

CURRICULUM VITA

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Chancellor's Professor

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PROFESSIONAL PREPARATION

INSTITUTION AND LOCATION	DEGREE	YEAR	FIELD OF STUDY
Rijksuniversiteit, Ghent, Belgium	B.Sc.	1973	Physical Chemistry
Rijksuniversiteit, Ghent, Belgium	M.Sc.	1975	Physical Chemistry
Rijksuniversiteit, Ghent, Belgium	Ph.D	1978	Semiconductor Electrochemistry

PATENTS AND DISCLOSURES

PATENT NO.	TITLE	DATE
6,663,615	Dual Stage Microvalves and Method of Use	December 16, 2003
5,403,680	Photolithographic and Electron Beam Lithographic Fabrication of Micron and Submicron Three-Dimensional Arrays of Electronically Conductive Polymers	April 4, 1995
5,368,704	Micro-Electrochemical Valves and Methods	November 29, 1994

5,304,293	Microsensors for Gaseous and Vaporous Species	April 19, 1994
5,183,549	Multi-Analyte Sensing Electrolytic Cell	February 2, 1993
5,151,224	Tetrasulfonated Metal Phthalocyanine Doped Electrically Conducting Electrochromic Poly(Dithiophene) Polymers	September 29, 1992
5,134,042	Solid Compositions for Fuel Cells, Sensors and Catalysts	July 28, 1992
5,002,700	Divisional US Serial No. 675, 091 Permanently Doped and Method Thereof	March 26, 1991
4,973,391	Composite Polymers with Metal Phthalocyanine and Polyaniline with Organic Sulfonic Acid and Nafion	November 27, 1990
4,948,680	Solid Compositions for Fuel Cell Electrolytes	August 14, 1990
4,909,908	Electrochemical Concentration Detector Method	March 20, 1990
4,900,405	Surface Type Microelectronic Gas and Vapor Sensor	February 13, 1990
4,874,500	Microelectrochemical Sensor and Sensor Array	October 17, 1989
4,864,462	Capacitive Gas Detector Having a Solid Rare Earth Fluoride Dielectric	September 5, 1989
4,851,303	Solid Compositions for Fuel Cells, Sensors and Catalysts	September 5, 1989
4,812,221	Fast Response Time Microsensors for Gaseous and Vaporous Species	March 14, 1989
4,795,968	Gas Detection Method and Apparatus Using Chemisorption and/or Physisorption	January 3, 1989
4,765,864	Etching Method for Producing an Electrochemical Cell in a Crystalline Substrate	August 23, 1988

FILED APPLICATIONS:

1. Reactive Polymeric Valve, Dispensing Devices and Methods (10/12/99)
2. Multimeric Biopolymers as Structural Elements and Sensors and Actuators in Microsystems (7/13/01)
3. Microfluidic Devices and Manufacture Thereof (7/15/99) 60/144,156
4. Electrochemical Detectors Based on Metal Oxides (10/11/01) OSU1159-140A
5. Dual Stage Microvalve and Method of Use (June 2001)
6. Novel, More Biocompatible, Artificial Muscle-Type Hydrogel Blends Electro-actuated at Physiological pH (2003)
7. Microfluidic Valve for Liquids (2004-652)
8. Polymeric Valves for Controlled Drug Delivery (2004-117)
9. High Aspect Ratio C-MEMS Architecture (2/11/2005)
10. Surface/Composition Enhancements to High Aspect Ratio C-MEMS (3/25/2005)
11. Polymeric Valves for Controlled Drug Delivery (3/15/2005) 11/277221
12. Using 3D Conductive Structures in Dielectrophoretic Separation Applications (2005-252)
13. Flow Switching on a Multi-Structured Microfluidic CD (Compact Disc) Using Coriolis Force (2005-108)
14. Apparatus and Method for Disruption of Cells or Viruses (2006-074)
15. Regulation of Fluid Transfer Between Two Elements in a Compact Disk (CD)-Based Microfluidic Device (2007-201)
16. Fabrication of Suspended Carbon Micro and Nanoscale Structures (6/24/2006) (Orrick Docket No. 703538.4107)

PENDING APPLICATIONS

1. Method of Fabrication of Self-Enclosed Microchannels (2004-621)
2. Rapid Bio-Molecules Detection by Adjacent Impedance Probing (aip) (2005-236)
3. Bead-Based Mechanical Cell Lysis on a Fluidic Disk (2007-059)
4. Dielectrophoresis on a CD-Like Centrifugal Platform (2007-612)

DISCLOSURES:

