



6th Annual Meeting of GRA Principals



The Principals and Champions of the GRA met in Helsinki in May to review progress made in the past year and to determine the path forward for the coming year. The meeting was chaired by the GRA President, Dr Ramesh Mashelkar, and hosted by Prof Erkki Leppävuori, President and CEO of VTT, the Technical Research Centre of Finland.

In addition to the annual gathering of GRA executives, Prof Leppävuori arranged a meeting for the Principals with HE Ms Tarja Halonen, President of the Republic of Finland. During this meeting several global issues were

discussed, including the vital importance of education, life-long learning and sustainability.

Following the two days of the annual meeting a workshop session was held with leading scientists from VTT, who presented on some of their extensive work in a variety of areas. The 7th Annual Meeting of the GRA will take place in Kuala Lumpur, Malaysia, in April 2008 and will be hosted by SIRIM Berhad.

TNO and Development Cooperation

On the basis of its social responsibility, TNO has invested in a corporate programme entitled "TNO Development Cooperation". The primary objective of the programme is to contribute to the realisation of the Millennium Development Goals. TNO, together with their partners, strive to use their innovative knowledge to make a difference in projects in developing countries. The target is to get ten projects up and running every year.

The themes for this programme are based on areas where TNO has practical knowledge such as water and sanitation, food and agriculture, health, renewable energy, ICT and humanitarian demining. The projects will be managed by TNO project managers from the TNO Flying Innovation Team.

If you would like to join hands with TNO in this exciting venture contact Ellen van Son-de Waard (ellen.vanson@tno.nl) for more information.

Advanced Manufacturing Initiative

Following the successful workshop, organised by the GRA Nerve Centre on behalf of the South African Department of Science and Technology, it has been made known that the South African Minister of Science and Technology, Mr Mosibudi Mangena, will meet with Dr Annette Schavan the German Federal Minister of Education and Research. Several representatives of GRA member organisations took part in the workshop earlier this year.

International Technology and Quality Conference and Exhibition 23-25 August 2007 Kuala Lumpur Convention Centre, Malaysia



Organised by SIRIM Berhad, the three-day conference will be themed "Sustainable Growth through Technology and Quality". Speakers of international repute from diverse backgrounds will share their insights on how quality and technology can be made to work for you. The opening and keynote addresses will be presented by the Honourable Minister of Science, Technology and Innovation, YB Dato' Sri Dr Jamaludin Jarjis and Dr Ramesh Mashelkar, President of GRA. For conference enquiries contact Pn Aini Suzana Datuk Ariffin at e-mail aini.suzana_ariffin@sirim.my

Project Update

- **Health:** The GRA Health Leadership team is engaged in producing a discussion paper on the unmet health needs of rural areas. Several teleconferences have been held and an intensive working session took place in Seoul, South Korea earlier this month.

In addition progress is being made with the complicated process of appropriate legal documents for the Tanga project (early clinical validation of an herbal mixture used in the treatment of opportunistic diseases of people living with HIV/AIDS) and it is hoped that the necessary agreements will be in place by August.

- **ICT:** A "proof of concept" in Macha, Zambia, has demonstrated the success of using a holistic approach with all local stakeholders in building a communication network aimed at low-cost internet access. The first "proof of reproduction" in a second remote village called Mukinge is now underway by LinkNet supported by TNO ICT.
- A model is currently being developed, together with the Department of Science and Technology in South Africa, of how the GRA can assist in the development and implementation of national science and technology strategies and plans. Once this plan has been finalised it will be considered for replication in other developing countries.

People on the Move

- **Dr R A Mashelkar** was sworn in as the 50th President of the Institution of Chemical Engineers (IChemE). He is the first non-English President to have been elected and in his inaugural address he urged members to "take bold and confident steps into the twenty first century".
- SIRIM Berhad's Vice President of the Support Services Division, **Mr Yahaya Ahmad**, has been promoted to be its new chief executive, effective 1 September 2007. He succeeds Datuk Dr Mohd Ariffin Aton who has been SIRIM's President and Chief Executive since 1996.

Research snippets from our Members

All the members of the GRA are involved in groundbreaking world class research and development work. Presented here are just a few highlights from press releases to help us all to know a little more about each other.

Pairing Nanoparticles with Proteins

At Brookhaven National Laboratory, in groundbreaking research, scientists have demonstrated the ability to strategically attach gold nanoparticles – particles of the order of billionths of a meter – to proteins so as to form sheets of protein-gold arrays. The nanoparticles and methods to create nanoparticle-protein complexes can be used to help decipher protein structures, to identify functional parts of proteins, and to "glue" together new protein complexes. Applications envisioned by the researchers include catalysts for converting biomass to energy and precision "vehicles" for targeted drug delivery. *(Battelle, USA)*

VTT develops new methods for manufacturing bioactive paper products:

Under VTT's direction, new methods are being developed for the economical mass production of bioactive paper products, among others based on printing technology. The goal is to create basic concepts for developing new products, such as filters for indicating environmental allergens or removing them from cars and homes. Other possible applications include test paper slips revealing allergens in swimming or drinking water. The application possibilities are extremely broad, and include indicators or sensors attached to filters, food product packaging or personal health diagnostics, which all would be cheaper than current products. *(VTT – The Technical Research Centre, Finland)*

Study shows Tropics absorbing Northern emissions

The research, published recently in the journal Science, shows that plants in the mid- to high-latitudes of the northern hemisphere play a smaller role in the uptake of industrial carbon dioxide emissions, and that tropical plants play a larger role in that uptake, than previously thought. These results will improve estimates of global carbon cycling, including the fate of carbon emissions from human activity, which will be important for understanding and mitigating climate change. *(CSIRO, Australia)*

Piezoceramics sound out damage:

Highly stressed components such as wind turbines must be checked regularly to ensure that the system is safe and in good working order. In future, wind turbines are to be monitored during operation by an integrated piezo-electric ultrasound system. The structural monitoring sensors that have been developed can detect damage on the spot, directly in the component similar to nerve cells in the human body. Only half a millimetre thick and with a surface area of just a few square centimetres, the sensors are so small that they can easily be integrated in the parts to be monitored. Researchers are now testing the configuration of the system and its ability to detect and locate damage on a prototype rotor blade. *(Fraunhofer-Gesellschaft, Germany)*