DST officials to map a way forward on implementing of phase 1. It was agreed at the meeting that SANi would prepare a document outlining a schedule of activities to be carried out as part of the implementation plan.

The SANi awareness sub-committee met on 15/05/2006 to propose activities to be undertaken for phase of the awareness program. These activities were then presented to the SANi Executive Committtee on 25/05/2007 for discussion and approval. The Implementation Plan was submitted to DST and subsequently approved. The current document reports on the activities that were carried out in execution of phase 1 of the awareness campaign.

### 2. PROGRAMME OBJECTIVE: PHASE 1

The target for this phase of the program has been the scientific community at large, particularly those at historically disadvantaged institutions. The objectives of the proposed coordinated national nanotechnology awareness programme that was undertaken by SANi were:

- Promote and maintain an active network to be available to DST for nanotechnology implementation
- Develop a capacity at HDI to participate in nano networking and awareness activities
- Increase public understanding of Nanotechnology.
- Increase public and private sector participation in the nanotechnology debate
- Increased participation in international collaboration by focussing on the DST international network established through the joint collaboration commission.

## 3. PHASE 1 SCOPE AND IMPLEMENTATION PLAN

An outline of the activities into which investments were made to achieve the above objectives is as follows:

- **Project Coordination**
  - Project Coordination
  - Provision for mobility of the team
- **Network Management**
  - Database maintenance and expansion
  - Linkages to other initiatives, strategies and organisations
  - Increase awareness of facilities (facilities network) with special focus on inclusion of HDI
- **Awareness and Education Programmes**
  - Conference (Technical and Educational)
  - Introductory Lectures at various Universities aournd the country
  - Creation of promotional material
- **Participation in International Awareness and Education Networks**
  - Participation in international awareness and education networks

A brief description of the activities, the rationale for the activities and the work already undertaken are given below:

### 3.1 Project Coordination

The multidisciplinary nature of nanotechnology and the fact that the network of nanotechnology stakeholders is quite diverse calls for a dedicated project coordination function in the project. SANi appointed an awareness sub-committee from the SANi executive committee whose task was to oversee all activities of the project and make sure that the project team meets deliverables and deadlines. The sub-committee met several times during the past to plan and carry out its tasks.

The coordination team:

- Formulated a vision, objectives and priorities for awareness generation which were documented in the Implementation Plan
- Promoted and provided strategic intelligence to the country's Nanotechnology programme whenever required

- Ran a process to evaluate task team proposals and assigned the execution
- Regularly monitored and evaluated progress, and addressed overlaps and difficulties
- Assisted task teams where possible with the execution of their tasks

### 3.2 Network management

It is vital that all stakeholders that may have a role to play in research, development, commercialisation and marketing of Nanotechnology are linked together to establish and reinforce research, avoid duplication, strengthen existing expertise and mobilise industrial participation, in order for South Africa to be internationally competitive. The maintenance of existing collaboration and communication networks and the establishment of new ones is of similar importance. These networks need to be coordinated to serve as a vehicle of communication, project establishment and collaboration, sharing of expertise and equipment and general support. SANi as a whole, and where relevant, the Awareness Sub-Committee have endeavoured to play this role.

In the abovementioned networks,

- A existing database of network members was maintained and expanded during the past year. This database is available to DST and selected third parties (NRF) to distribute and collect information from the network.
    - SANi has now overhauled its website, which is now hosted by an independent service provider. In addition to the database, a web link to webpages of individuals/groups doing nanotechnology research in South Africa is being added. The Secretary of the SANi executive Committee is currently responsible for the management and updating of the website and database.
    - Though it was originally planned that an “ask a nanoscientist” link and discussion forum will be created on the website, to date this has not yet materialised due to limited availability volunteers. It is however planned that this will still be pursued when a SANi Student Chapter, which is currently being established with the assistance of the SANi executive committee, is up and running, and volunteers can be sourced from there.
- SANi has initiated a process of establishing a Student Chapter of SANi. Six postgraduate have been tasked to develop, with SANi’s assistance, a draft constitution, and to try and recruit students into the Chapter. The aim is to launch this student Chapter officially at the NanoAfrica conference in Feb 2008, during which time the SANi AGM will be held.
- Some of the above-mentioned postgraduate students have been to three science festivals (at the request of DST) to run nanotechnology exhibitions, such as the La Villete travelling exhibition that was used at the following festivals:
    - SciFest in Grahamstown
    - National Science Week in Potchefstroom
    - Vuwani Science Center in Thohoyandou

