

[Newsletters](#)

MANCEF Quarterly Newsletter

Fourth Quarter 2007, Vol. 5

December 2007

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President's Message from Clive Davenport

MANCEF President's Newsletter Message Dec 2007

It is hard to believe that a full year has passed since Kees Eijkel penned his farewell President's Message and I took up the role of President.

As one year passes and a new year arrives it is time to reflect a little on the year gone by. It is in doing so that I realise just how much has been achieved in this time. It has been a period in which we have observed rapid acceleration in the commercialisation and uptake of micro and nano technologies – the realisation of one of MANCEF's key objectives, however in such a rapidly expanding field there are so many more challenges before us.

The year began with the 1st International Conference on Integration and Commercialization of Micro and Nano-systems in Sanya, China – a joint venture between MANCEF, the Nanotechnology Institute of American Society of Mechanical Engineers (ASME) and the Micro/Nano Manufacturing Technology Institution of the Chinese Mechanical Engineering Society (CMES). The conference highlighting the enormous investment and great work being done in China in small scale technologies. It was also a wonderful opportunity to make many new friends and renew some old ones. I was honored with the opening keynote presentation at this inaugural event. We are looking forward to continuing to engage and build our membership and networks in this highly active region.



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Secretary

[Robert Giasolli](mailto:Robert.Giasolli@mancef.org)

Nanowise

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Our thanks go to Bob Warrington and Steve Walsh for their great organizational contribution. The conference proved such a success that MANCEF and ASME are holding the [2nd International Conference on Integration and Commercialization of Micro and Nano-systems in Hong Kong in June 2008](#). This conference is a must for anyone wanting to develop relationships and business opportunities in China and also for local delegates to interact with their international counterparts.

Nano Tech 2007 in Tokyo followed in February – the proving ground that micro and nanotechnology are truly global endeavors with every country and region represented and some 47,000 attendees. Nano Tech is an exceptional meeting place for MANCEF, an opportunity to catch up with many of our members and continue to expand our activities and networks around the world. Nano Tech 2008 will be held in Tokyo, 13-15 February 2008.

I also personally attended INC3 in Belgium with Kees Eijkel catching up with our friends from IMEC, participated in Hannover Messe, Germany, with our associates IVAM, followed by Taiwan Nano in Taipei, establishing relationships with ITRI and the Asia Nano Forum (ANF), whilst the MANCEF team covered many of the other major events including NANO, SEMI, the Micromachine Summit (Italy) and a vast number of local and regional activities.

Then came our flagship event, COMS2007 Melbourne in September. This year engaging with the broader local community through an open day Education stream. The conference proved a great showcase for many Australian micro and nano activities. COMS2007 also featured a service facilitating meetings and visits to a range of institutes, centres and businesses for delegations from various countries. We also learnt that President Putin had just announced Russia would be investing US \$7.7b over the next few years in nanotechnology with a focus on materials.

Celebrating one of our champions. Our congratulations go to Francesca Calati one of our key presenters at the COMS2007 Education Day for being awarded the Australian "2007 Prime Minister's Prize for Excellence in Science Teaching in Secondary Schools" The award acknowledged Francesca's achievement in dramatically increasing the number of students engaged in chemistry through recognizing the increasing importance of nanotechnology as a new enabling science and developing a comprehensive program in nanotechnology that bridges science and art.

[COMS2008 Puerto Vallarta, Mexico, 31 August - 4 September 2008](#).

The primo event on the small tech calendar. COMS2008 promises to be an exceptional conference with new micro and nano applications such

as "entertainment" being explored. All set against the backdrop of the superb ocean front Westin Resort and Spa and legendary Mexican hospitality. The "[Call for Papers](#)" has already gone out.

We are also looking forward to our return to Europe with the recently announced COMS2009 Copenhagen.

For all those who missed COMS2007 Melbourne, Australia, back in September you now have an opportunity to visit Melbourne and attend ICONN2008 (International Conference On Nanoscience and Nanotechnology) 25-29 February, 2008.

MANCEF COMETs. With the COMS Conference now being shared across the three regions of Americas, Europe and Asia Pacific we are responding to requests for greater regional presence through the introduction of new MANCEF conferences known as COMET (Commercialization of Emerging Technologies). These will be highly flexible conferences appropriate to the needs and desires of the region. We would be excited to hear from any groups interested in working with MANCEF on a COMET in their region.

