

Alumni Notes

'41

John B. Murdock (S.B. '41. Thesis advisor: Hans Mueller) I am a retired engineer who gave up on physics after a course with Slater in 1940. At age 70, I invented a low tech swimming machine that is now doing \$15 million per year in sales. Visit endlesspools.com. I am now working on a turntable to turn cars around in a narrow driveway. Visit carturn.com. I have a great idea for a ship mounted nuclear power plant that I will send to anyone asking for it. Floatinukes.com?

'47

Melvin Lax (Ph.D. '47, S.M. '43. Thesis advisor: Herman Feshbach) Changes in the last two years: in 1999, Lax shared the Willis Lamb Medal for Laser Science and Quantum Optics with Professor Lorenzo Narducci of Drexel University and Herbert Walther, Director of the Max Planck Institute of Quantum Optics. In 2000, he was made a fellow of the American Association of Arts and Sciences. But none of the above gives my current status: Melvin Lax is Distinguished Professor of Physics at the City College of the City University of New York (1971-), and a member (1983-) of the National Academy of Sciences. He has been associated with Bell Laboratories as a member of the technical staff (1955-1972), as head of the Theoretical Physics Research Department (1962-1964), and as consultant to the Physics Research Laboratory (1972-).

'48

Robert I. Hulsizer, Jr. (Ph.D. '48. Thesis Advisor: Bruno Rossi) After retiring in 1986, I worked on a freshman physics book that failed because it was too hard. Then in 1994 I went back to MIT to teach 8.01 and 8.02 (freshman physics) on a part-time basis.

'49

David Mintzer (Ph.D. '49, S.B. '45. Thesis advisor: Leo Beranek) Retired in 1991 from Northwestern University as Emeritus Professor of Physics and Astronomy, and Emeritus Professor of Mechanical Engineering. Served as Associate Dean (1970-73), and then Acting Dean (1971-73) of Engineering, and then Vice President for Research and Dean of Science (1973-86). Taught and did research, first in underwater acoustics and later in rarefied gas dynamics. Presently, my wife and I live in Chicago, where I keep busy as president of our condo board, and as a trustee of the Adler Planetarium; we winter in Palm Desert, CA. I would enjoy hearing from, and visiting with, old friends (dmin@northwestern.edu).

'51

Josef Eisinger (Ph.D. '51. Thesis advisor: Jerrold Zacharias) has now attained professor emeritus status, but enjoys keeping up with the exciting

new developments in astrophysics and biophysics. He has also been kept busy transcribing and translating the correspondence of Brahms, in collaboration with his musician wife, Styra Avins, whose *Johannes Brahms, Life and Letters* (Oxford University Press, 1997) has won wide critical acclaim. You can never tell where a tenure in the MIT Physics Department and the MIT Symphony Orchestra will lead you!

George Field (S.B. '51. Thesis advisor: R.K. Mueller) After teaching astronomy for 42 years at Princeton, Berkeley, and Harvard, I retired in July 1999, and am living half-time in Cambridge and half-time in the British Virgin Islands, where my wife and I have a house on Virgin Gorda and a power boat on North Sound. I work half-time on theoretical astrophysics, mostly with former students on the internet. Life is good.

Tracy Wichmann (S.B. '51. Thesis advisor: Wayne Nottingham) Retired from Hughes Aircraft in December 1993, moved to Ormond Beach, FL, to be near grandchildren in 1995. Now adjunct (part-time) professor at Embry Riddle Aeronautical University, teaching electronics, probability, statistics, and reliability in lieu of patronizing saloons, pool halls, and bawdy houses. Also, past chairman of local IEEE Section.

'52

Albert (Bud) Wheelon (Ph.D. '52. Thesis advisors: Phil Morse and Herman Feshbach) My thesis was an early effort using QED to estimate single and double pi meson production at then high energy. For the last ten years, I have been retired from an industrial position and doing physics again. I am writing a two-volume reference for Cambridge University Press on Electromagnetic Scintillation. Volume I should be available in June or July. Volume II is due this time next year. It is wonderful to be back in physics, doing what I once loved so much.

'54

Arthur Winston (S.B. '54. Thesis advisor: Pete Osborne) I have been involved in many MIT Alumni activities, including Chair of Technology Day and Chair of the Boston Lecture Series. I am a member-at-large on the MIT Club of Boston. I am responding now to indicate: 1. I am a candidate for President-Elect 2002 for the IEEE and if successful, would be IEEE President in 2003; 2. I expect to visit Robert Birgeneau when I attend an undergraduate reunion at the University of Toronto in June.

'56

Peter Alexander (S.B. '56, Ph.D. '61 *Purdue*) Recently I was Engineering Director at Schlumberger, the oilfield services company in Houston, ran microstructure technology and microfabrication programs for two high tech companies, served as Director of Business Development for Raytheon, and now running my own consulting firm. My wife, Iris, and I have 6 grandchildren. Regards to my colleagues.

Leon Balents (S.B. '56. Thesis advisor: Prof. Kraushaar) I am now, it seems, Retired. I am looking to see if some parts of my experience in electronic components, vacuum tubes to IC and hybrid microelectronics would be of interest to new engineering students in these fields. So I am preparing for new engineering students some type of presentation that includes some historical perspective. My thesis advisor at MIT in Physics was Prof. Kraushaar, who I am sure was very disappointed in my effort in my senior thesis, as I could joke, somewhat painfully, that it was probably one of the shortest, at seven pages, ever submitted.

John W. Crawford, Jr. (S.M. '56. Thesis advisor: Clark Goodman) After MIT, Capt. Clark served in the naval nuclear propulsion program for thirteen years, before retiring while Deputy Manager, Naval Reactors. Recently, he was named by the U.S. Naval Academy Alumni Association as one of five recipients of its Distinguished Graduate Award, for the year 2001.

'57

Henry H. Plotkin (Ph.D. '57. Thesis advisor: Francis Bitter) Retired from NASA's Goddard Space Flight Center in 1994 after a long career in technology development for Earth and Space Science instrumentation. Is presently on the faculty of the University of Maryland, Baltimore County, and Chief Scientist of the Goddard Earth Sciences and Technology Center.

'59

Jan A. Northby (S.B. '59. Thesis advisor: Harold Enge) is a Professor of Physics at the University of Rhode Island. After graduating from MIT, he received a Ph.D. from University of Minnesota in 1966. After postdoctoral appointments at the Universities of Michigan and Oregon, he came to URI in 1970. He has been a visiting scientist at the Kammerlingh Onnes Lab in Leiden, a senior Fulbright professor at the Max Planck Institute in Göttingen, and an NSF-Center for Global Partnership Fellow at the Kyoto University Department of Electrical Engineering. He received the URI Foundation Scholarly Excellence award for 1997. His training was in low temperature physics, but for the past several years his research interest has been in the area of cryogenic cluster beams. These provide both a means of learning about nanoscale systems, and a means of altering surfaces in technologically useful ways.

'60

Henry R. (Hank) Hirsch (Ph.D. '60, S.B. '54. Thesis advisor: Francis Bitter) Next fall I will be teaching gastrointestinal (GI) physiology at the graduate level here at the University of Kentucky College of Medicine. Since physics has an important medicinal role in the GI tract, my studies of physics in course VIII will, no doubt, be helpful.

'61

Barbara F. Adams (S.B. '61. Thesis advisor: Marvin Friedman) Recently, the last 30 years or so, I've been rattling around the aerospace industry, largely concerned with various aspects of satellite systems. Since I didn't have a coherent plan when I abandoned my doctoral pursuit, the random walk got me first to the Washington, D.C., area; then back to Boston. Most recently, 22 years, I've been in southern California.

Karl F. Milde, Jr. (S.B. '61) reports that he was awarded the U.S. Patent No. 6,179,247 for a personal aircraft or "PAC:" a wingless, flying vehicle capable of vertical take-off and landing ("VTOL") in confined areas (driveways, lawns, etc.) The craft incorporates five or more engines ("thrusters"), which provide the lift and motive power in a redundant configuration. Should any thruster fail, the rest will support the craft. The thrusters are "ducted" and make use of Bernoulli's Principle to minimize the power to weight ratio.

Malvin C. Teich (S.B. '61, Ph.D. *Cornell*. Thesis advisor: Tommy Thompson) After 29 years as a faculty member, in 1966 I became Professor Emeritus of Engineering Science and Applied Physics at Columbia University. I am currently a faculty member in the Departments of Electrical & Computer Engineering, Physics, and Biomedical Engineering at Boston University, where I am co-director of the Quantum Imaging Laboratory and carry out research in the areas of quantum optics and imaging, photonics, wavelet and fractal stochastic processes, and biological signal processing and information transmission.

'62

David E. Baldwin (Ph.D. '62, S.B. '58. Thesis advisor: W.P. Allis) Career highlights: Lawrence Livermore National Laboratory: 1970-88; University of Texas, Austin, Professor of Physics and Director, Institute for Fusion Studies: 1988-91; MFE theory: 1991-95; General Atomics, San Diego, CA, Senior Vice-President, Fusion Group: 1995-present.