- Linkages between historically advantaged and historically disadvantaged institutions were actively promoted, as well as between South Africa and its regional partners. A link was established with UNW Mafikeng through Prof N Cingo and Dr M Ntwaeaborwa, with University of Zululand through Prof Revaprasadu and Prof M Ndwandwe. There has been regular interaction between SANi and NanoAfNet, an Africa-wide network for nanoscience and nanotechnology.
- Increasing Networking for sharing of facilities and equipment will be encouraged. The NRF has agreed to make available a database of facilities for nanotechnology equipment in the country which have been funded for this purpose by the DST through the NNEP. SANi will add this information to the database that is planned. Furthermore, SANi will expand this database of facilities by including those that exist at the Nanotechnology Innovation Centres. Unfortunately, with the limited budget available, it will not be possible to provide support for mobility of interested researchers to be trained on and use these facilities . Such funds, however, can be applied for via NRF mobility grants by individuals.
- In January 2008, SANI held its AGM and a stakeholder workshop. The DST and NRF were invited to participate in the stakeholder workshop. SANi supported the attendance of a few students at the workshop, as well as the Executive Committee members. The DST was represented by Prof Daniel Adams and the NRF by Ms Romilla Maharaj, who each gave presentations. A new Executive committee was elected, and comprise the following members:
    - Ndumiso Cingo, Chairperson
    - Rudzani Nemutudi, Vice-Chairperson
    - Leskey Cele, Secretary
    - Justice Moloto, Treasurer
    - Sarah Prins
    - Sam Thema
    - Sabelo Mhlanga;
    - Nthabiseng Mathe
    - Suprakas Ray
    - Thembela Hillie
    - Willie Augustyn
    - Batsirai Magunje
    - David Britton
    - Corinne Greyling
- Linkages to other initiatives, strategies and organizations
    - SANi , through its representative has presented talks around the theme of “Nanotechnology in South Africa” at various seminars, workshops, meetings of initiatives, including:
        - SA-France Workshop at Kwa-Maritane in October 2007

- IBSA welcoming function and opening ceremony of the NanoCollege held at iThemba LABS, Cape Town, Novmber 2007
- IBSA Workshop in Pretoria, November 2007
- ICS-UNIDO Workshop at iThemba LABS, Cape Town, in July 2008

### 3.3 Awareness and Education Programmes

Activities that were implemented for the education thrust are:

- Conferences (Technical and Educational)
    - The next NanoAfrica conference will be held at the CSIR Convention Center in February 2009. An Organizing Committee made up of SANI Executive Committee members [Dr Supraka Ray (Chairperson), Dr Willie Augustyn, Ms Sarah Prins and Dr Justice Moloto was set up early in 2008, and has already made significant progress in organizing the conference, including raising funds from the private sector.
    - The ICMR Workshop took place at University of Zululand 29 July – 1 August 2007 (see Appendix 3). A SANi representative gave a presentation on "Nanotechnology in SA", where there was a significant number of international delegates, including those from Africa.
    - IBSA-Nanotechnology hosted a week long workshop in South Africa, and SANi gave presentation on "Nanotechnology in South Africa", which was very useful in giving our Indian and Brazilian counterparts a good overview of the nanotechnology research scenario in South Africa and how developments started and where they are today.
- Deliver introductory lectures or support workshops at universities and universities of technology..
    - A successful Nanotechnology Roadshow was conducted by SANi, in which an internationally renowned nanotechnology expert, Aymeric Sallin, together with a SANi representative, Ms Corinne Greyling, toured 11 University campuses from August 15-23 giving introductory talks aimed at encouraging and attracting undergraduate students to pursue postgraduate studies in Nanotechnology. Even though the Roadshow could only physically go to the 11 campuses, SANi made every effort to invite other institutions nearby to bus in students, and this was done with several universities in Gauteng and the Eastern Cape. The average attendance by students and staff at the institutions visited was +/-120, with some venues attracting well over 200 attendees. The average split of students and staff was roughly 30% staff and 70% students. The institutions visited include Wits University (for this leg of the tour students were bussed in from University of Johannesburg and Vaal University of Technology), Tshwane University of Technology, University of KwaZulu-Natal, Nelson Mandela Metropolitan University (for this leg of the tour students were bussed in from Walter Sisulu University, Rhodes University and University of Fort Hare), University of the Western Cape, University of Cape Town, University of Stellenbosch, as well the Department of Science and Technology, the Nanotechnology