In a year of outstanding achievement I would like to thank our MANCEF Board members, our General Advisory Council our Executive office and you the MANCEF community for all your contributions in forging our pathway into the future.

I am looking forward to an exciting 2008, a year of productive MANCEF activities and great member achievements.

May I wish you a happy festive season, a prosperous new year and safe travels.

Clive Davenport

MANCEF's Mission Statement

MANCEF connects the global community engaged in the commercialization of emerging technologies.



Save the Date!
31 August - 4 September 2008

The Westin Resort and Spa
Puerto Vallarta, Mexico
www.mancef-coms2008.org

If you are involved in commercializing Micro-Nano technologies or systems, [COMS2008](#) is a MUST attend event.

Join [MANCEF](#), [COECYTJAL](#), [Gobierno De Jalisco](#), [CANIETI](#), [FUMEC](#) and CMM Microsystemas for the 13th International Conference on the Commercialization of Micro and Nano Systems. COMS is the oldest and most widely attended international conference on the commercialization of these enabling technologies. The conference will be held in Puerto Vallarta, Mexico, 31 August - 4 September 2008.

About COMS

The Commercialization of Micro and Nano Systems conference fosters the commercialization of micro and nano technologies and addresses commercialization issues unique to these emerging and disruptive technologies. Don't miss this opportunity to present your work!

COMS is the ideal location to network with leading representatives from the entire micro-nano community

COMS2008 will bring together key personnel from all over the world and from every sector of the supply chain, including government representatives, top researchers in the field, educators, relevant publication sources, equipment suppliers, end users, and financial experts. The small tech community gathers at COMS conferences to learn from others, share their own knowledge, discuss and debate points of view – all of which contribute to the advancement of this emerging field. [Get more information about COMS2008.](#)

Key Dates:

- Abstract Submission Deadline: 30 April 2008
- Author Notification: 21 June 2008
- Manuscript Deadline: 29 June 2008

For more information, contact Patricia Regalado at info@mancef-coms2008.org. [Abstract guidelines are now available.](#) Please submit abstracts in word format to: abstracts@mancef-coms2008.org

Exhibition:

An exhibition of equipment, product and service providers, as well as consultants will be held in conjunction with COMS2008. Please contact Patricia Regalado at info@mancef-coms2008.org for more information.

2nd Integration and Commercialization of Micro and Nanosystems International Conference and Exhibition

MANCEF is pleased to be co-sponsoring the 2nd Integration and Commercialization of Micro and Nanosystems International Conference and Exhibition, taking place 3-5 June 2008 in Clear Water Bay, Kowloon, Hong Kong. The first conference was held last year in Sanya, China, and was a great success. MANCEF and ASME are excited to bring this event to Hong Kong in its second year. Conference co-chairs include:

- **Gang Chen**, Massachusetts Institute of Technology
- **Ricky Lee**, The Hong Kong University of Science and Technology
- **Steven Walsh**, University of New Mexico
- **Robert Warrington**, Michigan Technological University
- **Zhuomin Zhang**, Georgia Institute of Technology

Call for Abstracts!

Deadline: 11 January 2008

The conference will focus on the state-of-the-art research and development in Micro- and Nano-scale phenomena, devices, systems, manufacturing, as well as the commercialization of Micro and Nano-technologies. The conference will consist of plenary talks, invited talks, contributed oral and poster presentations, and an exhibition, and will provide opportunities for communication and collaboration between industry and academia.

The conference is co-organized by the Nanotechnology Institute of American Society of Mechanical Engineers ([ASME](#)), and the Micro and Nanotechnology Commercialization and Education Foundation ([MANCEF](#)). Nearly 400 professionals from Academia, Government and industry attended 2007's highly successful conference and we are founded on that momentum for 2008.