Art Funkhouser (S.B. '62) I worked for some years as a physicist, but in 1981, I became a Jungian psychotherapist with a practice here in Switzerland. I now do dreamwork and am involved in a research project funded by the Swiss National Science Foundation in which we are studying the effects of dream-telling on people going through retirement. We have published several papers on dreaming and the effects of dream-telling among the healthy elderly.

'63

Kyoichi (Ken) Haruta (Ph.D. '63. Thesis advisor: B.E. Warren) I started at Bell Labs, and without changing companies, I've been to AT&T, Lucent, and now Agere Systems. I'm still doing applied research/development with software in the integrated circuit area. We have three children and six grandchildren.

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Mark Hoffberg (S.B. '63, Ph.D. '70 *Physics, New York University*). Thesis advisor: Peter Demos) I'm currently head of Philips Research Silicon Valley, a subsidiary of Philips Electronics, NV, working on network technologies, devices and applications for intelligent home environments.

George C. Maling, Jr. (Ph.D. '63, S.M. EE '58, S.B. EE '54. Thesis advisor: K. Uno Ingard) George Maling continues to serve as Managing Director of the Institute of Noise Control Engineering and as managing editor of one of its publications, *Noise/News International*. In 1999, he became the sixth American recipient of the Rayleigh Medal, given by the Institute of Acoustics in the UK for contributions to acoustics. This is the third Rayleigh Medal given to an MIT physics graduate (Professors Uno Ingard and Richard H. Lyon were previously honored). Dr. Maling is a member of the National Academy of Engineering.

Henry R. Radoski (Ph.D. '63. Thesis advisors: George Bekefi and William Allis) Retired August 1998 after 22 years as Program Manager of Space Physics, Astronomy & Astrophysics at AFOSR in Washington, D.C. Returned to Sudbury, MA, October 2000.

Joseph S. Rosenshein (Ph.D. '63, S.B. '57. Thesis advisor: William Whitney) On staff of Department of Ophthalmology, Sinai-Grace Hospital; part of the Detroit Medical Center (DMC) in Detroit, Michigan, since 1984. Clinical faculty member in Medical Physics program at Oakland University, Rochester, Michigan. Have been directing graduate research in laser-tissue interactions since 1987. Participating in FDA clinical trials of excimer lasers for laser vision correction since 1991. Technical Director of the DMC Clear Vision Center since 1996. The Center has recently performed its 19,000th laser vision correction procedure, including mostly LASIK procedures, since opening in July 1996. Elected president of the Michigan Keratorefractive Society in April 2000, the first non-M.D. to be so honored.

Rae F. Stiening (Ph.D. '63, S.B. '58. Thesis advisor: Martin Deutsch) I am the project manager of NASA's 2 Micron All Sky Survey (2MASS). Our project is making a digital map of the entire sky in three near infrared wavelength bands. In a year we will release to the public a catalog giving very accurate positions and magnitudes of more than 400 million stars and two million galaxies.

Norman Tepley (Ph.D. '63; S.B. '57. Thesis advisor: M.W.P. Strandberg) Since 1969, I have been Professor of Physics at Oakland University, Rochester, Michigan, where I established a Ph.D. program in (primarily) non-radiological Medical Physics. Since 1988, I have had a dual appointment, at Oakland and at Henry Ford Hospital in Detroit, where I head Neuromagnetism Research. Since the early '90s, my research there has been funded by the National Institutes of Health. My lab at Henry Ford has one of only nine large array whole head neuromagnetometers in the United States. I am still having fun with my research and have no thoughts about retirement.

Jack Tomlinson (Ph.D. '63, S.B. '60. Thesis advisors: Henry Stroke and George Harrison) After spending most of my professional career in research organizations of large companies (Bell Labs and Bellcore), in May

of 1997 I joined the startup Tellium, as one of the founders of this spinoff from Bellcore. After Tellium changed direction, I joined JDS Uniphase in August of 1999, as a senior Technical Advisor, and in March of 2000 I was made a JDS Uniphase Fellow. My major focus at JDS Uniphase has been on technologies for dynamic gain equalization of optical amplifiers. I am a Fellow of the Optical Society of America, have published numerous technical papers, and am an inventor on 26 U.S. patents.

'64

Al (Albert H.) Teich (S.B. '64. Thesis advisor: Malcom W. P. Strandberg) I built on my undergraduate physics training with a Ph.D. in political science ('69), focusing on science policy, in MIT's then-new Political Science Department. The combination has served me well. After ten years in the academic world, I joined the staff of the American Association for the Advancement of Science (AAAS) in 1980, and since 1990, I have been head of the Directorate for Science and Policy Programs. In this role, I serve as AAAS's spokesman on science policy issues and oversee programs that include AAAS's policy fellowship for scientists and engineers; an ongoing analysis of federal R&D funding; AAAS's congressional affairs; and activities in science and law, science and human rights, ethics, and religion. Information on these programs can be found at <http://www.aaas.org/spp>; the URL for my personal home page is <http://www.alteich.com>.

'65

Greg Johnson (S.B. '65) Since 1986, I have been a general partner of Gateway Associates, a venture capital fund manager in St. Louis. Recently, two new partners and I split off Gateway to form a new fund called Prolog Ventures that invests in early-stage life sciences companies and related IT. The fund is focused on Missouri and surrounding states. Prolog Ventures recently held a first closing with \$21 million committed. Investors include Washington University, Monsanto, and the University of Missouri.

Tom King (S.B. '65. Thesis advisor: G.G. Harvey) I am currently Chief Scientist for the ERMA program, a DoD program performed by Ball Aerospace. Prior to my present position, I worked at Los Alamos and at Boeing, and was a National Academy of Sciences Senior Associate at the Air Force Research Laboratory.

Ronald S. Newbower (S.B. '65. Thesis advisor: John Cochran) In my role here at MGH and the BWH (as VP for Research Management, Partners Healthcare), I have been working on several fronts to help improve the creative connections between MIT and the Harvard-affiliated hospitals. We have helped to design two new and unique structural mechanisms to enhance the flow of ideas, graduate students, and faculty interactions. One, the Martinos Center, was recently launched as an MIT-MGH collaboration, inspired and fostered by the HST Program. The other, CIMIT, is a Center founded by Partners, MIT, and Draper Laboratories. Its focus is on

minimally invasive technologies for improved outcomes and reduced costs in diagnosis and therapy. Both structures provide new avenues for MIT faculty to connect with clinicians in meaningful collaboration. The timing is right, given the enormous advances in the whole range of engineering sciences, and the relatively limited penetration of those advances into the mainstream of healthcare. The key to success is the hard work of breaking down the barriers between disciplines and specialties, and the establishment of self-sustaining inter-disciplinary programs.

Andrew S. Tanenbaum (S.B. '65. Thesis advisor: Minoru Oda) After getting my S.B. in 1965, I went to Berkeley to get my Ph.D. in physics (1971). Berkeley in the 1960s was definitely the place to be. Lots of action on campus and five Nobel Prize winners in the Department. What else could you ask for? After graduating, I decided that those newfangled things called computers looked like fun, so I sort of switched to computer science. I have stayed in computer science since. I am now a professor of computer science at the Vrije Universiteit in Amsterdam, The Netherlands. My research area is very large scale distributed systems. My URL is <http://www.cs.vu.nl/~ast>. I have written many papers, books, and useless memoranda (which comes with being Dean of the graduate school). I am a Fellow of the ACM, a Fellow of the IEEE and a member of the Royal Dutch Academy of Sciences. In addition, I have traveled widely all over the world.

'66

Edward M. Graham (S.B. '66) After leaving MIT, I received an MBA from Harvard and, after a few years doing various things, returned to Harvard for a doctorate in business with a heavy dose of economics. Then, from 1974-78, I was an assistant professor at the MIT Sloan School, followed by a stint in the government, followed by positions at UNC (Chapel Hill) and Duke, followed by my present position, Senior Fellow at the Institute for International Economics in Washington. Here I have done quite a few things, including (MIT connections again!) writing a book with Paul Krugman, for many years in the MIT Economics Department. I have authored several other books in economics as well as dozens of articles. A project that I have worked on recently has been a monograph entitled, "Why Does $E=mc^2$?" targeted to audiences who understand calculus but are not trained in physics to any significant extent — the first thing that I have done in physics since leaving the 'tute!!

Ted Gull (S.B. '66. Thesis advisor: Gordon Garmire) My activities these past few years have focused on ultraviolet and visible spectroscopy with the Hubble Space Telescope. I am Deputy Principal Investigator of the Space Telescope Imaging Spectrograph, which was installed into HST in February 1997, and is producing much exciting science. The STIS team worked for 14 years developing the spectrograph that covers from 1175Å to one micron at several different resolving powers and at the near-diffraction limit in angular resolution of HST. I have done research on the Crab Pulsar, Gamma Ray Bursters and especially Eta Carinae, one of the

next supernovae to occur in our Milky Way. More recently, I have been traveling to University of Lund, Sweden, to work on spectroscopy of iron-like elements that we are identifying in the spectra of Eta Carinae and its ejecta. In December 1999, I received an honorary doctorate from South Dakota School of Mines and Technology in recognition of the work I have been doing over the past decade with the Lakota Nation students in science, mathematics, and communications. Previous to this, I was Mission Scientist for the Astro Missions that flew several telescopes attached to the space shuttles.