1. Interdigitated Microbattery Array (at LBNL), 1997.
2. Gas Sensing Array Optimized through Instrument Hybridization UC Case No.:B98-007 (at UCB), 1997.
3. Chronically implantable, potentiometric chemical sensors for physiological monitoring (NASA), 1998.
4. A Micromachined Artificial Muscle (OSU), 1998.
5. A New Method to Fabricate IrOx for pH Sensing (OSU), 1998.
6. A Novel CO₂ Sensor (OSU), 1999.
7. Riston Based Sensors (OSU), 1999.
8. Reaction Sites in Planar Fluidic Platforms, Nanogen, 1/8/01.
9. Bubble-Less Electrokinetic Pump Using Ion Rectification, Nanogen, 4/13/01.
10. Bubble-Less Electrokinetic Pump with External Rectification Using a Porous, Nanogen, 4/18/01.
11. Two Layer Fluidic Structure for Electro-Osmotically Pumped Assay, Nanogen, 5/25/01.
12. Method for Electronic Contacting of Centrifugal Assay Disc, Nanogen, 6/26/01.
13. Electrochemical Detection of SNPs and DNA Hybridization, Nanogen, 7/9/01.
14. A System for Evanescent Detection and Transparent Planar Electrode Assisted Hybridization and Detection, 8/28/01.

15. Electrode Arrays with Proximity Attachment for Evanescent Guided Wave Detection of Electronically Addressed Assays, 8/28/01.
16. Polymeric Valves For Controlled Drug Delivery, 2004.
17. Fabrication of Carbon Nanotube by Pyrolyzing Photoresist, 2004.
18. Methods for Growing Nanofibers/Nanotubes on High Aspect Ratio Carbon Microstructures, 2005.
19. C-MEMS Technology for Ni Nanowire Formation, 2005.
20. Integration of Nanoscale Tubes and Wires to C-MEMS, 2005.
21. Fabrication of C-PPy Microarrays for Li Microbattery Application, 2005.
22. Fabrication of Suspended Carbon Micro and Nanoscale Structures, 2005.
23. Multilayer Carbon Microelectromechanical Systems (C-MEMS), 2005.
24. Metal Interconnects for Use in Carbon Microelectromechanical Systems (C-MEMS), 2005.
25. Methods for More Efficient Current Collection in Carbon Electrodes, 2006.
26. Methods of Obtaining Porous C-MEMS Electrodes, 2006, submitted.
27. Carbon Based Microelectromechanical Systems and Nanoelectromechanical Systems for Glucose Sensing, to be submitted.
28. Catheter for In Vivo Detection of Glucose, 2007, submitted.

GRANTS AND CONTRACTS

1. "Biomimetic Detection Schemes on a Microfluidic Platform (LabCD)," (PI; L.G. Bachas, Co-PI; M.J. Madou, Co-PI), NASA \$839,537, 8/1/99 – 7/15/03.
2. "Responsive Drug Delivery Systems: ChipRx," (Co-PI; M.J. Madou, PI), TAF- State of Ohio, TOTAL: \$500,000, THIS PROJECT: \$178,920, 10/1/00 – 3/31/03.

3. "Bio-Inspired Materials for Sensing and Actuation in Biomedical Applications," (PI; L.G. Bachas, Co-PI; M.J. Madou, Co-PI), NIH, \$357,693, 09/30/03 – 09/29/06.
4. "Bio-Inspired Materials for Sensing and Actuation in Biomedical Applications," (PI; L.G. Bachas, Co-PI; M.J. Madou, Co-PI), NIH, \$357,693, 09/30/03 – 09/29/05.
5. "NIRT: C-MEMS/C-NEMS for Miniature Biofuels Cells," (CO-PI; Marc J. Madou, PI), national Science Foundation-NIRT, \$450,000, 7/1/07-6/30/10.
6. Collaborative Research: Extended Life Implantable Biosensor Platform" (Co-PI; Marc J. Madou, PI), National Science Foundation – ECCS – Integrative, Hybrid and Complex Systems, \$450,000, 7/1/07-6/30/10, pending.

SPEAKING EVENTS

January 23-28, 2000. Invited Speaker.

Bachas, Leonidas G.; Madou, Marc; Daunert, Sylvia. Biomimetic Detection Schemes on the LabCD. NanoSpace 2000-Advancing the Human Frontier: Third Annual International Conference on Integrated Nano/Microtechnology for Space Applications, Houston, TX

March 2000. Poster and Panel Member.

Douglass, Phillip M.; Salins, Lyndon L. E.; Wenner, Brett R.; Madou, Marc; Daunert, Sylvia. Development and Application of Genetically Engineered Reagents for Use in High-Throughput Screening of Pharmaceuticals. 219th ACS National Meeting, San Francisco

March 2000. Poster and Panel Member.

Wenner, Brett R.; Douglass, Phillip M.; Salins, Lyndon L. E.; Madou, Marc; Daunert, Sylvia. Development of a Fluorescence-Based Phosphate Sensing Platform Utilizing a Genetically Engineered Phosphate-Binding Protein Entrapment Scheme. 219th ACS National Meeting, San Francisco

March 2000.

