



Dear e-news reader,

As the year draws to a close and the guidelines for 2010 have been established, we continue to grow to become an even stronger composites research institute. There is national and international demand for our research, which means that, together with our own initiatives, we have several new research projects lined up to start during 2010. Competent staff must be recruited and the process has already begun. So far, two new researchers have been hired and will be presented in the next issue of e-news. More people are needed if our vision is to be realized; so, why not embark on an exciting new research career?

Our operations grew in 2009 and consequently, several new staff members joined us. With all of the coming collaborative research projects, commissioned industrial research and members' programmes that are under way, we can look forward to similar strong growth in 2010. Contact us if you have new ideas – we have the resources and the capacity to help you to bring them to fruition!

With very best wishes for a Merry Christmas and a Happy New Year,
Lars Liljenfeldt | Business development

Press Release – Increased maritime collaboration with CMT

Swerea SICOMP and the Center of Maritime Technologies E.V. (CMT) in Germany have signed an agreement for collaboration in the maritime sector.

CMT plans and coordinates research projects and has a broad network within the European shipbuilding sector. With access to Swerea SICOMP's expertise in the composites area, CMT sees great potential for joint research projects

geared towards applications for composite materials in ships. In ongoing EU projects together with CMT, Swerea SICOMP also sees good potential for weight reduction, which will result in significant savings, not least environmentally, thanks to lower fuel consumption.

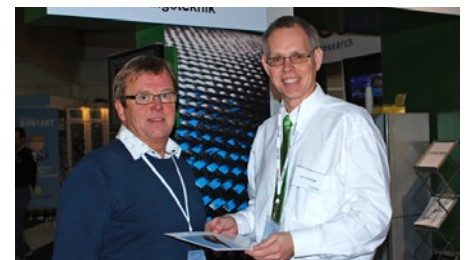
■ Please contact Hans Hansson ✉ or Peter Lundmark ✉ for more information about our collaboration with CMT.

New contacts at ELMIA Subcontractor fair



Anna-Karin Jönbrink lectured on Ecodesign during the INSIKT seminar Energy & Environment.

For the first time, Swerea Group and its subsidiaries exhibited at the ELMIA Subcontractor in Jönköping, 10-13 November. In addition to presenting Swerea as a research organization, many new contacts were made. Many thanks to all who visited our stand and attended our INSIKT seminar Energy & Environment!



Roger Lundström, PTC, and Lars Liljenfeldt at the Swerea stand.

Better testing in extreme temperatures

We have invested in an environmental chamber for our Instron tensile testing machine. The chamber, an Instron 3119-410, works in the range -150°C to +350°C and measures 400 x 400 x 660 mm (B x D x H). This means that we can perform most types of composites testing within a temperature interval that covers both low-temperature

applications (e.g., space) and high-temperature applications (e.g., motors). Temperature affects both the stiffness and the strength of composites, and having access to data on these temperature-dependent characteristics is, of course, very important in design work.

■ Feel free to contact Peter Lundmark ✉ if you want to know more about testing in our environmental chamber.

Specialist in recycling Magdalena Szpieg, new engineering Licentiate

Magdalena Szpieg presented her licentiate thesis on 27 November at Luleå University of Technology (LTU). The thesis concerns a new composite material made from recovered raw materials, and the work was supervised by Prof. Leif Asp, Dr. Maciej Wysocki and Prof. Janis Varna. Discussions during the presentation were led by Dr. Roberts Joffe from LTU.

Magdalena began work at Swerea SICOMP in Mölndal in December 2006 and was involved in the EU-project "*Multidisciplinary Research and Training on Composite*



Magda Szpieg presents her thesis.

Materials Applications in Transport Modes – MOMENTUM". Work has been directed towards the development of a semi-structural composite material from recycled scrap material. In particular, production scrap from the polypropylene-based material PURE[®] has been studied with respect to its stability and processability as a matrix material. The matrix material was processed into thin films and stacked together with flat preforms of recycled (via pyrolysis) carbon fibre from aircraft structures. The preform stack was heated and the composite material was manufactured by press forming.

A challenging issue in this work was to achieve the desired distribution of the recovered carbon fibres in the fibre preforms, since the dispersion of reinforcement is of importance for quality and performance of the composite materials. Here, a paper-making method was employed to distribute the recovered carbon fibres evenly in the plane.

The quality of the manufactured composite material with respect to void content



Recently awarded the Degree of Licentiate of Science, Magdalena Szpieg is pictured here with her thesis supervisor Leif Asp (left) and discussion leader Roberts Joffe.

and consolidation was assessed under the microscope. The material was analyzed in terms of its mechanical performance including elastic modulus, Poisson's ratio, strength and strain to failure as well as creep resistance.

Magdalena now splits her time between LTU and Swerea SICOMP until she will defend her PhD thesis.

■ Please contact Magdalena Szpieg at [✉](mailto:mszpieg@swerea.se) for more information.

New EU project Components for fast machine tools - COMETA

Swerea SICOMP is participating in the new 3-year EU project COMETA. The project is part of the NMP programme and is directed towards small and medium-sized enterprises. Fidia of Italy is the project coordinator.

Among the nine participating project partners are Lola Composites, AMRC Ltd

and TEKS. The project is concerned with the application of composites in fast machine tools. Both polymer composites and metal-matrix composites are being studied in COMETA.

■ Contact Kurt Olofsson [✉](mailto:k.olo@swerea.se) for more information.

SICOMP conference 2010

SICOMP's 2010 conference Manufacturing and Design of Composites will be held 3-4 June in Piteå. Preliminarily, three sessions are planned:

- General session on the main theme
- Biocomposites
- Process simulation

The Call for Abstracts is open until mid-March 2010, so please send your contribution. We will soon be posting more information and links on our website, www.swereasicomp.se. Plan now to keep these days in early-June free.

