

ccording to legend, everything is A ccording to legend, State why bigger in Texas. Maybe that's why the projected attendance at the meeting of the American Physical Society, scheduled to be held in Austin from 3 to 7 March, is the highest on record. Or maybe, speculates program organizer Donald Gubser of the Naval Research Laboratory, it has to do with the growing popularity of biophysics, quantum computing, and magnetic phenomena, as well as continuing interest in the other topics traditionally covered at the March meeting: superconductors, polymers, and so forth. The meeting will be held in the Austin Convention Center, and the headquarters hotel will be the Hyatt Regency Hotel.

Before the meeting kicks off on Monday morning, early arrivals have the chance to take a weekend short course or in enroll in several half-day tutorials. The APS division of polymer physics has organized a short course "Polymer Chemistry for Physicists," which will run from 8 AM to 5 PM on both Saturday and Sunday, 1–2 March.

On Sunday, APS is offering eight half-day tutorials. The morning tutorials, from 8:30 AM to 12:30 PM, will address new directions in dilute-gas Bose–Einstein condensation, heterojunctions, modeling system biology, and a new class of magnetic materials. The afternoon (1:30–5:30 PM) tutorials will cover what's new in spintronics, synthesis and integration of

functional nanostructures, things your professor will never tell you about careers and professional development, and the basic theory and computational methods involved in going from electrons to materials properties.

There will be a workshop on Sunday afternoon (1:30–5:30 PM) concerned with the role of physicists in countering terrorism.

Also on Sunday, from 3 to 6 PM in ballroom B of the convention center, APS will offer a workshop on career choices in physics. The program will include such topics as preparing an effective resumé, networking, clarifying expectations, and developing interviewing skills and job-search techniques.

On Monday morning, 3 March, from 7 to 9 AM, the APS committee on the status of women in physics and the forum on industrial and applied physics will sponsor a networking breakfast in the Hill Country C room of the Hyatt Regency Hotel, at a cost of \$20 per person. A discussion session will follow informal remarks by Padmasree Warrior, vice president and chief technology officer of Motorola.

Late Monday afternoon, following the technical sessions, APS will hold a plenary award session from 5:15 to 6:15 PM in the convention center to present prizes and awards to 18 individuals for their accomplishments (see the awards story on page 71 of this issue). Following the awards cer-

emony, APS will host a welcome reception, from 6:15 to 7:30 PM.

Capping off Monday evening will be a 7:30 PM panel discussion in the convention center featuring leading researchers from five different fields of physics. Steven Girvin of Yale University will speak about condensed matter physics; MIT's Frank Wilczek will discuss nuclear and particle physics; Michael Turner of the University of Chicago and Fermilab will talk about astrophysics and cosmology; Albert Libchaber of Rockefeller University, New York University, and NEC Research Institute will comment on the physics of biology; and David Gross of the University of California, Santa Barbara, will speak about string theory. Each speaker will expound on his "Dream for the Future: Where Are We? Where Are We Going?"

On Tuesday afternoon, 4 March, from 2 to 3 PM, there will be a panel discussion with the editors of the *Physical Review* and *Physical Review Letters*. The panel will be followed by a reception in the convention center from 3:30 to 5:30 PM, during which meeting attendees will have a chance to talk with the editors of all journals published by the American Institute of Physics and APS.

Also on Tuesday, APS will hold a student reception from 5:30 to 6:30 PM in Ballroom D of the Hyatt Regency. From 6 to 8 PM, a number of alumni reunions will be held in the Hyatt.

The popular program called "Students Lunch with Experts" will be held this year on Wednesday, 5 March, from 12:30 to 2:00 PM. Students can sign up at registration and choose the research topic they'd like to learn about.

On Wednesday evening at 7:30 PM, APS has organized a panel discussion on ethics in response to two highly publicized episodes of fraud in physics research last year. The session title is

"Professional Conduct: What Can We Learn from Recent Events?" The speakers will be Malcolm Beasley of Stanford University, Arthur Bienenstock, also of Stanford, Pierre Hohenberg of Yale, and George Trilling of the Lawrence Berkeley National Laboratory.