Innovation Centres at Mintek and the CSIR. During the DST visit, Aymeric Sallin met with the Minister of Science and Technology, Mr Mosibudi Mangena. In executing this Roadshow, SANi also sought and received corporate sponsorship to provide refreshments at the talks. Sponsorship was provided by Mintek NIC and Eskom. The Roadshow project was managed by Corrine Greyling, who accompanied Mr Sallin throughout the tour. Overall, the Roadshow was found to have been a great success. A full and final report is currently being prepared by the project manager, Corinne Greyling.

- Organization of workshops for science teachers.
    - Workshop by Sir Harold Kroto, Nobel Prize Laureate, at the ICMR conference in Zululand: Prof Revaprasadu is organized a workshop for 200 school children as well a science teachers on Buckyballs for 1 August 2007 at the University of Zululand Science Centre, and SANi provided R25 000 to sponsor this activity. The workshop was a great success, and a report has been submitted to DST by Prof Neerish Revaprasadu on both the Kroto workshop and the ICMR Conference
- Creation of promotional material
    - A PowerPoint presentation, a poster and brochures with the theme of "Nanotechnology in SA" have been developed and produced to support the SANi awareness activities. These materials highlight nanotechnology research in South Africa, as well as key features of the National Nanotechnology Strategy. The presentations that SANi has been giving on "Nanotechnology in South Africa" are based on the content of these promotional materials.

### 3.4 Participation in international awareness and education networks

- The limited funds available for Phase 1 do not allow for extensive support of scientists to participate in international initiatives and networks at this stage. However, SANi has, through some of its Executive Committee members, participated in international meetings that were sponsored by other parties such as DST through various units, including the Emerging Research Areas Unit and ESASTAP. Some of the countries where the presentation on Nanotechnology in South Africa was given by SANi ExCo members include France, Argentina, South Korea, India, Brazil and Iran.

### 3.5 Engagement with DST and SAASTA on Development of a Comprehensive Awareness Strategy

SANi has continued engage with DST and SAASTA in the development of a comprehensive Awareness Strategy document during 2007/2008. SAASTA has been engaging with SANi in developing an implementation plan for the next phase of the awareness campaign.

## 5. BUDGET ALLOCATION

The following table shows how the requested funds were allocated for the different activities of Phase 1 of the Awareness Campaign.

| Task | | Budget Allocation (K Rands) |
|---|---|---|
| | | 2007/8 |
| 3.1 | Project Coordination and database management | 50 |
| 3.2 | Network management | 100 |
| 3.2 | Awareness and Education Programmes | 300 |
| 3.4 | Participation in international awareness and education networks | 20 |
| | Total | 500 |

## 6. CONCLUSIONS

- Nanoscience and technology is a complex and often confusing area of S&T that often leads to a misunderstanding of its application and impact
- A country that intends to have a vibrant manufacturing sector in future will have to take cognisance of nanotechnology and its applications and take steps to prepare for this new field
- But not only industry needs to prepare: Government departments, science councils, Universities and even schools form part of the greater science to technology cycle and need to be aware of the opportunities and threats

This 1st phase of the project was intended to bring some of that awareness to the science community in general, and the activities that were supported have gone some way towards achieving that.

## 7. BRANDING

All documentation, presentations and other material generated bear the DST logo and mention that the project is a DST initiative, executed by SANI.

**Appendix 1**

**PROJECT BRIEF: AWARENESS PROGRAMME**

## 1. Purpose

The purpose of this document is to provide an indication of the awareness programmes intended for Nanoscience and technology.

