

'50

Lee Spetner (PhD. Thesis advisors: Robert Williams, Bruno Rossi) has been retired for some time, although for the last dozen years has been doing research, with two colleagues, on the development of a therapy for cancer based on manipulating the redox potential. This past year they've done several in-vitro experiments and one small in-vivo. Additional experiments are planned.

'52

Burton Richter (SB; PhD '56) was awarded the 2007 AAAS (American Association for the Advancement of Science) Philip Hauge Abelson Prize for "outstanding contributions to science and its use in shaping public policy."

Albert D. Wheelon (PhD. Thesis advisors: Philip Morse, Herman Feshbach, Felix Villars) After taking a few years off, Albert is now writing volume three of his trilogy on electromagnetic scintillation. This last volume will describe theory and measurements for strong scattering situations. Volumes one (2001) and two (2003) were published by Cambridge University Press.

'55

Gil Davidson (SB; PhD '59) hosted a small reunion of locally-based former students and associates of Professor Emeritus Louis Osborne this past October at his home in Newton, MA. A wonderful evening of reminiscing was had by all, including Lyman Stinson (Senior Technician), John Russell (SB '55, PhD '59), Zvi Bar-Yam (SB '58, PhD '63), Barbara Wolf Kern (Research Associate), Bill Lobar (Senior Technician), Arthur Winston (PhD '54) and Paul Gorenstein (PhD '62—Prof. Osborne's first graduate student).

Dick Lyon (PhD) has been designing in-the-ear transducers for communications and active noise control for the Air Force and Navy using the electrostrictive single crystal ceramic PMN-PT. The product sound quality and machinery diagnostics work in R. H. Lyon Corp. was moved into Acentech, Inc., in July 2005. Dick is carrying out this transducer work in the R. H. Lyon Division of Acentech, which is itself an earlier (~1990) spin-off of the noise control and architectural acoustics divisions of Bolt, Beranek and Newman, Inc.

George J. Rubissow (SB. Thesis advisor: Victor Weisskopf. SM '58 *Electrical Engineering*, MIT. PhD '73 *Biophysics*, University of California, Berkeley) George's wine business is passing on to the second generation after some 25 years of growth, leading to a nationally recognized brand specializing in premium red wines. Small and beautiful! Visit rubissowsargent.com to get more information. He's also working on a project to record videos of master classes in classical music for distribution via the web and DVD, a great educational tool. George can be reached at rubissow@aol.com.

'61

Andrew Buffington (SB; PhD '66. Thesis advisor: David Frisch) and his colleagues recently completed an analysis of comet-tail motions observed remotely in visible light by the space borne Solar Mass Ejection Imager. Their report appeared in the *Astrophysical Journal* (April 20, 2008), and you can enjoy viewing movies of the dancing comet-tails at smei/ucsd.edu/comets/.

Stephen N. Salomon (SB. Thesis advisor: Wayne B. Nottingham. PhD '69 *Physics*, Purdue University) This April, Stephen celebrated, along with six other project managers at the U.S. Nuclear Regulatory Commission (NRC), Pennsylvania's decision to become the 35th state to sign an agreement to assume part of the NRC's regulatory authority over certain radioactive materials in the Commonwealth. Negotiations lasted 38 years; Stephen's contribution covered the 1998-99 time period.

'62

Juris P. Svenne (PhD. Thesis advisor: Arthur Kerman) is a Professor of Physics Emeritus and former Associate Dean of Science (1989-94) at the University of Manitoba, where he continues active research in nuclear reaction theory as a Senior Scholar. Since retirement in 2004, his activities have included giving an invited talk at the Canadian Association of Physicists' annual Congress; spending time in Europe on various research collaborations, including the place of his birth, Riga, Latvia, where he presented a seminar at the Latvian Academy of Sciences on "Nuclear Theory—Nuclear Power." In addition, he presented a paper at the 20th European Conference in Pisa on Few-Body Problems in Physics. Juris had two refereed publications in 2007, including one in *Physical Review Letters*; several other papers are in the works.

