



Micro and Nanotechnology  
Commercialization  
Education Foundation ®

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## MANCEF Quarterly Newsletter

First Quarter 2004, Vol. 2

January 2004

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### MESSAGE FROM THE PRESIDENT, ROGER GRACE

I wish to extend to each a greeting that 2004 be a year of exceptional health, happiness and prosperity to you and yours. I wish, foremost, to take this opportunity to thank all of our Executive, General, and Advisory Board member-volunteers for guiding the organization through 2003. MANCEF's previous two years saw great strides taken on the organization's formal development. The foundation's exit from an early "emergent" stage began at the COMS 2002 conference, where elections created an Executive Board of Directors (8), a global General Board of Directors (30), and saw the President and Past President positions smoothly transitioned. Through the activities of the Boards and the installation of an Executive Director, the end of 2002 revealed MANCEF's intent to be professionally managed and mission capable. Beginning in January 2003, MANCEF'S Board prioritized a number of key initiatives to be managed among committees, bridging both Micro and Nano communities. Those initiatives continue in 2004 and are summarized below:

**COMS 2003** - Holding COMS 2003 in Amsterdam was a wise decision. Over 260 attendees arrived for COMS2003, improving over our last European COMS conference held in Oxford two years past. The highlight of the event was the Best Paper Awards Banquet with notable educational scholarship programs offered by EVGroup, Surface Technology Systems and Zyvex.

**COMS Site Selection** - The Conferences and Workshops Committee put in a most professional effort to evaluate and select the conference site for COMS 2004. The evaluation and selection process is now part of the "template" from which future site selections will be made. Proposals for COMS 2005 venues and partners are currently being solicited. Please contact Carol Steele ([csteele@mancef.org](mailto:csteele@mancef.org)).

**MANCEF "Branding"** - The Marketing Committee will be tasked to continue to promote MANCEF and its products through a variety of

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vehicles. Last year, Board members, including myself, attended over a dozen industry events worldwide sponsored or supported by MANCEF in 2003. MANCEF attendance create an enhanced image of MANCEF in the world technology commercialization marketplace, promotion of the International Micro-Nano Roadmap, and offered member recruitment opportunities.

**Educational Mission** - The "Grants and Scholarships" Committee has recently been renamed "Education" Committee to better reflect its goals and objectives. Their role will be to seek out opportunities to promote grantwriting, administer scholarship and internship awards, and develop educational products targeted to students and commercial, government or academic stakeholders.

**Educational Publications** - Over 400 volunteers created the industry's most comprehensive Micro and top-down Nano Commercialization Roadmap. MANCEF has sold nearly all copies of the 1st edition roadmap. The Roadmapping committee plans for 2004's second edition to include an additional 2-3 chapters along with chapter revisions.

**Asia-Pacific** - MANCEF seeks to strengthen its presence in the Asia-Pacific region. The proposed ITRI Spring Workshop in Taipei (May 2004) should help us strengthen our influence into this very large commercialization market. MANCEF seeks to be a platform for networking and activities across the Asia-Pacific and the globe.

**Nanotechnology** - The Emerging Technologies committee focuses on commercialization of Nanotechnology. In 2003, MANCEF volunteers spoke at events in Europe and the US discussing nanocommercialization issues. In 2004, MANCEF is promoting a significant nanotechnology speaker and paper presence at COMS 2004. Read more inside about our [COMS Call for Papers](#). Committee members are building partnerships with Nano institutes, associations, and businesses globally.

**Membership** - Our Membership committee has been charged with increasing and retaining membership, as well as providing enhanced membership benefits. Numerous membership benefits currently exist including discounted rates for MANCEF products and for registration at MANCEF sponsored events. Read about a [special membership offer sponsored by ROI Engineering Inc. and ANSYS](#). Wishing you a happy, healthy and prosperous 2004.

## COMS2004 - James Wylde and Leigh Hill

Following the most successful European COMS Conference, held in Amsterdam, NL, the Board of Directors of MANCEF is looking forward to bringing the 10th Annual COMS Conference to Edmonton, Alberta, Canada. This will mark the first ten years of the COMS conferences started in Banff in 1994, thus completing a decade of success. The Edmonton team, led by NanoMEMS Edmonton Cluster Manager Leigh Hill has been working tirelessly to put on a fantastic anniversary COMS Conference.