## 2. Background

Nanotechnology, unlike other technologies, can find applications in virtually all areas of human life. In spite of being an infant at its evolution, some of the known issues related to nanotechnology suggest a wide spectrum of potential societal impact. It is for that reason that we need to cultivate a climate of public discourse to provide an opportunity for a society to switch from a merely passive, observational role to an active participating one.

Just like in every technology, consumer acceptance is the key when it comes to commercially developed nanotechnology products, because ultimately it is the end-users who will influence the trajectory of nanotechnology. It is inevitable that public perception of nanotechnology will be shaped by the news and information the public receives about the technology, informing their attitude and behaviour towards it. This makes it necessary that adequate information about the technology is timeously provided to educate and enable the public to make informed decisions about it. Their involvement at this early stage is thus, imperative.

## 3. Approach to Awareness

In South Africa the level of knowledge of nanoscience and technology is still very low, as discovered during the baseline study conducted in 2005. Due to this, in addition to financial constraints, a phased approach in public awareness will be appropriate to effect better results. The expected outcome of the awareness programmes to be embarked upon is the provision of adequate information, with a wide enough coverage, to educate and enable meaningful engagement by the public at large.

**Phase 1**

This phase will target the science community at large, to create sufficient force of advocates of the technology. The following are some of the proposed actions:

- Organization of workshops for science teachers (at least one at each province);
- Organization of lecture series (at science councils and HEIs) to be offered by local and international guests;
- The creation and display of publicity materials (including where possible lectures) at national science events such as *Sciefest* and *Science Week*;
- etc.

This phase is expected to commence in the 2006/7 year, with a budget allocation of R500 000.

**Phase 2**

This phase will target the public at large. The following are some of the specific objectives of the phase, which should be kick-started with a "*Nano-Week*" to pave the way for a series of engagements:

- The creation of an interactive website and the extensive use of other media to continue informing, educating and providing a platform for the expression of views;
- Organization of public debates, led by institutions/experts in the field of Nanotechnology.
- etc.

The phase is expected to commence in 2009/10.

**Appendix 2**

**Proposal Number:**

# PROPOSAL

## Coordinated South African Nanotechnology Awareness Programme.

**22 November 2006**

*Prepared for:*

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**0001**

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**Pretoria**

**D.T. Britton**
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# EXECUTIVE SUMMARY

DST has recognised and acknowledged that Nanotechnology is an area where SA must play an active role. DST is in the process of finalising the SA Nanotechnology strategy which will be submitted to parliament shortly. It is acknowledged that in order for SA to be competitive in the field the implementation of nanotechnology in SA will require activities across a broad front including: Education; Infrastructure; Networking; Awareness; Social and Institutional Frameworks. As nanoscience and nanotechnology are very new, public, industrial and even academic awareness is very limited. But it is crucial that SA becomes aware.

This document proposes a way in which SANi can assist DST by generating awareness of nanoscience and nanotechnology in SA. The proposal describes the process, deliverables and required investment for successful outcomes and looks at the benefits that will accrue from the project.

SANi proposes to coordinate and manage awareness, perform advocacy, and undertake networking activities in Nanotechnology in SA and to ensure adequate financial support for these efforts SANi requests R500k per annum over three years. The objectives of the project are:

- Promote and maintain an active network to be available to DST for nanotechnology implementation
- Increase public understanding of Nanotechnology.
- Increase public and private sector participation in the nanotechnology debate
- Increased participation in international collaboration by focussing on the DST international network established through the joint collaboration commission.


# PROPOSAL

## Coordinated SA Nanotechnology Awareness Programme.

### Prepared for DST by the South African Nanotechnology Initiative (SANi)

## 1. INTRODUCTION

South African researchers at universities, science councils and some companies have been players in Nanoscience and Nanotechnology for some time resulting in a limited number of Nanotechnology-based industrial processes and products. But since new generations of Nanotechnology are rapidly emerging, South Africa (SA) has now, through its National Nanotechnology Strategy, taken a proactive position towards these global developments where many countries are investing heavily.