'63

Cynthia Kolb Whitney (SB. Thesis advisor: Walter Thorson. SM '65, *Electrical Engineering*; PhD '68, *Mathematical Physics*. Thesis advisor: Laszlo Tisza) has recently "drifted" into physical chemistry, and finds the exciting thing about chemistry is that its data exhibit lots of extremely obvious patterns that physics does not yet convincingly explain. That, she feels, is an invitation to really revisit fundamentals. Cynthia's paper, "Closing in on Chemical Bonds by Opening up Relativity Theory," was recently published in the *International Journal of Molecular Sciences*.

'64

Verne Louis Jacobs (SB. Thesis advisor: John Slater) continues full-time employment at the Naval Research Laboratory (NRL), as well as a visiting faculty appointment at the University of Maryland. His theoretical research activities included coherent electromagnetic

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interactions in atomic systems and semiconductor materials, and atomic processes in high-temperature plasmas. Verne collaborates with colleagues at the NRL, Lawrence Livermore National Laboratory, and various universities in the UK.

Chuck Tyler (SB. Thesis advisor: Kurt Lion) spent the past year traveling to southern Africa, Spain and Morocco, hunting on his Texas Hill Country lease, and advising high tech start-ups. When home in the Silicon Valley, Chuck plays golf frequently to maintain an underdog perspective. MIT friends are welcome to check in at chucknhope@comcast.net.

'65

Albert Goldstein (PhD. Thesis advisor: Simon Foner) received the Joseph H. Holmes Basic Science Pioneer Award at the March 2008 Annual Convention of the American Institute of Ultrasound in Medicine. The award recognized his "outstanding contributions to the growth and development of diagnostic ultrasound." Albert led the development of one of the first digital scan converters in medical ultrasound in an NSF-sponsored feasibility study. Shortly thereafter, all commercial clinical ultrasound scanners became digitized.

J. Craig Wheeler (SB. Thesis advisor: Charles Townes) completed the second year of his two-year term as President of the American Astronomical Society. Aside from Society issues, it was a very interesting experience for Craig to monitor, and to a certain extent to guide and influence, Federal funding for physics in general and astronomy in particular.

'67

Jeff Schoenwald (SB. Thesis advisor: Ray Alvarez. PhD, University of Pennsylvania) wrapped up a 30-year career in electronics and optics research/engineering, Star Wars optical systems (Space-Based Laser), optic telecommunications, medical optical devices and systems, and intellectual property acquisition and licensing. He then obtained his registration as a patent agent and now works in patent prosecution with a law firm in Orange County, California. While no longer interested in managing engineering groups and writing futile proposals, or negotiating LED specifications, Jeff, who has eight patents, has settled down to helping other inventors develop intellectual property. It is his intention that this is the last career stop.

'69

Hans Polzer (SB) has been working on the development and public release of the NCOIC SCOPE Model V1.0 (ncoic.org), for assessing net-centric systems and analyzing likely interoperability issues they may face. He's chair of the NCOIC SCOPE Working Group.

Hans is also a Lockheed Martin Fellow, working primarily in the area of characterizing net-centricity. Hans realizes this work may seem a long way from physics, but finds the SCOPE model is actually an example of applying experimental physics principles and approaches to more abstract and socio-politically oriented concepts.

Benjamin Rouben (PhD. Thesis advisor: Arthur Kerman) retired in February 2007 from Atomic Energy of Canada Limited (AECL), where he had worked since 1975. Currently, Ben is President of 12 & 1 Consulting, and does quite a bit of teaching as an Adjunct Professor at both McMaster University and the University of Ontario's Institute of Technology. Ben remains very active in the Canadian Nuclear Society, where he was President in 1997–98, and its Executive Administrator since 2003. Ben's also the outgoing Chair of the Reactor Physics Division of the American Nuclear Society. He was named a Fellow of the Canadian Nuclear Society in 1998.

