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President's Message

COMS2009 Copenhagen was an outstanding success. This year the conference had a nano-bio emphasis. Mogens Poulsen and his team created an exciting program of talks and memorable events, including an evening at City Hall and the conference dinner in a converted warehouse at the waterfront. In one week I achieved my annual intake of omega-3. I have never eaten so much superb salmon.

I would like to take this opportunity of thanking all our Scandinavian friends for their efforts and warm hospitality with a special thank you to all the sponsors who made the conference possible. COMS is all about people and this year there were many very special people.

As with all COMS we make new friends as we move around the world each year. This year was no exception. I for one have met some incredible people. People who I have already engaged with in some of my own activities – relationships that I know I will continue to build on into the future. Such is the power of COMS. COMS is also about old friends and associates. It was wonderful to see Francisco Medina our host for COMS2008 Puerto Vallarta, Mexico.

Copenhagen is an amazing city. Rich in its history yet so advanced in its position in the 21st century. The city is almost a backdrop to the giant power generating windmills standing in the ocean. Many people find these giants an intrusion on the landscape. I find them spectacularly graceful, being born on a farm, the household water from a windmill pump and power supplemented by a "WindLite" – the small forerunner to today's giants. It is all a matter of perspective. Copenhagen claims that it will be carbon neutral by 2025 – an outstanding undertaking.

COMS2010

Now our attention turns to COMS2010, August 29 -September 2, 2010. Albuquerque, New Mexico, will be the host for COMS2010. A return to the origins of MANCEF, the home of Sandia National Laboratories – the powerhouse of micro and nanotechnologies, and the University of New Mexico. COMS2010 promises to be an event to be remembered. Planning is well underway thanks to our Steve Walsh and Scott Bryant. Scott is very excited about the planned venue and activities - we will keep you well advised as everything evolves.

Energy: the boom is upon us

There is little doubt that energy will be a rich area for micro and nanotechnology over the next decade on so many application fronts: power generation, efficient usage, storage, distribution and grid integration, monitoring – all critical areas for industry, construction, automotive, public venues, advertising and promotion, sports and entertainment. Many believe that improvements in efficient use will be the greatest opportunity in the short term. All supported by unprecedented government investment resulting in huge opportunities for our global MANCEF community.

MAM2010 - Micronarc Alpine Meeting, Switzerland.



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Events

Micronarc Alpine Meeting (MAM2010)

May I remind everyone of the MAM2010 conference - the Micronarc Alpine Meeting 2010 will focus on equipment for manufacturing microproducts.

This 2-day conference intends to stimulate networking and discussions in the casual atmosphere of Villars, a charming village and ski resort located at 1250 meters of altitude - with time for skiing. Microsystems have now entered the age of high volume production for consumer applications, especially mobile phones, ICT and medical disposable devices. The issues associated with the production of these are of continued interest to manufacturers.

Seasons Greetings

I wish everyone the compliments of the season, have a wonderful time with family and friends and if traveling please do so safely.

Clive Davenport



About COMS:

COMS brings together leaders from across the world representing almost every sector of the MNT community in an atmosphere designed to create real connections and business development.

COMS addresses the commercialization obstacles encountered in research, technology transfer, manufacturing processes, facilities, infrastructure, investment, applications and markets, as well as covering regulatory issues, social implications, education and workforce development.

Venue:

Step into the sacred lands of Hyatt Regency Tamaya Resort & Spa to experience a resort like none other. Situated between Santa Fe and Albuquerque at the base of the Sandia Mountains, each inch of the exotic New Mexico resort reflects the rich history of the Tamayame. Luxurious pueblo-style guestrooms showcase traditional designs created with natural materials, along with the modern comforts and pampering amenities. Enjoy a fascinating combination of old and new in the endless activities at this Santa Ana Pueblo hotel - relax in our soothing spa, play golf on our nationally-ranked course, take a thrilling hot-air balloon ride, go for a horseback ride, or immerse yourself in the lifestyle of our gracious hosts.