Douglass, Phillip M.; Wenner, Brett R.; Barrett, Gary; Hsu, Pang-Hung; Juang, Yi-Je; Lee, L. James; Madou, Marc; Daunert, Sylvia. Coupling Genetically Engineered Proteins and Microfluidics: Fluorescence Detection on the LabCD. American Institute of Chemical Engineers 2000 Spring National Meeting, Atlanta

May 2000. Keynote speaker.

Madou, Marc; Lu, Yumin; Lai, Siyi; Lee, L. James; Daunert, Sylvia. A Centrifugal Microfluidic Platform: A Comparison. Proc. μ TAS 2000 Symposium, Enschede, The Netherlands

May 2000.

Douglass, Phillip M.; Wenner, Brett R.; Madou, Marc; Daunert, Sylvia. Design and

Fabrication of a Compact Disc-Based Microfluidic Platform (the LabCD) for Use with Genetically Engineered Reagents for Analyte Detection. 32nd ACE Annual Midwest Regional Meeting (CMACS2000), Covington, Kentucky

May 2000.

Wenner, Brett R.; Douglass, Phillip M.; Salins, Lyndon L. E.; Madou, Marc; Daunert, Sylvia. Development of a Fluorescent Phosphate Sensing Platform Using a Genetically Engineered Phosphate-Binding Protein in a Sol-Gel Entrapment Scheme. 32nd ACE Annual Midwest Regional Meeting (CMACS2000), Covington, Kentucky

May 23-26, 2000.

Douglass, Phillip M.; Wenner, Brett R.; Barrett, Gary; Hsu, Pang-Hung; Madou, Marc; Daunert, Sylvia. Development and Application of Biosensing Systems for Use in High-Throughput Screening of Pharmaceuticals, Clinical Diagnostics, and Environmental Monitoring. 6th World Congress on Biosensors, San Diego

June 2000. Poster.

Madou, Marc; Lu, Yumin; Lai, Siyi; Juang, Yi-Je; Lee, L. James; Daunert, Sylvia. A Novel Design on a CD Disc for Two-Point Calibration Measurement. Solid-State Sensor & Actuator Workshop, Hilton Head, South Carolina

June 22-23, 2000. Keynote Address and Chairperson.

Madou, Marc. BioMEMS 2000: The Knowledge Foundation's 2nd Annual Conference on BioMEMS, San Francisco

July 2-5, 2000.

Douglass, Phillip M.; Wenner, Brett R.; Barrett, Gary; Hsu, Pang-Hung; Madou, Marc; Daunert, Sylvia. The Integration of Novel Biosensing Systems and the LabCD: New Tools for Use in High-Throughput Screening, Clinical Diagnostics, and Environmental Monitoring. 8th International Meeting on Chemical Sensors, Basel, Switzerland

July 10-13, 2000.

Douglass, Phillip M.; Patel, Jignaben D.; He, Ke-Qin; Bachas, Leonidas G.; Madou, Marc; Daunert, Sylvia. Biologically Inspired, Intelligent Muscle Material for Sensing and Responsive Delivery of Countermeasures. International Conference on Environmental Systems (ICES2000), Toulouse, France

July 10-13, 2000.

Wenner, Brett R.; Douglass, Phillip M.; Lu, Yumin; Lai, Siyi; Juang, Yi-Je; Lee, L. James; Madou, Marc; Daunert, Sylvia. Biosensing on the CD Microfluidic Platform with Genetically Engineered Proteins. International Conference on Environmental Systems (ICES2000), Toulouse, France

August 20-24, 2000.

He, K-Q., and Madou, Marc. Exploitation of a Novel Artificial Muscle material for Controlled Drug Delivery, 220th ACS National Meeting, Washington, DC,

August 24-25, 2000. Invited Speaker.

Madou, Marc. Merging Informatics and Fluidics. Workshop of the Nanochemistry Programme, Villa Brevik, Lidingo, Stockholm, Sweden

August 27-30, 2000. Plenary Speaker (Opening Session).

Madou, Marc. Merging of IC-Manufacturing and Traditional Manufacturing in Bio-MEMS. Eurosensors XIV, Copenhagen, Denmark

September 2000.

Madou, Marc; Lee, L. James; Koelling, Kurt W.; Daunert, Sylvia; Lai, Siyi; Juang, Yi-Je; Yu, Liyong; Lu, Yumin; Koh, Chee Guan. Microfabrication of Polymer Microfluidic Platforms for BioMEMS Applications. BioMEMS and BioMedical Nanotechnology World2000, Columbus, Ohio

September 24, 2000.

Bachas, Leonidas G.; Daunert, Sylvia; Madou, Marc. Nano- and Microscale Sensing Architectures. BioMEMS and BioMedical Nanotechnology World2000, Columbus, Ohio

September 24-29, 2000.

Johnson, R. D.; Lai, Siyi; Madou, Marc; Bachas, Leonidas G. Coupling a Centrifugal Microfluidics Platform and Ion-Selective Optodes for Bioanalytical Analysis. FACSS 2000, Nashville, Tennessee

October 16, 2000. Invited Speaker.

