

Message from the President

I am often asked if "Cleantech" is the new "nano". When I first heard it several years ago my reaction was "no idea what you are talking about" as to me cleantech sounded like a derivative of environmental monitoring, control and remediation that dates back several decades.

However in the modern day context its an interesting question and cleantech may prove to be one of the most powerful plays of all time.

Cleantech is definitely not the next nano, but nanotechnology plays into cleantech in a very significant way. Nanotechnology is and will be a fundamental underpinning technology in many areas of cleantech such as sustainable renewable energy generation, storage and utilisation, water recycling, transport, construction and in monitoring of all aspects.

Like nanotechnology, cleantech has a thousand definitions and interpretations. One that I like that was recently forward to me by John O'Brien of Australian CleanTech is "Technologies and services that have both environmental and economical benefits". A marriage of drivers - the benefit to mankind is obvious but mankind has no money - man does!

Volumes have been written about the impact of 20 th century industrial advancement on the world's environment, ecological system and climate.

David JC MacKay's dedication in the opening pages of his book "Sustainable Energy - without the hot air" "to those who will not have the benefit of two billion years' accumulated energy reserves" is a stark heavy hitting statement that highlights the challenge before us.

I note a growing number of cleantech events - conferences, seminars and workshops together with new government policies and programs under the banner of "cleantech" or "green economy". "Green jobs" and "Green living" have also sprung into the limelight. There is little doubt that there are going to be some very large opportunities for micro and nanotechnology in this new focus area.

I look forward to sharing views with all our members attending COMS2009 next month in Copenhagen.

As I am sure everyone already knows, COMS2009 is being held in Copenhagen commencing August 30 through to September 4. The first time in the Scandinavian region. This is an event I am looking forward to very much. Not only to catch up with our friends in that region but to see and hear of where they are spearheading, their successes, their challenges and to learn as to how micro and nanotechnologies factor into their economic and regional development. COMS is always a great meeting place for all the members of our global community, a time to renew friendships, establish new relationships and collaborations, and strike a deal. COMS is not only the meeting place but also the market place where over the years a large number of business deals have either originated or been consummated. It's a little like the global village square - a time to say hello, catch up on the gossip, laugh, learn, chat, share, make plans, negotiate, play and enjoy.

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I look forward to seeing you there.

Clive Davenport

COMS2009



Aug 30 -
Sep 04, 2009
Copenhagen,
Denmark

CoventorWare Training Session - September 3, 2009

Spaces are limited, [register today!](#)

Coventor, Inc. is a leading worldwide provider of 3D simulation, analysis and design automation software for the development of micro- and nano-scale devices and systems. These include microelectromechanical systems (MEMS) such as inertial sensors, inkjet print heads and displays.

Coventor's software offerings include CoventorWare™ and SEMulator3D™.

COMS is the leading annual conference on micro and nanotechnology commercialization education. COMS is not just about the science, like so many other micro/nano meetings, but about how to turn research and theory into commercial products.

COMS is a powerful environment focused on accelerating commercialization activity among new, established and emerging micro and nano businesses. These technologies are the vehicles for sustainable wealth and prosperity that will advance the global economy.

Four Coventor MEMS Design Scholarships available at COMS2009

Winners to receive 1-year MEMS design software license and chance to publish research.

Coventor and MANCEF are pleased to announce a chance for students to win one of four 1-year licenses of Coventor's CoventorWare Designer/ Analyzer package. The scholarships will be awarded at the COMS2009 award ceremony in Copenhagen, Denmark.

Application Requirements:

To qualify for a scholarship, you must be a full-time student at a college, university, or vocational-technical institute and have a desire to research and develop novel micro system technology structures or processes.

Please visit <http://www.mancef-coms2009.org/sponsors/scholarship> for complete details.

