

March 2003 GIMS Newsletter

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GIMS Special Events

Important Reminders!

GIMS MEMBERSHIP DRIVE EVENT

On Tuesday March, 4th at 5:00 pm GIMS will be hosting a Membership drive with light food and drinks provided for any APS members. Outside of Room 8C at 5:00 pm (just before the business meeting) Invite your colleagues and friends to join us. Have a snack and encourage APS members to join GIMS, then stay for the business meeting and join us for the GIMS only dinner to follow. This will be a great opportunity to get involved in GIMS and meet others who are interested in Measurement Science in a social setting.

GIMS Business Meeting 3/4 5:30 PM	Keithley Award Symposium. 3/5 5:30 PM
Room 8C, Austin Convention Center.	<i>Ashkin, Thomas, Block.</i> Ballroom A, Austin Convention Center.
Session # L14	Session # T1
All GIMS members welcome!	Chair: Bruce Brandt, National High Magnetic Field Laboratory.
Dinner to follow at the <i>Four Seasons</i> across from the Convention Centre.	

GIMS March APS Meeting Session Schedule

MONDAY MORNING, 3 MARCH 2003, 11:15

Session B14. GIMS: Focus Session: Advanced Instrumentation and Digital Signal Processing. *Ardavan, Choi, Balakirev.* Room 8C, Austin Convention Center. Chair: Charles Mielke, Los Alamos National Laboratory

TUESDAY MORNING, 4 MARCH 2003, 08:00

Session G3. GIMS/FIAP: The Semiconductor Industry: Frontiers in Physics and Measurements.

Bowling, Zeitzoff, Ho, Diebold, Matyi. Ballroom C, Austin Convention Center. Chair: David G. Seiler, NIST.

Session G14. GIMS/FIAP: Focus Session: MEMS/NEMS Science, Technology, Applications and Measurements I. *Han, Kenny.* Room 8C, Austin Convention Center. Chair: Stephane Evoy, The University of Pennsylvania.

TUESDAY MORNING, 4 MARCH 2003, 11:15

Session H3. GIMS: Impact of Advanced Measurement Techniques/Computer Power on Modeling Research. *Giaime, Bass, Sabatier, Simmonds, Zink.* Ballroom C, Austin Convention Center. Chair: Ke-Hoon Kim, Los Alamos National Laboratory.

Session H14. GIMS: Spectroscopic Techniques and Sensors. Room 8C, Austin Convention Center. Chair: Willi Schwarz, Physical Sciences, Inc.

TUESDAY AFTERNOON, 4 MARCH 2003, 14:30

Session K8. GIMS/FIAP: Focus Session: Measurements and Instrumentation for the Semiconductor Industry. *Kopanski, Opsal.* Room 3, Austin Convention Center. Chair: Robert Jones, Motorola.

Session K14. GIMS/FIAP: Focus Session: MEMS/NEMS Science, Technology, Applications and Measurements II. *Schurmann, Lewis.* Room 8C, Austin Convention Center. Chair: Dwight Rickel, Los Alamos National Laboratory.

TUESDAY AFTERNOON, 4 MARCH 2003, 17:30

Session L14. GIMS: GIMS Business Meeting. Room 8C, Austin Convention Center.

WEDNESDAY MORNING, 5 MARCH 2003, 08:00

Session N14. GIMS: Microscopic Techniques. Room 8C, Austin Convention Center. Chair: Harald Hess, KLA-Tencor.

WEDNESDAY MORNING, 5 MARCH 2003, 11:15

Session P14. GIMS: Focus Session: Magnetic Resonance and Force Microscopy. *McDermott.* Room 8C, Austin Convention Center. Chair: Scott Hannahs, Florida State University.

WEDNESDAY AFTERNOON, 5 MARCH 2003, 14:30

Session S18. DBP/GIMS/DMP: Focus Session: Biological Instrumentation. *Schmidt, Levis.* Room 10B, Austin Convention Center. Chair: John Wikswo, Vanderbilt Inst. for Intergrated Bio Systems.

WEDNESDAY AFTERNOON, 5 MARCH 2003, 17:30

Ballroom A, Austin Convention Center. Chair: Bruce Brandt, National High Magnetic Field Laboratory.

Session T10. DBP/GIMS: Advances in Microfluids. *Quake, Baudenbacher.* Room 5ABC, Austin Convention Center. Chair: John Wikswo, Vanderbilt Institute for Integrative Biosystems.

THURSDAY MORNING, 6 MARCH 2003, 08:00

Session V14. GIMS: Focus Session: Laser Based Ultrafast X-Ray Sources and Applications. *Reis, Victor, von der Linde, Landahl.* Room 8C, Austin Convention Center. Chair: Ting Cuo, University of California - Davis.