COMS2004 - Edmonton will be the 10th anniversary of the COMS series of conferences and will see COMS return to the Canadian province of its inception in Alberta, Canada. Leigh summed up Canada's excitement in one phrase, "Welcome Home!"

The evolution, integration, and commercialization pathways of Micro-Nano technologies will be a major theme of the conference. The city of Edmonton is home to several world class small tech suppliers, such as Micralyne, and also selected as the home of Canada's National Institute of Nanotechnology (NINT). COMS2004 will showcase the strides made in fostering a healthy micro/nano community in Edmonton.

COMS2004 will also bring together an international audience of small tech users and suppliers showcasing their programs and wares at the beautiful Shaw Conference Center overlooking the Red River Valley. For more information on exhibiting at COMS2004, please contact MANCEF Board Member, Joe Brown, at: [jbrown@mancef.org](mailto:jbrown@mancef.org).

To submit a paper, please send your 500 word abstract in Microsoft Word (.doc) or Adobe Portable Document Format (.pdf) to Heather Villeneuve with the Subject line "**COMS2004 Abstract**" and the name of the principal author at: [heather.villeneuve@bookham.com](mailto:heather.villeneuve@bookham.com).

For more information, please check out [www.mancef.org/coms2004.htm](http://www.mancef.org/coms2004.htm) or phone the Executive Office @ +1 505 255 1826.

Advertisement

### [Commercialization of Micro and Nano Systems \(COMS\) Conference Proceedings](#)

COMS 2003 provides you with the resources to compete, to collaborate, to find customers, and to further your commercialization process. If you didn't make it to COMS 2003, you can get a hard copy of the proceedings. Compact disk versions will be available later in 2004.

MANCEF members pay no shipping & handling for proceedings.

[Order your copy of the COMS 2003 or COMS 2002 proceedings today](#) (.pdf).



## COMS 2004

29 August - 2 September, 2004

Edmonton, Alberta, Canada

### CALL FOR PAPERS

You are invited to submit abstracts for the 9th International Conference on the Commercialization of Micro and Nanosystems: COMS 2004.

COMS is the leading international conference on the commercialization of MEMS/MST/micromachining & nanotechnology and addresses commercialization issues unique to these emerging and disruptive technologies.

The Conference brings together world leaders and contributors from every segment of the supply chain, including the field, equipment suppliers, end users and financial experts.

Organized by the Micro and Nanotechnology Commercialization and Education Foundation (MANCEF), in association with NanoMEMS Edmonton Inc., COMS will be held in Edmonton, Alberta, Canada from 29 Aug to 02 Sept 2004.

### Scope of Conference Topics

COMS 2004 will focus on recent advances and emerging futures in micro/nanoscale technologies for physical, chemical and biological systems and their current and downstream impact on key commercial markets:

- Energy
- Biomedical and -health
- Industrial
- Consumer
- Communications
- Environmental
- Security and homeland defense

An Exhibition of world leading equipment suppliers, service providers, product suppliers and consultants will be held in conjunction with the Conference.

### Abstract Submission

All submissions must be sent electronically and can be submitted in Microsoft Word (\*.doc) or Adobe Portable Document Format (\*.pdf). An abstract must not exceed 500 words.

### Send to:

Heather Villeneuve: [heather.villeneuve@bookham.com](mailto:heather.villeneuve@bookham.com)

The subject line of the mail should contain "**COMS 2004 Abstract**" and **the name of the principal author**.