The recommendations of the National Nanotechnology and the DST baseline study include that appropriate funding be made available from the central government to support the coordination of a national effort to establish a nanotechnology capability in South Africa, and that financial risk must be mitigated through partnering with regional and international consortia that include other government organizations, commercial partners and scientific institutions. The overall programme recommended in the Strategy is to stimulate research and development in human and infrastructural capacity in selected fields so that South Africa can participate and compete in international efforts to develop and stay abreast with progress in Nanotechnology and create an environment where skills development and technology transfer can be leveraged. The results of these efforts will benefit all within South Africa on a social and industrial level. Special emphasis is placed on the involvement of Historically Disadvantaged Institutions.

Nanotechnology is however new to many companies and groups in South Africa and a well focussed awareness campaign will be an essential step to inform stakeholders of Nanotechnology and in formulating detailed implementation plans. As part of the strategy implementation, DST has launched the first phase of a public awareness programmeawareness programme for Nanoscience and Nanotechnology. This document proposes a way in which SANi can assist DST by generating

awareness of nanoscience and nanotechnology in SA. The proposal describes the process, deliverables and required investment for successful outcomes and looks at the benefits that will accrue from the project.

## 2. PROGRAMME OBJECTIVE

The objectives of the proposed coordinated national awareness development programme to be undertaken by SANi are:

- Promote and maintain an active network to be available to DST for nanotechnology implementation
- Develop a capacity at HDI to participate in nano networking and awareness activities
- Increase public understanding of Nanotechnology.
- Increase public and private sector participation in the nanotechnology debate
- Increased participation in international collaboration by focussing on the DST international network established through the joint collaboration commission.

## 3. PROJECT SCOPE

An outline of the activities into which investments will be made to achieve the above objectives is as follows:

- **Project Coordination**
    - Project Coordination
    - Provision for mobility of the team
- **Network Management**
    - Database maintenance and expansion
    - Linkages to other initiatives, strategies and organisations
    - Increase awareness of facilities (facilities network) with special focus on inclusion of HDI
    - Provision for mobility to network and use these facilities with special focus on inclusion of HDI
- **Awareness and Education Programmes**
    - Conference (Technical and Educational)
    - Introductory Lectures especially at HDI's
    - Participation in science events (Scifest in Grahams town and Scitech in Tshwane)
    - Creation of promotional material in collaboration with SAASDA
- **Participation in International Awareness and Education Networks**
    - Participation in international awareness and education networks
    - Source international funding and communicate opportunities via the network

A brief description of the activities, the rationale for the activity and the current work already being undertaken are given below:

### 3.1 Project Coordination

The multidisciplinary nature of nanotechnology and the fact that the network of nanotechnology stakeholders is quite diverse call for a dedicated project coordination function in the project. The group appointed will oversee all tasks of the project and make sure that the project team meets deliverables and deadlines. The coordination team will further foster national collaboration in all spheres of nanoscience and nanotechnology research.

The coordination team will:

- Formulation of a clear vision, objectives and priorities for awareness generation
- Promote and provide strategic intelligence to the whole Nanotechnology programme
- Run a process to evaluate task team proposals and assign the execution
- Regularly monitor and evaluate the progress , find overlaps and discuss difficulties
- Assist task teams where possible with the execution of their task

### 3.2 Network management

It is vital that all stakeholders that may have a role to play in research, development, commercialisation and marketing of Nanotechnology are linked together to establish and reinforce research, avoid duplication, strengthen existing expertise and mobilise industrial participation, in order for South Africa to be internationally competitive. The maintenance of existing collaboration and communication networks, and the establishment of new networks is of similar importance. These networks will be coordinated to serve as a vehicle of communication, project establishment and collaboration, sharing of expertise and equipment and general support.

In these networks,

- A database of network members will be maintained and expanded while making sure that all SA organisations have the opportunity to participate. This database will be available to DST and selected third parties to distribute and collect information from the network.
- Maintaining links with students and academics engaged in Nanotechnology, and developing novel approaches to engage with the public will be promoted to stimulate awareness by interacting with e.g. industry clusters, benchmarking groups, and participating in science fairs, or undertaking schools liaison.
- Linkages between historically advantaged and historically disadvantaged institutions will be actively promoted, as well as between South Africa and its regional partners.
- Networking for sharing of facilities and equipment will be encouraged with considerable support for mobility to learn about and use these facilities, especially as far as HDI's are concerned.
- It will coordinate networking and access to national characterization facilities as a significant resource available to the larger Nanotechnology community.