Topics:

- Energy
- Clean Tech
- Water
- Electronics
- Computing
- Sensors
- Biomedical Device Manufacturing
- Space - Aerospace
- Defense
- Materials
- Photonics
- Packaging
- Systems Integration
- Education/Workforce Development
- HARMST/LIGA Commercialization

The call for abstracts is open, please submit your paper to:
abstracts@mancef-coms2010.org

Jan 20-22, 2010
Villars-sur-Ollon, CH

COMS2010

Aug 29-Sep 2, 2010
Albuquerque, NIM

Nanomedicine: Visions for
the future

Feb 24-25, 2010
Amsterdam, NL

MM Live USA

May 11 -13, 2010
Cincinnati, OH

MANCEF Charter Members



Paper submission guidelines are available at www.mancef.org/COMS

MANCEF announces European office

MANCEF will be establishing a European office at the Karlsruhe Institute of Technology - KIT (formerly Forschungszentrum Karlsruhe - FZK). The management of the office will be integrated in the management of the Helmholtz research programme "NANOMICRO: Science, Technology and Systems" encompassing all the expertise of KIT in the field of Nanotechnology and Microsystem Technologies. We would like to extend a heartfelt welcome to Dr. Sikha Ray who will act as director for our European activities.

The MANCEF European office will assist in organization of COMS and "COMET" conferences located in Europe and will engage in European FP7 projects in the NMP sector with emphasis on applications, exploitation, education and commercialization of MNT. MANCEF Europe will also work on the establishment of a benchmarking system of Nano-/Micro institutions. Workshops and seminars will be offered on specific topics in the field of Micro/Nano technology.

This new initiative will provide European members with a local point of contact and help to advance and promote MANCEF in Europe. It will further strengthen our already good support in the region enabling new projects to be launched and implemented. Our first priority will be seek increased membership and activities.

Volker, from everyone at MANCEF a very large thank you. A wonderful contribution.

2009 Elections

The MANCEF Executive Board elections were held November 27, 2009. We have added one new member to the EB, Robert Haak. We look forward to Robert's assistance in expanding MANCEF's profile & activities in the Asia Pacific region.

The newly-elected Board of Directors will serve a two year term beginning 1 January 2010. We would like to congratulate and thank all the members of the board for their continued support and commitment to MANCEF's mission.

MANCEF signs MOU with ISTEAC

MANCEF and ISTEAC (Ibero American Science & Technology Education Consortium) have signed a Memorandum of Understanding to further collaboration across the Americas.

About ISTEAC:

ISTEAC is a non-profit organization comprised of educational, research, industrial, and multilateral organizations throughout the Americas and the Iberian Peninsula. The Consortium has been established to foster scientific, engineering, and technology education, joint international research and development efforts among its members, and to provide a cost-effective vehicle for the application and transfer of technology.

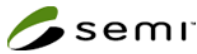
Event Summaries:

COMS 2009 Copenhagen

David Tolfree – MANCEF VP, Europe

MANCEF's premiere conference on the Commercialisation of Micro- and Nano-Systems (COMS2009), was held in Copenhagen, Denmark at the Radisson SAS Falconer Hotel. The conference, hosted by the Technical University of Denmark, and led by Dr. Mogens Poulsen was, in spite of the economic turmoil in a difficult year, a resounding success. The organisers attracted an audience of about 300 delegates

œrlikon



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[RF MEMS](#) (explores RFMEMS including new

from 17 countries, including many young students. Over 30 companies and organisations supported the accompanying exhibition which was located adjacent to the lecture theatre, providing an ideal environment for networking.

The technical program was well-balanced but as expected was influenced by local priorities and aspects. It comprised of nine parallel sessions and two workshops organised by Coventor and Eurotraining. The main conference theme 'from concept to market place' was adequately covered within the twenty areas defined for the conference. The key priorities of health and medicine, sustainable energy, the environment, commercialisation and education were covered in over a 100 first-class presentations. There was mix of high-end scientific and entrepreneurial success stories. It was gratifying to hear many complimentary comments made about speakers and presentations this year.

A series of wide ranging keynote talks from a welcome to the Scandinavian community by the Danish Minister of Science to a talk on how nanotechnology will advance the next generation of medicine, were given. Keynote speakers included: Frank Caruso (Director of Centre for Nanoscience and Nanotechnology at University of Melbourne), Michael Egholm (VP of Life Sciences Roche Group), Gabriel Aeppli (Director of London Centre of Nanoetchnology), Duanne Dimos (Director of Materials at Sandia National Laboratories) and Jens Norskov, (Director At DTU Denmark) and Robert Mehalso the CEO of Microtec.

