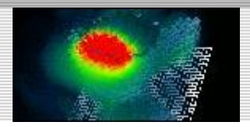

THE OHIO STATE UNIVERSITY DEPARTMENT OF PHYSICS

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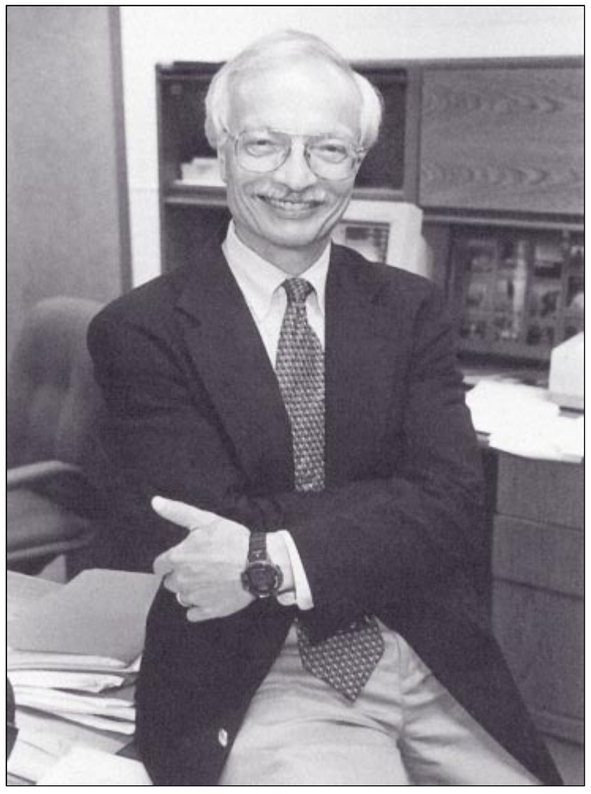
Letter from the Chair



This year our magazine has a new look, a new title, and a new editor, Melissa Weber, director of Communications and Outreach for the College of Mathematical and Physical Sciences. Melissa has contributed enormously to our public relations and communications efforts over the past two years. Fernand Hayot, who edited the magazine from its inception in 1988, has turned his energies toward his new research area of biophysics. We all owe Fernand a debt of gratitude and a round of applause for a job well done. In the past year we have continued our strong hiring efforts emerging from the Selective Investment Award we won two years ago. Our aim is to expand from the 1998 base of 48 faculty to a full complement of 59. Currently we have 52 faculty members in the department. Last year, our first Selective Investment initiative yielded a new group in string theory, an area that promises the successful unification of Einstein's general relativity with the quantum theory of elementary particles. I urge you to read the article by Fernand Hayot on "String Theory at Ohio State".

Our search continues for new faculty in our second thrust area of experimental particle astrophysics. Last spring we decided to create a group in experimental biophysics and have begun looking for a leader for this group. We will conduct additional searches in condensed matter experimental physics and in atomic, molecular, and optical physics, in coordination with Ohio State's Spectroscopy Institute. It will be another frenetic and fascinating year. In the past year we have hired three new faculty members. Ulrich Heinz, who will join us in early December as a full professor in nuclear theory, comes from CERN and the University of Regensberg. His research focuses on the physics of that elusive state of high density, high temperature hadronic matter known as the quark-gluon plasma, created in relativistic heavy ion collisions. Lei Bao comes to us from Kansas State as a new assistant professor in physics education research. An important aspect of his work concerns quantitative modeling of student understanding and concept development. Ralf Bundschuh will join us next summer, following his postdoctoral work at the University of California at San Diego. He will be an assistant professor in condensed matter theory, with a strong focus on biophysics and bioinformatics. A major event of the past year was the announcement of a gift of an endowed professorship in atomic, molecular, and optical physics, given by Ed and Sylvia Hagenlocker. This is the first ever such gift to the physics department, and we are truly indebted to Ed and Sylvia for their generosity (for details). Bill Palmer bid adieu to his career at Ohio State last winter. At his retirement celebration his friends and colleagues presented him with a canoe and it was quite a sight seeing that canoe carried through the Faculty Club. Bill was an exceptional force in the department, the architect of numerous vital components of our undergraduate major program. When not on the water or traveling to the far corners of the globe, he still contributes significantly to departmental activities. Bob Scherrer, the new vice chair for undergraduate studies, has written a charming recollection of many of Bill's distinguished accomplishments. Be sure to read it on page 13.