COMS2009 Speaker highlights

As always we have the best minds in MNT commercialization presenting at COMS. Below are some highlights:

[Special Address:](#)

Helge Sander



Founding Past President
[Bob Warrington](#)
Michigan Tech University



Founding Past President
[Steve Walsh](#)
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Institute for Microstructure
Technology



Danish Minister for Science,
Technology and Innovation



Frank Caruso
Director, Professor, ARC Federation Fellow
Centre for Nanoscience and Nanotechnology,
University of Melbourne (Australia)



Yechezkel (Chezy) Barenholz
Professor
Hebrew University-Hadassah Medical School (Israel)



Michael Egholm
Chief Technology Officer, Vice President
454 Life Sciences, Roche Group
(USA)



Liu Ming
Director, Professor
Institute of Microelectronics, Chinese Academy of Sciences (China)



Gabriel Aeppli
Director, Professor
London Centre for Nanotechnology
(United Kingdom)



Dennis Discher Professor
University of Pennsylvania
(USA)



Duane Dimos
Director, Materials Science Engineering Center,
Sandia National Laboratories
(USA)



Jens K. Nørskov
Director, Professor
Center for Atomic-scale Materials Design, Technical University of
Denmark (Denmark)



Gregor Cevc
Chief Executive Officer, Professor
IDEA AG
(Germany)

The conference venue is the [Radisson SAS Falconer Hotel](#); a modern hotel-, meeting- and event-centre.

For more information visit www.mancef-coms2009.org

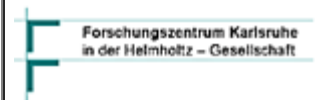


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Flanders Investment &
Trade, New York



Board Member
[Robert Mehalso](#)
Microtec Associates

MANCEF Charter Members



MANCEF News

MANCEF has altered the structure of its advisory body. The General Advisory Council (GAC) has been modified to form a new General Advisory Board (GAB). Each region now also has Associate Vice Presidents. The Associate VP's and GAB members will advise the Executive board on initiatives, projects and elect the Executive board.

Executive Board of Directors

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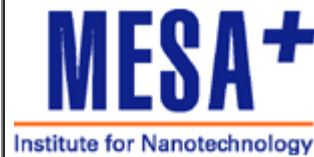
Asia/Pacific
[Erol Harvey](#)
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[Shiban Koul](#)

Nanotechnology groups join forces to promote regional nanotechnology excellence

Nanotechnology stakeholders in five states in the Southwest United States, along with northern Mexico, are joining forces to create the Southwest Nano Consortium. The consortium will pool resources to highlight nanotechnology activity in the region, encourage collaborative ventures, and host internationally recognized events. The Southwest Nano Consortium consists of Nano Networks and Alliances in Arizona, Colorado, Oklahoma, New Mexico, Texas and northern Mexico.

MANCEF's Scott Bryant was instrumental in establishing New Mexico - via MANCEF's [Nano Network of New Mexico](#) - as a key player in the consortium.

The Southwest Nano Consortium will join [The Nano Network of Northeast Ohio](#), the [Bi-National Sustainability Laboratory](#) and the [Ibero-American Science and Technology Education Consortium \(ISTEC\)](#) to further the collaborative nature of nanotechnology and connect the networks together in the advancement of nanoscience and business development for the next wave of innovation.



2nd Edition International
Micro-Nano Roadmap
Chapters Available

[ISTEC](#) will be holding their [XVII General Assembly](#) the week of October 26 - 30, 2009 on the Campus of the University of New Mexico (UNM) in Albuquerque, NM USA. [ISTEC](#) is a non-profit organization comprised of educational, research, and industrial institutions 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, and to provide a cost-effective vehicle for the application and transfer of technology.

In conjunction with this meeting, the [Nano Network of New Mexico](#) will be holding a nano convergence event. We will be highlighting examples where convergence between scientific disciplines and industrial applications has yielded an improved commercial product or industrial shift. Because nanoscience and nanotechnologies borrows from physics, chemistry, biology, engineering, and materials, it must be seen as a new pan-industrial "enabling" platform technology upon which not just new products, but also new economies, will be built.