An important feature of the meeting is the job fair, whose purpose is to facilitate communication between employers and job candidates. The hours

of the fair will be 9 AM-5 PM on Monday and Tuesday and 9 AM-1 PM on Wednesday.

In addition to technical sessions, the meeting will offer an exhibit show at which researchers can learn about the latest in laboratory equipment, software, and books. The exhibit will be open on Monday and Tuesday from 10 AM to 5 PM, and on Wednesday from 10 AM to 4 PM.

# **Sessions with Invited Speakers**

### Monday, 3 March

### morning

DMP/DCOMP: Theory of the Optical and Dielectric Properties of Materials. M. H. Cohen, Phillips, M. L. Cohen, Ihm, Ogut.

GSNP/DMP: Plasticity, Fracture, and Earthquakes. Gao, Soboyejo, Stach, Lapusta, Marder.

DPOLY: Controlled Architecture Polymers. Hawker, Hillmyer, Hadjichristidis, Wooley, Moeller.

DCMP: Nanotube Devices and Peapod Structures. *Johnson, Fuhrer, Hornbaker, Kuk.* 

DCMP: Quantum Criticality in Metallic Antiferromagnetics. Nakatsuji, Montfrooij, MacLaughlin, Ishida, Vajk.

DMP: Morphological Evolution of Nanostructures, Interfaces, Surfaces, and Thin Films I. Varga.

DCMP: Berry and Related Phases in Mesoscopic Physics. Lyanda-Geller, Shayegan, Yang, Aleiner, Marcus.

FIAP/DMP: Progress in Photovoltaic Technology. Barnett, Green.

DBP: Single-Molecule Biophysics: From Experiment to Theory. *Branton, Lubensky, Liphardt, Gerland, Wang.* 

DCP: Frontiers in Ultrafast Dynamics of Complex Systems I. Feurer, Miller.

DCP: Structure and Properties of Organic Thin Films I. Wolkow, Casalis, Dai. DCMP: Complex Structured Materials. Biswas.

DMP/GMAG: Magnetic Nanoparticles I. Deshmukh.

GMAG/DMP: Current-Induced Spin Excitations. Rippard.

DCOMP/DMP/GMAG: Theory and Simulation of Magnetism and Spin-Dependent Properties I. Gyorffy.

SPS: Student Session I. Sponberg.

DCP: Dynamics, Assembly, Reactivity, and Function I. *Eigler, Ho, Flynn*.

DCOMP: Advances in Monte Carlo Algorithms. Landau, de Pablo, Wessel, Kawashima, Sandvik.

GSNP: Stochastic Effects in Soft-Condensed Matter Physics. Ortiz de Zarate, Ahlers, Jung, Parker.

FIAP: Applications of Semiconductor Heterojunctions. *Johnson, Schulman, Fitzgerald, Tittel, Weimer.* 

DCMP: Quantum Cascade Lasers. *Gmachl, Tredicucci, Elsaesser, Iotti, Taubman*.

DMP/DCOMP: McGroddy/Adler/Rahman Prize Session. Lieber, Brus, Schuller, Falco, White.

DCMP: Spin-Dependent Transport. Ciorga, Kouwenhoven, Petta, Folk, Pustilnik.

DCMP: Cooperative Phenomena: Frustrated Magnets. Shastry, Radaelli, Lee, Takagi, Tchernyshyov.

FIAP/DBP: Radiation Processing. O'Hara, Seltzer.

DBP: Biological Charge Transport. Schuss, Nadler.

DCP: Frontiers in Ultrafast Dynamics of Complex Systems II. Simon, Anfinrud. DCP: Structure and Properties of Organic Thin Films II. Somorjai, Wahl, Sibener.

GSNP/DFD: Instabilities, Shocks, and Forces in Granular Materials. Swinney, Shinbrot.

GIMS: Advanced Instrumentation and Digital Signal Processing. Ardavan, Choi, Balakirev.

DMP/DPOLY: Transport in Molecules I. Park, Pasupathy.

DMP/DCOMP: Applications of Pseudopotentials I. Filippi.

GMAG: Surface and Interface Phenomena in Magnetic Films. Egelhoff, Qiu.

GMAG/DMP: Magnetic Oxides: X Ray and Neutron. Hill, Dai.