### 3.3 Awareness and Education Programmes

Awareness generation will be required over a wide front, starting at high school level and ending with business and government. In this project the focus will be mainly on HRD of our youth who will form the basis of future scientists and engineers at universities and with presentations at science events being a key components.

The main focus of the education thrust is:

- Organise a technical conference with support for students and a special emphasis on HDI involvement and also focus on the aims of the other tasks i.e. regional involvement etc.
- Deliver introductory lectures or support workshops at universities and universities of technology with special emphasis on HDI's.
- Organization of workshops for science teachers and schools visits.
- Participate (lectures, displays and workshops) at science events including Scifest in Grahamstown and Scitech in Tshwane.
- Create promotional material, also in collaboration with SAASTA and other professional organisations. (Posters, booklets, flyers, and DVDs)

### 3.4 Participation in international awareness and education networks

Provision will be made to provide mobility for some South African scientists and academics to participate in international forums on education and awareness and travel to and meet with local and international players that are willing to work together. Active participation and looking for partners in initiatives such as the following are proposed:

- The European Union Programmes, such FP7 and COST.
- International experts, to be brought out to South Africa for study visits, sabbaticals and lecturing
- Initiate dialogue for appropriate bilateral agreements.
- Collaborate with international nanotechnology, educational and PUS networks

## 7. PROPOSED BUDGET ALLOCATION

The following table shows the requested allocation of funds for developing South Africa's capabilities in establishing nanotechnology.

It is expected that, as the capability grows within South Africa, greater commercial participation will take place thus allowing access to more commercial funding sources.

| Task | | Budget Allocation (k Rands) | | | |
|---|---|---|---|---|---|
| | | 2007/8 | 2008/9 | 2009/10 | Total |
| **3.1** | **Project Coordination and database management** | 50 | 50 | 50 | **150** |
| **3.2** | **Network management** | 100 | 100 | 100 | **300** |
| **3.2** | **Awareness and Education Programmes** | 300 | 300 | 300 | **900** |
| **3.4** | **Participation in international awareness and education networks** | 50 | 50 | 50 | **150** |
| | **Total** | **500** | **500** | **500** | **1500** |

## 8. CONCLUSIONS

- Nanoscience and technology is a complex and often confusing area of S&T that often leads to a misunderstanding of its application and impact
- A country that intends to have a vibrant manufacturing sector in future will have to take cognisance of nanotechnology and its applications and take steps to prepare for this new field
- But not only industry needs to prepare: Government departments, science councils, Universities and even schools form part of the greater science to technology cycle and need to be aware of the opportunities and threats
- This project aims to bring some of that awareness to the groups and sectors mentioned

## 7. Branding

All documentation, presentations and other material generated will bear the DST logo and mention that the project is a DST initiative, executed by SANI.

**Appendix 3**



## Invitation to International Center for Materials Research

University of Zululand Jackson State University

A workshop on the Structure and Properties of Nanomaterials will be held at the University of Zululand (Science Centre) between the 29th July-1st August 2007. The meeting is a partnership between the International Centre for Materials Research (ICMR), Jackson State University (JSU) and the University of Zululand (UZ). The primary objective of the meeting is to bring together researchers from Africa, US and UK in order to exchange views in the field of nanomaterials and to explore potential areas for bilateral collaboration between participants.

