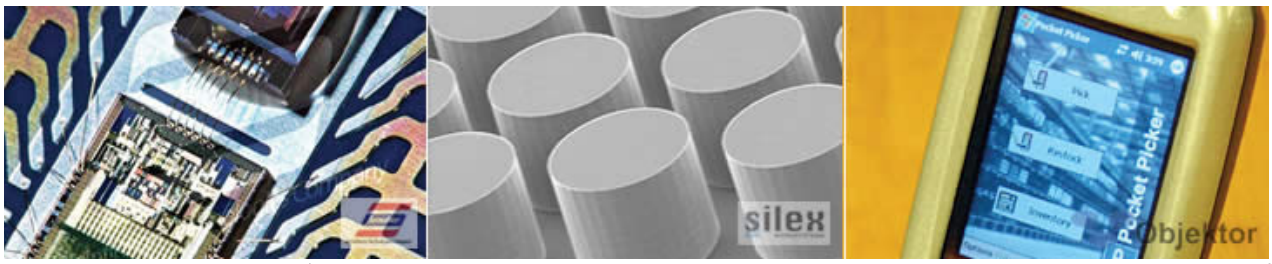

Home
Background
Programme and speakers
Practical details
Send info
Organisation
Contact
Download MSW 2006 Folder

MSW 2006
will take place on
May 9-10, 2006
in Västerås, Sweden.

Programme and speakers!

Programme
The following is the preliminary programme. Minor updates can occur.

May 9, 2006

9:00	Registration			
10:10	Introduction			
10:20	Key note presentations**** - The entrepreneur: Salvatore Grimaldi (Grimaldi Industri AB) - The investor: Håkan Jansson (Investor AB) - The supplier: Per G. Gløersen (Infineon Technologies SensoNor AS)			
12:20	Lunch			
13:30	A1* Microfluidics	A2* Building blocks	A3* Industrialization	A4** Question forum
15:00	Coffee			
15:30	- Visualisation of microsystems, Björn Berg (Animech AB) - Visions and facts, Hans Reich (proDesign) - Short presentations of the posters***			
16:55	Poster/exhibition session*** + snacks			
19:00	Dinner			

May 10, 2006

8:30	B1* Bio-medical and other applications	B2* Inertial sensors	B3* Materials and technology	B4** Intelligent sensor systems
10:00	Coffee			
10:30	- Experience, possibilites and risks in the start-up phase, Raoul Stubbe (Stockholm Innovation & Growth AB) - Panel discussion: How to make business of MST, Moderator: Lars-Olof Bäckman, Lobema AB.			

11:45	Lunch			
13:00	C1* Bio-chips	C2* Opto and communication	C3* Fabrication	C4** Market developing
14:30	Coffee			
14:50	- Lab on chips – vision and reality, Helene Andersson (Silex Microsystems AB and KTH) - MEMS/MST in automotive safety applications, Håkan Pettersson (Autoliv Development AB)			
15:50-16:00	Closing			
16:05-18:00	Informal discussions and refreshments (key persons will be available)			

The posters and the exhibition will be available during the entire duration of the workshop.

***) Parallel sessions:**

A1-Microfluidics

13:30 Thematic overview: Microfluidics – An overview, *Johan Nilsson (Lund University)*

14:00 Paraffin microactuators for active valves, *Roger Bodén (Uppsala University)*

14:15 Microfluidic channels from photoactive hybrid material ormocer ®, *Susanna Aura, Sami Franssila (Helsinki University of Technology)*

14:30 Small footprint knife gate microvalves for large flow control, *Stefan Braun, Sjoerd Haasl, Samir Sadoon, Anthony Shane Ridgeway, Wouter van der Wijngaart, Göran Stemme (KTH)*

14:45 Review of measuement methods of fluid flow in microchannels, *Mats Herbert (VIDIX – Visible Dynamics AB)*

A2-Building blocks

13:30 Thematic overview: Commercial nano technology and spintronics, *Bo Wikström (NM Spintronics AB)*

14:00 Development of MEMS-based components and subsystems for spacecraft propulsion, *Håkan Johansson , Kerstin Jonsson, Tor-Arne Grönland, Pelle Rangsten (NanoSpace AB)*