## Key Dates

<b>Abstract Submission Deadline:</b>	23 April 2004
<b>Author Notification:</b>	07 May 2004
<b>Manuscript Deadline:</b>	09 July 2004

## Sponsors

(As of 29 April 2004)

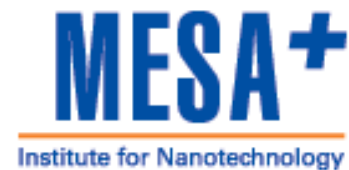
### Conference Partners



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### For More Information

Information on [COMS 2004](#)

## MANCEF ANSYS/ROI Engineering Inc. Special Membership Offer

MANCEF wants to thank new corporate member, ROI Engineering Inc. of Canada. The firm has joined MANCEF's membership in promoting commercialization education and workforce development objectives. ROI Engineering Inc. is the Canadian ANSYS channel partner. The ANSYS product line is based around the core ANSYS software package that delivers an integrated solution for stress, vibration, heat transfer, electromagnetics, fluid flow and acoustics using the Finite Element method in a Multi-Physics environment. It is ideally suited for the analysis of MEMS devices involving more than one Physics.



ANSYS Inc. of Pittsburgh, Pennsylvania through ROI Engineering Inc. has generously made an academic version of ANSYS/Multiphysics (valued at US\$250) available on a first-come, first-serve basis to promote a type of educational tool critical to commercialization, namely design, among MANCEF members. One CD copy of the academic version of the ANSYS/Multiphysics analysis software will be given to the first 250 Micro-Nano faculty\*, who become members of MANCEF **between 1 March and 1 June, 2004.**

**To qualify for this offer**, each faculty member must recruit two Micro-Nano oriented, degree-path students\* to join at the same time the faculty member does. As a special incentive, MANCEF will offer the ANSYS/ Multiphysics CD and **the three faculty-student memberships for the price of one individual**

**membership** (US\$150) plus the S&H for the ANSYS/Multiphysics CD\*\*.

Proof of current faculty and student status will be required. See special membership application for details. Allow 2-4 weeks for delivery.

\* Offer open to technical, vocational, science & engineering, MEMS design faculty and students only. Minimum half-time student status required.

\*\* All taxes and tariffs associated with the delivery of the ANSYS/Multiphysics CD are the responsibility of the recipient.

**Please fax the special membership application (.pdf) to MANCEF at +1.505.255.1827.**

## Members

MANCEF would like to thank and 'Welcome' our newest members, whether individual, corporate, academic, or government. Please [renew your membership](#) now.



Promoted Event:

**MEMS IV**  
**26-28 April 2004**  
**Hyatt Regency, Los Angeles, CA, USA**

MANCEF is pleased to support the **ASME International's 4th Annual MEMS Technology Seminar**, MEMS IV. MANCEF's President Roger Grace, opens the event by providing an overview of compared and contrasted MEMS and nanotechnologies, the commercialization issues affecting nanotechnology, and possible solutions to accelerate nanotech commercialization.



Two new courses have been added for 2004, and two 3-hour nanotechnology tutorials will be presented on

Sunday, 25 April to introduce and familiarize attendees with nanotechnology and show its integration with MEMS.

[MEMS IV brochures](#) (.pdf)

Note: Early-bird deadline to save on attendee registration and exhibit space ends 20 February 2004.

See the [MANCEF Events page](#) for more information on MANCEF supported events.

## MANCEF and Rutgers University Conduct National Study of the Micro and Nanotechnology Sector

The new technologies emerging from the micro and nanotechnology sector represent some of the most important technological advances in recent history. The manner in which firms utilize their resources is critical in the creation and commercialization of new technologies. Therefore, a national study of U.S. firms has been prepared to identify the factors leading to effective resource utilization and market success among micro-nano firms. Rutgers University and MANCEF hope that by identifying the factors leading to effective resource utilization and market success among firms in this sector, we may assist firms in successfully introducing micro and nanotechnology-based innovations to the marketplace.

Several potential participants field have been identified, whom we hope will help illuminate this important process by completing a short questionnaire mailed during the November 2003 - March 2004 time frame. Should you receive a questionnaire, please take 10-15 minutes to fill it out and return it to the address indicated. The results of this study will be made available to all respondents. Only summary statistics will be reported in subsequent presentations and publications, no specific company information. All respondents are assured of complete confidentiality.