'67

William (Bill) Junkin (Ph.D. '67. Thesis advisor: Felix Villars) I have been teaching physics for the past 27 years at Erskine College, Due West, SC. In 1995, I was recognized as South Carolina Governor's Professor of the Year. In July 2000, I started teaching physics only half-time, as Associate Professor of Physics at Erskine College. My current area of interest is physics education research, where I have developed some web-based software for polling students.

Robert S. Karz (S.B. '67. Thesis advisor: Alexander Smakula) I've been with Xerox for 28 years with a variety of technical assignments in Rochester, NY. For the past four years I have managed a lab providing technical support for patent licensing. I am married with two grown daughters. I am also very active with the local MIT club.

W. Banning Vail (S.B. '67. Thesis advisor: John G. King; Ph.D. *Physics '74, University of Washington*) Have been awarded 44 U.S. and foreign patents to date. Many more are pending. Several of the inventions are commercial successes and are now in worldwide use. Got tired of getting sick on airplane flights, and therefore have invented a new way to prevent colds and flus. Presently studying the market. Proposed a new hypothesis concerning how life began on the Archaean Earth that may be linked by www.origin-of-life.com. U.S. Patent No. 6,057,424 has been awarded to me on the basic process to synthesize life from scratch. Trying to raise interest and funds to build a first-rate national research facility to simulate different Archaean Earth environments that led to the generation of life on Earth. Other experts in the origin-of-life field are involved. Please contact me if you are interested in such efforts at wbv@vails-inventions.com or wbv@origin-of-life.com.

'69

Predrag Cvitanovic (S.B. '69. Thesis advisor: George Benedek) Starting January 2001, Predrag Cvitanovic has been appointed Glen Robinson Chair in Nonlinear Sciences and the Director of the Center for Nonlinear Science at Georgia Institute of Technology.

George Donner (Ph.D. '69. Thesis advisor: Felix Villars) Despite warm memories of my friends and teachers from physics days at MIT, I now work as an investor at Monarch Capital Management in Fort Wayne, Indiana.

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Married to Ann, a musician, since 1969. We have two beautiful daughters, one an artist, one a social worker. E-mail address: grdonner@aol.com.

William Klepack (S.B. '69) I have been in family practice now for 20 years and love medicine. It is fascinating to see such things as NMR take shape as MRIs in today's medicine.

'70

Daniel C. Galehouse (S.B. '70; Ph.D. '78, UC-Berkeley. Thesis advisor: K. Uno Ingard) I started graduate work at Berkeley in 1970, receiving an M.A. in 1974 and a Ph.D. in 1978. I worked for Polaroid in MA for a few years and then for General Electric in Ohio. Since then, I have taught on and off at the University of Akron and Kent State while rebuilding an old farmhouse and helping with the family Christmas tree farm. I have continued since the early 70's to study geometrical theories of quantum mechanics. I am busy trying to publish these while working in the Akron polymer physics department.

Thomas D. Halket (S.B. '70, S.M. '71. Thesis advisor: Alan H. Barrett) recently joined the law firm of Bingham Dana as Partner-in-Charge of the Technology Practice in its New York office, and a member of the firm's Commercial Technology Practice. Mr. Halket was formerly the Chairman of the American Bar Association's Section of Science and Technology, the Chairman of the ABA's Division on Ventures and Enterprise, the Chairman of the ABA's Aerospace Law Division and the Chairman of the Association of the Bar of the City of New York's Subcommittee on Software and Uniform Commercial Code. Mr. Halket is currently Chairman of the American Arbitration Association's Technology Committee, a member of the World Intellectual Property Organization's Domain Name Dispute Panel, and a Fellow of the Chartered Institute of Arbitrators (London). He received his law degree from Columbia University School of Law where he was a Stone Scholar and the Writing and Research Editor of *The Columbia Journal of Environment Law*.

John Huchra (S.B. '70. Thesis advisors: Hale Bradt, George Clark, and Icko Iben). I'm now a Senior Astronomer at the Smithsonian Institution and a Professor of Astronomy at Harvard, where I just got my 25 year rocking chair. I've been having lots of fun making cosmic maps using telescopes all over the world and working on observational cosmology. I married Rebecca Henderson, ME '81, and now a prof at the Sloan school, so my ties to MIT remain pretty strong (although Rebecca jokes that when I give \$\$ it just comes back to us as her salary . . .). My main goal at the moment is to spend lots of time with my 5 year-old, but I've also been spending lots of time in Washington trying to get more funding for the physical sciences. I'm currently chairing the NAS/NRC Board on Physics and Astronomy.

John R. Murray (Ph.D. '70, S.B. '65. Thesis supervisor: Ali Javan) Laser research and development at Lawrence Livermore National Laboratory since 1972. Presently a senior scientist in the systems engineering group for the National Ignition Facility, a megajoule-class laser facility for inertial fusion and other high temperature physics research, now under construc-

tion at Livermore, CA. Divisional Editor (92-98) and Editor in Chief (93-99) of the journal *Applied Optics*. Chairman (01-03) Optical Society of America Publications Council. OSA Fellow.

Edward I. Shibata (Ph.D. '70; S.B. '64. Thesis advisor: David H. Frisch) Present position: Associate Head and Professor, Department of Physics, Purdue University, West Lafayette, Indiana. Research: experimental high energy physics using electron and positron colliding beams and the general purpose detector known as CLEO at the Cornell Electron Storage Ring. Teaching: I am in charge of the general physics laboratory that serves over 1,800 engineering and science students per year. About 10 years ago, apparatus was interfaced to computers to improve the data quality and reduce tedious calculations.

'71

Dan Cohn (Ph.D. '71. Thesis advisor: Ben Lax) I am presently a senior research scientist at MIT's Plasma Science and Fusion Center (PSFC) and Nuclear Engineering Department. Also Head, Plasma Technology Division, at the PSFC. Recent work has been on use of plasma science for more efficient and cleaner use of hydrocarbon fuels. Received 1999 Discover Award for Technological Innovation in Transportation (award given for plasmatron technology for vehicle pollution reduction). Received R&D 100 Awards in 1995, 1996, and 1998 for environmental monitoring and waste conversion technology. Was a founder and first CEO of Integrated Environmental Technologies, a company that provides plasma enhanced waste conversion technology for resource recovery and clean energy production (company founded in 1995).

Phil Isenberg (S.B. '71; Ph.D. *Physics '76, University of Chicago*) After I got my Bachelor's in Physics I decided I need a year off to "figure out what I wanted to do next." I hitchhiked across the country and back, hung out in Cambridge, MA, working part time at the Smithsonian Astrophysical Observatory, and found that when the time was up I had no better idea about my life than before. So, I took the path of least resistance (or so it seemed) and went to grad school in Physics at the University of Chicago. I got my PhD in '76, took a postdoc at the University of Arizona to study cosmic rays and another one at UCSD investigating particles and waves in geosynchronous orbit. I enjoyed life in the southwest, but I missed New England, so in 1981 I joined the Solar-Terrestrial Theory group at the University of New Hampshire to work on models of the solar wind. (It was snowing when I came for an interview, a definite plus for me after five years away.) I've been here ever since. I'm now a Research Professor in the Institute for the Study of Earth, Oceans and Space at UNH, doing OK on the academic version of a scientist's salary. I married a schoolteacher and have two kids: Jennifer, 11, and David, 7½.

Roy (Hiroyoshi) Lang (Ph.D. '71. Thesis advisor: Marlan O. Scully) Roy Lang left the R&D Group of NEC Corporation in 1998 to become a professor in the Applied Physics Department of Tokyo University of Agriculture and Technology. In addition to directing a government sponsored CREST

project on ultra-fast photonics, he is involved in activities to renovate university physics education in the Science Council of Japan and the Physical Society of Japan. He feels very privileged to have served on the MIT Physics Visiting Committee for two terms. The experience has very much impressed him with the faculty effort to maintain the excellence of research, as well as education, of the MIT Physics Department.

Timothy J. Maloney (S.B. '71. Thesis advisor: Daniel Kleppner) did a Ph.D. in EE at Cornell after graduating from MIT and has spent the last 24 years in Silicon Valley, California. He has been with Intel since 1984, where he is now a Senior Principal Engineer. Tim still uses his physics as he designs electrostatic discharge (ESD) protection for nearly all of Intel's chips. He now holds twelve patents, mostly related to ESD. He has published over a dozen papers at the EOS/ESD Symposium and has chaired that conference. Those publications and others allowed him to be co-author of a book, *Basic ESD and I/O Design* (Wiley, 1998); you can read about the book, plus more about Tim, at its amazon.com listing: <http://www.amazon.com/exec/obidos/ASIN/0471253596/>.

'72

Richard J. Borken (Ph.D. '72. Thesis advisor: George W. Clark) I am pleased to say that I have recently retired as Vice President of Technology Acquisition and Alliances for the Honeywell Corporation in Minneapolis. My wife, Liz, and I now live most of the year at our home on Lake Vermilion in northern Minnesota. Prior to my most recent assignment, I was Vice President of Operations at Honeywell's avionics facility in Albuquerque, and prior to that I held a number of research and management positions at Honeywell's Minneapolis operations.

