

# Special Events

## HARRIS LECTURES

An active year for the MIT Physics Community began with the annual series of David H. Harris Lectures, given this 2000-01 academic year by **Shrinivas R. Kulkarni**, Professor of Astronomy and Planetary Sciences at the California Institute of Technology. Prof. Kulkarni's work focuses on a range of extreme objects in the observable universe, and over the past decade he and his group have developed a variety of new techniques to study them.

Reflecting this breadth, the three-talk series — commencing on Wednesday, October 25, 2000 — covered topics from “The Brilliant Gamma-ray Bursts: Dying Cries from the Deep Universe,” to “The Search for Extra-Solar Planets: Are We Alone?” (October 26, 2000), and concluded with “Next Generation Telescopes” (April 5, 2000).

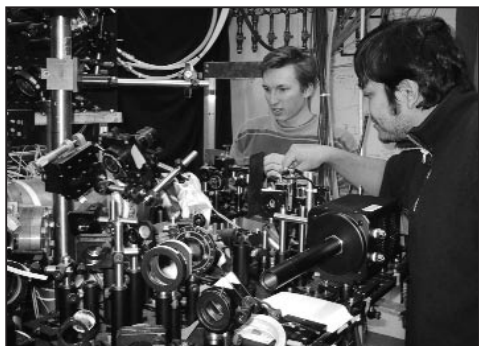
The Harris Lectures were established in memory of MIT physics alumnus David H. Harris (SB '22), in honor of a life and career dedicated to education.

## CUA INAUGURATION

A new collaborative research venture to support exciting opportunities in the study of ultracold atoms was officially launched on November 7, 2000, with the inauguration of the MIT-Harvard Center for Ultracold Atoms (<http://cua.mit.edu>). Sponsored by MIT, Harvard University, and the National Science Foundation, the CUA combines the expertise of world leaders in the fields of ultracold atoms, quantum condensed gases, and atom optics to pursue new science and technology made possible by recent discoveries in these areas.

The CUA inauguration ceremonies were opened with a talk given by Nobel laureate **William D. Phillips** (PhD '76), of the National Institute of Standards and Technology (NIST), entitled “Ultracold Atoms: The Lure of Physics Near Absolute Zero.” A reception followed at MIT's Building 26, which houses the Institute's half of the research program. CUA principal investigators for MIT are **Daniel Kleppner**, Lester Wolfe Professor of Physics and the Center's Director; **Thomas J. Greytak**, Professor of Physics and Associate Department Head for Education; **Wolfgang Ketterle**, John D. MacArthur Professor of Physics; and **David E. Pritchard**, Professor of Physics.

In addition to supporting a core research program encompassing experimental and theoretical research in Bose-Einstein condensates (BEC), atom optics, and cryogenic sources for BEC — with a community of approximately 100 students, postdoctoral researchers and faculty — the MIT-Harvard CUA also sponsors workshops, conferences, and visiting students and researchers from around the world.



Shin Inouye

*Graduate students Subhadeep Gupta (right) and Aaron Leanhardt directing the laser beams used for atom cooling in the sodium Bose-Condensation apparatus in the Ketterle lab. Various optical surfaces look bright (red) from the scatter of laser light.*

A symposium honoring the 70th birthday of Institute Professor and Professor of Electrical Engineering and Physics, **Mildred S. Dresselhaus**, was held on Friday, December 1, 2000, at MIT's Bartos Theater. The remarkable career and wide-ranging influence of Prof. Dresselhaus was evident in the international cross-section of keynote speakers and attendees. Leading scientists of government, academia, and industry from across the world spoke on topics ranging from "Millie in Action" (**Daniel Kleppner**, MIT) and "Carbons and Group V Semimetals" (**Jean-Paul Issi**, Universite Catholique de Louvain) to "Millie as Mentor and Role Model" (**Cherry Murray**, Bells Labs-Lucent Technologies). Throughout the day's program, a vivid picture was drawn of a scientist, and woman, cherished for contributions both professional and personal to physics, engineering, students, colleagues, and friends.

The event was co-sponsored by the Departments of Electrical Engineering & Computer Science and Physics, and the Office of the Provost.

## ( DRESSELHAUS SYMPOSIUM



*Profs. Tom Greytak, Millie Dresselhaus, and Physics Dept. Head Marc Kastner (far right) with Dr. Cherry Murray (Ph.D. '78, SB '73), Bell Labs-Lucent Technologies.*

Among those invited to attend the gala occasion of the Magellan Project Dedication at Las Campanas Observatory in Chile on December 9, 2000, were MIT benefactors

**Mr. and Mrs. A. Neil Pappalardo** (EE '64) and members of their family; Physics Department Head and Donner Professor of Physics, **Marc A. Kastner**; **Claude Canizares**, Bruno Rossi Professor of Physics and Director, Center for Space Research; **Paul Schechter**, William A. M. Burden Professor of Astrophysics and Division Head, Astrophysics; and **Ms. Virginia Esau**, Administrative Officer, Department of Physics.

The Magellan Project is a collaboration between the Observatories of the Carnegie Institution of Washington (OCIW), University of Arizona, Harvard University, University of Michigan, and Massachusetts Institute of Technology to construct two 6.5 Meter optical telescopes in the southern hemisphere. The telescopes are located at Las Campanas Observatory, at an altitude of 8000 feet in the Chilean Andes, and operated by OCIW. For more information, please visit the OCIW web site at [www.ociw.edu/magellan/magellan.html](http://www.ociw.edu/magellan/magellan.html).