'70

Paul Doherty (SB; PhD '74. Thesis advisor: George Benedek) is a Senior Staff Scientist at the Exploratorium. He was the science advisor and activity developer for the *Exploratoria* book, which was chosen as the best children's science hands-on activity book of 2007 by the AAAS.

'71

Mahir S. Hussein (PhD. Thesis advisor: Arthur Kerman) was recently awarded the Martin Gutzwiller Fellowship at the Max-Planck-Institute for the Physics of Complex Systems in Dresden, where he's working on problems in quantum chaos, Bose-Einstein condensation and nuclear theory. Further, Mahir was elected a Member of the Academy of Sciences of the Developing World (TWAS)

'74

Albert Lazzarini (SB; PhD '78. Thesis advisor: Eric Cosman) has been Deputy Director of the Laser Interferometer Gravitational-wave Observatory (LIGO) since the fall of 2006. During 2007, LIGO completed a two-year observational science run at the design sensitivity for this first generation of instruments. LIGO is also launching a major facility upgrade to improve scientific reach ~1000-fold.

'78

Paul Edelman (SB. Thesis advisor: Steve Chorover. PhD '83 *Psychology*, Harvard University) has been practicing executive search and technical recruiting through his firm, Edelman & Associates (edeltech.com). His clients include securities trading, hedge fund and investment management firms. Paul would be interested in talking

to MIT physics graduates who would like to apply their quantitative and analytic skills in the world of finance.

Reid Sheftall (SB) recently published his first book, *Striking It Rich: Golf in the Kingdom with Generals, Patients and Pros*. It's the story of Reid's path to the pro tour after a 30-year layoff, during which time he had worked as a surgeon in Cambodia, performing pediatric burn reconstruction on child victims of acid attacks.

'79

James F. DeBroux (SM. Thesis advisor: Margaret MacVicar) In the spring of 2008, Jim left Digital Fusions Solutions, Inc., where he was Vice President for Washington Operations, to join Computer Sciences Corporation as Senior Analyst on the System Engineering Quick Response Team for the Missile Defense Agency.

Jeffery H. Hunt (SB. Thesis advisor: Michael Feld. PhD '88, University of California, Berkeley) was elected a Fellow of the American Physical Society, for "significant contributions in nonlinear surface spectroscopy, and ground-breaking applications of laser physics in the aerospace industry."

Peter Reynolds (PhD. Thesis advisor: H. E. Stanley) After nearly 20 years of seeking out innovative and exciting new directions in physics research as a Program Manager for the ONR and then for the ARO, followed by four years as the head of the ARO Physics Division, Peter has become a Senior Research Scientist and Chief Scientist for the Physical Sciences of the ARO.

Mahmoud Shahram (SM. Thesis advisor: Roshi Aggarwall) resigned as Director of R&D for Synopsys, Inc., to found a renewable energy company, SolarBreeze Technology (www.solabt.com). The company's mission is to help address the currently growing energy crisis by providing renewable energy solutions to its clients, aiming for independence from foreign oil supplies. Mahmoud is also involved in R&D activities in the areas of software and hardware development complementary to renewable energy systems.

'80

John D. Molitoris (SB. Thesis advisor: Harald Enge) was promoted a year ago to Deputy Director at the Energetic Materials Center, Lawrence Livermore National Laboratory (LLNL), where he also leads the Dynamic Experiments Group. The primary research activities of John's team are in shock compression of condensed matter and materials at extreme conditions. Most of their experiments are done with energetic materials, *i.e.*, high-explosives, at a state-of-the-art High Explosives Applications Facility at LLNL. On a personal note, John and his wife are building a new house, which allows him to make good use of his experimental training at MIT, while his oldest daughter is just starting college.

'83

Bruce G. Danly (PhD. Thesis advisors: Richard Temkin, Benjamin Lax) was promoted to the U. S. Navy's Senior Executive Service in February 2008, and appointed Superintendent of the Radar Division of the U. S. Naval Research Laboratory in Washington. The Radar Division carries out basic and applied research and development for both the U. S. Navy and the U. S. Department of Defense.