The [Bi-National Sustainability Laboratory](#) together with its principal partners and sponsoring organizations will hold a one day conference entitled: "[A New Bi-National Energy Future: Biofuels and Solar Policy Summit](#)..." High level officials, experts and individuals, representing all levels of government, industry and academic/research communities from Mexico and the U.S. will be invited to consider critical issues relevant to creating a new bi-national energy future in the U.S.-Mexico

ISTEC and MANCEF will also be holding an [International Business Matchmaking session](#) to provide connections among industry, academia, technology parks, government agencies, multilateral organizations, fund managers all come together to initiate/strike a deal among institutions in the Ibero-American Region

MANCEF welcomes two new members to the organization:

[Texas Tech University](#)
[University of Oklahoma](#)

The MEMS University Alliance Design Competition - 2009 Winners

"Novel Design" category - University of Oklahoma - Student **Kevin Bagnal**
Professor - Dr. Harold Stalford

"Characterization/Reliability/Nanoscale" category Texas Tech University, Students - **Ganapathy Sivakumar and Gabriel Gustavo Ramirez**,
Professor - Dr. Tim Dallas,

Congratulations to this years winners!

MANCEF has supported the MEMS University Alliance Design Competition since it's inception. The foundation contributes a one year organizational membership to the winning university department, global promotional activity for the winning university, and a copy of the International Micro Nano Roadmap .

MANCEF's Dr. Steven Walsh named one of the top 50 researchers in



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

- [International Bio Nano Roadmap](#) - Coming Soon!
- [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 & Assembly](#)

Membership

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

the Technology Innovation Management field

UNM Anderson School of Management Professor [Steven Walsh](#) has once again been named one of the top 50 researchers in the Technology Innovation Management field by Elsevier Limited, a leading publisher of science and health information serving more than 30 million scientists, students and health professionals worldwide.

Dr. Walsh has not only won this recognition for each of the past five years, he is also one of only seven researchers who have maintained this status for an entire decade.

MANCEF congratulates Dr. Walsh on continued excellence in his field.

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:

[COMS2009](#)

Aug 30 - Sep 04, 2009 - Copenhagen, Denmark

[Micro Nano Breakthrough Conference](#)

September 21 - 23, 2009
Portland, Oregon

[ISTEC XVII General Assembly](#)

Oct 26-30, 2009
Albuquerque, NM

[Nano Network of New Mexico - Nano Convergence](#)

Albuquerque, NM
October 26, 2009

[New Bi-National Energy Future: Biofuels & Solar Policy Summit](#)

October 27, 2009
Albuquerque, NM

[Micronarc Alpine Meeting \(MAM 2010\)](#)

Equipment for microproducts
January 20-22, 2010
Villars-sur-Ollon, Switzerland



Mission:

The Nano-Network of New Mexico supports the exchange and dissemination of knowledge vital to people and organizations interested in the commercialization of nanotechnologies emanating from New Mexico-based knowledge-capital and organizations.

Objectives:

- Provide a forum for nanotech developers, innovators and investors to discuss

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

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



[The Promise of Tomorrow Radio Show](#)

the latest developments and breakthroughs

- Promote collaboration of New Mexico nanotech groups and start-ups with corporate nanotech developers and international partners
- Increase sponsored research, licenses, and strategic partnerships for New Mexico based nanotech companies.

Conference Summary Report

SEMICOM West

Courtesy of MANCEF's Gene Burk

There was noticeable decrease in the number of MEMS companies exhibiting this year even with the addition of MEMS and Nano programs. I choose to attend the Opportunities in MEMS program as well as visit the equipment suppliers to the MEMS manufacturers. There were a few industry veterans in attendance but most of those present were young engineers from traditional semiconductor companies. There were presentations from all areas in the MEMS space, from marketing analysis through foundry capabilities to equipment innovations and finally a couple of final products were discussed.