This past summer, we were privileged to host DPF 2000, the annual meeting of the Division of Particles and Fields of the American Physical Society . It was very successful, highlighted by an exceptional public lecture by Brian Greene of Columbia, the author of the very popular book The Elegant Universe. I highly recommend it to you. In February, the physics department was the featured department at the President's Salute to Undergraduate Achievement. Following the dinner for the undergraduates and their faculty invitees, we showed our new department video, created especially for the event. The video was also shown to the Board of Trustees when they recognized our Departmental Distinguished Teaching Award (featured in last year's Physics Magazine). Progress in planning our new research building was slowed last year by a request for a redesign by the University Architect's office. I am pleased to report that the redesign is approaching completion. Results can be found on the web at http://osu.zgf.com . I believe that the new, redesigned physics building will be both an artistic and a technical success, and that it will serve as a landmark gateway to the northern end of campus. With it we will enhance our research, our instruction, and the public face of physics that we present to the State of Ohio and the world. Preparation of detailed construction documents is slated to begin in early 2001, and groundbreaking is expected by early 2002. Contributions to our building fund are most appreciated and will help us raise the resources needed to enhance our new research facility. I take great pleasure in highlighting this year's national awards to our

undergraduate majors (more details available). NSF Graduate Fellowships were awarded to Ryan Barnett and Matt Dorsten. Ryan is now at Harvard and Matthew chose Caltech. Keith Edwards, now in the Ph.D. program of the Department of Nuclear Engineering at The Ohio State University, took home a Department of Energy Nuclear Engineering and Health Physics Fellowship, and Matt Buoni, a senior this year, won a Goldwater Fellowship.

Recruitment of the new graduate class is complete and again very successful. Thirty-two new students, from the U.S. and nine different countries from around the world, will be joining our department. They are a diverse and talented group, including a record 11 women. This class will play an important role in our move into our new building in 2004. Last, but certainly not least, I was very pleased to be able to present the second annual Physics Department Distinguished Alumni Award to Robert Smith, who retired from McDonnell Douglas Aircraft after a distinguished career in aeronautics (for details and pictures). He and his wife, Winifred, live on Balboa Island, Calif. Bob is the son of Alpheus Smith, for whom our building is named.

I invite you all to stop by for a visit if you pass through Columbus. With best wishes,

William F. Saam

Professor and Chair

Generous gift supports endowed chair in physics

Proving that alumni of the Department of Physics love physics at Ohio State, Dr. Edward E. and Sylvia Hagenlocker of Bloomfield Hills, Mich. have generously donated a gift of $1.5 million to the Department of Physics. The gift will be used to establish the Dr. Edward E. and Sylvia Hagenlocker Chair in Physics, providing support for a distinguished senior faculty position in the department. The focus of teaching and research will be on atomic, molecular, and optical physics. Ed retired as vice chairman of the Ford Motor Company in January of 1999 and was awarded the first-ever Distinguished Alumni Award from the Department of Physics in the spring of that year. He received an honorary doctorate in science in 1997 from Ohio State and gave the summer 1997 commencement address.

A native of Marysville, Ohio, Ed is a three-time graduate of Ohio State (B.S. Physics 1962, M.S. Physics 1962, and Ph.D. Physics 1964), as well as a recipient of an M.B.A. from Michigan State University. He believes his education in physics helped him succeed in his long and distinguished career with Ford—a career that began in 1964.

"The design of an automobile is just one big physics problem," said Ed. One factor in the Hagenlocker's decision to donate the gift was the physics department's receipt of a Selective Investment award for 1997-1998. Recipients of Selective Investment funding are chosen, in part, because of the positive impact they can have on other academic programs and the benefits they can offer to the people and businesses of Ohio. In the most recent National Research Council ranking of doctoral programs in the United States, the Ohio State Department of Physics made the largest gain of any physics department in the country and any department at Ohio State.