Maury Goodman (S.B. '72. Thesis advisor: Stanislaw Olbert) I am currently working on a number of neutrino experiments in the Argonne High Energy Physics Department, including the MINOS long-baseline neutrino experiment from Fermilab to northern Minnesota. I issue a free monthly newsletter about neutrinos called "Long-Baseline News" that can be found at <http://www.hep.anl.gov/ndk/longbnews/index.html>.

Larry L. Lynn (Ph.D. '72, S.M. '69) retired from the Central Intelligence Agency on 30 December 2000. He joined the Los Alamos National Laboratory on 5 February 2001.

Roger Malina (S.B. '72. Thesis advisor: Saul Rappaport) has been appointed director of the Laboratoire d'Astrophysique de Marseille. He recently completed his tenure as director of the NASA EUVE Observatory at the University of California, Berkeley.

'73

George Phillis (Ph.D. '73, S.M. '71, S.B. '68. Thesis advisors: George Benedek and Rainer Weiss) I am currently Professor of Physics (and Associated Biochemistry Faculty) at the Worcester Polytechnic Institute. My textbook, *Elementary Lectures in Statistical Mechanics*, just came out from

Springer-Verlag, NY. *Elementary Lectures* was written for physics seniors and grad students as a first book in statistical mechanics. My own research continues to be on complex fluids: polymer dynamics, quasi-elastic light scattering spectroscopy, and optical probe methods.

Robin Staffin (S.B. '73. Thesis advisor: John Negele) Dr Robin Staffin was recently appointed Deputy Associate Director for High Energy and Nuclear Physics in the Office of Science, Department of Energy. Previously, he served as Senior Policy Advisor for Science and Technology to the Secretary of Energy.

'74

Deborah J. Jackson (S.B. '74. Thesis advisor: Margaret L.A. MacVicar) has spent the last eight years at the Jet Propulsion Laboratory developing instruments for two flight experiments: the Cassini mission to Saturn and the Mars Observer mission to Mars. The next frontier is quantum information and computing science. For further details, visit <http://cs.jpl.nasa.gov/qct/qat.html>.

Michael D. Marx (Ph.D. '74. Thesis advisor: Larry Rosenson) Prof. Michael Marx of Stony Brook University has been named to manage the construction of the KOPIO experiment, an NSF-funded initiative at Brookhaven National Laboratory. KOPIO seeks to measure the very rare decay of the K-long to pizero, neutrino and antineutrino, which will provide one of the most sensitive and theoretically cleanest measurements of direct CP-violation. Unravelling the mysteries of CP-violation is a key step in understanding why our universe seems to be made almost entirely of matter, instead of equal measures of matter and anti-matter, as it surely began.

Benjamin Svetitsky (S.B. '74. Thesis advisor: James Wolfson) I'm a physics professor at Tel Aviv University in Israel. I do research in theoretical nuclear and high energy physics, focusing on high temperature physics of the strong interactions and on lattice gauge theory. I am spending 2000-01 on sabbatical at MIT, of all places, working with old friends in the Center for Theoretical Physics.

'75

Chuck K. Chan (Ph.D. '75, S.B./S.M. '72. Thesis advisor: Peter Wolff) After my Ph.D, I attended Harvard Business School and received my MBA. I joined Spectra Physics in 1977, as a program manager for an in-house start-up to productize the picosecond pulsed dye laser system that my thesis was based on. I left Spectra Physics in 1982 and co-founded a venture capital firm (Associated Venture Investors). I founded Alpine Technology Ventures in 1995. Basically, I have been in the venture capital business for the past 19 years. Our emphasis is on funding information technology start-up companies in Silicon Valley.

Janet C. Johnston (S.B. '75. Thesis advisor: June Matthews) I am currently working at the Air Force Research Laboratory, Space Vehicles

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Directorate, in Bedford, MA. I am the program manager of the Solar Mass Ejection Imager experiment, scheduled for launch in March 2002. It will be the first time that Coronal Mass Ejections are tracked from the sun to the earth and thus give warning of potentially damaging geomagnetic storms.

Ellen L. Leverenz (S.B. '75. Thesis advisor: Jerry Lettvin) Ellen Leverenz is living a life of leisure in Los Gatos, CA, after more than eleven years at Oracle Corporation. Her former colleagues know her as "Lefty," but at home she's still Ellen.

Mahmoud Shahram (S.M. '75, M.S./EE *Northeastern University*. Thesis advisor: Roshi Arggawal) At Synopsys, Nanometer Analysis and Test (NAT) business unit. As a director of R&D, I manage a research group with emphasis in the area of semiconductor modeling and characterization for nanometer advanced processes. Our effort is focused in the direction of enhancing the capability of transistor-level simulation and parasitic extraction, IC design tools for next generation technologies. Furthermore, part of my group's responsibility is to act as a technical liaison between Synopsys and the world's leading foundries such as TSMC, UMC, CSM, etc., for calibration of out tools against silicon performance.

Jill Wittels (Ph.D. '75; S.B. '70. Thesis advisor: Irwin Shapiro) In February 2001, I left my job as VP/GM of BAE Systems' IR Imaging Systems business to become Corporate Vice President of Business Development for L-3 Communications (commercial and military electronics), a \$2B company, headquartered in New York City.

'76

Joseph H. Abeles (S.B. '76. Thesis advisor: William Bertozzi) opted for applications following a pure physics Ph.D. (Princeton '82). With alacrity and a measure of DARPA support, he today manages Photonic ICs and Components for Sarnoff (sarnoff.com, Princeton, NJ). Three key Course 8 alumni, Donald B. Carlin '70, Winston K. Chan '71, and Gary A. Pajer '77, complement him within the 75-person Princeton optoelectronics organization. Abeles is closely involved in equity creation for Sarnoff, exemplified by Princeton Lightwave, Inc. (princetonlightwave.com, Cranbury, NJ), formed May 5th, 2001 (Course 8 alumnus Greg E. Blonder '77, now acting CEO). With ~100 pubs/~15 patents, Abeles' interests are photon-bandgap- and meso-optics, nanofab, quantum dots, RF-photonics, microfluidics, and short-pulsed lasers. He warmly encourages business and personal e-mail at: jabeles@alum.mit.edu.

Leslie A. Feldman (S.B. '76. Thesis advisors: Walter Lewin and George Ricker; Ph.D. '82 *Materials Science and Engineering, Cornell University*) Work experience, 1980-present: Lawrence Berkeley Laboratory, Berkeley, CA, staff engineer, '78-'80, doctoral research on superionic conducting ceramics. Aerospace Corporation, Los Angeles, Member of Tech. Staff, research on carbon fibers and high temperature composites, '80-'89. 3D Systems, Valencia, CA, Sr. Scientist, '89-'91, stereolithography and photo-cured resin materials and properties development. Dataproducts Corp.

(Hitachi), Woodland Hills, CA, Sr. Scientist, '91-'93, inkjet printer development. Advanced Sterilization Products (Johnson & Johnson), Irvine, CA, Sr. Scientist, '94-present, medical devices and materials development for compatibility with sterilization. Married, one child.

Thomas Olsen (S.B. '76. Thesis advisor: E.V. George) went on to receive a Ph.D. in Physics at the University of Southern California. I am currently associate professor and chair of the physics department at Lewis & Clark College in Portland, OR. I have received funding from the Research Corporation Partners in Science Program to engage in collaborative research with a secondary school teacher, and we have been studying eclipsing binary star systems. I also collaborate with Richard Wiener of Pacific University on problems in the control of chaos in pattern-forming systems (Taylor-Couette flow). We have reported our work at recent meetings of the Division of Fluid Dynamics. I am the most recent past president of the Oregon Section of the American Association of Physics Teachers (AAPT), and I serve as the national president of Sigma Pi Sigma, the Physics Honor Society.

David G. Stork (B.S. '76) is chief scientist at the Ricoh California Research Center (in Menlo Park) and consulting associate professor in the departments of Electrical Engineering and Computer Science at Stanford University. He recently published his fifth book, *Pattern Classification* (2nd ed.) by R. O. Duda, P. E. Hart and D. G. Stork (Wiley Publishers), which will be released in Japanese in November (New Technology Communications). He is the creator of "2001: HAL's Legacy," a television documentary based on his fourth book, *HAL's Legacy: 2001's Computer as Dream and Reality* (MIT Press), which will air on PBS nationwide in September. He is leading the Open Mind Initiative, a novel framework for collecting data contributed by non-experts over the Internet for training intelligent machines. He continues an active musical career in percussion, including performances and recordings with several Bay Area ensembles.

'77

Paul Ackman (S.B. '77. Thesis advisor: Prof. Staelin, RLE) I also have an M.S. in Systems Management from USC. I have been working in my family plumbing and heating wholesale supply business since 1991. Before that I was retired and lived in Europe. Before that I was a project engineer for TRW Defense Systems Group. Before that I did laser research at The Aerospace Corp. I wish to make a career change and welcome all suggestions. Preferred locations are Richmond, VA, the D.C. area, or overseas.

Joe Egan (S.B. '77, S.M. '79 *Nuclear Engineering, S.M. '79 Technology & Policy*) My thesis advisor originally was George Brandenburg, but I later switched to a multidisciplinary committee and did my thesis outside the physics department. (I liked George a lot, but had already determined to go the Technology & Policy route.)