Paper Topics

Papers are solicited in the following areas but exceptional papers on alternative topics are not only requested but highly valued:

- Fundamentals in Micro and Nano-science and engineering, including energy conversion and storage, mechanics, heat transfer, fluidics, and optics
- Synthesis and processing of nanomaterials and nanostructures
- Micro, Nano, and multi-scale manufacturing
- Metrology and characterization of Nanomaterials and Nanostructures
- Multiscale simulation tools for system integration in Nano-, Micro-, to macro-systems
- Development of integrated micro, nano and multiscale devices and systems, micro- and nano-electro-mechanical systems
- (M/NEMS) for biomedical, sensing, energy conversion, RF and optical communication applications
- Commercialization of micro- and nano-technology based products
- Nano and Micro based market analysis

- Best Practices in creating new businesses based on micro- and nano-technologies
- And more! All topics can be located on the conference website

Get More Information

Please visit the website for more information: www.asmeconferences.org/MicroNano08

MANCEF in the News

[AZoNano's David Freund talks with Guillermo R. Fernandez de la Garza to discuss the United States Mexico Foundation for Science and COMS2008.](#)

In this edition of AZoNano News we'll be talking with three extraordinary nanotechnologists:

- Regan Stinnett from Sandia National Laboratories
- Robert Giasolli the Secretary of MANCEF
- David Tolfree, MANCEF's vice president

about [a range of subjects including the commercialization and exploitation of nanotechnology to produce extraordinary products.](#)

New Publication:

Commercializing Micro-Nanotechnology Products

David Tolfree, Manchester, England

Mark J. Jackson, Purdue University, West Lafayette, Indiana, USA

Key Features

- Describes how to manufacture a micro-nanotechnology marketable product
- Details the impact of micro-nanotechnologies on companies, nations, regions, and individuals
- Addresses fundamental issues associated with manufacturing new products and evolving a new industry
- Presents product integration technologies
- Offers roadmapping, market prediction, and analysis

About the Book

Micro-nanotechnologies are already making a profound impact on our daily lives. New applications are well underway in the US, Asia, and Europe, but their potential disruptive nature, along with public concerns, have produced challenges that must be overcome. Contributors to Commercializing Micro-Nanotechnology Products assess the current situation

and need for MNT development. This book outlines the problems facing today's businesses. Chapters discuss:

- The paths of commercialization
- Roadmapping
- Technology transfer issues
- Market analysis
- Entrepreneur development

International case studies of leading micro-nanotechnology companies provide a practical look at these issues.

Selected Contents

- Introduction
- Paths to Commercialisation
- Entrepreneurship's Role in Commercializing MNT Products
- Roadmapping for MNT Products
- Technology Transfer to SMEs
- Commercialisation Strategies for Public Research Organisations
- Market Analysis and Growth for MNT Products
- Oxonica Ltd: A Leading UK Nanotechnology Company
- Zyvex Corp: A Leading US Nanotech Company
- STEAG Micro Parts GmbH: A Leading German Microtechnology Company
- The Future

Available at:

Taylor and Francis/CRC PRESS
Cat #8315
6000 Broken Sound Parkway, N. W., Suite 300
BOCA RATON, FL 33487
Phone 1(800) 272-7737 FAX 1(800) 374-3401
Phone 1(561) 994-0555 FAX 1(561) 361-6018

Find Work or Workers at the tinytechjobs Career Site

MANCEF is pleased to hear that members of the community are connecting through the MANCEF-tinytechjobs collaboration. The numbers of employers and job-seekers using the MANCEF/TTJ web site interface continues to grow. Congratulations!



Check it out now! [Search for jobs, contacts, or events in the micro- and nanotech realm at the Resources web page.](#)

The Bourne Report Podcast

Discussing real ways that MEMS, nanotechnology and other emerging technologies are changing how we live, work, and play. Listen each week as Marlene Bourne talks about trends relating to the commercial use of MEMS and nanotechnology across all major market segments and industries. [Visit the Bourne Report Podcast site](#) to sign up for this excellent series.

Items of Interest in the News:

- [Turning Carbon Dioxide into Fuel](#) (Technology Review)
- [Remotely Controlled Drugs - Nanoparticles can be activated by radio frequencies.](#) (Technology Review)
- [The World's Smallest Radio](#) (Technology Review)
- [Photovoltaics made of nanowires could lead to cheaper solar panels](#) (Technology Review)
- [Unexpected Activity Of Fuel Cell Catalysts Revealed](#) (Science Daily)
- [Indian nanotech students report no real classes](#) (Small Times)
- [MEMS and packaging/test groups form alliance](#) (Small Times)
- [MEMSCAP acquires skin-care company](#) (Small Times)
- [MEMSCAP transducers key for cabin pressure control in Airbus Airlifter](#) (Small Times)
- [NIST imaging system maps nanomechanical properties](#) (Small Times)
- [Experts Work Together to Develop Next Generation MEMS Devices](#) (Azonano)
- [Using Silicon Nanowires in Rechargeable Lithium-Ion Batteries Gives them 10 Times More Life](#) (Azonano)
- [Materials Science and Technology Top Ten Advances as Listed by Materials Today Dominated by Nanotechnology](#) (Azonano)
- [Israeli Nanotech Knowledge Center Maps Booming Nanotechnology Industry in Israel](#) (Azonano)
- [Move Over, Silicon: Advances Pave Way For Powerful Carbon-based Electronics](#) (Science Daily)
- [2-D Invisibility Cloak For Visible Light Created](#) (Science Daily)
- [Moore's Law Hangs On](#) (Technology Review)
- [A Better Resonator](#) (Technology Review)