SPS: Student Session II. White.

# afternoon

DCMP: Quantum Computing: Superconductors. Han, Martinis, Friedman, Devoret, Mooij.

FHP: J. Willard Gibbs and His Legacy: A Double Centennial. Klein, Knudsen, Levelt, Sengers, Kadanoff.

DPOLY: Polymer-Templated Nanostructures. Balazs, Russell, Gin, Stupp, Belcher. FIAP/DCMP: Nanoscale Science and Technology: Opportunities and Challenges. Stormer, Hersam, Buhrman, Colvin, Siegel, Westervelt.

DCMP: Electron-Doped Superconductors. *Tokura, Hill, Biswas, Lemberger, Armitage*.

GMAG/DCMP: Spin-Transfer Torques in Magnetic Nanostructures. Stiles, Albert, Arne, Heinrich, Siegmann.

DMP: Morphological Evolution of Nanostructures, Interfaces, Surfaces, and Thin Films II. *Kandel*.

FIAP/DLS: IR Applications of Semiconductor Nano- and Microstructures I. Ashlev.

DBP: Protein Conformational Dynamics: Experiment and Simulation. *Pande, Lipman, Hagen, Thorpe, Zocchi.* 

DCP: Frontiers in Ultrafast Dynamics of Complex Systems III. Harris.

DCP: Structure and Properties of Organic Thin Films III. *Hammer, Liu, Yates.* DMP: Fundamental Challenges in Transport Properties of Nanostructures I. *Di Ventra.* 

DMP/GMAG: Spin Injection in Semiconductors, Including Devices. *Parkin*. DMP/DCOMP: Application of Pseudopotentials II. *Bungaro, Zhang*.

DCOMP: Carbon Nanotubes: Theory and Doping Effects. Sonin.

DCOMP/DMP: Simulations of Complex Materials I. *Mishin*.

DMP/GMAG: Magnetic Oxides: Structure and Properties. *Mitchell, Mathur.* DCOMP/DMP/GMAG: Theory and Simulation of Magnetism and Spin-Dependent Properties II. *Troyer.* 

GSNP: Statistical Mechanics of Non-Extensive Systems and Crumpling. *Tsallis, Gross.* 

DCP: Dynamics, Assembly, Reactivity, and Function II. Bawendi, Dai, Weiss.

#### evening

DCMP: Dreams for the Future of Physics. Girvin, Wilczek, Turner, Libchaber, Gross.

# Tuesday, 4 March

#### morning

DPOLY: Polymer Physics Ford Prize Symposium. Lovinger, Thomas, Cheng, Lotz, Martin.

A bbreviations preceding each entry denote the sponsoring division (d), committee (c), forum (f), or topical group (t):

CCPD: Careers and Professional Development (c)

COM: Minorities in Physics (c)

CSWP: Status of Women in Physics (c)

DAMOP: Atomic, Molecular, and Optical Physics (d)

DBP: Biological Physics (d)

DCMP: Computational Physics (d)

DCOMP: Computational Physics (d) DCP: Chemical Physics (d)

DFD: Fluid Dynamics (d)

DLS: Laser Science (d) DMP: Materials Physics (d)

DPOLY: Polymer Physics (d)

FED: Education (f)

FHP: History of Physics (f)

FIAP: Industrial and Applied Physics (f)

FIP: International Physics (f) FPS: Physics and Society (f)

GIMS: Instrument and Measurement Science (t)

GMAG: Magnetism and Its Applications (t) GSNP: Statistical and Nonlinear Physics (t)

SPS: Society of Physics Students

GSNP/DMP: Fracture/Plastic Deformation. Langer.

GIMS/FIAP: The Semiconductor Industry: Frontiers in Physics and Measurements. Bowling, Zeitzoff, Ho, Diebold, Matyi.

DAMOP/DCMP: Rapidly Rotating Trapped Bose Gases. Baym, Foot, Read, Engels, Mueller.

DCMP: Stripes in Cuprates. Lee, Kapitulnik, Davis, Lanzara, Dumm.

DCMP: Interactions and Disorder Near the Metal–Insulator Transition. *Belitz, Phillips, Nayak, Osofsky, Murthy.* 

DCMP: Quantum Criticality in Correlated Electron Systems. Isaacs, Rosenbaum, Pepin, Hiraka.