MANCEF notes that our Advisory Board member, Dr. Bruce Kirchhoff, is mentoring the success of the study. Please direct any questions or comments to doctoral candidate and director of the study, Scott L. Newbert, at (973) 353-1393 or email him at [snewbert@pegasus.rutgers.edu](mailto:snewbert@pegasus.rutgers.edu).

Thank you very much in advance for your generous assistance with this research effort.

### Conference Summaries

From London, UK - David Tolfree

### Summary Report on UK World Nano-Economic Congress held on London 3-6 November 2003

The World Nano-Economic Congress (WNEC) – Europe was held in London 3-6 November 2003.

This three day conference, organised by IIR conferences for Cientifica was the first of its kind to be held in the UK. It was aimed at



(Left to right) MANCEF President Roger Grace, MANCEF VP Europe David Tolfree, and MANCEF Member Vincent Spiering

making the business and investment community aware of the huge opportunities for nanotechnology commercialisation. The programme was designed to help companies and organisations make connections to identify commercially viable applications, funding opportunities and facilitate technology transfer.

NEC was very well attended and demonstrated the growing importance of the exploitation of nanotechnology through nanobusiness, thus connecting the research, investment and business communities. Excellent talks also placed emphasis on education and the ethical issues associated with the applications of nanotechnology.

Roger Grace, Bob Mehalso, Vincent Spiering, and David Tolfree, members of MANCEF's Strategic Alliance Committee, constituted an Expert Workshop Panel on 'Commercialisation Strategies for Nanotechnology World-wide' chaired by Dr. Tolfree, who also chaired a session and give a presentation at the conference

Later, our VP for Europe was able to meet with members of both government and industry to offer some ideas on how MANCEF can assist with the UK's nanotechnology initiatives, as well as how MANCEF can participate in European initiatives. The event helped promote MANCEF's mission and overall profile in the world's finest commercial capital.

We would like to thank Cientifica for putting on such an excellent program and event. Thank you to our volunteers, who helped with the MANCEF exhibit space.

## Conference Summaries

From Melbourne, Australia - Jane Niall and Rose Tegg

The Forum and Workshop on the "**Commercialisation of Small Technologies in the Asia Pacific - Is there BIG money in small things**" was held in Melbourne on 7 and 8 December 2003. Supported by the Victorian Government, the Australian Institute for Commercialisation and MANCEF, the event provided an opportunity for regional participants to understand the current status and key issues facing technology developers, the investors and Government to develop and commercialise small technologies.

Overall, the forum and workshop was host to approximately 130 participants from twelve countries. Keynote presentations were given by Professor Sir Alec Broers, President, Royal Academy of Engineering and Dr Jih Chang Yang, Executive President, Industrial Technology Research Institute, Taiwan. The event was designed to be highly interactive with participants discussing in small "break-out" groups, not only the issues and challenges facing this sector, but potential strategies to overcome them.

### **A "snapshot" of the issues and challenges facing Asia-Pacific presenters and participants included:**

- Finance and Tax - access to sufficient finance, financial returns, risk mitigation
- Markets - global positioning, lack of demand, no clear technology and industry development path, industry impacts
- Institutional - facilitating effective linkages between researchers/developers and industry, access to test and validation infrastructure, transitioning from research-focused activities to market-driven solutions, fragmentation
- Skills Development - management commercialisation skills, technical skills, support for SME's, education
- Product/Process development - research, access to intellectual property, high risk in the development process

### **Some of the solutions proposed included:**

- Find ways to improve the level of private sector investment
- Look to leading edge customers to become "strategic investors"
- Look for collaboration very early in the value chain
- Ensure that the overall strategy is applications-oriented
- Build an Asia Pacific nanotechnology / microtechnology roadmap
- Communicate, communicate, communicate - with all stakeholders
- Focus - develop products for which there is a clearly defined market need
- Network - vital - encourage industry and research groups as a network of tier suppliers
- Look for opportunities to build a formal Asia Pacific Network or peak body
- Develop the hard and soft infrastructure
- Learn from the U.S. and European experiences

Copies of presentations, issues and challenges and outcomes at: [www.innovation.vic.gov.au/workshop.asp](http://www.innovation.vic.gov.au/workshop.asp).