A part of the conference was dedicated to health and medical issues, most of them related to the current hot topic of drug delivery and diagnostics based on microfluidics. Presentations from the SmartHEALTH European-funded project and others demonstrated the versatility of microfluidics in this respect and the trend towards using technology platforms.

Some of the industry talks re-iterated the need to develop real systems, including process, packaging, interfaces, software, etc. requiring a multidisciplinary approach. This applies to all those that use both micro and nanotechnology for manufacturing. As expected many speakers addressed the issues associated with funding and finance for new projects in the current economic climate. Commercialisation strategies were discussed intensively, several regions are now trying to use the successful models of Dortmund, Twente, North Carolina Triangle, Michigan, etc.

One of the highlights was a presentation on the development of the Roche DNA sequencer. Several significant trends in the development and commercialisation of microsystems were illustrated. One, was that investment in the core microsystem technology is only a fraction of the total effort needed to create such complicated systems. Another interesting entrepreneurial story was Giga's: The CEO explained the factors behind Giga's success: strive for being the best in the market, train your engineers in basic sales attitudes to enable them to talk to customers. Without input from customers, product or technology development is a big gamble. This was a theme expressed by many speakers from industry.

The education session and the EuroTraining workshop was well attended. The Philippe Fischer of FSRM chaired the EuroTraining workshop. Presentations were given by two EuroTraining team. These included surveys microsystems curricula, training needs for microsystems.

In the EuroTraining report, the COMS 2009 conference was quoted to be an efficient forum for presentation and discussion of micro/nanosystems education and training. It attracted participants with a deep and profound interest in training related issues and so formed a good platform for establishing formal and informal networks between the participants.

Conventor, a leading worldwide provider of 3D simulation, analysis design automation software for the development of micro and nanoscale devices and systems, held a CoventorWare training workshop on Thursday 3 September

opportunities, intellectual property advances, technological process and process advances)

Two chapter updates are also included: [Foundries](#) and [Packaging & Assembly](#)

Membership

MANCEF members are the top international players in the Micro-Nano Marketplace.

We help create global relationships & alliances to facilitate the commercialization of small technologies.

Membership Benefits:

Access to a global network of high-level professionals, officials, and agencies, as well as entrepreneurs, financial resources, and technology transfer channels.

Access to event sponsorship, grants, scholarships, special projects, and members-only discounts.

For more information visit our [website](#)

Micro/Nano Resources:

[MANCEF Glossary](#) of Micro/Nano terms



Browse the latest jobs at [TinyTechjobs](#)



Real ways that MEMS,

attended mainly by students from The technical university. A one year license to use Coventor's was awarded at COMS to 3 selected students.

An awards committee comprising of David Tolfree, Jane Niall, Leif Højslet Christensen, Dag Winkler, Volker Saile, Bill Brox (chairman) judged the three best student presenters and poster presentations. This year's conference high quality poster presentations attracted a lot of interest and made judging a difficult task.

Conference delegates were treated to a delightful evening of traditional Danish fare and hospitality at a waterside venue for the conference awards dinner. Awards were given by Coventor who sponsored and ran a workshop, to students. MANCEF's President, Clive Davenport, thanked to all the Danish and Swedish people involved in organising and administering the conference.

It has not been possible in this summary to adequately cover all the conference content so apologies for the many omissions. The success of the COMS2009 in a year when many conferences have had to be cancelled due to lack of support is a testament to the organisers hard work and to the support of MANCEF's many loyal members. The conference brought us hundreds of new members who we hope will join us in Albuquerque, New Mexico in August 2010.

Lifetime Achievement Award

It was with a mix of sadness and joy that MANCEF awarded a posthumous Lifetime Achievement Award to **Dr. Robert Sulouff** for his service to the foundation and the micro-nano community. Dr. Sulouff led the development of one of the world's most successful MEMS products during his tenure at Analog Devices. Dr. Sulouff's warmth, smile, and professionalism will be missed by all. He was one of the leaders of the MEMS revolution that gave rise to many of the products now available in the market.

COMS2009 Best Young Presenter Awards:

Winners were chosen amongst student (incl. PhD student) presenters of oral or poster presentations.