Madou, Marc. BIOMEMS in the Operating Room. Fantastic Voyage, The Cleveland Clinic Foundation

October 19, 2000. Featured Speaker.

Madou, Marc. Merging of Fluidics and Informatics. ACS Meeting, Cincinnati

October 24, 2000. Lecturer.

Madou, Marc. Overview of Micromachining Technology. IntelliSense MEMS Technology Workshop, Boston

October 26, 2000. Invited Speaker.

Madou, Marc; Yao, Sheng; Wang, Min. pH Electrode Based on Iridium Oxide Film. 198th Meeting of the Electrochemical Society, Phoenix

November 28-30, 2000. Invited Speaker and Organizing Committee Member.

Madou, Marc. Merging of Informatics and Fluidics. 4th Annual European Conference on Micro & Nanoscale Technologies for the Biosciences (Nanotech 2000), Montreux, Switzerland

March 26-30, 2000

Douglass, P. M., L. L. E. Salins, B. R. Wenner, M. J. Madou and S. Daunert. Development

and Application of Genetically Engineered Reagents for Use in High-Throughput Screening of Pharmaceuticals. Book of Abstracts, 219th ACS National Meeting, San Francisco, CA; ANYL-038.

January 2000.

Sheng, Y., M. Wang and M. J. Madou. Electrochemical Sensor for Dissolved Carbon Dioxide Measurement, Gordon Research Conferences: Chemical Sensors and Interfacial Design, Ventura, CA

July 2000

Sheng, Y., M. Wang and M. J. Madou. High Performance pH Electrode Based on Iridium Oxide Film, 8th International Meeting on Chemical Sensors, Basel, Switzerland

January 2000.

Wang, M., S. Yao and M. J. Madou. A Highly Stable Metal Oxide pH Electrode, Gordon Research Conferences: Chemical Sensors and Interfacial Design, Ventura, CA

2000.

Sheng, Y., M. Wang and M. J. Madou. A Stable Electrochemical Carbon Dioxide Sensor, 8th International Meeting on Chemical Sensors, Basel, Switzerland

March 26-30, 2000

Wenner, B. R., L. L. E. Salins, P. M. Douglass, M. J. Madou and S. Daunert. Development of a Fluorescence-Based Phosphate-Sensing Platform Utilizing a Genetically Engineered Phosphate-Binding Protein-Entrapment Scheme, Book of Abstracts, 219th ACS National Meeting, San Francisco, CA; ANYL-039

January 22, 2001.

Dynamic Silicon, MEMS in Diagnostic Applications, Invited Speaker

April 2 and April 4, 2001.

American Chemical Society (ACS), San Diego, CA, Invited Speaker

Invited Speaker, April 17, 2001.

IntelliSense Corporation, MEMS Technology Workshop, Boston, MA

April 18, 2001.

Exxon Mobile Research and Engineering, Annandale, NJ, Invited Speaker

April 19, 2001.

Edmonton Council of Advanced Technology (ECAT), Edmonton, Alberta Canada, Invited Speaker

June 20, 2001.

MipTec-ICAR 2001, Basel, Switzerland, Invited Speaker

June 25, 2001 Panel Member

Bio2001, Promoting University-Industry Partnerships: Partners in Product Creation and Workforce Preparation, San Diego, CA

August 31, 2001 Invited Speaker

smallTalk2001 The Microfluidics, Microarrays and BioMEMS Conference - Association for Laboratory Automation, "Merging of DNA Arrays with Microfluidics, San Diego, CA.

September 11, 2001

Mesa+ Research Institute, University of Twente, the Netherlands, "Microsystem Technology and Biotechnology in the 21st Century".

SmallTech2001 (Meeting cancelled due to September 11 events)

September 27, 2001

University of California, Irvine. "From MEMS to NEMS in the Next 15 Years".

October 17, 2001

MEMS Workshop, Boston, Intellisense, "BioMEMS and Microfabrication Issues".

October 22, 2001

SPIE, Micromachining and Microfabrication, "From MEMS to BioMEMS".

November 12, 2001

Microsystems/Nanotechnology to the Life Sciences, Banff "MEMS and Biotechnology Convergence"

November 16, 2001

U.C. Riverside, Riverside, CA. "From MEMS to BioMEMS".

November 26, 2001

MRS Meeting, Boston, MA, "From MEMS to BioMEMS in the Next 15 Years".

November 29, 2001

NanoTech 2001 - 6th Annual European Conference - Montreux Palace Hotel, "MEMS and Biotechnology in the 21st Century".

January 9-10, 2002 Invited panel member.

The New Challenges of Chemical and Biological Sensing, National Science Foundation Workshop, Arlington, VA, Organized by Art Janata.

January 23-24, 2002. Invited short course

Photonics West, SPIE, Biomedical Optics, San Jose, CA, Microfabrication Techniques for Microfluidics & BioMEMS. Talk 1: Electrokinetic Manipulations of Bioparticles for Molecular Diagnostics. Talk 2: AC and DC Electrokinetics in Molecular Diagnostics. Program Committee Novel Micro- and Nanotechnologies for Bioengineering Applications.