## ( MAGELLAN PROJECT DEDICATION

Joining physics faculty in leading IAP (Independent Activities Period) seminars for the MIT community in January 2001, were physics alumni **Dr. Sheldon Apsell** (SB '65),

**Ms. Ofelia de Hodgins** (SM '89), **Mr. Thomas D. Halket** (SB/SM '71), and **Dr. William Layson** (PhD '63). In his talk, "Every Physics Course I Ever Took Turned Out to be Useful—Only Never in the Way I Expected," **Dr. Apsell** shared his early experiences as a researcher developing digital reconnaissance satellites, subsequently followed by a career in business, and how he discovered in both arenas some unexpected applications for his background in physics.

Describing her career path from the semiconductor industry to high-

## ( IAP SEMINARS

### *IAP seminars continued*

profile management for Sony Electronics in "A Step Beyond Molecular Orbital Calculations and the Academic World," **Ms. de Hodgins** spoke in enthusiastic detail of the relevance of her physics education to her success in industry.

Shifting focus from industry to law, **Mr. Halket** drew from his personal experience as partner in a major corporate law firm to discuss career opportunities in law for physics graduates in, "Is There Law Beyond the Physical Laws?" The discussion covered multiple career options, ranging from patent law and litigation to an overview of high tech start-ups.

Rounding out the 2001 IAP physics alumni offerings, **Dr. Layson**, recently retired Senior Vice President of Science Applications International Corporation, and former researcher at CERN, UC-Berkeley, and Cape Kennedy Space Center, spoke of the "Fortunes of Physicists Who Go Astray," addressing key issues involved for physicists who leave a career in academia for one in applied technology and management.

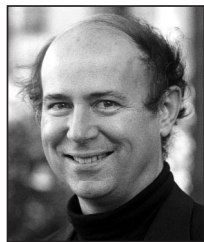
### KILLIAN AWARD LECTURE

The 29th annual Killian Award lecture, titled "Are We Really Made of Quarks?" was delivered by Institute Professor, Professor of Physics and Nobel laureate **Jerome I. Friedman** on March 20, 2001. The annual spring lecture is given by the James R. Killian Jr. Faculty Achievement Award winner, selected yearly by a committee of faculty peers, in recognition of extraordinary depth and range of accomplishment.

### SHULL MEMORIAL

On Friday, April 6, 2001, a memorial service was held at the MIT Chapel in honor of Professor of Physics Emeritus and Nobel laureate, **Clifford G. Shull**, and his wife, **Martha-Nuel Summer Shull**. Fond remembrances from MIT colleagues, family, and friends were led by Donner Professor of Physics and Department Head, **Marc A. Kastner**, and the **Shulls' sons, John, Bob, and Bill**. Following the service, the Department hosted a reception for guests and members of the MIT community.

### PAPPALARDO DISTINGUISHED LECTURE



*Frank Wilczek*

The 2001 Pappalardo Distinguished Lecture in Physics was given on April 26, 2001, by eminent theoretical physicist **Frank Wilczek**, the Herman Feshbach Professor of Physics. His talk, entitled "The World's Numerical Recipe," was delivered to a full house in lecture hall 10-250, a 450-seat forum. The talk was videotaped and is now available on-line as a "webcast" from MIT-World at [http://mitworld.mit.edu/on\\_demand/wilczek\\_numerical.html](http://mitworld.mit.edu/on_demand/wilczek_numerical.html). For more information on Prof. Wilczek, you can visit his web site at [http://web.mit.edu/physics/people/wilczek\\_frank.htm](http://web.mit.edu/physics/people/wilczek_frank.htm).

The Pappalardo Distinguished Lecture in Physics was established in 1999 in honor of Jane and A. Neil Pappalardo, friends of the Department of Physics who believe in broadening scientific frontiers for the good of humanity.

The life and memory of renowned nuclear physicist and human rights advocate, Institute Professor Emeritus **Herman Feshbach**, was celebrated in a two-day symposium at MIT on Friday and Saturday, May 18–19, 2001. Reflecting the range of his impact upon both science and social policy, the program was divided into two distinct, but related, topics: Herman Feshbach and Public Service, and Herman Feshbach and Directions in Nuclear Physics. Speakers from the scientific community throughout the country led discussions on topics ranging

## ( FESHBACH SYMPOSIUM



*The Herman Feshbach family.*

from the International Science Community and Human Rights (**Irving Lerch**, APS) and Women in Science (**Mildred Dresselhaus**, MIT), to The Discovery of Supersymmetry (**Francesco Iachello**, Yale) and The Most Perfect State of Matter (**Frank Wilczek**, MIT).

The event was co-sponsored by the Department of Physics; the Laboratory for Nuclear Science & the Center for Theoretical Physics; the Office of the Dean, School of Science; and the Office of the Provost.



Heather Williams

*Herman Feshbach Professor of Physics Frank Wilczek, MIT, and session chair Prof. Heather Lechtman, MIT.*



Heather Williams

*MIT President Charles Vest delivering welcome remarks.*