Publication Opportunities

MANCEF members are invited to contribute articles to MST News.
The Editorial Calendar is as follows:

March 2008

Micro and Nano Materials

Deadline for abstracts: 15 February 2008

Focal points:

- Unconventional MST Solutions with "Exotic" Materials
- Nanomaterials for Microsystems
- Materials for "Magnetic Microsystems"
- Materials for Advanced Actuator Functions

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The [MANCEF](#) Quarterly newsletter is also interested in publishing articles on MNT commercialization, as well as any information relevant to the MANCEF community. If you would like to contribute, please contact nwylde@mancef.org

Equipment Maker News

EV Group

4 December 2007 [EV Group and Brewer Science's New Ultrathin-Wafer Bonding Technology](#)

6 November 2007 [EVG achieves record growth in Fiscal 2007 - Posting 30% increase over 2006 in order intake and revenue](#)

1 November 2007 [EVG achieves key MEMS Market Milestones, installing 500th Bond Chamber and 100th Automated Wafer Bonder for High-Volume Manufacturing Environments](#)

[Read more from EVG](#)

Oerlikon

16 Nov 2007 [Oerlikon strengthens its presence in China](#)

07 Nov 2007 [Oerlikon raises the bar by establishing solar segment](#)

03 Sep 2007 [Oerlikon Solar introduces production solutions for technologically advanced micromorph tandem modules](#)

[Read more news from Oerlikon](#)

Surface Technology Systems

5 October 2007 [STS To Centralise European Operation in United Kingdom](#)

27 September 2007 [STS releases Interim Report 2007](#)

24 August 2007 [SPP completes acquisition of STS](#)

[Read more news from STS](#)

SÜSS MicroTec

5 December 2007 [SUSS MicroTec AG appoints new VP Strategic Business Development](#)

21 November 2007 [SUSS MicroTec Receives Multiple Wafer Level Packing Equipment Orders from ASE](#)

[Read more news from Suss](#)

Veeco

4 December 2007 [Veeco Introduces New InSight 3D Atomic Force Microscope](#)

26 November 2007 [Veeco Introduces Wyko NT9100 Table-Top Optical Profiler](#)

1 November 2007 [Veeco MOCVD Tools Selected for ROY HB-LED Capacity Expansion at Xiamen Sanan OptoElectronics in China](#)

[Read more news from Veeco](#)

SPONSORED and SUPPORTED EVENTS

Here are some upcoming events that the foundation believes are important. This is not a final list of supported events. Keep an eye on our [Events web page](#) for exact dates, venues, and other information:

COMS2008	31-August - 4 Sep 2008	Puerto Vallarta Mexico
2nd International Conference on Integration and Commercialization of Micro and Nano-systems	3-5 June 2008	Kowloon, Hong Kong
Nanotechnology for Security and Crime Prevention	17 January 2008	The Royal Society, London
3rd International Conference on Nanotechnology and Smart Textiles for Industry and Fashion	19 March 2008	The Royal Society, London

Nanotechnology: A Contributor to Reducing Animal Experiments?	28 - 29 May 2008	The Royal Society, London
The 2nd Thailand Nano Conference	13-15 August 2008	Phuket, Thailand
NanoThailand Symposium 2008 (NTS2008)	6-8 November 2008	Bangkok, Thailand

PUBLICATIONS

Individual 2nd Edition International Micro-Nano Roadmap Chapters Available

The 2nd edition roadmap is a "living document" that has been 6 years in the making. With the introduction of the hugely successful First Edition in September 2002, the Second Edition builds on what the leadership team learned and our customers told us what they needed to know to succeed in the MST marketplace. We've almost sold out of the 2nd Edition copies, so order yours soon.