Richard R. Forberg (S.M. '77. Thesis advisor: Marc Kastner) Recently appointed VP of Product Management for Quarry Technologies, Burlington MA. I was Prof. Kastner's first graduate student, though probably a bit of a

disappointment, having abandoned the Ph.D. program after 2.5 years in favor of an opportunity to lead a normal life. I remember Marc as always full of enthusiasm and energy. I bet he hasn't changed a bit. Believe or not, I still use my physics today.

Sylvester J. Gates, Jr. (Ph.D. '77. Thesis Advisor: J.E. Young) This semester set a record for the amount of traveling carried out (nine states) as the John S. Toll Professor of Physics at the University of Maryland. It included a review of LIGO, participating at the first Isaac Asimov Memorial Debate (<http://www.amnh.org/>), and will end with receiving an honorary Ph.D. from Georgetown University, along with giving a commencement address. This fall will begin a sabbatical year at Caltech.

Glenn R. Young (Ph.D. '77. Thesis advisor: Stephen Steadman) I worked earlier for Prof. Eric Cosman, and was a part of the heavy ion nuclear physics group with Profs. Buechner, Enge, Cosman, Grodzins, and Steadman. I went to ORNL in 1978, one year after graduating, and have been there ever since. I'm the group leader for the relativistic heavy-ion group in the Physics Division of ORNL. We are part of the PHENIX experiment installed at Brookhaven National Lab's RHIC heavy-ion collider; I'm deputy spokesman. I'm pleased to note there are several other MIT Physics Ph.D.s working on PHENIX. We took initial data in the summer of 2000 and are now preparing for the first long run of RHIC at full energy. Prior to working at BNL on RHIC, our group spent some dozen years studying similar reactions at lower energies at the CERN SPS. On the last SPS experiment we collaborated with Prof. Wyslouch. Our goal is to find evidence for quark-gluon plasma formation, with our preferred technique being to study real and virtual photon emission.

'78

Gerald L. Epstein (S.B. '78. Thesis advisor: Erich Ippen; Ph.D. *Physics '84, University of California, Berkeley*) In January 2001, I completed five years at the White House Office of Science and Technology Policy, most recently as Assistant Director for National Security. I was the principal national security staffer to Dr. Neal Lane, President Clinton's Science Advisor, and I held a joint appointment as Senior Director for Science and Technology on the National Security Council staff. I spent the largest fraction of my time at the White House on what have come to be known as homeland defense issues, including countering, mitigating, or responding to attacks using weapons of mass destruction; protecting the nation's critical infrastructures; and national missile defense. I also addressed arms control, nuclear weapon stockpile stewardship, export controls, and nonproliferation.

Phil Kesten (S.B. '78. Thesis advisor: Lee Grodzins) I have been in the Department of Physics at Santa Clara University (Santa Clara, CA) since 1990, and have served as chair since 1996. Santa Clara provides me with the perfect environment—a strong emphasis on both research and undergraduate teaching. I worked for nearly a decade in high energy particle physics, on CDF at Fermilab, and more recently shifted gears into plane-

tary astronomy. My wife, Kathy, is a nurse practitioner, and I have two terrific kids, Sam, who is twelve, and Chloe, who is eight.

Christopher P. O'Dea (S.B. '78. Thesis advisor: Irwin Shapiro) I got my Ph.D. in Astronomy at the University of Massachusetts-Amherst, in 1984. I held postdoctoral positions at the National Radio Astronomy Observatory in Charlottesville, VA, and the Netherlands Foundation for Research in Astronomy. I am currently a tenured associate astronomer on the staff of the Space Telescope Science Institute in Baltimore, MD. I work on the topics of quasars and active galactic nuclei and clusters of galaxies. I am married to an astronomer, Stefi Baum, and we have four children.

Will Rifkin (S.B. '78) In July 2000, I was hired to launch the new undergraduate program in 'science communication' at the University of New South Wales in Australia. It has taken a decade to get work directly in the area of my doctorate (communication between technical and nontechnical people). I have enjoyed my seven years in Oz, winning national recognition for teaching management, and refining my suntan.

Douglas S. Ruby (S.B. '78. Thesis advisor: Daniel Kleppner) Doug Ruby will be attending the 12th Int'l. Photovoltaic Science and Engineering Conference in Cheju, S. Korea, in June 2001. He will be presenting the results of his research on the use of Reactive Ion Etching for generating nanostructures on the surface of multicrystalline silicon solar cells. This process has the potential to boost solar electricity generation by over 10%.

Peter R. Shaw (S.B. '78. Thesis advisor: Gene Simmons) I got my Ph.D. in Earth Sciences from the Scripps Institution of Oceanography, UC-San Diego, in 1983. From there, I went to the Woods Hole Oceanic Institution as a researcher, conducting marine geology and geophysics research. I'm currently living in Seattle; I was at the University of Washington's School of Oceanography for a few years, and I'm now happily working at the Insightful Corp. in Seattle, a math/statistics software and consulting company that licenses the S-Plus language (Formerly MathSoft).

Raymond E. Swartz (S.B. '78. Thesis advisor: George Pratt) After spending 15 years in the energy conservation industry, I have spent the last five years helping to bring 3D games to the Macintosh computer. This has involved writing drivers for 3D graphics hardware acceleration, physics models for virtual reality, and porting code from the Wintel platform.

Lloyd A. Treinish (S.M./S.B. '78. Thesis advisor: Irwin Shapiro) I am a research staff member in the Applied Math Department at the IBM Thomas J. Watson Research Center in Yorktown Heights, NY, focusing on systems, techniques and applications of numerical weather prediction. My research interests range from visualization systems, visualization design, data fusion, data models, scientific data management and perceptual rule-based tools to study atmospheric and space physics phenomena, and cartography. I have been at IBM Research since 1990. Earlier I did related work for over a decade at NASA/Goddard Space Flight Center in Greenbelt, MD.

'79

Marshall Burns (S.B. '79. Thesis advisor: Anthony French) I have started a company, Ennex Corporation, that develops new technology for digital manufacturing, particularly focused on digital fabricators or "fabbers." A fabber is a "factory in a box" that makes things automatically. It uses digital data from a computer to "fab" models and products. It's like a computer printer, but instead of printing a picture on a flat sheet of paper, it fabs real things in real, solid material. Check out our web site at ennex.com for information on digital manufacturing and fabbers.

'80

Namir E. Kassim (S.B. '80. Thesis advisor: Irwin I. Shapiro) I am an astronomer at the Naval Research Laboratory in Washington, D.C., and my specialty is in low frequency (< 1 GHz) radio astronomy. The past year has seen one of my images, a 330 MHz image of the center of our galaxy, appear in numerous popular journals and magazines (e.g., *Science*, *National Geographic*, *Discover*, cover of the *Astronomical Journal*). The image is the largest and most sensitive radio image ever made of the Milky Way's center at a uniform and high resolution, and its beauty and complexity excite the imagination of experts and non-experts alike. You can see the image at <http://rsd-www.nrl.navy.mil/7213/lazio/GC/index.html>. I am also currently leading the effort to build the next generation Low Frequency Array (LOFAR) telescope. I presented the concept and it was subsequently recommended by the National Academy of Sciences' Astronomy & Astrophysics Survey Committee in their recent survey of projects that should be constructed during this decade (see also <http://lofar.nrl.navy.mil/> and <http://www.astron.nl/lofar/>).

Geoffrey A. Landis (S.B. '80. Thesis advisor: Marc Kastner) was one of the scientists on the Mars Pathfinder mission in 1997, and now works on innovative concepts at NASA Glenn Research Center. He is also a science fiction writer, and his first novel, *Mars Crossing*, which was published by Tor Books this year, has been getting excellent reviews. Amazingly, it is the first science-fiction novel written by an MIT graduate published by a major publisher. More information at <http://www.geoffreylandis.com>.

Walter P. Lapatovich (Ph.D. '80; S.B. '75. Thesis advisor: David Pritchard) Currently investigating physics and high temperature chemistry of electric discharge lamps for Osram Sylvania. Received my 40th U.S. Patent for inventions related to plasmas, discharges, and electric lamps, this past year.

'81

Caroline Gee (Ph.D. '81. Thesis advisor: Marc Kastner) Dr. Caroline Gee is currently Senior Technical Manager at Agere Systems, developing high-speed optoelectronic components. The last couple of years have been especially exciting with the rapid growth of the optoelectronics industry

and Lucent's purchase of Ortel Corporation, where Dr. Gee was Director of Engineering.

Amy Luttinger (S.B. '81) got a Ph.D. in Molecular Biology at Princeton and now teaches (biology, biochemistry, and molecular biology) at Salem State College in Massachusetts. She is married to another MIT physics alum, **Philip Kaaret** (S.B. '84), who also got a Ph.D. at Princeton (but in Physics), and now works at the Smithsonian Astrophysical Observatory in high energy astrophysics. They have two small physicists at home, Maija Liisa (3 years old) and Alexander (7 years old).

David J. Powsner (S.B. '81. Thesis advisor: Justin Kerwin) has joined the Boston law firm of Nutter, McClennen & Fish as a partner in the Intellectual Property law group. David is a patent lawyer, specializing in the protection of computer software and hardware.