THURSDAY MORNING, 6 MARCH 2003, 11:15

Session W14. GIMS: Scattering and Diffraction. Room 8C, Austin Convention Center. Chair: Gene Ice, Oak Ridge National Laboratory.

THURSDAY AFTERNOON, 6 MARCH 2003, 14:30

Session X14. GIMS: Focus Session: Advanced Detectors for Synchrotron Research. *Seller, Siddons.* Room 8C, Austin Convention Center. Chair: Chi-Chang Kao, Brookhaven National Laboratory.

THURSDAY EVENING, 6 MARCH 2003, 19:00

Session 3A. FIAP/GIMS: The Physics of Comics, Baseball and Hollywood: Sense and Nonsense. *Kakalios, Adair, Krauss.* Ballroom A, Austin Convention Center. Chair: Robert W. Brown, Case Western Reserve University.

FRIDAY MORNING, 7 MARCH 2003, 08:00

Session Y2. FIAP/GIMS: Science and Technology of Nanoscale and Molecular Mechanical Systems. *Ruoff, Hone, Rotkin, Discher, Zettl.* Ballroom B, Austin Convention Center. Chair: Stephane Evoy, University of Pennsylvania.

Session Y14. GIMS: Measurement and application of coherent and ultra-short x-rays. *Rose-Petruck.* Room 8C, Austin Convention Center. Chair: Chi-Chang Kao, Brookhaven National Laboratory.

FRIDAY MORNING, 7 MARCH 2003, 11:15

Session Z8. FIAP/GIMS: Focus Session: Applications of Optical Spectroscopy. *Kurtz, Duncan.* Room 3, Austin Convention Center. Chair: Mark Holtz, Texas Tech University.

KEITHLEY

A GREATER MEASURE OF CONFIDENCE



Joseph F. Keithley Award For Advances in
Measurement Science

**2003 Joseph F. Keithley Award to
Arthur Ashkin
*Bell Laboratories***



Citation:

"For theoretical and experimental contributions to the understanding of laser cooling and trapping of atoms and particles, for demonstrating the optical gradient forces on atoms and the trapping of atoms with light, and for inventing optical tweezers and showing how they can be used to measure the physical forces generated by biological molecular motors."

Background:

Arthur Ashkin was born on Sept. 2, 1922. He received an A.B. in Physics from Columbia College in 1947 and a PhD in Nuclear Physics from Cornell University in 1952. He worked at the Columbia Radiation Lab (1942-1945) while in the army, and at AT&T Bell Laboratories (1952-1991).

At Bell Laboratories he did research on microwaves, nonlinear optics, and laser trapping. With colleagues he made the first observation of cw laser harmonic generation, cw parametric amplification, discovered the photorefractive effect and initiated the field of nonlinear optics in optical fibers. He discovered optical trapping of dielectric particles and proposed stable optical trapping of atoms. He made the first observation of optical gradient forces on atoms and the first observation of molasses and optical trapping of atoms. He was the first to trap biological particles with optical tweezers.

His awards and honors include election to the National Academy of Engineering and the National Academy of Sciences, the Quantum Electronics Award of Laser and Electro-Optic Society of IEEE, the Townes Award of Optical Society of America, the Rank Prize in Opto-Electronics, the Ives Medal/ Quinn Award of Optical Society of America. He is a Fellow of APS, OSA, IEEE, and AAAS.

Congratulations to the 2003 GIMS Sponsored APS Fellows

Clark, W. Gilbert

University of California, Los Angeles

Citation: For developing magnetic resonance instrumentation and methods, widely disseminating their application, and using them to investigate semiconductors, superconductors, organic conductors, low-dimensional magnets, heavy fermions, and charge and spin density waves.

Stroscio, Joseph Anthony

National Institute of Standards and Technology

Citation: For advancing our fundamental knowledge of semiconductor and metal surfaces and the innovative development, application, and dissemination of advanced methods of scanning tunneling microscopy and spectroscopy.

Wellstood, Frederick Charles

University of Maryland

Citation: For development of the scanning SQUID microscope, and its commercialization and application to scientific and industrial problems.

Budget & Membership Report

As of 1/31/2003 GIMS total assets are \$52,121.00.

GIMS Membership stands at 496 or 1.16% of APS.

2002 Leadership

OFFICERS

Chair

David G. Seiler

(Term expires 3-03)

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Eric Palm

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Fellowship Committee Chair

Eric Palm
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KEITHLEY AWARD COMMITTEE

(Selected 2003 Winner)

Bruce Brandt

(Chair, 12-02)

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Fred Fickett

(Vice Chair, 12-02)

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James Faller (12-02)

(2001 Award Winner)

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Gordon Thomas

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Eric D. Jones (12-02)

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