Jen-Christophe Eloy, CEO and President of Yole, gave their market analysis of the MEMS space. His presentation was detailed to the market channel and product level and is available on their website. Of most interest was his projection that here would be a tripling in the number of MEMS units delivered from 2007 to 2011 from 2 billion to 6 billion units. At the same time the market in sales dollars would double in the same period thus indicating that there would be a drop in ASP of about 33%. He has also found that most startups will be fables and will utilize existing fabs.

Claude Jean, VP and General Manger of DALSA Semiconductor, gave an overview of their business. He discussed their evolution from a CCD and CMOS foundry to a MEMS foundry with a complete toolbox of MEMS processes. He also presented their marketing model with a delineation of the products they are producing and the markets they serve. DALSA is building a 200 mm Fab and he outlined the obstacles they are working in developing qualified MEMS processes. He finished his presentation by announcing informally the formation of The MiQro Innovation Center in collaboration with IBM and Sherbrooke University which will focus on advanced development of MEMS and advanced packaging technologies.

There were a handful of MEMS equipment suppliers present including EVG, STS, Primaxx gave and Eric Eisenhut of Kionix who gave an overview of MEMS. The other suppliers held gala events at their booths where there was ample opportunity to view their latest innovations in equipment design and applications. His presentation was followed by several that were product oriented including a discussion of the WISpy devices used in mobile applications by Jeffery Hilbert, President and COO.

Richard Payne, an early MEMS innovator, and now VP of Microfabrication at Pixtronix introduced their DMS glass technology. They are using it to produce low energy displays for mobile applications. The final presentation of the day was made by Andrew Thompson, CEO of Proteus Biomedical. His company is producing a micro system that monitors and records medical data on a real time basis for cardiology patients. The devices he discussed are now in clinical trials and demonstrate the next generation of systems that are entirely MEMS based.

The most significant portion of the show took place in the North Hall where all three floors were dedicated to new technologies and 95% of that focused on PhotoVoltaics. Most of the exhibitors in PV were manufacturers located in China,

Covering the business of emerging & nano technologies.

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

Programs [archived](#) on-line.

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Japan and Southeast Asia and seem poised to become the next big thing.

Equipment Maker News

EV Group

July 16, 2009 [EV Group to collaborate with Applied Materials on thin wafer bonding technology for 3D IC development](#)

July 14, 2009 [EV Group witnesses rise in order intake and increase in demand for services](#)

July 13, 2009 [EV Group unveils next-generation UV-nanoimprint lithography \(UV-NIL\) step and repeat system - the EVG770 Gen II NILStepper](#)

July 9, 2009 [EV Group secures order for 300 mm wafer bonder from Sematech's 3D interconnect program at Ualbany Nanocollege](#)

[Read more from EVG](#)

Oerlikon

August 17, 2009 [Oerlikon Solar and Rusnano/Renova Joint Venture open up Russian market for leading thin film solar PV technology](#)

August 12, 2009 [Oerlikon to sell Optics business in Shanghai to Private Equity partners](#)

July 23, 2009 [Switzerland's Largest Solar Module Production Started](#)

July 1, 2009 [Sale of Oerlikon Space to RUAG completed](#)

[Read more news from Oerlikon](#)

Surface Technology Systems

July 7, 2009 [STS receives further Pegasus order from University of Michigan](#)

June 6, 2009 [STS wins DRIE tender at Fraunhofer ISIT](#)

April 7, 2009 [STS receives multi tool order from Turkey's new Institute of Materials Science and Nanotechnology \(UNAM\)](#)

March 26, 2009 [STS installs CPX cluster tool at MiPlaza](#)

[Read more from STS](#)

SÜSS MicroTec

July 14, 2009 [IMEC and SUSS MicroTec to Collaborate on Wafer Bonding for 3D Integration Applications](#)

July 8, 2009 [SUSS MicroTec and Thin Materials Cooperate on Temporary Bonding Solution for 3D Packaging](#)

July 1, 2009 [SUSS MicroTec Strengthens Presence in Asia with New Sales Structure](#)

June 22, 2009 [3M and SUSS Announce Agreement on Temporary Wafer Bonding Technology to Enable 3-D Semiconductors](#)

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