January 31, 2002. Invited talk

UC Irvine. MAE Seminar Series. Future MEMS Opportunities and Challenges in Science and Engineering.

February 26-27, 2002. Invited panel member
National Center for Research Resources Special Emphasis Panel, Biomedical Research Technology, Gaithersburg, MD.

March 5, 2002. Invited speaker.
ARO Workshop, Research Triangle Park, NC, February 27, 2002. Invited speaker.
Emerging Device Technologies Conference, SPIE Microlithography Symposium in Santa Clara, CA.

March 8, 2002. Invited speaker
Electrical Engineering at UCSD, San Diego, CA

March 13, 2002, Invited Speaker.
UCSD Extension-Microarray Technologies-An Overview, San Diego, CA

April 10, 2002. Short course instructor
Corning/IntelliSense MEMS Workshop , Boston, MA, Overview of Micromachining Technology-Miniaturization Science.

May 2-9, 2002 Participant
Duracell Chronos Workshop
Southbury, Connecticut

May 10, 2002. Invited speaker
Convergence 2002, Technology Development: Detection and Diagnostics, Rochester, NY,
Active DNA Arrays for Diagnostics

May 16, 2002. Session chair and Keynote speaker
Symposium on Microfabricated Systems and MEMS - Spring Centennial Meeting of the Electrochemical Society, Philadelphia, PA, Future MEMS Opportunities in Sciences and Engineering.

June 24, 2002. Invited talk
DRC-60th Device Research Conference, UCB-Santa Barbara, CA, The Impact of MEMS on Biotechnology in the 21st Century.

Aug.11, 2002, Session Organizer/Invited Talk
Symposia for SIM Annual Meeting 2002, Philadelphia, PA, Biomimetics in Biosensing.

September 7-9, 2002. Invited talk
BioDevice Interface Science and Technology Workshop. Fairmont Scottsdale Princess Resort and Hotel. Scottsdale Arizona, The Impact of MEMS and NEMS on Biotechnology in the 21 st Century.

Sept.26-27, 2002. Keynote
Swiss Academy of Technology and Science (SATW), Zurich Switzerland, Biochips and Microfluidics.

Thursday, October 10, 2002. Invited Talk
UC Irvine. MAE Seminar Series. Nanotechnology: Icarus revisited?

Oct.17-19, 2002. Invited talk
Technology and Research Symposium, Calgary, Canada, Miniaturization in Clinical Diagnostics.

October 21, 2002. Invited talk
Lehigh University. Nanotechnology: Icarus revisited?

October 23, 2002. Short course instructor
Corning/IntelliSense MEMS Workshop , Boston, MA, Fundamentals of Micromachining.

November 26-28, 2002. Event organizer. Keynote speaker
NanoTech 2002, Montreux, Switzerland. Biochips and Microfluidics.

Dec.2, 2002. Symposium Organizer. Short course instructor
MRS MEMS Symposium, Boston, MA, Biomimetics in MEMS and NEMS. Session chairman.

Dec.12, 2002. Visiting Professor/Invited speaker
Laval University, Quebec City, Canada, Biochips and Microfluidics.

January 21, 2003
UCLA, LA, CA
Invited Talk: Nanotechnology: Icarus Revisited?

January 30, 2003
SPIE, San Jose, CA
Short Course: Microfabrication Techniques for MicroFluidics & BioMEMS (SC 437)

March 3, 2003
TMS, San Diego, CA
Invited Talk: Organic versus Inorganic Actuators

March, 9, 2003
Society of Toxicology, 42nd Annual Meeting Continuing Education, Salt Lake City, Utah
Invited short course: Electrokinetic Microarrays: The Advantages and Limitations.

March 12-14, 2003
UCSD Extension Microarray Technologies: An Overview, San Diego, CA
Electrokinetic Microarrays: The Advantages and Limitations. Instructor.

April 2, 2003
Boston, Corning/IntelliSense
Short course on MEMS. Instructor.

April 21, 2003
San Diego, CA, UCSD, Materials Department
Nanotechnology: Icarus Revisited?

May 2, 2003
UCI Irvine Round Table, Half Moon Bay, CA
Biochips and Microfluidics.

May 5-7, 2003
France, DTIP 2003, Cote d'Azur
Plenary lecture. The Impact of MEMS and NEMS on Biotechnology in the 21st Century.

May 9, 2003
IEE, Glasgow, Scotland
The Impact of MEMS and NEMS on Biotechnology in the 21st Century. Featured speaker.

July 10, 2003
Pasadena, CA. The Nano Republic Conference
Components Keynote Speaker

September 15, 2003
University of Illinois at Urbana-Champaign.
Distinguished Lecture: Nanosensors: Icarus Revisited.