'82

Lawrence Krauss (Ph.D. '82. Thesis advisor: Roscoe Giles) News this year: new book, *Atom: An Odyssey From the Big Bang Through Life on Earth and Beyond*. Awards: Lilienfeld Prize, American Physical Society, 2001; Gemant Award, American Institute of Physics, 2001.

'83

Stephane Dana (Ph.D. '83. Thesis advisor: Henry Smith) Here are the various positions I've held since I left MIT: ASML, Veldhoven, Netherlands, 1999-present, Senior Product Manager, marketing advanced photolithography systems, used by integrated circuit manufacturers; Applied Materials-Orbot, Process Diagnostics & Control, Yavne, Israel, 1997-98, Technology Manager, New Business Development, Project Manager, New Product Development; Zikit Integrated Systems Ltd., Jerusalem, Israel, 1993-96, Cofounder of hi-tech start-up, created an innovative concept of Man-Machine Interface offering a complete solution for digital equipment, including both hardware and software; IBM T.J. Watson Research Center, Yorktown Heights, NY, 1984-92, Research Staff Member, developed Silicon Processing Technologies.

Alan Fisher (Ph.D. '83, thesis advisor: George Bekefi; S.B. '74, thesis advisor: Robert Taylor) I've been at the Stanford Linear Accelerator Center since 1994, in the group that built and now runs the PEP-II B Factory, a 2.2-km-circumference collider in which 9-GeV electrons collide with 3.1-GeV positrons to produce B and B-bar meson pairs. The BaBar detector then looks for CP violation in the matter and antimatter decays, to see if this process can account for the disappearance of the antimatter created by the Big Bang. My group of accelerator physicists works with the Control Room operators to keep the machine colliding 24-hours a day, while always attempting to increase the luminosity (collision rate). My specialty is beam diagnostics: beam position, focus, size, collision timing, etc.

'84

David E. Brahm (S.B. '84. Thesis advisor: Tom Greytak) I studied theoretical particle physics at Berkeley and received my Ph.D. in 1990, then postdoc'd at Caltech and Carnegie Mellon. In 1996, I switched to quantitative finance, taking a job at Fidelity Investments and thus returning to Boston. In 1997, I married Karen Hunold, whom I had met at Berkeley. I'm currently working at a Fidelity subsidiary named Geode Capital Management.

José Miguel Figueroa-O'Farrill (S.B. '84. Thesis advisor: Alan Guth) After MIT, I went to Stony Brook to do my Ph.D. in Theoretical Physics under the supervision of Martin Rocek. I then came back to Europe to a series of postdocs/lectureships: Leuven (89-91), Bonn (91-93), and QMW London (93-99). In 1999, I took up a Lectureship in Applied Mathematics at the University of Edinburgh, where I co-founded the Edinburgh Mathematical Physics Group. Apart from teaching and the unavoidable administrative tasks, I do research in diverse mathematical aspects of string theory. For more information, go to my web page:

<http://www.maths.ed.ac.uk/~jmf>.

Alyssa Goodman (S.B. '84, Ph.D. '89 *Harvard*. Thesis advisor: Charles Alcock) is currently a Professor of Astronomy at Harvard. She has recently developed an algorithm called the "Spectral Correlation Function" (SCF), which can find patterns in the velocity-density field of both observed and numerically simulated spectral-line data cubes. Her current interest in the SCF involves applying it to observations of the interstellar medium, but she is very interested in hearing about potential applications in other fields (e.g., meteorology). See www.harvard.edu/~agoodman for more information.

Robert Kwasnick (Ph.D. '84. Thesis advisors: Marc Kastner and John Melngailis) was elected a Fellow of the IEEE in 2001 for his contributions to the development of amorphous silicon-based, large area, digital X-ray imaging detectors at GE. In 1984, his thesis involved pioneering studies of quantum effects in ultranarrow MOSFETs. Presently Rob is working at Intel in Santa Clara, CA.

'85

Nuri Dagdeviren (Ph.D. '85. Thesis advisor: Arthur Kerman) joined Bell Labs in 1987 and is currently an R&D Director at Agere Systems, formerly Microelectronics Division of Lucent Technologies. Current area of study is multi-Gigabit optical data links. Named Bell Labs Fellow in 1998 for contributions to invention and development of "56k" modems.

Fulvio Melia (Ph.D. '85. Thesis advisor: Paul Joss) Recent highlights: (1) Associate Head, Physics Department, The University of Arizona. (2) Scientific Editor with the *Astrophysical Journal*. (3) Miegunyah Fellowship for distinguished overseas visitors, Melbourne University, Australia (2000-2001). (4) "Electrodynamics," a book in the Chicago Lectures in Physics series, will be published July 2001 by UC Press.

Alan C. Warren (Ph.D. '85. Thesis advisor: Hank Smith) My career after MIT included a 12-year stint at IBM (mostly in research, at Yorktown Heights, NY), which shifted half-way through from physics to computer science, and 2 1/2 years as Chief Architect at Hyperion Solutions. I am now CTO and co-founder of Juice Software, a year-old enterprise software startup in New York City. I'm also the proud dad of a 2 1/2 year old little girl and am still messing my knees up playing volleyball.

'86

Andrew Gelman (S.B. '86. Thesis advisor: Hayward Alker) My thesis was in political science... called "Toward a better understanding of the peaceful society of first world war trenches." I'm now a professor of statistics and director of the Quantitative Methods Program in Social Sciences at Columbia University in New York.

Robert W. Lourie (S.B. '82, Ph.D. '86. Thesis advisor: William Bertozzi) After my Ph.D, I spent two years as a postdoc in the LNS at MIT, then headed south to start an assistant professorship at the University of Virginia. After several years there, and having received tenure, I left UVA and headed back north, where I joined Renaissance Technologies Corp. We develop statistical models of financial markets and trade on the basis of these models. The company has about 50 Ph.D. scientists and it is quite challenging and exciting. Of course, the markets provide an utterly unambiguous measure of one's success.

Brad Waller (S.B. '86. Thesis advisor: Linda French) After years in Aerospace, I ventured off to apply my vast knowledge of physics to marketing on the Internet in 1995. The largest and oldest of the companies I share ownership of is EPage Classifieds at <http://ep.com> and the newest site, <http://adjungle.com>, launches this week. I am now a recognized pioneer and expert in "Affiliate Programs" (you know, the thing Amazon "invented" months after my program was up and running). You can catch up with me and the family with lots of pictures here at <http://ep.com/brad/>.

'87

Paul G. Kwiat (S.B. '87. Thesis Advisor: Ray Weiss) In January 2001, Paul G. Kwiat assumed the role of Bardeen Chair in Physics, at the University of Illinois in Urbana-Champaign, where he will continue his research on quantum optics and quantum information. He has thus far had a wonderful time investigating nonclassical effects in optics, such as "interaction-free" measurements, complementarity and quantum "erasers," and applications of polarization-entangled photons to tests of nonlocality, quantum cryptography, and most recently, entanglement distillation. Paul did his Ph.D. studies at UC-Berkeley, and spent two years as a Lise Meitner Postdoctoral Fellow, before going to Los Alamos National Laboratory as an Oppenheimer Fellow.

Vivian Leung (S.B. '87. Thesis advisor: Hermann A. Haus) I am spending more time to appreciate the love from all my family members. It is

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certainly an excellent idea. I am looking forward to reading the next issue of the Department of Physics annual journal.

Steven Sherwood (S.B. '87) I am currently an assistant professor in the geology and geophysics department at Yale University, in the area of atmospheric physics and climate.

Alfred Tang (S.B. '87. Thesis advisor: Toyochi Tanaka) My Ph.D. research (University of Wisconsin-Milwaukee) focuses on calculating the cross sections of nuclear reactions to be used in the transport code for NASA related space radiation problems. In addition, I have an interest in QCD, cosmology, string theory, and philosophy of science.

'88

Tim Benner (S.B. '88. Thesis advisor: Stephen Meyer) I received my Ph.D. in atmospheric science from the University of Colorado at Boulder in May 2000. I am now serving as a AAAS congressional science fellow, sponsored by AMS and UCAR. I work on energy and environmental issues in the Washington office of Senator Patrick Leahy of Vermont.

Winston S. Fu (S.B. '88. Thesis advisor: Robert Birgeneau) I completed my dissertation at Stanford in 1992 in ultrafast spectroscopy of GaAs-based quantum wells. I joined a venture-backed start-up company called Vixel Corporation just as it was forming. At Vixel, I served in a variety of technical and marketing roles. After three years at Vixel, I went to business school at Kellogg (Northwestern) to make sure I understood business from a broader perspective. After Kellogg, I joined U.S. Venture Partners (USVP) through the Kauffman Fellowship in Venture Capital. I am currently a general partner at USVP, and I focus on investments in early stage communications companies.

Roel Hammerschlag (S.B. '88. Thesis advisor: Patrick Zurek) I am currently residing in Seattle, where I have founded the non-profit environmental organization, Institute for Lifecycle Energy Analysis (ILEA). ILEA's purpose is to assist consumers with purchasing and lifestyle choices, by providing rank-order numeric ratings of the total environmental impact of products and activities. Each product's "embodied energy" — the total energy consumed in manufacture, use and disposal — serves as the proxy for environmental impact. More details are available at www.ilea.org.