FIAP/DLS: IR Applications of Semiconductor Nano- and Microstructures II. Bhattacharya, Forchel.

DBP: Modeling and Simulation of Biomolecules I. Darden.

DBP: Statistical Mechanics of RNA Folding. Woodson, Bundschuh, Mukhopadhyay, Schultes.

DCP: Frontiers in Ultrafast Dynamics of Complex Systems III. Fayer, Maroncelli, Tom.

DCP: Structure and Properties of Organic Thin Films IV. Borguet, Selloni, Möhwald.

GIMS/FIAP: MEMS/NEMS Science, Technology, Applications, and Measurements I. Han, Kenny.

DMP: Fundamental Challenges in Transport Properties of Nanostructures II. Martel, Crooker.

DCMP: Materials Synthesis and Structure. Thompson.

DMP/GMAG: Spins in Semiconductors: Digital Alloys. Luo.

FIAP/DMP: Novel Thermoelectric Materials and Phenomena I. Dong.

DMP: Carbon Nanotube Spectroscopy: Vibrational. Jorio

DCOMP/DMP: Simulations of Complex Materials II. Kioussis.

DMP/GMAG: Magnetic Nanoparticles II. Hariharan.

Musgrave, Fischetti, Lundstrom, Vogl.

GMAG/DMP: Nanocontacts, Nanowires, and Domain Walls. Coey.

DCOMP/DMP/GMAG: Theory and Simulation of Magnetism and Spin-Dependent Properties III. Ku.

DCP: Dynamics, Assembly, Reactivity, and Function III. *Michl, Hamers, Bent.* GMAG/DMP: Colossal Magnetoresistance: Thin Films. *Tyson*.

GMAG/DMP: Colossal Magnetoresistance: Thin Films. *Tyson*. FIAP/DCOMP: Microelectronics Modeling and Simulation. *Pantelides*,

FIP/FPS: Physics in Africa. Moleko, Bekele, Zingu, Hoch, Reed.

GIMS: Impact of Advanced Measurement Techniques/Computer Power on Modeling Research. *Giaime, Bass, Sabatier, Simmonds, Zink.* 

DCMP: Optical Lattices of Ultracold Atoms. Kasevich, Prokof'ev, Buchler, Greiner, Leggett.

DCMP: Pseudogap Followed by Superconductivity and Antiferromagnetic Order. Campuzano, Varma, Zhang, Matsuda, Kiefl.

DCMP: Dilute Magnetic Semiconductors: Spin Transport. Basov, Hebard, Cho. DCMP: Excitons in Condensed Systems. Butov, Wojs, Bar-Joseph, McCombe, Littlewood.

FIAP/DMP: Nonequilibrium Quantum Dynamics in Electronic and Magnetic Systems. Popovic, Vaknin.

FIAP/DBP: Biosensors and Microarrays. Fertig, Taylor.

DCP: Plyler Prize Talk and Gas Phase Dynamics and Structure. Scoles, Lehmann.

GSNP: Brownian Motors: From Quantum Ratchets to Biological Systems. Hänggi, Linke.

DMP/GMAG: Spins in Semiconductors: III-Mn-V Alloys I. *Timm, Schiffer.* FIAP/DMP: Novel Thermoelectric Materials and Phenomena II. *Uher, Poon.* 

DMP: Carbon Nanotubes: Spectroscopy, Electronic Properties. Weisman, Smalley.

DCOMP/DMP: Simulations of Complex Materials II. Rosner.

DMP/GMAG: Perpendicular Anisotropy and Magnetic Thin Films. Fullerton.

#### afternoon

DPOLY: John H. Dillon Medal Symposium. Strey.

FHP: The Early Days of Solid-State Physics. *Bethe, Hoddeson, Seitz, Anderson.* DMP: Morphological Evolution of Nanostructures, Interfaces, Surfaces, and Thin Films III. *Pfeiffer.* 

DCMP: Quantum Computing and Superconductors. Preskill, Mizel, Ioffe, Pannetier, Vinokur.

DCMP: Cuprates Theory. Millis, Fradkin, Vojta, Tesanovic, Laughlin.