September 16, 2003
UCSD Connect, San Diego, Nanotechnology: Big Markets, Small Spaces
Panel Moderator: Frontiers in Nanoscience (Electronics/Materials)

October 14, 2003
The Electrochemical Society, Orlando Florida
Carbon-MEMS Architectures for 3-D Microbattery. Invited talk.

October 20, 2003
UC Irvine. BioMEMS Workshop.
Miniaturization in Biomedicine. Workshop organizer and featured speaker.

November 25-27, 2003
Montreux, Switzerland. NanoTech 2003.
NanoTech. Organizing Committee.

November 30, 2003
Boston, MRS Fall Meeting.

Symposium A: Nanotechnology-Icarus Revisted - The Organic/Inorganic Challenge.

January 23, 2004, HP

Palo Alto

Diagnostic Tests on a Compact Disc: A Lab-on-a-Disc

January 27, 2004 SPIE

San Jose

Panel: Commercialization of MEMS/MOEMS and the Role of Nanotechnology.

January 28, 2004 SPIE

San Jose

Tutorial: Microfabrication Techniques for MicroFluidics & Biomems (SC437)

February 13, 2004

AAAS

Seattle

Carbon-MEMS for 3-D Microbatteries

February 24-25, 2004

NSF

WDC

NSF, NIRT Panel

February 28, 2004 USC Workshop

LA

C-MEMS Batteries and In-Vivo Based Batteries

March 2-3, 2004 panel

Cleveland

NIH Infrastructure Enhancement Grant

March 7-11, 2004,

2004

Boston

The Detection of DNA Hybridization with Impedance Amplifying Labels (Madou group member will present)

March 19-26, 2004

Kanpur, India

NSF-Nanotechnology Panel: Nanotechnology: Icarus Revisted?

March 30, 2004

SCSMM

UCI

A Novel Method for the Fabrication of High Aspect Ratio C-MEMS Structures

April 5, 2004, Georgia Tech
Atlanta
Nanotechnology: Icarus Revisted?

April 21, 2004, UC Irvine
Irvine
Creating New Ventures as a Professor: Insights into Academic Entrepreneurship

April 27- 28, 2004 ASM
LA
Panel and CEI Course 437 BioMEMS: Impact of MEMS& NEMS on Biotechnology in the 21st Century

May 11, 2004 MEPTEC
Santa Clara
Packaging Issues in BioMEMS

May 24-26, Biosensors 2004
Granada
Plenary lecture: Carbon MEMS in Biosensors, Microbatteries and Fluidic Systems

June 4, Medea 2004
Leuven, Belgium
Opening lecture: Merging of DNA Arrays with Microfluidics: A Lab-on-a-Disc

June 20-22, BioIreland 2004
Dublin
Miniaturization Science and Biotechnology

June 23-25, IMEC 2004
Leuven
Biosensor Technology for Engineers

June 29, 2004, Micro&Nano Tech Workshop
Koc University,
Turkey
Nanotechnology - Icarus Revisited?

July 4-8, Analytical Forum, 2004
Poland
Genetic Engineered Proteins in MEMS and NEMS Sensing Platforms

July 14-16, 2004
Taragona

Summer Workshop and Talk at La Caixa

September 21-23,
NANOWorld, 2004
Anaheim, CA
From C-MEMS to C-NEMS

October 14,
IEEE Student Chapter of ITESM
Monterrey Campus, Mexico
Distinguished Speaker : Carbon MEMS for Biosensors, Microbatteries and Microfluidics.

October 21, Physics Colloquium
Houghton, MI
From MEMS to NEMS with Carbon

November 15, ASME IMECE, Microfluidics Symposium
Anaheim, CA
Keynote Address : From MEMS to NEMS with Carbon

November 16, AVS MEMS & NEMS
Anaheim, CA
Invited Talk : C-MEMS/NEMS: A Novel Technology for Graphite, Ni and Si Nanoscale
Material Formation

November 19,
San Diego Conference 2004
San Francisco, CA
Invited talk : Combining DNA Arrays with Microfluidics

November 25 - December 25
Kanpur, India
BIOMEMS Lecture Series. Japan, Korea and Taiwan with NSF's WTEC.

Jan 24, 2005
SPIE
San Jose, CA
Short Course on BIOMEMS

Feb 27, 2005
Starkey Corporation
Minneapolis, Minnesota

Feb 28 - Mar 2, 2005
Japan-US Workshop on The Future of Sensors and Sensor Systems (Collaboration between
The Science Council of Japan and the National Academies)

Tsukuba, Ibaraki, Japan
Invited Talk: MEMS and NEMS -Impact on Biotechnology

Mar 3-5, 2005
BioMEMS, XX Symposium Internacional de Electronic y Comunicaciones
Tec de Monterrey, Mexico
Invited Talk: Micromachining in Drug Delivery and CD Microfluidics

Mar 7-8, 2005
2nd MEMS Iberoamerican Meeting, 2005
Boca del Rio, Veracruz, Mexico
Invited Talk: MEMS and NEMS in Biotechnology