Joseph Harrington (S.B. '88, Ph.D. '95 *EAPS*. Thesis advisor: Jim Elliot) has been on the research staff in the Astronomy Department at Cornell University since 1997. His recent work includes numerical modeling that reproduces in some detail the peculiar effects observed when Comet Shoemaker-Levy 9 hit Jupiter in 1994. Joe lives in tiny Freeville, NY, with his wife, Sara Sullivan, and their dogs Jessie and Pepper.

Alan Maestri (S.B. '88. Thesis advisor: R. R. Dasari) Alan is employed at Watson Wyatt Worldwide, a human resources consulting firm. Alan has a Master of Science in Applied Statistics and has taught mathematics at a local college. Alan serves as treasurer for the MIT Club of Southeastern Michigan.

Ernest Prabhakar (S.B. '88. Thesis advisor: Don Heimann) March was a busy month. On the 24th, I helped ship Mac OS X, the fruit of a dream I had when I joined Apple in 1997 (I'm now marketing manager for all our Java and Open Source stuff). On the 25th, I celebrated one year of marriage to a girl I'd met on a trip to India in August 1999 (fulfilling a much more important dream!). I'll be back at MIT in June for the Computational Physics Conference, to share about "The life of a physicist in Silicon Valley."

'89

Mark Lim (S.B. '89. Thesis advisor: John Graybeal) After graduation, I did an internship at Nagoya University in the Infrared Astrophysics Department. Then, I returned to the U.S. to do Cosmic Microwave Background Radiation experiments at UC-Santa Barbara, receiving a Ph.D. in 1996. After two years as a postdoc in Japan at ISAS, I left academia to become a software engineer at Brightmail, Inc. Presently, I am the technical lead of one of their software development teams.

Eugen Tarnow (Ph.D. '89, S.B. '83. Thesis advisors: John Joannopoulos and S.L. Glashow) My wife Michelle and I own a small Lotus Notes software company in New York City. My son Ronen, currently eight months old, should be billable in about 11 years, at which point I plan to have him support us. In addition to my regular work I also do some research: I published two articles on safety in the airplane cockpit, another two articles on how to write good mission statements, and wrote a really good one about dreams and memory. I also published a few articles on scientific authorship and just completed the largest survey ever of scientific authorship (it covered physicists!). The results should be out some time next year.

'90

Howard J. Eisen (S.B. '90, SB '89 *Aeronautics & Astronautics*, S.M. '90 *Aeronautics & Astronautics*) Recently appointed Spacecraft Manager for the 2005 Mars Reconnaissance Orbiter. Previously Mechanical Systems Lead for the 1997 Sojourner Rover which explored the surface of Mars on the Pathfinder mission and the 2000 Shuttle Radar Topography Mission (STS-99) which used interferometric radar to map the Earth from space.

Jeffrey P. Morgenthaler (S.B. '90. Thesis advisors: George Ricker, Mark Bautz) Having finished my Ph.D. at the University of Wisconsin-Madison in 1998, I am pleased to announce that my thesis paper entitled "Spectra of the 1/4 keV X-ray Diffuse Background from the Diffuse X-Ray Spectrometer Experiment" will (finally!) appear in the June 10, 2001, issue of the *Astrophysical Journal*. A paper on my postdoc work (also at Madison) entitled "Large Aperture [O I] 6300 Å Photometry of Comet Hale-Bopp: Implications for the Photochemistry of OH," has been submitted to the same journal. Another project, for which I have done nearly one month of nighttime observing in each of the past three years at the McMath-Pierce solar telescope, has produced the paper "Sunlit Io Atmospheric [O I] 6300

A Emission and the Plasma Torus," which will appear in a special issue of the *Journal of Geophysical Research*.

Marian Pei-Ling Shih (S.B. '90. Thesis advisor: Donald H. Heiman) I received a Ph.D. in Physics from University of Michigan in 1995, under the supervision of Professor Emmett N. Leith. At the end of 2000, I received tenure at the Physics Department of Saginaw Valley State University in Michigan. I was promoted to the rank of Associate Professor the following March. I have been the department chairperson since May 2000.

'91

Marcos Fernandes (S.B. '91, Ph.D. '96 *Material Science & Engineering*) After graduation from my Ph.D. in 1996, I joined McKinsey & Co to work as a business consultant and I have been with the Firm since then. I have specialized my consulting practice in Financial Institutions in Latin America. I have been living in Brazil since then.

Matt McCluskey (S.B. '91. Thesis advisor: Jonathan Wurtele) As of August 1998, I have been an assistant professor in the physics department at Washington State University. My research interests include hydrogen in semiconductors, materials under pressure, vibrational spectroscopy, and shock compression.

Michael Rizen (S.B. '91. Thesis advisor: Martha Gray) I am about to graduate with my M.D. and Ph.D. (in Biochemistry) from the University of California, San Francisco. I will then be doing an internship in internal medicine and residency in ophthalmology at Johns Hopkins in Baltimore, MD.

Dave Toback (S.B. '91. Thesis advisor: William Bertozzi) I went to the University of Chicago for graduate school. I studied under Henry Frisch and Mel Shochet doing experimental high energy particle physics using proton anti-proton collisions with the CDF detector at Fermilab (our research discovered the top quark . . . just me and 450 of my closest friends were authors on the discovery paper). My thesis studies included a set of searches for new physics in the diphoton final state, including the (in)famous two electron, two photon, and missing transverse energy candidate event. I graduated with my Ph.D. in 1997. I took a post-doctoral position with the University of Maryland with the DZero collaboration and was stationed at Fermilab National Accelerator Laboratory. In September of 2000, I accepted a position as an assistant professor of physics at Texas A&M university and have been here since.

'92

Carson C. Chow (Ph.D. '92. Thesis advisor: Abraham Bers) I am currently on the mathematics faculty at the University of Pittsburgh. My research area is in mathematical biology particularly applied to neuroscience. After getting my PhD, I did a postdoc at the University of Colorado in

plasma physics. I then took a postdoc at Boston University, where I retrained in biology.

Kevin Iga (S.B. '92. Thesis advisor: Ed Farhi) I am currently an assistant professor of mathematics at Pepperdine University, doing research on four-dimensional topology using gauge theory.

'93

Stefan Anderson (S.M. '93. Thesis advisor: John Graybeal) I will be starting a new job as "Head of Admissions" at Conserve School, in Land O'Lakes, Wisconsin. Conserve, opening in the fall of 2002, will be a futuristic, non-sectarian, independent, coeducational residential high school for students in grades 9 through 12. Conserve will offer its academically talented students a classical college-preparatory program while they learn and live ecological sustainability.

John Baker (S.B. '93. Thesis advisor: Richard Yamamoto) In May 2001, I graduated from the University of Michigan with a Ph.D. in Physics and a M.S. in Applied Mathematics. The title of my dissertation is "Theoretical Studies of Current Drag in Mesoscopic Metal Rings and Superconductor-Semiconductor Hybrids," conducted under the supervision of my advisor, Alberto Rojo. I have accepted a job with Lockheed Martin Corporation and will be working in the space systems division in Sunnyvale, California.

Denise Ciotti (S.B. '93. Thesis advisor: Daniel Blankshtein) After grad school, I decided to teach physics at a private girls school in Boston called The Winsor School, where I have been for 6 years. I adore my job and I love teaching such bright and motivated girls. They are constantly delighted and motivated by my stories about MIT, particularly by discussions of the research I did there and amusing anecdotes about Junior Lab at 3:00 a.m.

Jens Petter Falck (Ph.D. '93. Thesis advisor: Marc Kastner) Appointed Managing Director of Selvaag Venture Capital, a Norwegian based technology focused venture firm. Prior to joining Selvaag Venture, he was Junior Partner with Whitecliff Partners, a Norwegian private equity firm. After graduating from MIT, he spent four years as a management consultant with McKinsey & Company.

David Fanning (S.B. '93. Thesis advisor: Toyo Tanaka) After receiving my Ph.D. in physics from the University of Illinois at Urbana-Champaign in October 1999, I began working in the R&D group of TriQuint Semiconductor in Dallas. We focus on next generation compound semiconductors for high frequency and optoelectronic applications. My wife and I now have a son, Daniel, who was born in May of 2000.

Zoltan Haiman (S.B. '93. Thesis advisor: Walter H. G. Lewin) After graduating from MIT, I went to Harvard and got a Ph.D. in Astronomy in 1998 (spending a year in Cambridge, UK). I was a postdoc in the Fermilab astrophysics group for a year, and have been at the Princeton Astrophysics Department since the Fall of 1999. Latha Venkataraman ('93 Physics) and I were married in December 1995, and our baby boy, Milan, was born on January 31, 2001.

Alumni Notes

Kenneth N Ricci (S.B. '93. Thesis advisor: George Bekefi) received his Ph.D. in physics from Stanford University in June 2000. In July 2000, he joined a laser technologies start-up company, Informed Diagnostics, Inc., in Sunnyvale, California, working to develop novel laser devices for medical and telecommunications applications.