'89

Miltiadis Sarakinos (SB; PhD '93. Thesis advisors: Jean-Pierre Revol, Ulrich Becker) worked for Swisscom Fixnet in Zurich as a Data Miner and Database Marketing specialist from 2002–07. As of November 2007, he has led the Data Mining and Analysis team at Visa Card Services, a joint venture of several Swiss Banks in credit card issuing. The team employs analytical methods covering the entire range from data warehousing and reporting to multidimensional analysis (OLAP) and data mining (predictive modeling), to support other departments in the areas of database marketing, fraud prevention and credit risk. In addition, Miltiadis is teaching courses in Data Analysis and Database Marketing at the University of Applied Sciences in Zurich.

'91

James Abbott (PhD. Thesis advisor: Karl Ingard) has established a new curriculum at The Cooper Union School of Engineering in downtown New York City. The academic program includes courses in acoustics, electronic music and musical instrument design, and research related to acoustical materials and devices.

David Knowles (PhD. Thesis advisor: Hans Jenssen) is Vice-President, Engineering, at Cymer, Inc., in San Diego, developing semiconductor equipment for use in chip manufacturing. Recently, he led a new joint venture between Cymer and Carl Zeiss to develop a large, laser-based crystallization tool for use in the production of LCD and OLED displays. The rapid pace of technical and business development is a challenge, and David finds that his MIT education is still a great help, even in the corner office.

'92

Eric Ford (SB) has been extremely busy (and hopefully productive!) since joining the faculty at the Johns Hopkins School of Medicine two years ago. His research focuses on the effects of radiation on the brain, the activity of stem cells and the interaction with drugs. The immediate goal is cancer therapy. This is a fascinating area for a physicist to be involved in.

'93

Atul Pradhan (PhD. Thesis advisors: Daniel Kleppner, Alexander Dalgarno) has been appointed the Chief Technical Officer at JML Optical Industries, Inc., in Rochester, NY.

Ken Ricci (SB *Physics & Literature*. Thesis advisors: G. Bekefi, Stephen Tapscott. PhD '00 *Physics*, Stanford University) delivered an invited talk at the Bhabha Atomic Research Center in Mumbai, India, in September 2007. The subject of his recent research has been a novel design for a thorium-fueled, gas-cooled nuclear reactor to reduce nuclear weapons proliferation risk in the production of commercial nuclear energy and reduce the need for uranium enrichment in the nuclear fuel cycle. Currently, Ken is the senior physicist at DBI Operating Company, a private R&D organization in the energy sector.

'95

Lucas Macri (SB. PhD '02 *Astronomy*, Harvard University) was appointed Assistant Professor of Physics and Astronomy at Texas A&M University, as of September 2008. After earning his Ph.D., Lucas held Hubble and Goldberg postdoctoral fellowships at the National Optical Astronomy Observatory. He looks forward to seeing more of the MIT astrophysics community, given that both Texas A&M and MIT are members of the Magellan Telescope consortium.

'96

Wayne Baumgartner (SB. Thesis advisor: Jaqueline Hewitt. PhD '04, University of Maryland) recently began a position at NASA Goddard working to construct an unbiased AGN sample from the local universe with the BAT hard X-ray all-sky survey from the Swift gamma ray burst mission. He moves to Washington, D.C., from California, where he was a postdoctoral scholar at Caltech doing balloon-based hard X-ray astronomy and working on the NuStar orbiting X-ray telescope.

Ryan Tagal (SB. Thesis advisor: Wit Busza. MBA *Finance, Strategy & Economics*, University of Chicago) For the past four years, Ryan has led the hedge fund initiative at Morningstar, Inc., where he also spent two years directing the creation of their separate account business. Ryan was previously director of quantitative research at Cerulli Associates, a management consulting and research firm specializing in the financial services industry. Ryan has been frequently quoted in the *Wall Street Journal*, *Barrons* and *BusinessWeek* as an expert in emerging trends in the separate account and hedge fund industries.

