

# International materials experts share in SA's training load

TOP European experts in polymer technology have been presenting sections of the course-based honours programmes at the Institute of Applied Materials at the University of Pretoria over the years. This year will be no different with Prof Christian Bonten, head of the Institute of Polymer Technology (IKT) at Stuttgart University; lecturing in polymer engineering as part of the polymer processing course. The IKT works in the fields of materials science, processing and development of plastics parts.

The two-day 'Designing with Plastics' course by Prof Bonten, will take place on **2-3 August** (Thursday-Friday). For more details phone 012 420 5015; or email: [info.ce@up.ac.za](mailto:info.ce@up.ac.za). The course fee is R3500 per person.

The Institute of Applied Materials (IAM) is an interdisciplinary materials research group at the University of Pretoria with participation from the Departments of Physics, Chemistry, Chemical Engineering and Materials Science and Metallurgical Engineering. IAM is associated with two SARCHI Chairs conducting research in carbon and fluorine materials respectively. Offering postgraduate courses in materi-

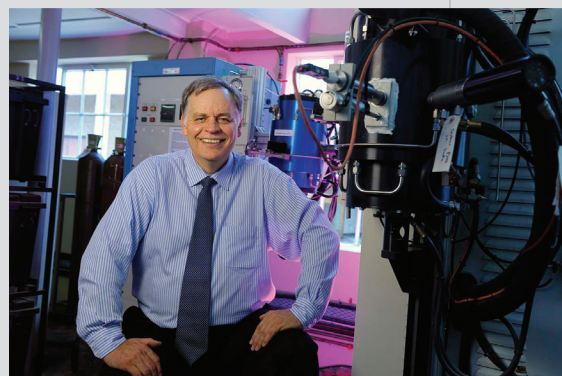
als technology since 1990, IAM prides itself on its international standing as a centre of excellence and, to that end, has co-opted international experts to share in its training offering, as well as to participate in research at the Institute.



**Prof Christian Bonten, head of the Institute of Polymer Technology (IKT) at Stuttgart University, will lecture polymer engineering as part of the polymer processing course at the Institute of Applied Materials at the University of Pretoria**

In 2011 Prof Hans-Joachim Radsch of the Martin Luther University of Halle-Saale, Germany lectured in rapid prototyping and rapid manufacture, also as part of polymer processing course. Dr Bruno Ameduri, a fluoro-polymer expert from the Institute Charles Gerhardt in Montpellier, France, has also participated and plans are already underway to include Prof Rene Androsch, also from Halle-Saale, to lecture in polymer materials as part of the polymer materials science module in 2013.

The Institute is currently home to four professors. They include Prof Brian Rand, a world leader in carbon materials research and part-time chair holder of the SARCHI Chair in Carbon Technology and Materials, as well as Prof Philip Crouse, chair holder of the SARCHI Chair in Fluoro-materials Science & Process Integration. The other two are Prof Walter Focke, director of the



**Prof Walter Focke, director of the Institute of Applied Materials at the University of Pretoria**

Institute and Prof Ncholu Manyala of the Department of Physics.

IAM also has an advanced thermal analysis capability and work is performed for industry on an ad hoc basis at commercial fees. All analyses are performed and interpreted by trained technicians. Analytical methods include:

- Thermomechanical analysis (TMA)
- Simultaneous differential scanning calorimetry (DSC) and thermogravimetry (TGA) linked to gas analysis by mass spectrometry (up to 1500 °C);
- Thermogravimetry (TGA) linked to Fourier transform infrared spectroscopy (FTIR) spectroscopy;
- Dynamic mechanical analysis (DMA) (up to 600 °C).

[www.iam.up.ac.za](http://www.iam.up.ac.za)

## Borealis scientist honoured with Giulio Natta Award 2012

*Sirius technology allows for better regulation of polymerisation reactions*



**Dr Peter Denifl (middle) received the Giulio Natta Award at a function in Ferrara, Italy, on 19 May**

THE MASTERMIND behind Sirius, Borealis' groundbreaking new polyolefin catalyst technology, has been awarded the prestigious Giulio Natta Award for 2012.

The accolade recognises the significant contribution of Dr Peter Denifl's scientific activity in catalyst development, in the field of polypropylene products. Proprietary Sirius catalyst technology from Borealis is spearheading the development of polyolefins with cutting edge performance and sustainability benefits. For example, it is supporting the innovation of cast film polypropylene grades which offer step change purity and optical properties, and faster, more energy-efficient processing for recyclable and sterilisable food contact applications.

The Sirius technology platform has been quoted as the biggest change in industrial

polyolefin catalyst technology since the development of high-yield Ziegler Natta (ZN) catalysts several decades ago. It has raised considerable interest in the global polyolefin community due to its ability to improve control of the active site distribution in ZN polymerization catalysts in a single-step process, resulting in better regulation of polymerisation reactions.

Also 'single site' catalysts can be made using the Sirius technology, with benefits in productivity and homogeneity across the catalyst particle.

The G Natta Award was introduced in 2003 to celebrate the scientific achievements of Prof Giulio Natta, recipient of the Nobel Prize in Chemistry (1963) for the discovery of polypropylene.

[www.borealisgroup.com](http://www.borealisgroup.com)