DCMP/APS: Prize for Research at an Undergraduate Institution, Apker Award, Buckley Prize, Davisson–Germer Prize. Sardar, Alicea, Doret, Altshuler, Tromp.

GMAG: Magnetocaloric Effect. Gschneidner, Naoki, Zimm, Wu.

GIMS/FIAP: Measurements and Instrumentation for the Semiconductor Industry. Kopanski, Opsal.

DBP: Modeling and Simulation of Biomolecules III. Beck.

DCMP/DBP: Polymers in Biological Cells. Pollard, Prost, Wong, Borukhov, Guck.

DCP: Frontiers in Ultrafast Dynamics of Complex Systems V. Wasielewski, Shank.

GIMS/FIAP: MEMS/NEMS Science, Technology, Applications, and Measurements II. Schurmann, Lewis.

DBP: Bacterial Flagella, Cellular Motion, and Chemotaxis. *Ryu, Mendelson*. FIAP/DMP: Mechanical Properties of Interfaces and Nanostructured Thin Films. *Suo*.

DMP/GMAG: Spins in Semiconductors: III-Mn-V Alloys II. Wojtowicz, Erwin.

DMP: Carbon Nanotube Gas Absorption. Hertel.

FIAP/DMP: Physics of Silicon in Electronic Materials. Orr, Duscher.

DMP/GMAG: Exchange-Spring Magnetic Systems. *Wang*. GMAG/DMP: Spin-Polarized Tunneling. *Muenzenberg*.

DCOMP/DMP/GMAG: Theory and Simulation of Magnetism and Spin-Dependent Properties IV. Schulthess.

GSNP/DMP: Fracture/Plastic Deformation III: Dynamic Fracture Instabilities. Ramanathan.

FIAP: Physicists and Risk Management on Wall Street. Picoult, Sobehart, Wang, Potters, Mondello.

# Wednesday, 5 March

# morning

DCOMP: Computational Physics at the Nanoscale. Parrinello, Zunger, Tomanek, Galli, Jacobsen.

DMP: Morphological Evolution of Nanostructures, Interfaces, Surfaces, and Thin Films IV. *Krug*.

DPOLY: Polymer Rheology/Dynamics. Richter, Milner, Register, Anastasiadis, Kornfield.

DCMP: Nanowires. Yacoby, Tserkovnyak, Birge, Yanson, Bürki.

DCMP: Mesoscopic Superconductivity. Glazman, Yakovenko, Markovic, Rosario, Bozovic.

DCMP: Local Probes and Spatial Heterogeneities in Glasses. Glotzer, Israeloff, Vanden Bout, Weeks, Weitz.

DCMP: Correlated Electrons/Hidden Order. Amitsuka, Chandra, Jaime, Walstedt, Detlefs.

DBP/DFD/GSNP: Fluid Dynamics and Elasticity in Biological Physics I. *Chu, Couder.* 

DBP: Statistical Analysis of Genomes and Genome Evolution. Stanley, Keitt, Jurka, Arndt, Hillis.

DCP: Frontiers in Ultrafast Dynamics of Complex Systems VI. *Jonas, Hochstrasser.* 

GSNP: Networks. Almaas.

DPOLY/DMP: Polymer-Templated Nanostructures. Leppert.

DMP/DPOLY: Photonic Materials. Fink, Lee.

FIAP/DMP: Surface Mechanical and Tribological Behavior. Kim.

DMP: Carbon Nanotubes: Field Emission. Zhou.

FIAP: Nanotechnology for Display Applications. Amundson, Paukshto.

DMP/GMAG: Magnetic Nanoparticles III. Barbic.

GMAG/DMP: Half-Metallic Systems. *Parker*. DMP/GMAG: Magnetic Oxide Surfaces and Heterostructures. *Kawasaki*.

DCMP: Heavy Fermions: Theory and Experiment. *McEwen*.

DMP: High-Pressure Materials Research I. *Celliers*.

DCOMP: Computational Geophysics. Dziewonski, Olson, Kellogg, Lithgow-Bertelloni, Price.

FIAP/FPS: Technology for Defense and Homeland Security. Robinson, Fuller, Mihalczo, Prettyman.