David Steel (Ph.D. '93. Thesis Advisor: John M. Graybeal) Since 1997, I have been working in the Global Strategy Group of Samsung Electronics, based in Seoul, Korea. The work combines my interests in technology and business at one of Asia's leading electronics companies, with business activities in semiconductors, telecoms, and consumer electronics. It also allows me to experience another culture as well as the spicy Korean cuisine!

'94

Dmitri Chklovskii (Ph.D. '94. Thesis advisor: Patrick Lee) In November 1999, I joined the faculty of Cold Spring Harbor Laboratory, NY, and established the Laboratory for Theoretical Neurobiology. Our goal is to understand how the brain works by applying the methods developed and so successfully used in Theoretical Physics. Because Neurobiology is probably at the same stage as Physics one-two hundred years ago, we have a unique opportunity to define the role of theory in this field, which is both challenging and exciting.

Rich Downey (S.B. '94. Thesis advisor: Reginald Newell, EAPS) I have been in the Navy since graduation and am currently a pilot flying EP-3E electronic reconnaissance aircraft in Europe. This summer I will be returning to "shore duty" as a Navy ROTC instructor at the University of Illinois. I'm seriously considering pursuing a master's in my spare time, although passing the physics GRE is not going to be easy after a 7-year hiatus from the field! I am married to the former Emily Jensen of Minneapolis and we now have three children. George was born October 1998 and Ella and James were born March of this year.

Albert Fischer (S.B. '94; Ph.D. '00 Oceanography, MIT/WHOI) After ten years as an MIT student, I finally received my Ph.D. in physical oceanography from the MIT/Woods Hole Joint Program last summer (2000). Since then I've done some traveling to Chile (for work) and India (for fun), and have ended up here in Paris as a postdoc at the Laboratoire d'Océanographie Dynamique et de Climatologie, studying climate variability in the Indian Ocean using a coupled atmosphere-ocean-land process model.

Amitabh Lath (Ph.D. '94, S.B. '88. Thesis advisor: Henry Kendall) I have just started as an assistant professor in the Department of Physics and Astronomy at Rutgers, the State University of New Jersey. I work in experimental high energy physics, and am a member of the CDF collaboration at Fermilab in Batavia, IL.

Alex Rotaru (S.B. '94. Thesis advisor: Michael S. Feld) Since then, I have graduated with a Master of Fine Arts from University of Southern California's School of Cinema-Television, majoring in Film/TV Production, in 1998. In 1999, I married Michaela-Camille Neagu. We do not have any kids

yet. She works as an orthodontist, I am still climbing the Hollywood Hills. . . metaphorically, and I recently incorporated my business as Alex Rotaru Productions. Look out, Dreamworks!

Theodore Sung (S.B. '94. Thesis advisor: Stephen Steadman) Immediately upon graduation, I started working for a small finance company called Intex Solutions, located in Needham, MA. Initially hesitant as to whether I would enjoy it, I've remained there for the last six years and have loved it. On the family front, my wife Yuri and I have three children: Jonathan (7), Leilani (3), and Michelle (1). It's been a fun handful.

'95

Christopher Barrington-Leigh (S.B. '95) I got my Ph.D. in Applied Physics at Stanford University under Umran Inan in (officially) January 2001, with a thesis entitled "Fast photometric imaging of high altitude optical flashes above thunderstorms." Life as a grad student was fantastic, and involved two trips to Antarctica. I have been working as a postdoc at the Berkeley Space Sciences Lab since November 2000.

John Ellithorpe (Ph.D. '95. Thesis advisor: Jacqueline Hewitt) In December 1999, I co-founded a software startup called Model N, in the San Francisco Bay Area. Currently, I am an architect and director in Engineering and leading a team of 13. In March 2000, I got engaged to my long-time girlfriend, Susanne Comisso.

'96

Kevin Lewis (S.B. '96) Since leaving MIT, I have worked at AT&T in Washington, DC; as a technology investment banker in NY and Boston; in corporate development at a technology services firm in Boston; and in a Silicon Valley start-up. Last fall, I began a Ph.D. program in organizational behavior at Berkeley's Haas School of Business. You'd be surprised how much what I do draws from the physical sciences. The difference is that we usually don't need fancy machines to collect data!

Marin Soljagic (S.B./S.B.E. '96) After graduating from MIT, Marin Soljagic went to Princeton physics graduate school. There, he did his M.A. thesis with Prof. Wilczek in soft condensed matter theory, and Ph.D. thesis with Prof. Mordechai Segev in nonlinear optics. He received his Ph.D. in June 2000. Since October 2000, he is back at MIT as a Pappalardo Fellow in the physics department, working on photonic band-gap crystals within the group of Prof. Joannopoulos.

Risa Wechsler (S.B. '96) has just completed her Ph.D at the University of California, Santa Cruz, under the advisement of Joel Primack. She has been working on topics in theoretical astrophysics and cosmology, primarily galaxy formation. Starting in the fall of 2001, she will be a postdoctoral fellow at the University of Michigan in Ann Arbor.

'97

Marc-Oliver Mewes (Ph.D. '97. Thesis advisor: Wolfgang Ketterle) After studying ultra-cold fermions for a couple of years with C. Cohen-Tannoudji at Ecole Normal Supérieure in Paris, I am now a consultant with Monitor Company in Paris working on business strategy, commodity markets and other interesting non-physics problems.

Welles A. M. Morgado (Ph.D. '97. Thesis advisor: Irwin Oppenheim) Currently, I hold an assistant professor position at the Physics Department of the Pontificia Universidade Católica de Rio de Janeiro (PUC-Rio). My research interest areas are superconductivity, granular systems, and physics of polymers.

Alan Pierson (S.B. '97. Thesis advisor: Jack Wisdom) I'm finishing up my graduate work in conducting and composition in Rochester, New York, where I direct the contemporary music ensemble, *Alarm Will Sound*, and the historical music ensemble, *Nuove Musiche*. I've recently led *Alarm Will Sound* and *Ossia* on a tour to New York City, and have CDs coming out on Nonesuch Records and Harmonia Mundi.

Seth R. Trotz (Ph.D. '97. Thesis advisor: Richard Temkin) I have left my postdoctoral position at Dartmouth college, where I was teaching and doing research on Smith-Purcell Far Infrared radiation sources, and am now working as a member of the technical staff at Sarnoff Corporation in Princeton, NJ.

'98

Paul Konigsberg (S.B. '98. Thesis advisor: Craig Ogilvie) Paul has recently founded a company called Minyma (<http://minyma.net>). Minyma builds instant messaging servers that host interactive database backed applications. You can reach him at konigsberg@alum.mit.edu.

'99

David Goldhaber-Gordon (Ph.D. '99. Thesis advisor: Marc Kastner) For the last two years, I've been a Junior Fellow and Chocolate Steward in the Harvard Society of Fellows. In September 2001, I leave to start an assistant professorship in the Stanford Physics Department. I've enjoyed my time in Cambridge, but I'm looking forward to this new adventure. Old friends and colleagues who are in the Bay Area, please drop me a line — I'd love to hear from you.

Eric Pop (S.B. '99. Thesis advisor: D. Antoniadis) Currently working on a Ph.D. in Electrical Engineering at Stanford under the supervision of Profs. Robert Dutton and Kenneth Goodson. My research focuses on electro-thermal effects in Si and GaAs semiconductor devices. Enjoying life in the Bay Area and the nightlife in San Francisco. Also working as a radio DJ at Stanford's KZSU 90.1 FM.

Nichols A. Romero (S.B. '99. Thesis advisor: Tomas A. Arias) I'm now a third year student in the physics Ph.D. program at UIUC. About a year ago, I joined the electronic structure group headed by Prof. Richard M. Martin.

My research efforts during the past year focused on developing object-oriented electronic structure codes. My first paper should be published by September 2001. The paper is actually based upon my undergraduate thesis work with Prof. Arias.

Alok Saldanha (S.B. '99. Thesis advisor: Tomas Arias) I'm in a Ph.D. Genetics program at Stanford University, studying the regulation of metabolism in yeast.

Mark C. Szigety (S.B. '99. Thesis advisor: June Matthews) After graduation, I enrolled in the Physics Ph.D. program at Harvard University. However, after having received my A.M. from Harvard in 2000, I decided to take a few years off and am now working as a software engineer at Cisco Systems.

'00

Sohrab Ismail-Beigi (Ph.D. '00. Thesis advisor: Tomas Arias) I am finishing the first year of a postdoc in Prof. Steven Louie's group at UC-Berkeley. My work concentrates on *ab initio* calculations of quasiparticle and optical properties of solids and molecules.

Mani Mahjouri (S.B. '00. Thesis advisor: Louis Osborne) I am working as a trader and quantitative analyst in the fixed income derivatives markets at AQR Capital Management.

'01

Gabriel Weinberg (S.B. '01) Last June, I started an educational technology company, *learnnection*, that is dedicated to using the Internet to strengthen American education and build communities. Our first service, *learnnection Mercury*, provides schools with the infrastructure to create an online educational community that significantly increases parental involvement by enabling the exchange of daily educational content. I am Co-Founder and CEO of *learnnection*; more information can be found at www.learnnection.com.