The three-day meeting will cover aspects of nanomaterials such as inorganic nanomaterials, carbon nanostructures, organic nanomaterials, theory and simulation of nanomaterials, bio-nanomaterials and advances in the characterization of nanomaterials. The confirmed list of speakers from the UK include Tony Cheetham (UCSB, USA), Bob Haddon (UC Riverside, USA), Frank Hagelberg (JSU, USA), Paul Hansma (UCSB, USA), Harry Kroto (Florida State, USA), Jerzy Leszczynski (JSU, USA), Paul O'Brien (Manchester, UK), Paresh Ray (JSU, USA), Rachel Segalman (UC Berkeley), Ram Seshadri (UCSB, USA), Nicola Spaldin (UCSB, USA), Tigran Shahbazyan (JSU, USA) Fraser Stoddart (UCLA, USA), Sam Stupp (Northwestern, USA), Mark Thompson (USC, USA), Matt Tirrell (UCSB, USA), Quinton Williams (JSU, USA), Wilbur Walters (JSU, USA), Fred Wudi (UCSB, USA), Mark Green (Kings College, London, UK), Matheus Brust (Liverpool, UK), Robert Tshikudu (Mintek), Hulda Swai (CSIR), Suprakas Ray (CSIR), Neil Coville (WITS), Hendrik Swart (UFS), DS McLachlan (University of Stellenbosch) and Benjamin Imasogie (Nigeria).

> We expect at least 120-150 delegates to attend the meeting. Thus far 20 speakers from the US and UK have confirmed. In addition 8 speakers from South Africa have confirmed.

The website to register is
http://www.tmansworld.co.za/icmr.html

Abstracts for posters close on the 10th June 2007.

See the ff website for info on speakers:

http://www.jsums.edu/~sst/cset/OR/ICMR%20Conference.htm

**Harry Kroto Workshop on 'Buckyballs'**

As part of the ICMR conference on the Structure and Properties of Nanomaterials, there will be separate 'Bucky Ball' workshop given by Prof. Sir Harry Kroto to 12 -14yr old school kids. There will be two sessions to be held on the 1st August between 10H00 – 16H00. Each session will cater for 100 kids in a classroom at the UZ Science Centre. There are tables available in the centre to allow the kids to work with the 'Bucky balls'. The kids will be bussed from surrounding schools. A second workshop will be given by Prof. Kroto on the 2nd August to local teachers. Derek Fish and his staff at the Science centre will help to coordinate this activity.

## Appendix 4

From: drla4@directbox.com
Sent: 15 May 2007 12:01 PM
To: Ndumiso Cingo
Cc: Ndumiso Cingo; David.Britton@uct.ac.za; alufelwi@chem.wits.ac.za; ESmit@csir.co.za; hswai@csir.co.za; thillie@csir.co.za; Joseph.Molapisi@dst.gov.za; robertt@mintek.co.za; mmoloto@pan.uzulu.ac.za; nrevapra@pan.uzulu.ac.za; rudzi@tlabs.ac.za; Margit.Harting@uct.ac.za; lcele@uj.ac.za; lutza@ul.ac.za; lpetrik@uwc.ac.za
Subject: Re: Reminder: SANi Awareness sub-Committee Meeting

Hi Ndumiso,

you asked for ideas for the awareness program. Here is one, not well developed, rather sketchy still, but I thought, you might want to hear about it.

Thinking about young people as a target, one can ask: How do they mainly communicate? And a very valid ansver would be: by cellphone (SMS, mxit etc). If I think of our students, most of them have cell-phones and many of these are capable of Java, GPRS and multimedia content (MMS, video).

Prof Heermann (Theoretical Physics, Heidelberg) has started using this trend a few years ago in teaching (see attachment) simmulation techniques (and that was on an Siemens SL55!). For some time now I have looked into the possibility of using similar approaches in teaching, locally...

Now here is what I think one might consider:
Can one use the capability of modern cell-phones to distribute / make accessible Awareness materials on nano-technology in a format that might be considered "cool" by young people?

One would, of course have to embedd that in a whole concept of strategies, involving other media (website, print, cinema ads). The type of content one could deliver would not need to be static (e.g. a clip) but could also involve interactive applets etc.

I know, that this may sound rather unconventionel and too vage (I havn'e even thought about what kind of budget one might need). But given the fact that the "goods we want to sell" (i.e. nanotech) has a futuristic touch, why not use an appropriate vehicle...

If you don't like my suggestion, please feel free to ignore it - twas just an idea...
If you like it, feel free to dream on...

So much from my side,
Lutz Ackermann

PS: the "Darvinian Society" of the DSP (German School in Pretoria) is always looking for people to present science talks to their students... (got a contact number somewhere...)