GSNP: Statistical Physics of Food Webs. Hastings, Guimera, Martinez, Sole. DCMP: Low-Dimensional Magnetism. Broholm, Zheludev, Haldane, Affleck, Tsvelik.

DCMP: Vortices in Superconductors. Kunchur, Ivlev, Bending, Kadowaki, Lobb.

DMP: Morphological Evolution of Nanostructures, Interfaces, Surfaces, and Thin Films V. McCarty.

COM: Biomolecular Manipulation. Goodsen, Fernandez, Bahar, Liverpool.
FIAP/DMP: Front-End Materials and Processes for Scaled Silicon CMOS I.
Parsons.

FIAP/DBP: Advances in Biomedical Imaging for Early Cancer Detection. Eberhard, Ophir, Iftimia, Ntziachristos.

DCP: Photonics and the Nanoscale: Devices, Materials, and Chemistry I. Moerner, Barbara, Avouris.

GSNP/DFD: Micro/Nano-Fluidics I. Troian.

GIMS: Magnetic Resonance and Force Microscopy. McDermott.

DMP/FIAP: Quantum Information Science I. Kimble.

DMP/GMAG: Spin Decoherence and Relaxation in Semiconductors. Schliemann.

DMP: Carbon Nanotubes: Electrical Transport I. Kociak.

DMP/GMAG: Magnetic Wires and Patterned Materials. Zabel.

GMAG/DMP: Giant Magnetoresistance and Superconducting/Ferromagnetic Metal Systems. Xia.

DCOMP/DMP/GMAG: Theory and Simulation of Magnetism and Spin-Dependent Properties V. Chudnovsky.

DMP: High-Pressure Materials Research II. McDonald, Zaug.

#### afternoon

DCOMP/DAMOP: Computational Approaches to Time-Dependent Dynamical Problems. Wyatt, Rabitz, Collins, Meyer, Krause.

FIAP/FPS: Economic Value of Research. Ruttan, Hays, Sanchez, Moore, Powell.

DPOLY: Polymer Blend Thermodynamics. Lipson, Karim, Kumar, Balsara, Wang.

FED: Engaging Scientists in K–12 Science and Mathematics Education. *Haase, Thornton, Lopez, Goodchild.* 

DCMP: Effective Temperatures in Driven Systems. *Durian, Makse, Barrat, O'Hern, Sollich*.

FIAP/DMP: Front-End Materials for Processes for Scaled Silicon CMOS II. Wallace.

DCMP/GMAG: Semiconductor Spintronic Materials and Devices. Ciuti, Jonker, Palmstrom, Tanaka, Petukhov.

FIAP: Understanding Molecular and Nanoelectronics I. Likharev.

DBP/DFD/GSNP: Fluid Dynamics and Elasticity in Biological Physics II. Kessler, Ford, Goriely.

DBP: Modeling Large-Scale Molecular Biological Data. Koonin, Alter, Marcotte, Doniach, Sumners.

DCP: Photonics and the Nanoscale: Devices, Materials, and Chemistry II. Nordlander, Brongersma, Halas.

DCP: Frontiers in Optical Control of Complex Systems I. *Nelson, Fahy, Everitt.* DBP/GIMS/DMP: Biological Instrumentation. *Schmidt, Levis*.

DMP/FIAP: Quantum Information Science II. *Mosca.* 

DMP/GMAG: Spins in Semiconductors: Theory. Chattopadhyay, Niu.

DMP/GMAG: Phase Diagrams in Magnetic Oxides. Hotta.

DCMP/GMAG: Molecular Magnets. Kent.

DCMP: Cerium-Based Heavy-Fermion Materials. Fortune.

DMP: High-Pressure Materials Research III. Steinle-Neumann. GIMS: Keithley Award Symposium. Ashkin, Thomas, Block.

DBP: Carrier Transport in DNA in Solution. *Basko, Landman, Carell.* 

DBP/GIMS: Advances in Microfluids. Quake, Baudenbacher.

### evening

APS: Professional Conduct: What Can We Learn From Recent Events? Beasley, Bienenstock, Hohenberg, Trilling.

# Thursday, 6 March

### morning

DCOMP: Quantum Computing From a Computational Viewpoint. Chuang, Nielsen, Williams, Ortiz, Boghosian.