The **Best Young Presenter Awards** are sponsored by [Johannes Herrnsdorf](#) - MinaCon

€ 500 in cash: **Jesper Olsen**

€ 300 in cash: **James Tuttle** - University of New Mexico

€ 200 in cash: **Nimi Gopalakrishnan** - Technical University of Denmark

Coventor Scholarship Awards 2009

Kaushal Choonee from: [Imperial College London, UK.](#)

Jong Yeon Park from: [The University of Texas at Austi](#)

Jeremy Chan from: [The University of Hawaii](#)

Congratulations to this year's winners! We want to thank [Coventor](#) for their continued support of this Scholarship now in its 6th year.

We also want to encourage new students around the world to submit applications for this prestigious award next year.

MM Live

David Tolfree – MANCEF VP, Europe

MANCEF provided promotional support and representation at this year's Micro Precision and Nano Manufacturing tradeshow at Coventry's Ricoh Arena in the UK on 21-22 October. This two-day event known as MM Live was first established in the UK in 2008 by Rapid News Communications Group, was again a sell-out. Backed by [Commercial Micro Manufacturing Magazine](#) it has grown to be the

nanotechnology and other emerging technologies are changing how we live, work and play.



The Promise of Tomorrow Radio Show

Covering the business of emerging & nano technologies.

Sundays 7 -8 pm
Science News Network
1360 AM Dallas/FW

Programs archived on-line.



annual focal point of the entire European Micro Manufacturing industry. It brings together users, manufacturers, service and equipment suppliers who have the opportunity to show and demonstrate their products.

This year over 100 exhibitors covered 2000 sq. meters in a hall that provided two conference auditoriums and three seminar theatres. Well-attended seminars were held continuously during the two days on all the key aspects of micro manufacturing. Over 75 presentations, complemented the exhibits from leading suppliers and manufacturers, covering the full spectrum of micro manufacturing machines and process technologies, including leaders from sectors of laser cutting, welding and micromachining, micro-injection moulding, inspection and measurement, photo etching, handling and assembly.

Considering the economic downturn experienced by the service manufacturing industries, the show was very well supported and an outstanding success. It is hoped that next year's MM Live to be held in Cincinnati in the US will attract as many people.

Equipment Maker News:

EV Group

Nov 5, 2009 SEMEFAB broadens diverse process portfolio with the installation of an EVG520IS Wafer Bonding System

Oct 6, 2009 EV Group installs fusion Wafer Bonding Systems at two leading CMOS image sensor manufacturing facilities in Asia

Sept 29, 2009 EV Group's GEMINI® Wafer Bonder selected by leading Korean Research Center and foundry service provider RFID/USN for 3D MEMS Manufacturing

Sep 17, 2009 EV Group hosts its first EVG Technology Day in Turkey to support the region's growing R&D efforts in Advanced MEMS, NEMS and Semiconductors

[Read more from EVG](#)

Oerlikon

Dec 3, 2009 Oerlikon Systems and Meyer Burger enter strategic cooperation

Nov 27, 2009 SOLARIS – Large Order for Oerlikon Systems

Nov 2, 2009 Dr Jürg Henz appointed interim CEO of Oerlikon Solar

Sep 22, 2009 Oerlikon Solar Presents Record Cell Efficiency confirmed by NREL

[Read more news from Oerlikon](#)

SPP Process Technology Systems Ltd

Dec 3, 2009 SPTS ships 300mm DRIE to CEA-LETI

Oct 19, 2009 SPP completes acquisition of Aviza Technology

Oct 8, 2009 Onera orders STS oxide etcher

Sep 2, 2009 STS wins order for Pegasus tool from ISSYS

[Read more from SPTS](#)

SÜSS MicroTec

Dec 9, 2009 SEMATECH and SÜSS MicroTec Collaborate on Next-generation Device Testing Solutions

Sep 28, 2009 SÜSS MicroTec Cooperates with Research Institute ITRI on Technology Development in 3D Integration

Sep 1, 2009 SÜSS MicroTec Launches World's First 300mm Test Solution for 3D

Integration Aug 25, 2009 SÜSS MicroTec Expands 3D Integration Activities in Japan

[Read more news from SÜSS](#)

About MANCEF:

The Micro and Nanotechnology Commercialization Education Foundation (MANCEF) is a global membership association focused on the commercialization of small technologies. As an educational non-profit, our goal is to facilitate connections and to educate those bringing emerging technologies to market.

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