'97

David Abusch-Magder (PhD. Thesis advisor: Marc Kastner) is now well launched into a career transition to education. After a six-month postdoc in Germany in 1997, David started at Bell Labs/Lucent Technology, where during his nearly nine-year tenure he worked both in the areas of nanotechnology and wireless network design. In August of 2006, David took a leave of absence and spent the academic year in Israel with his family, studying Jewish education. He returned to the U. S. to a position as the principal of an elementary school in Skokie, IL, where he finds stimulating challenges on a daily basis as he leads a school of nearly 50 faculty and 260 students. David, his wife Ruth, and children Oren (age 10) and Aliza (age 7), welcome contact from friends and colleagues either via email (davidam@alum.mit.edu) or phone (+1.847.905.0204).

'99

Areg Danagoulian (SB. Thesis advisor: Richard Milner. PhD *Experimental Nuclear Physics*, UIUC) is a Postdoctoral Research Associate at Los Alamos National Laboratory, where his first experiment involved studying fission fragment sputtering on plutonium. His current research is focused upon two neutron physics experiments, designed to explore physics beyond the Standard Model. Areg's also working on developing applications of particle detection techniques to nuclear non-proliferation and threat reduction.

Sean P. Robinson (SB; PhD '05. Thesis advisors: Edward Farhi, Frank Wilczek) ended his role as the MIT Physics Department's primary coordinator for construction of the new Green Center for Physics with the wonderful dedication ceremonies in October 2007. Sean's now a Technical Instructor in the Department, working mostly in Junior Lab, as well as coordinating the Department's graduate student teaching assistant program. In fall 2007, he was quite surprised to also find himself as the lecturer for a section of 8.01, which was a fairly intense experience. MIT freshmen are as smart as ever, and the studio format adopted by 8.01 in recent years goes a long way in helping the lecturer directly engage students' misconceptions about physics. Sean also tries to continue theoretical research in general relativity and quantum field theory. He lives in Marshfield, MA, with his wife and two children.

'00

Michael Patrick Bradley (PhD. Thesis advisor: David Pritchard) continues to teach and do research as a faculty member of the Department of Physics & Engineering Physics at the University of Saskatchewan, Canada. His research is on the controlled formation of nanostructures in silicon and other semiconductors via plasma ion implantation, and the applications of nanostructured silicon in photonics. Earlier, Michael completed a three-year stint as a scientist in industry doing plasma ion implantation research at Axcelis Technologies.

Jesse Kirchner (SB. Thesis advisor: Ulrich Becker. MS '03 *Mechanical Engineering*, University of Michigan) has settled in Detroit, MI, with his wife and cats. Beginning in the fall of 2008, he will be attending the University of Michigan Law School.

'01

Jeff Vieregg (SB. Thesis advisor: Richard Temkin) received his PhD in Physics this past fall 2007 from the University of California, Berkeley, where he studied the folding of single RNA molecules with optical trapping. Currently, Jeff's a postdoc at Caltech, working on rational design of nucleic acid devices in the bioengineering department.

'04

Kerwyn "KC" Huang (PhD. Thesis advisor: John Joannopoulos) is an Assistant Professor of Bioengineering at Stanford University, as of this fall. His group will focus on physical mechanisms underlying bacterial cell division, membrane organization, and the structure of the cell wall, with the goal of understanding the relationships between cellular physiology and cell-shape detection, determination and maintenance.

Michelle L. Povinelli (PhD. Thesis advisor: John Joannopoulos) accepted a position as Assistant Professor of Electrical Engineering at the University of Southern California, beginning in the fall of 2008. The USC Viterbi School of Engineering's graduate program is ranked 7th in the nation by *US News and World Report*.

'05

Marc Fernandes (SB) is in the master's degree program in Mathematics in Finance at the NYU Courant Institute of Mathematical Sciences. The math, finance and computing theory involved is definitely at the level a Course 8 student would appreciate—it includes lots of probability, statistics, stochastic calculus and numerical computation. In the summer of 2008, Marc undertook a financial services internship in New York City. His long-term career goals entail working within the quantitatively oriented side of the financial industry.