DCMP: Connection Between Geometry and Defects in Liquid Crystals. Fried, Grelet. Lavrentovich. DiDonna. Schick.

DPOLY: Molecular Aspects of Mechanical Behavior. Creton, Nealey, Ruzette, Gersappe, Ortiz.

DCMP: Novel Transport Phenomena in Reduced-Dimensional Systems. Adams, Hasegawa, Shi, Shih, Weitering.

DCMP: Structures in 2D Electron Gases Followed by Electric Field Effects. Radzihovsky, Wiegmann, Tessmer, Ahn, Triscone.

DCMP: Scanned Probe Techniques. Kleiman, Dholakia, Marcus, Tombesi, Fisher.

FIAP/DMP: Nitride Semiconductors and Their Applications. Van de Walle, Christen, Cai, Ikeda, Munkholm.

FIAP: Understanding Molecular and Nanoelectronics II. Mayer.

DBP: Noise in Genetic Networks. *Hasty, Setayeshgar, van Oudenaarden.* 

DBP: AC Electrokinetics: Its Application in Biology, Chemistry, and Physics. Hughes, Gascoyne, Cummings, Chou, Huang.

DCP: Photonics and the Nanoscale: Devices, Materials, and Chemistry III. Novotny, Schatz.

DCP: Frontiers in Optical Control and Complex Systems II. Gerber, de Vivie-Riedle.

GIMS: Laser-Based Ultrafast X-Ray Sources and Applications. Reis, Victor, von der Linde, Landahl.

DMP: Binary and Ternary Nitrides. Walukiewicz.

DMP: Carbon Nanotube Devices. Datta.

DMP/FIAP: Novel and Complex Oxides I. Pickett, Chambers.

DMP/GMAG: Patterned Magnetic Structures. Grimsditch, Ross.

DMP/GMAG: Magnetoresistive Oxides: Theory. Yunoki.

DMP/FIAP: Materials for Quantum Information Processing. Simmons, Yablonovitch, Eriksson, Jelezko, Twamley.

FIAP/CCPD: Physics Careers in the Semiconductor Industry. *Holtz, Law, Lu, Larson, Melnick*.

DMP: Morphological Evolution of Nanostructures, Interfaces, Surfaces, and Thin Films VI. *Khare*.

DCMP: Phonons at Interfaces Followed by Quantum Fluids in Confined Geometries. Fainstein, Plummer, Chiang, Chan, Pickett.

DCMP: Exotic Order in Correlated Systems Followed by Electron Structure of Ultrathin Oxides. Senthil, Balents, Sondhi, Perrella, Schneider.

CSWP/GMAG: Magnetism and Dimensionality: Bulk Films and Lateral Nanostructures. Suzuki, Aronson, te Velthuis, Abernathy, Folks.

FIAP: Understanding Molecular and Nanoelectronics III. Theis.

DBP: Auditory Coding: Biophysics of Cochlear Transduction and Neuronal Processing of the Auditory World. *Bozovic, Meddis, van Hemmen, Hartmann.* 

DCMP/DBP: Thin Plate and Fiber Mechanics in Biology. Roman, Steele, Boudaoud, Mahadevan, Zhang.

DCP: Photonics and the Nanoscale: Devices, Materials, and Chemistry IV. Dixon, Feldmann, Keating. DCP: Frontiers in Optical Control of Complex Systems III. Gruebele, Geva.

DPOLY/DCOMP: Multiscale Modeling of Polymer Systems. Jones.

DMP: Ternary and Binary Wide Bandgap Semiconductors. Kuskovsky.

DMP: Carbon Nanotube Composites. Kotov.

DMP/FIAP: Novel and Complex Oxides II. Neaton, Gopalan.

DCMP/GMAG: Magnetic Oxides: Optical and Related Spectroscopies.

Perebeinos.

DCMP: Imaging of Superconductive Phenomena. Hudson, Misra.

DMP: High-Pressure Materials Research V. Venturini.

#### afternoon

DAMOP: Scalable Atomic, Molecular, and Optical Approaches to Quantum Computing. Brennen, DeMarco, White, Birkl, Raussendorf.

