

Preliminary Program

THE COMMERCIALIZATION OF MEMS '96

... sensors, actuators, machines ...

6-11 October 1996

Keauhou Beach Hotel

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Dr. Steve Walsh

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Dr. Job Elders

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Sunday, October 6, 1996

3:00 p.m.- 6:00 p.m. REGISTRATION (Lobby of Keauhou Beach Hotel)

6:30 p.m.- 9:30 p.m. LUAU / (Music) Kuakini Gardens

Monday, October 7, 1996

7:00 a.m. - 8:30 a.m. Breakfast Buffet

**8:30 a.m.- 12:30 p.m. SESSION I - COMMERCIALIZATION STRATEGIES
FOR ADVANCED TECHNOLOGIES**

Session Chairs:

Dr. Steven Walsh, SEMI/NJIT

Dr. W. Carr NJIT

8:30 a.m. - 9:00 a.m. **Welcome and Introductions**

Speakers

Dr. Robert Warrington (Louisiana Tech)

Dr. William Carr (NJIT)

Frank Schmidt, Engineering Foundation

9:00 a.m. - 9:30 a.m. **View from the Summit**

Opening Speaker

R. Muller, University of California

9:30 a.m. - 10:00 a.m. **Deriving Competitive Advantage Through MEMS
Technologies**

Speaker

Dr. S. Walsh, SEMI/NJIT

10:00 a.m. - 10:30 a.m. **Infrastructure, Why Corporations Use or Don't Use
MEMS Technologies**

Speaker

K. Markus, MCNC

10:30 a.m. - 10:45 a.m. Coffee Break

10:45 a.m. - 11:15 a.m. **Entrepreneurship in an Emergent Technology**

Speaker

Dr. B. Kirchhoff, Director of Entrepreneurship

11:15 a.m. - 11:45 a.m. **Kulite - An Entrepreneurial Success Story Based on an
Emergent Technology**

Speaker
T. Kurtz, Kulite

11:45 a.m. - 12:15 noon **Motorola Markets and Emergent Technology**

Speaker
D. Walters, Motorola

12:15 noon - 12:30 p.m. Open Discussion

12:30 p.m. - 13:30 p.m. Lunch

13:30 p.m. - 17:00 p.m. Group Discussions / Free Time

17:00 p.m. - 18:00 p.m. Cash Bar

18:00 p.m. - 19:15 p.m. Dinner

19:15 p.m. - 23:00 p.m. **SESSION II: TECHNOLOGY PUSH VERSUS
MARKET PULL**

Session Chair:
R. Grace, Roger Grace Associates

19:15 p.m. - 20:15 p.m. **Expert View of the MEMS Marketplace**

Speakers
R. Grace, Roger Grace Associates
G. Tschulena, GT
Y. Yanazzi, Yanazzi International

20:15 p.m. - 21:15 p.m. **Commercialization of MEMS Technologies from the
Automotive Industry**

Speakers
J. Giacino, Ford
S. Paasche, Daimler-Benz
M. Mollendorf, Bosch

21:15 p.m. - 21:30 p.m. Coffee Break

21:30 p.m. - 22:00 p.m. **Life is Easier With Market Pull But Sometimes It takes a
Technological Push**

Speaker
R. Mehalso, IFM/Microtech Assoc.

22:00 p.m. - 23:00 p.m. Social Hour

Tuesday, October 8, 1996

7:00 a.m. - 8:30 a.m. Breakfast Buffet

8:30 a.m. - 12:30 p.m. **SESSION III - DIFFERING MEMS
COMMERCIALIZATION TECHNOLOGY STRATEGIES**

Session Chairs:

Dr. Job Elders, Twente MicroProducts

Dr. Dong Cho, Seoul National University

8:30 a.m. - 9:00 a.m. **Commercialization Strategies**

Opening Speaker

Dr. Tsuneo Ishimaru, NipponDenso

9:00 a.m. - 10:00 a.m. **Asian Commercialization Strategies**
(5 minute presentations followed by audience participation)

Japan

Panel

TBA, Cannon

Koichi Irida, Aishin Cosmos Research Co. Ltd.

Dr. Tsuneo Ishimaru, NipponDenso

Korea

Panel

Dr. S. Shin, Korea Electronic Technology Institute

Dr. Woo

Taiwan

Panel

S. Xi

10:00 a.m. - 10:30 a.m. Coffee Break

10:30 a.m. - 11:30 a.m. **American Commercialization Strategies**
(5 minute presentations followed by audience participation)

Dr. B. Sulouff, Analog Devices

Dr. D. Edmans, Interscience

Dr. M. Albin, P.E. Applied Biosystems
Dr. P. MacWhorter, Sandia National Lab

11:30 a.m. - 12:30 European Commercialization Strategies

Opening Speaker

Dr. J. Elders, Twente MicroProducts

Panel

Dr. Christopher Hierold, Siemens

Dr. Dr. Tolfree, DRAL

TBA, Phillips

TBA, CSEM

TBA, ETH

Dr. P. Bley, Kernforschingszentrum

12:30 - 13:00 p.m. Comparison of Commercialization Typologies

Panel

Dr. J. Elders, Twente MicroProducts

Dr. D. Tolfree, DRAL

Dr. S. Walsh, SEMI/NJIT

K. Markus, MCNC

R. Grace, Roger Grace Associates

Dr. W. Yun, BEI Electronics

13:00 p.m. - 14:00 p.m. Lunch

13:30 p.m. - 17:00 p.m. Group Discussions / Free Time

17:00 p.m. - 18:00 p.m. Cash Bar

18:00 p.m. - 19:15 p.m. Dinner

**19:30 p.m. - 23:00 p.m. SESSION IV: PACKAGING, STANDARDS AND
INTEGRATION (POSITION STATEMENTS AND INTERACTIONS)**

Session Chairs:

Dr. Noel MacDonald, Cornell University

Dr. William Carr, NJIT

19:30 p.m. - 20:15 p.m. Packaging and Testing Bottlenecks to Commercialization

Speakers

P. Skeath, Integrated Tech for Medicine

R. Saenger, Tech-Sensors and Physics
P. Cook, VSI
Dr. Jones, VSI
D. Monk, Motorola

20:15 p.m. - 21:00 p.m. **Standards - Bottlenecks to Commercialization**

Speakers

Dr. J. Bryzek, Intelligent MicroSensor Technology
Dr. J. Elders, Twente MicroProducts
Dr. Omeda, National Research Lab

21:00 p.m. - 21:15 p.m. Coffee Break

21:15 p.m. - 22:00 p.m. **Integration - How Much, How Soon, How Appropriate?**

Speakers

Dr. N. MacDonald, Cornell University
Dr. Freidrich, IFM
Dr. Weschung, Microtech
Dr. W. Carr, NJIT

22:00 p.m. - 23:00 p.m. Social Hour / Cash Bar

Wednesday, October 9, 1996

7:00 a.m.- 8:30 a.m. Breakfast

8:30 a.m. - 10:30 a.m. **SESSION V: TECHNOLOGY TRANSFER ISSUES AND COMMERCIALIZATION**

Session Chairs:

Joe Mallon, MSI
Dr. George Hazelrigg, NSF
Dr. Bruce Kirchhoff, Director of Entrepreneurship

8:30 a.m. - 9:00 a.m. **Technology Transfer**

Opening Speaker

TBA

9:00 a.m. - 9:30 a.m. **IC Sensors - Commercialization to Purchase**

Speakers

H. Jerman, IC Sensors
S. Terry, IC Sensors

9:30 a.m. - 10:30 a.m. **Appropriate Valuations of Technologies and Technology Enterprises**

Speaker

Bob Harris, HarrisRoja

10:30 a.m. - 12:30 noon **SESSION VI: WHY COMPANIES CHOOSE TO USE, OR NOT USE, MEMS TECHNOLOGIES**

Session Chairs:

J. Mallon, MSI

Dr. S. Walsh, SEMI/NJIT

10:30 a.m. - 11:30 a.m. **Why Companies Choose to Use, or Not Use, MEMS Technologies**

Speakers

L. Fan, IBM

J. Walker, AT&T

D. Verlee, Abbott Laboratories

J. Knutti, Silicon Microstructures

K. Peterson, Cepheid

11:30 a.m. - 13:00 p.m. **Competing on Degree of Integration**

11:30 a.m. - 12:00 noon **Monolithic Structures**

Speaker

Dr. R. Payne, Analog Devices

12:00 noon - 12:30 p.m. **Hybrid Structures**

Speaker

R. Roop, Motorola

12:30 p.m. - 13:00 p.m. **FlipChip/Multimodule**

Speaker

K. Kaiser

13:00 p.m. - 14:00 p.m. Lunch

14:00 p.m. - 17:00 p.m. Group Discussions / Free Time

17:00 p.m. - 18:00 p.m. Social Hour

18:00 p.m. - 19:15 p.m. Dinner

19:30 p.m. - 22:00 p.m. **SESSION VII: COMMERCIALIZATION PROBLEMS
IN AN EMERGENT TECHNOLOGICAL BASE**

Session Chair:

K. Markus, MCNC

19:30 p.m. - 20:15 p.m. **Technological Difficulties in Commercializing and
Emergent Technology**

Speaker

Dr. M. Mignardi, Texas Instruments

20:15 p.m. - 23:00 p.m. **Breakout panels**
(Summaries to be developed for Session VIII)

Integration

R. Payne, Analog Devices

K. Peterson, Cepheid

J. Knutti, Silicon Microstructures

Dr. H. Blum, Jenoptik GmbH

E. Sickafus, Ford

Packaging

Dr. J. Bryzek, Intelligent MicroSensors

Dr. G. Dahlbacka, Lawrence Berkeley Laboratory

Standards

Dr. Omeda

Infrastructure - Process

F. Maseeh, Intellisense Corporation

K. Markus, MCNC

Strategic Alternatives

Dr. S. Walsh, SEMI/NJIT

M. Jamiolkowski, Microcosm Technologies Inc.

Funding

R. Harris, HarrisRojas

P. Skeath, Integrated Tech for Medicine

22:00 p.m. - 23:00 p.m. Social Hour / Cash Bar

Thursday, October 10, 1996

7:00 a.m.- 8:30 a.m. Breakfast

8:30 a.m.- 11:00 p.m. **SESSION VIII: PANEL REPORTS / CONCLUDING REMARKS**

Session Chairs:

Dr. R.O. Warrington, Louisiana Tech

Dr. R. Mehalso, Microtech Associates

8:30 a.m. - 10:15 a.m. Report of Panel Leaders

10:15 a.m. - 10:30 a.m. Coffee Break

10:30 a.m. - 11:00 a.m. **Concluding Comments on the Commercialization of Microsystems '96**

Speaker

Dr. B. Kirchhoff, Director of Entrepreneurship

11:30 a.m. - Lunch and adjournment

Sunday, October 6, 1996