14:15 PowerMEMS – Survey and issues, *Johan Köhler (Uppsala University)*

14:30 Thermal losses in a cold/hot-gas micro propulsion system with carbon heater coils, *Anders Eriksson [1], Kirk Williams [2], Kerstin Jonsson [3] ([1]Compingo Consulting AB , [2]Uppsala University , [3]NanoSpace AB)*

14:45 Second generation intelligent sensor systems, *Peter Funk (Mälardalen University)*

A3-Industrialization

13:30 Thematic overview: Improved indoor environment with new technology, *Andy Drysdale (Danish Technological Institute)*

14:00 The development of medical devices used during treatment of Coronary disease, *Lasse Tenerz, Leif Smith (Radi Medical Systems AB)*

14:15 Nordic innovations based on Microsystems, *Dag Ausen[1], Cristina Rusu[2], Jens Branebjerg[3], Hannu Kattelus[4] ([1]SINTEF, [2]Imego, [3]Delta, [4]VTT)*

14:30 From a horse and buggy to a sports car, *Thomas Lagö, Rolf Zimmergren, Alan Boyer (Acticut International AB)*

14:45 Actionable intelligence in the field of MST/MEMS by integrating intellectual property, *Erik Krahbichler, Rikard Roos, Staffan Zilling (Ström & Gulliksson AB)*

B1-Bio-medical and other applications

08:30 Miniaturized drug delivery system for painless trans- and intradermal injections, *Niclas Roxhed [2], Björn Samel [2], L. Nordquist [1], Patrick Griss [2], Göran Stemme [2] ([1] Uppsala University , [2]KTH)*

08:45 Acoustic trapping: System design, optimization and applications, *Mikael Nilsson , Linda Johansson, Tobias Lilliehorn, Monica Almqvist, Lars Wallman, Stefan Johansson , Thomas Laurell , Johan Nilsson (Lund University)*

09:00 Thermal characterization of a microfluidic nebulizer, *Ville Saarela [1], Sami Franssila [1], Markus Haapala [2] ([1]Helsinki University of Technology, [2]University of Helsinki)*

09:15 Self-assembled nano-scaled chemical sensors, *M. Bordag [1], Ralf Jede [2], L. Montelius [3], Håkan Pettersson [4,3], Jordi Riu [5], Ulrich Schmucker [6], Mikhail Zubtsov [6] ([1]Leipzig University, [2]Raith GmbH, Dortmund, [3]Lund University, [4]Halmstad University, [5]Rovira i Virgili University , [6]Fraunhofer Institute for Factory Automation,)*

09:30 Contactless measurement of breath alcohol, *Bertil Hök [1] , Håkan Pettersson [2], Gert Andersson [3] ([1]Hök Instrument AB , [2]Autoliv Development AB, [3]Imego)*

09:45 I-SWARM, Mass produced miniaturized autonomous robots, *Erik Edqvist (Uppsala University)*

B2-Inertial sensors

08:30 Thematic overview: An overview of inertial sensors and their applications, *Jan Söderkvist (Colibri Pro Development AB)*

08:45 Adhesive selection for inertial sensors, *Katrin Persson, Henrik Rödjegård, Cristina Rusu, Dag Billger (Imego)*

09:00 A MEMS-gyro based computer mouse for disabled, *Christer Gerdtman [1], Maria Lindén [2] ([1]Motion Control AB, [2]Mälardalen University)*

09:15 Design of a miniature three-axis accelerometer for the study of heart wall motion, *Craig Lowrie [1,2], Christopher Grinde [2,3], Lars Hoff [2], Marc Desmulliez [1], Ole Jakob Elle [4] ([1]Heriot-Watt University, Edinburgh, [2]Vestfold University College, [3]Oslo University, [4]Rikshospitalet University Hospital)*

09:30 MEMS-based angle sensor for automotive applications, *Mikael Joki (Eskilstuna ElektronikPartner AB)*

09:45 From roll-over to tactical grade gyro performance, *Gert Andersson (Imego)*

B3-Materials and technology

08:30 Thematic overview: The integration of piezo-electric thin films in a SOI MEMS process, *Wilfred E. Booij [1], H. Raeder [1], F. Tyholdt [1], N.-P. Østbø [1], R. Bredesen [1], G. Rijnders [2], P. Muralt [3] ([1]SINTEF, [2]University of Twente, [3]EPFL-LC)*