Apr 21-22, 2005
WTEC - Micromanufacturing
Arlington, Virginia

July 7-8, 2005
Alternative Micro- and Nano Fabrication 2005
Industrial Materials Institute-NRC, 75, de Mortagne,
Boucherville, Quebec, Canada
Keynote Speaker: MEMS and NEMS - Impact on Biotechnology

Aug 19, 2005
4th Canadian Workshop on MEMS
Chateau Laurier Hotel, Ottawa, Canada
Invited talk: Diagnostics on a CD platform

Sept 16, 2005
iNEMI Innovation Leadership Forum
Virginia Center for Innovative Technology, Herndon, Virginia
Invited talk on BIOMEMS

Oct 2-6, 2005
The 4th International Conference "Instrumental Methods of Analysis-IMA"
Iraklion, Crete GREECE
Invited lecture: Bio-analytics on a Compact Disc

Oct 5, 2005
MICRO SYSTEM Technologies 2005
Holiday Inn, München, Germany
Keynote speaker: A 3D Carbon World

Oct 7, 2005
Workshop - Prospects of Nanotechnology in Biomedicine
University of Kentucky, Chemistry-Physisc Building, RM CP-137
1. Nanotechnology: Icarus revisited?
2. The CD as a Diagnostic Platform.

3. Smart Drug Delivery

Oct 17, 2005

Electrochemical Society 208th Meeting

Westin Bonaventure Los Angeles Hotel , CA

Paper present : Adjacent Impedance Probing On Genosensor (will be presented by K. Ma and H. Zhou)

Oct 18, 2005

Electrochemical Society 208th Meeting

Westin Bonaventure Los Angeles Hotel , CA

Recent Developments in C-MEMS Technologies for Li Ion Microbatteries

Oct. 31 - Nov. 3, 2005

IEEE SENSORS 2005: the 4th IEEE conference on sensors

Hyatt Regency Irvine, Irvine, CA

Tutorial : Carbon MEMS and NEMS for Sensor Applications

Nov 4-5, 2005

NANOWorld Conference , NANOTECHNOLOGY IN AEROSPACE AND ELECTRONICS

Loyola Marymount University, Los Angeles, CA

From MEMS to NEMS with Carbon

Nov 15-17, 2005

Nanotech 2005– Montreux

The Montreux-Palace Hotel, Switzerland

Scientific Committee Member

Dec 1, 2005

A seminar at the engineering Physics department of École polytechnique de Montréal
École polytechnique de Montréal, Montréal, Québec, Canada

Dec 20-22, 2005

International Conference on MEMS and Semiconductor Nanotechnology

The Indian Institute of Technology, Kharagpur, India

Jan 22, 2006

SPIE - Photonics West 2006

San Jose, CA

Short Courses:

Microfabrication Techniques for Microfluidics&BioMEMS

Jan 23, 2006

SPIE - Photonics West 2006

San Jose, CA

Plenary talk: Genetic Engineered Proteins in MEMS and NEMS Sensing Platforms—Icarus Revisited?

Jan 24, 2006

Engineering Innovations Breakfast Series , UCI
Irvine, CA

Will Carbon Replace Silicon as the Top Engineering Material?

May 7-11,2006

International Conference on Nanoscience (ICON2006)
Choroní , Venezuela

Will Carbon Replace Silicon as the Top Engineering Material?

June 4-9, 2006

CIMTEC 2006
Acireale, Sicily, Italy

June 25-30, 2006

MEMS Technology and Biomedical Applications
Politecnico di Milano, Italy
BioMEMS

Aug. 30 - Sept. 1, 2006

SBCCI - Chip on the mountains
Ouro Preto, MG, Brazil

Biomimetic MEMS and NEMS Sensing Platforms-Icarus Revisted

Sept. 3-5, 2006

Micromechanics Microengineering Europe 2006 (MME 2006)
Southampton, England

Sept. 13-15, 2006

1st International Conference on Micromanufacturing (ICOMM)
University of Illinois, Urbana-Champaign, Illinois
Carbon MEMS and NEMS for Sensor Applications

Sept. 25-29, 2006

XXVI Society of Materials and Thin Films Research in Mexico Conference
Instituto nacional de Astrofisica Optica Y Electronica
Universidad Autonoma de Ciudad Juarea
Mexico-US Foundation for Science
BioMEMS Technology

Oct. 4-6, 2006

IMEC Courses - Biosensor Technology for Scientists and Engineers
Leuven, Belgium

Oct. 29 - Nov. 3, 2006
210th Electrochemical Society Meeting
Cancun, Mexico
Carbon to Replace Silicon as the Top Engineering Material?