FIAP: Nanostructured Interfaces. Bloechl, Bonnell, Nguyen, Uberuaga, Browning.

DMP: Morphological Evolution of Nanostructures, Interfaces, Surfaces, and Thin Films VII. *Tersoff*.

DCMP: Structure and Instabilities in Granular Flow. *Behringer, Daerr, Aranson.* FPS: Nuclear Weapons and Missile Defenses: Current US Policies and Programs. *Weinberg, Panofsky, Nelson, Coyle III, Gronlund.* 

FIAP/FED: Jump-Start-Ups: Educating Physics Entrepreneurs. *Taylor, Hamill, Allen, Zou.* 

FIAP: Optoelectronic/Laser and High-Frequency Devices and Applications. Pan.

DBP/DCOMP: Computational Biophysics. Hausheer, Pedersen, Klein, Banavar, Mitchell.

DCP: Photonics and the Nanoscale: Devices, Materials, and Chemistry V. Xie, Lu, Higgins.

DCP: Frontiers in Optical Control of Complex Systems IV. Kim, Taylor.

GIMS: Advanced Detectors for Synchrotron Research. Seller, Siddons.

DMP/DPOLY: Organic Devices and Transport. Dimitrakopoulos.

DMP: Current Transport in Superconductors I. Cooley, Winiecki.

DMP: Electronic and Optical Device Structures. Klein.

DMP/FIAP: Novel and Complex Oxides III. Finnis, Loebl.

DMP/GMAG: Micromagnetics in Patterned Devices and Magnetic Damping. Arrott.

DMP/GMAG: Magnetic Oxides: Transport. Takenaka.

DBP: Physics of Biomolecular Binding. Wade, Nussinov, Verkhivker, Wang, Wolvnes.

DBP: Physical Models of lons/Protein Interactions. Nonner, Henderson, Gilson, Warshel.

# evening

FIAP/GIMS: The Physics of Comics, Baseball, and Hollywood: Sense and Nonsense. *Kakalios, Adair, Krauss.* 

# Friday, 7 March

### morning

FIAP/GIMS: Science and Technology of Nanoscale and Molecular Mechanical Systems. *Ruoff, Hone, Rotkin, Discher, Zettl.* 

DPOLY: Charged Polymers II. Winey, Eisenberg, Olvera de la Cruz, Rubner, Rubinstein.

DCMP: Electronic/Mechanical Drivers of SiC Polytype Transformations.

Lambrecht, Galeckas, Brillson, Skowronski, Lindefelt. DCMP: Solid-Fluid Interface. Granick, Denniston, Cummings, Klein.

FIAP/DMP: Novel Nanostructured Materials for Magnetic, Photonic, and Structural Materials Applications. *Narayanamurti, Madhukar, Wang, Fan, Malshe*.

DMP: Morphological Evolution of Nanostructures, Interfaces, Surfaces, and Thin Films VIII. Aziz.

FIAP/DLS: Optical Telecommunications. Islam, Yaffe.

DBP: Intrinsic Optical Signals in the Brain. Schwartz, Hochman, Kaplan, Grinvald.

GIMS: Measurement and Application of Coherent and Ultrashort X Rays. *Rose-Petruck*.

DCMP: Metals: Atomic Structure and Lattice Properties. Williams

DMP: Nanostructures/Semiconductors. Klimov, van Buuren.

DMP: SiC and Other Wide-Gap Semiconductors. Son.

GMAG/DMP: Manganites: Charge Ordering. Renner.

DCMP: Two-Band Superconductivity in MgB<sub>2</sub>. *Karpinski, Eskildsen, Welp, Choi, Cooper.* 

DCMP: Colossal Magnetoresistance: Spin Transport. *Lynn, Jan, Dessau, Argyriou.* 

FIAP/GIMS: Applications of Optical Spectroscopy. Kurtz, Duncan.

DMP: Current Transport in Superconductors II. Mawatari, Jooss, Kiss.

DMP: Nanostructured Metals. Novosad, Searson.

DMP: GaN: Growth, Doping, and Carrier Transport. *Neugebauer.* DMP: Carbon Nanotubes: Solvation, Sorting, and Assembly. *Zeng.* 

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