08:45 Deep plasma etching of oxides, *Kai Kolari (VTT)*

09:00 Method for measuring fracture toughness of wafer-bonded interfaces with high spatial resolution, *Martin Bring, Anke Sanz-Velasco, Peter Enoksson (Chalmers)*

09:15 A method to evaluate MEMS bonding, *Farzan Alavian Ghavanini [1], Cristina Rusu [2], Katrin Persson [2], Sjoerd Haasl [2], Henrik Rödjegård [2], Peter Enoksson [1] ([1]Chalmers, [2]Imego)*

09:30 Recent advances in the thin film electroacoustic technology, *I. Katardjiev, J. Bjurström, V. Yantchev, G. Wingqvist, J. Enlund, D. Martin (Uppsala University)*

09:45 Electrochemically etched pore arrays for pixellated scintillating screens, *Xavier Badel, Niklas Elfström, Jan Linnros (KTH)*

C1-Bio-chips

13:00 Polymer chip for diagnostic application, *Ib Mendel-Hartvig, Gerd Rundström, Tomas Lindström, Lars Lundbladh, Ove Öhman (Åmic AB)*

13:15 Lab-on-a-chip for protein marker analysis in rapid point-of-care medical diagnosis, *Urban Simu (Uppsala University)*

13:30 A low-cost disposable nanoliter liquid handling system with embedded fluid actuators, *Björn Samel, Volker Nock, Aman Russom, Patrick Griss, Göran Stemme (KTH)*

13:45 Fluidic control in disposable chip for POC, *Jan Wipenmyr, Kristina Reimhult, Dag Ilver, Torbjörn Pettersson, Björn Löfving, Anatol Krozer (Imego)*

14:00 Characterisation of molecularly imprinted polymers for biosensors, *Neda Haj Hosseini [1,2], Cristina Rusu [1], Anatol Krozer [1], Sjoerd Haasl [1], Britta Ottosson [1], Kristina Reimhult [1], Peter Enoksson [2] , Lei Ye [3] ([1]Imego, [2]Chalmers, [3]Lund University)*

14:15 FOBIS – Nordic foresight on biomedical sensors, *Dag Ausen [1], Rita Westvik [1], Ingrid Svagård [1], Lars Öserlund [2], Inga Gustafson [2], Fredrik Winquist [3], Inger Vikholm [4], Janusz.Sadowski [4], Jens Gran [5], Lars Lading [6] ([1]SINTEF, [2]FOI, [3]S-SENCE, [4]VTT, [5]MecCoast, [6]STC)*

C2-Opto and communication

13:00 2D laser beamsteering by integration of MEMS and diffractive optics, *Karin Hedsten [1], Peter Modh [1], Jörgen Bengtsson [1], David Karlén [1], Katrin Persson [2], Jonas Melin [3], Richard Nilsson [2], Peter Enoksson [1] , Fredrik Nikolajeff [3] ([1]Chalmers, [2]Imego, [3]Uppsala University)*

13:15 Low-cost packaging of optoelectronic components, *Bertrand Noharet, Q. Wang, S. Junique, A. Scholes , G. Arvidsson , O. Öberg, S. Almqvist (Acreo AB)*

13:30 A low-cost IR sensor in flexible polyimide foils, *Hanna Yousef [1], Mikael Lindeberg [1,2], Hans Martin [2] , Klas Hjort [1] ([1]Uppsala University , [2]Senseair AB)*

13:45 SiGe thermistor infrared bolometers, *Stanley Wissmar [1], Christian Vieider [1] , Susan Savage [1], Per Ericsson [1], Linda Höglund [1], Jan Andersson [1], Frank Niklaus [2], Göran Stemme [2] ([1]Acreo AB, [2]KTH)*

14:00 First results on a micromachined GPS module, *Robert Lindegren [1], Anders Rydberg [2], Henrik Kratz [3] ([1]Ångström Aerospace Corporation, [2] Uppsala University , [3]Uppsala)*