Ed Hagenlocker serves as a trustee of Albion College, and on the boards of directors at Air Products and Chemicals, Inc., Amerisource Corporation, Nanophase Technologies Corporation, and the Boise Cascade Corporation. He is a member of The Ohio State University Foundation Board, The Ohio State University Alumni Association, Inc., and the Presidents Club. Ed is an active member of several organizations, including the National Academy of Engineering, the Society of Automotive Engineers, the Engineering Society of Detroit, the American Physical Society, and American Men of Science. Sylvia Hagenlocker is president-elect of the Village Club of Bloomfield Hills. She also is a member of the Board of Oakland Family Services, the Advisory Board of the Community House of Birmingham, and the Chair of the Grants Committee for the Women's Committee for Hospice for S.E. Michigan.

Physics alumni and their families make generous gifts to the Department of Physics

Physics alumni and their families make generous gifts to the Department of Physics Ed Grilly has established the Edward R. Grilly Scholarship Fund in Physics, which will provide support for the Department of Physics' Academic Achievement Scholarship for the next five years. Although Ed has two degrees from the Department of Chemistry here at Ohio State, he has spent much of his career as a low-temperature experimentalist. He is retired from the Los Alamos National Laboratory in Los Alamos, N.M.

An Ohio State physics graduate who currently resides in the Houston, Texas area has anonymously endowed a scholarship fund in the Department of Physics. The scholarship will be given to an undergraduate or graduate student at the discretion of the department chair.

The family of Dr. Boong Youn Cho created an endowed fund in the Department of Physics to provide a graduate fellowship. Dr. Cho was a 1962 Ph.D. graduate in physics. He retired from ABB Corporation (formerly Accuray) in Columbus. His family members established the fund to honor his memory and his love of physics. The department is grateful to Jung Soon Cho, Dr. Cho's widow, as well as his children, Helen Cho of Columbus, Judy Cho, currently in Chicago, and Tony Cho of Diamond Bar, Calif. We should note that all of the Cho children are also Ohio State alumni.

Congratulations Robert Smith, Winner of the 2000 Distinguished Alumni Award

The Department of Physics congratulates Robert B. Smith, winner of the 2000 Distinguished Alumni Award. Will Saam, chair of the department, welcomed the Smiths to the ceremony at the Mershon Auditorium lobby, including their son, Gary, from Seattle, who accompanied his parents to see his father receive this honor. After a warm introduction by Bob Gold, dean of the College of Mathematical and Physical Sciences, Saam presented Smith with his award. Smith, who claims to dread public speaking, gave a delightful talk during which he reminisced about growing up in the shadow of The Ohio State University, where his father, Alpheus Smith (for whom the physics building is named), taught for 37 years.

One warm recollection included the memory of playing at the then-president's house, which at that time was located on campus. The house was eventually torn down to make way for Mershon Auditorium. "I think we may be standing near the very spot where I spent many happy hours as a child," Smith said. Smith completed his bachelor's degree with a major in physics in 1936 and went on to Cal Tech where he received his master's degrees in both mechanical and aeronautical engineering in 1938 and 1940, respectively. After graduation, he went directly to work for the Douglas Aircraft Company, El Segundo Division, as an aerodynamicist. He remained with Douglas, which became McDonnell Douglas, for his entire career of 32 years. During these years, his work consisted of wind tunnel testing, aerodynamic design, performance analysis, and preliminary design, primarily on U.S. Navy carrier based aircraft. During his first 15 years at Douglas, El Segundo, he participated in the aerodynamic design and development of 13 completely new airplanes. Six of these designs, all attack or fighter types, went into service with the Army Air Force and the U.S. Navy; two were research airplanes, including the Skyrocket, which was the first airplane to fly at twice the speed of sound. Smith held various positions at Douglas, El Segundo, including supervisor of Aerodynamic Design, assistant chief of Aerodynamics and chief of Preliminary Design. When the El Segundo Division moved to Long Beach, he became an advanced design project engineer, and he retired as chief advanced design engineer for Advanced Government Studies.

He has been a member of the Institute of Aeronautical Sciences and the American Ordinance Association and served as consultant to the director of Defense, Research, and Engineering, Office of Aeronautics, and has served on two NACA Advisory Committees. He is also a member of the OSU Presidents Club.

Since his retirement, Robert has worked on aerodynamic design and performance on a number of homebuilt airplanes and several Reno air racers. He and his wife, Winifred, reside on Balboa Island, Calif.