Nov. 14-16, 2006
The 10th Annual European Conference On Micro & Nanoscale Technologies for the
Biosciences
Nanotech-Montreux, Lausanne, Switzerland

Dec. 11-14, 2006
Plenary Speaker
Kuala Lumpur 3rd International Conference on Biomedical Engineering 2006
Kuala Lumpur,
Malaysia
MEMS

Dec. 28-30, 2006
Keynote Speaker
International Workshop on MEMS and Micro/nano Systems Technology
for Bio-Implants and Bio-Applications
Indian Institute of Technology Kharagpur
Kolkata, India
Biomimetic MEMS and NEMS Sensing Platforms – Icarus Revisited?

Jan. 2-3, 2007
International Workshop on Micro Manufacturing in Biomedical Engineering
Durgapur, India

Jan. 22, 2007
SPIE Photonics West 2007
San Jose, CA
Microfabrication Techniques for Microfluidics & Biomems

Jan. 26, 2007
OCTANe Entrepreneur's Forum @UCI w/ Marc Madou
Uclub, UCI, CA

March 30, 2007
Instituto Politecnico Nacional
New Biomedical Technologies in Mexico
Mexico City, Mexico
Nanotechnology: Icarus Revisited?

April 18, 2007

Department of Mechanical Engineering Seminar, Yale University

Yale University, New Haven, CT

Biomimetic MEMS and NEMS Sensing Platforms-Icarus Revisted?

Upcoming

July 1-6, 2007

International Conference on Materials for Advanced Technologies, 2007

Singapore

Keynote Speaker

AUTHORSHIP OF BOOKS, CHAPTERS AND MONOGRAPHS

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	<p>Technique,” in <i>Methods in Molecular Biology – Microfluidics Techniques</i>, ed: Shelley D. Minter, Humana Press, St. Louis, MO.</p>
2002	<ul style="list-style-type: none"> • Author of <i>Fundamentals of Microfabrication</i>, 2nd edition, CRC Press • Coeditor of Nano-and Micromechanical Systems (NEMS and MEMS) and Molecular machines. Editors: David A. LaVan, Arturo A. Ayon, Thomas E. Buchheit and M. J. Madou. MRS. Materials Research Society. Symposium Proceedings. Volume 741. Fall Meeting 2002 (December 2-4, 2002, Boston).
2001	<ul style="list-style-type: none"> • Author of two chapters for <i>The MEMS Handbook</i>, CRC Press.
1997	<ul style="list-style-type: none"> • <i>Author of Fundamentals of Microfabrication</i>, M. J. Madou, CRC Press, November 1997, Graduate level introduction to microfabrication, 589 pages. Fifth printing, Fall 2000. • Author of "Facilitating Choices of Machining Tools and Materials for 'Miniaturization Science': A Review," M. J. Madou in <i>Tribology Issues and Opportunities in MEMS</i>, Proceedings of the NSF/AFOSR/ASME Workshop held in Columbus, Ohio, USA, 9-11 November 1997, edited by Bharat Bhushan for Kluwer Academic Publishers
1996	<ul style="list-style-type: none"> • Co-author of "Integrated Circuit Manufacturing Techniques Applied to Microfabrication," M. J. Madou and Hyunok Lynn Kim, Chapter 3 in <i>Handbook of Chemical and Biological Sensors</i>, edited by R. F. Taylor and J. S. Schultz for OIP, 1996.
1992	<ul style="list-style-type: none"> • Co-author. Madou, M. J., S. Oh, and F. de Schutter, 1992. <i>Overview of Solid Electrolytes for Sensors</i>, Proceedings of the International School of Materials Science and Technology. 24th Course: Solid State Ionics for Sensors and Electrochromics Erice-Sicily: 1-12 July 1992.
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SCIENTIFIC AND PROFESSIONAL SOCIETIES

NASA Ames Associate 1994 – Present

Member at Large of The Electrochemical Society (Sensors)

EDITORIAL BOARDS AND HONORS

Regional Editor for Sensors and Actuators B, North and South America

Chancellor's Professor University of California Irvine

Distinguished Honorary Professor IIT Kanpur

Plenary Speaker, International Conference on MEMS and Semiconductor Nanotechnology, IIT Kharagpur, India, December 20-22, 2005

National Science Foundation Blue Ribbon ERC Panel Meeting, FY 2004-2006 ERC Competition, NSF 04-570, January 10-12, 2006

International Advisory Board, Analytical and Bioanalytical Chemistry, Vol. 384, No. 1, January, 2006.

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Plenary Lecturer, Kuala Lumpur International Conference on Biomedical Engineering, December 11-14, 2006

International Advisory Committee, International Workshop on MEMS and Micro/Nano Systems Technology for Bio-Implants and Bio Applications, Kolkata, India, December 28-30, 2006

Editorship of the International Journal of Precision Engineering and Manufacturing

Sesquicentenary Lecture, “Biomimetic MEMS & NEMS Sensing Platforms – Icarus Revisited?” The Board of Management of Bengal Engineering and Science University, Shibpur, India, January 5, 2007.

Member of the Nano- and Microsystems Programme’s Scientific Advisory Board, Forschungszentrum Karlsruhe, Karlsruhe Institute of Technology, Helmholtz Society, Germany, appointed May, 2007.