14:15 RF MEMS at KTH, *Joachim Oberhammer, Stefan Braun, Göran Stemme (KTH)*

C3-Fabrication

13:00 µFab: The Swedish micro- and nanofabrication network, *Jan Stake [1], Nils Nordell [2], Stefan Nygren [3] ([1]Chalmers, [2]Electrum, [3]Uppsala University)*

13:15 Novel polymer replication, *David Bergman, Mikael Jonsson, Tomas Lindström, Mikael Olsson, Simon Uhrberg (Åmic AB)*

13:30 Setting new standards in MEMS, *Börje Åstrand (Silex Microsystems AB)*

13:45 A cost and lead time estimation tool for MEMS manufacturing, *Theres Gustafsson, Anders Linvall, Robert Lindegren, Greger Thornell (Kalogi AB)*

14:00 Layer manuafcturing of micro components for 3D electrical interconnects, *Per Johander [1], Urban Harrysson [2], Lars Ohlsson [2], Ulrike Kaufmann [3], Hans-Joachim Rizhaupt Kleissl [3] ([1]IVF, [2]FCubic AB, [3]Forschungszentrum Karlsruhe)*

14:15 Microlens fabrication by nanoimprint lithography, *Fredrik Nikolajeff, Axel Lundvall (Uppsala University)*

****) Meeting arena for industry and experts**

These sessions will highlight important industry-relevant topics that address a larger perspective. Industry can get to know more about possibilities and bottlenecks, at the same time as they can bring up topics and ask questions.

The format will be more of a workshop with discussions guided by shorter thematic presentations and introductions and spontaneous contributions made by the participants. The number of participants in these sessions is limited to 30.

These sessions are intended for your needs and curiosity. There is room for improvisation in their content. We therefore encourage you to come with suggestions and comments.

A4 Informal open question forum
Chair: Jan Söderkvist, Colibri Pro Development AB

Language: At your choice

A few MEMS-related experts will be available. They will try to answer any MEMS-related questions you might have, trivial or advanced. It can be related to technology, components, products, development activities, who are active, who to contact, etc. Just approach any of the experts in the room at any time that suits you.

B4 Intelligent sensor systems
Chair: Anders Martinsen, minST

Language: Mainly Swedish

Utvecklingen av elektronik och mikrosystem går hand i hand. Miniatyriseringen är påtaglig men sker inte på bekostnad av prestanda, utan snarare tvärtom. Ett sensorsystem blir intelligentare i och med att elektronik och programvara, ett inbyggt system, kan kopplas hårt (intimt) till sensorn. Med ökad prestanda hos det inbyggda systemet kan signal- och informationsbehandling bli effektivare, och det öppnar också möjligheterna för att kommunicera både via tråd eller trådlöst och med olika kommunikationsteknologier. Sessionen innehåller exempelvis:

• Introduktion med fakta och exempel på sensorsystem och nätverk
• Intelligenta sensorsystem 1+1=3
• Jämförelser mellan olika (trådlösa) kommunikationsteknologier
• ZigBee, en ny möjlighet till trådlösa sensornätverk
• Mikrovågor för diagnostik

C4 Market developing based on new techniques
Chair: Maria Månsson, Avantel AB

Language: Mainly Swedish

När marknader och nya affärsområden skapas kring produkter baserade på ny teknologi, såsom MEMS, möts man av ett flertal frågeställningar på vägen mot framgång. Denna session kommer att belysa på några av de karakteristiska nyckelstegen på vägen från idé till framgångsrik produkt. Sessionen innehåller exempelvis:

• Projekthantering och projektledning
• Beställarkompetens
• Regelverk
• Utveckling baserad på befintliga komponenter och system?
• Diskussion och presentation av olika ämnen uppblandat med presentationer

*****) Posters (P) and Exhibitors (E)**

P1 A system for optimizing an athlete's performance, *Mia Folke (Mälardalen University)*

P2 Dielectric characterization of microorganisms, *Sven Hamp[1], Lars-Erik Johansson[1], Gunnar Jonsson[1], Fredrik Aldaeus[2], Mats Jönsson[3] ([1]Mälardalen University, [2]KTH, [3]Uppsala University)*

P3 Fiber Optic Sensor for pressure measurement based on MEMS-technology, *Håkan Johansson (Simea Optic AB)*