While a good value as a complete roadmap, some customers have requested to purchase individual chapters. We have made printed individual chapters are now available for the following chapters.

[Order individual chapters here](#) (.pdf):

- [Nanotechnology](#) (explores the nuances of Nanosystems, nano enabled industry segments)
- [MEMS Patents](#) (contains a year by year mapping of Microsystems intellectual property)
- [Process and Equipment for MST](#)
- [Equipment and Tooling for MNT](#)
- [RF MEMS](#) (explores RFMEMS including new opportunities, intellectual property advances, technological process and process advances)
- Two chapter updates are also included: [Foundries](#) and [Packaging and Assembly](#)



The CD-ROM version of the International Micro-Nano Roadmap contains **both 1st and 2nd Editions**. The **2nd edition CD of the Roadmap** has an accompanying printed version.

Members, Partners, and 1st Edition customers receive significant discounts.

We encourage becoming a member of MANCEF in order to receive member price of \$350 for the roadmap. Individual MANCEF membership costs \$150 for two years. The non-member price is \$650 for each copy of the Roadmap.

- Download the [Roadmap order form](#) (.pdf)
- Download the [Individual Membership form](#) (.pdf)
- Download the [Roadmap sales brochure](#) (.pdf)
- Download [2nd Edition Executive Summary](#)

If you would like to see your company news included in the MANCEF quarterly newsletter, please send information to nwylde@mancef.org for review.

MANCEF Members

Charter Members



[Advanced Jisso Technology](#)

Industrial robot and vision systems



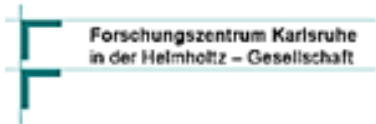
[CSM Analytical](#)

Designs and produces cost efficient, reliable sensing devices



[EV Group \(EVG\)](#)

Wafer processing equipment for R&D applications and fully automated processes



[Forschungszentrum Karlsruhe](#)

Materials, Environment, Health, Energy, and Key Technologies Research and Engineering



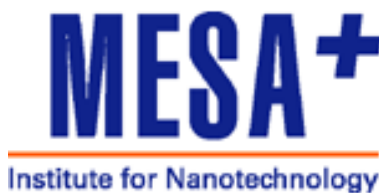
[Glaxo Smith Kline](#)

Research-based pharmaceuticals



[MEMSCAP](#)

Components, modules and systems, IP elements, and design and manufacturing solutions



[MESA+](#)

Nanotechnology, microsystems, materials science and microelectronics training and research



[Micralyne](#)

Micromachining, thin film deposition, and test and assembly capabilities



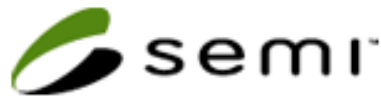
[Oerlikon](#)

Coating, vacuum, precision, and semiconductor technology



[Sandia National Laboratories](#)

Develops science-based technologies that support U.S. national security



[SEMI](#)

Semiconductor, MEMS, and FPD Industry and Standards Information



[Surface Technology Systems](#)

Specialist plasma etch and deposition systems

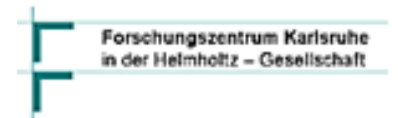


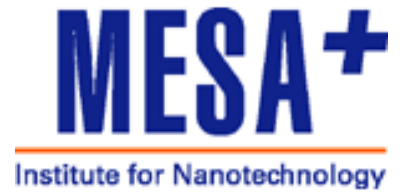
[Süss MicroTec](#)

Mask aligners, bonders, flip chip bonders, spin coaters and probe systems; advanced packaging for semiconductors

Current MANCEF Members:

MANCEF would like to welcome our newest members, whether individual, corporate, academic, or government. To renew your membership, please fill out the [Membership form](#)







We send brief information on MANCEF activities, events, and developments periodically during each month, usually no more than once a week. The mailing list is password-protected and is only used for one-way announcements from MANCEF. No spam, no discussions. [Sign up for the MANCEF e-information list](#). Messages will arrive from dbase@mancef.org and simple instructions are encoded at the bottom of each MANCEF message should you desire to unsubscribe from the MANCEF information list.