## Advertisement

### [International MEMS/MST/Top Down Nano Roadmap](#)

What is Microsystems? How can we go from conceptualization to real products and profits? Where are the major markets for MEMS? Over 400 contributors from Asia, Australia, Europe, & North America give you the answers you need.

[Purchase the Micro-Nano Roadmap now](#)

**MANCEF members receive a \$200 discount.**



## Conference Summaries

### MANCEF Members Special Event

From Enschede, The Netherlands - Kees Eijkel

Initiated by the Dutch foreign trade minister and the US ambassador to The Netherlands, a 2,5-day trade forum was held in San Jose California on January 10-12, 2004 with the target to increase cooperation and partnerships in trade and R&D between The Netherlands and the US. The key subjects of the forum were broadband technology, embedded systems and nanotechnology. MANCEF supported the event, named "High Tech Connections", by targeted invitations to the MANCEF community in collaboration with the Dutch government and by providing panelists for the Nanotechnology panel.

With 200 Dutch and almost 400 US attendants, the forum was a great success. It was opened with a live video connection with the Dutch prime minister Balkenende. Key plenary speakers were: the Dutch minister for Foreign Trade, the US undersecretary of commerce for technology, the US ambassador to The Netherlands, the CEO's of HP, Philips Electronics, Oracle NIB Private Capital and Cisco, the CTO's of Intel and IBM, chief executives of ASML and Cap Gemini Ernst & Young and many more. Approximately a third of the total attendance

was present at the Nanotechnology break-out session.

The Nanotechnology break-out session and panel concluded amongst other issues, that strong and cohesive R&D programs are present in both California and The Netherlands, and that these are increasingly cooperating. Industry is intensively exploring nanotechnology and microtechnology with the target of expanding their product portfolio and for progress in extending Moore's law. Philips and Intel are developing a very active open strategy towards partnering and facility sharing. Substantial progress is expected by industry in the coming decade, with large numbers of new product entries.

Speakers in the break-out were Derrick Boston, senior VP of the California NanoSystems Institute, David Reinhoudt, president of the Dutch nanotechnology initiative NanoNed, Henk van Houten, senior VP of Philips Electronics, George Bourianoff, senior program manager at Intel, Norbert Kappel, VP marketing at ASML Special Applications and Roger Grace, president of MANCEF.

High Tech Connections was sponsored by its anchor companies: ASML, Cap Gemini Ernst & Young, Cisco Systems, HP, IBM, Intel, Microsoft, NIB Capital, Oracle and Philips Electronics.

See: [www.hightechconnections.org](http://www.hightechconnections.org).

## COMS 2005

### Request for COMS 2005 Venue Proposals

Planning has already begun for COMS 2005! Next year's conference will be held outside North America. Proposals for Europe and Asia-Pacific sites have already started. The deadline for venue proposal submission is 17 May 2003.

### Selection Criteria

Site must be available for four days between **August 28 - September 1, 2005** or between **September 7 - 11, 2005**. All conference proposals must include:

- A resort-like or interesting location
- A facility within 50 km that can demonstrate the successful commercialization of micro/nano technology
- Adequate conference hall facilities
- Adequate hotel and room facilities
- Adequate airport/train facilities
- Adequate exhibition facilities
- Interesting side trips
- Proximity to a golf course
- Significant industrial sponsorship, subject to contract
- Each location must pay a licensing fee for the conference, subject to contract
- MANCEF receives a membership fee from each attendee

**Note:** These criteria are intended as a guide only and will be described in a contract with successful bids.

## Schedule of COMS 2005 Venue Selection

- 17 May 2004** Proposals due
- 7 June 2004** Proposals reviewed by committee
- 9 July 2004** Site visits completed
- 16 July 2004** COMS 2005 site selected
- 20 August 2004** COMS 2005 contracting completed

### For more information, contact:

**Carol Steele**

Conferences and Workshops Committee Chair

[csteele@mancef.org](mailto:csteele@mancef.org)

Telephone: (727) 553-3975

Fax: (727) 553-3967

### Mailings

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](mailto: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.

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