P4 Development of a lateral displacement sensor in a micropropulsion system, *Vilhelm Söderberg [1], Robert Thorslund [2], Pelle Rangsten [1] ([1]NanoSpace AB, [2]Uppsala University)*

P5 Design & feasibility study of PCM-actuated MEMS valves, *Maria Björklund [1], Johan Bejhed [2], Pelle Rangsten [1] ([1]NanoSpace AB, [2]Uppsala University)*

P6 Fast narcotics detection with a microfluidic sample interface, *Thomas Frisk, Wouter van der Wijngaart, Göran Stemme (KTH)*

P7 Mask material effects in cryogenic DRIE, *Lauri Sainiemi, Sami Franssila (Helsinki University of Technology)*

P8 Microfluidic device for studies of primary cilium direction sensitivity, *Susanna Rydholm, Thomas Frisk, Helene Andersson, Göran Stemme , Hjalmar Brismar (KTH)*

P9 Programmable motion and separation of single magnetic particles on patterned magnetic surfaces, *LarsErik Johansson [1], Klas Gunnarsson [1,2], Erika Ledung [1], Sven Oscarsson [1], Peter Svedlindh [2] ([1]Mälardalen University, [2]Uppsala University)*

P10 Separation of escherichia coli bacteria from raw milk using resonant ultrasound in a microfluidic channel, *Per Augustsson [1], Hideaki Matsuoka [2], Thomas Laurell [1] ([1]Lund University, [2]Tokyo University of Agriculture and Technology)*

P11 Under bump metallization for multi chip modules in space applications, *Viveka Lindskog, Peter Nilsson (Ångström Aerospace Corporation)*

P12 Microwaves for diagnostics, *Denny Åberg (Mälardalen University)*

P13 Intelligent Sensor System (ISS) – A research profile at Mälardalen University, *Maria Lindén (Mälardalen University)*

P14 MicroBUILDER – An integrated modular service for microfluidics, *Andreas Vogl[1], Dag Ausen[1], Liv Furuberg[1], Ralph Bernstein[1], Ingelin Clausen[1], Per Gløersen[2], Per Øhlkers[3], Stephan Messner[4], Holger Brüning[5], Hunor Santa[6], Pierluigi Civera[7], Gerold Schröpfer[8], Vincent Gaff[9] ([1]SINTEF, [2]Infineon Technologies SensoNor AS, [3]Vestfold University College, [4]HSG-IMIT, [5]thinXXS GmbH, [6]BME, [7]COREP, [8]Coventor sarl, [9]Tronics Microstystems)*

PE21 From a horse and buggy to a sports car, *Thomas Lagö, Rolf Zimmergren, Alan Boyer (Acticut International AB)*

PE22 µFab: The Swedish micro- and nanofabrication network, *Jan Stake [1], Nils Nordell [2], Stefan Nygren [3] ([1]Chalmers, [2]Electrum, [3]Uppsala University)*

E31 minST / teknIQ / proDesign / KK-stiftelsen

E32 SSF

E33 VINNOVA

E34 Västerås Stad / Teknikbyn

E35 Medeso AB

E36 VIDIX – Visible Dynamics AB

E37 Acreo AB

E38 Teleca Sweden East AB

E39 Comsol AB

E40 Tritech Technology AB

******) Key note speakers:**

Salvatore Grimaldi (Grimaldi Industri AB, Sweden) has been an entrepreneur since 1970. Grimaldi Industri consists today of several companies and trademarks, including Alpha Sweden, Bianchi, Crescent and Monark. He is the chairman of the board for the Federation of Private Enterprises in Sweden (Företagarna). Salvatore Grimaldi emphasises challenge, change, and development of company strengths.

Håkan Jansson (Investor AB, Sweden) is senior adviser at Investor Growth Capital in Stockholm , a company at which he was CEO and Managing Director between 2000 and 2005. He has also 27 years of experience from Ericsson where he held senior positions in the management group, including Head of the Mobile Phone Systems business unit .

Per G. Gløersen (Infineon Technologies SensoNor AS, Norway) is the R&D coordinator of SensoNor, a wholly-owned subsidiary of Infineon Technologies. He is the architect and leader of numerous EU and other projects that have contributed to bring SensoNor to a leading position in automotive inertial sensors and tire pressure monitoring systems.

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