Greetings to friends and alumni of the Department of Physics and Astronomy of Ohio University. I am very pleased to report a very successful year for the faculty, staff, and students in the department. With the aid of increased grant funding, coupled with your financial support, we once again have been able to move the department to a higher level of achievement.

For the first time in many years, we do not have any new faculty joining the department. However, we are welcoming back four faculty (Ken Hicks, Allena Opper, Joe Shields, and Larry Wilen) who were on Professional Leave last year. For the current academic year (2004-2005) Peter Jung is on Professional Leave. The possibility of Professional Leave after each seven years of service provides an outstanding opportunity for our faculty to rejuvenate their research programs and to develop contacts with outstanding colleagues all over the world. Two of our long-time faculty, Jim Dilley and David Onley, are now fully retired after providing many years of outstanding service to the department. Jim joined the department in September of 1963 as an Assistant Professor and rose to the rank of Professor. He began his "early retirement" service in 1996. David joined the department in 1965 at the rank of Associate Professor and also rose to the rank of Professor. David served as department Chair for three years in the early 70's and again for two years in the late 90's. He began his "early retirement" service in 1999.

The growing research reputation of the department was recognized in 2003-2004 by both external and internal measures. Faculty in the department were awarded competitive research grants exceeding 3.7 million dollars for FY04, an all time high for the department. Furthermore, the research awards were spread across the department - of the 28 Group I faculty in the department, all but three now have solid external funding for their research. Members of the department were also very successful in an internal competition to identify and fund outstanding areas of research with the goal of increasing our national and international standing in those areas. Two proposals had significant participation from members of the department. There were: 1. The Structure of the Universe from Quarks to Superclusters, a joint proposal from the Institute of Nuclear and Particle Physics (INPP) and the newly-created Astrophysical Institute (ApI), which became the top-ranked proposal. The University is committed to $1.3 million dollars of support over five years and to adding two new faculty working at the interface of nuclear/particle physics and astronomy; and 2. Biomimetic Nanoscience and Nanoscale Technology, a joint proposal from the Nanoscale and Quantum Phenomena Institute (NQPI) chaired by Jean Heremans and the Condensed Matter and Surface Science Program (CMSS) chaired by Hugh Richardson of Chemistry. This proposal was initially ranked at the top of the competition, but it was combined with two other proposals and the joint proposals ended up being ranked in second place. About $340,000 per year for six years will be awarded to this portion of the joint proposal. The challenge on all of us involved in these initiatives is to deliver over the next five years and
work toward meeting the challenge put out by our new President McDavis to increase our external funding at Ohio University from about 54 million to 100 million in this time period.

On a personal note, I will be going onto "early retirement" in June 2005. I have had a wonderful and successful career here at Ohio University, but after 35 years have decided to cut back and give our younger faculty opportunities for leadership roles. The faculty will be recommending that Joe Shields become the next department Chair in July of 2005. As many of you know, I have served as department Chair for many years - beginning in 1990 and continuing to the present, except for two years when I was Chair of the Faculty Senate and David Onley chaired the department. I have been very fortunate to have worked with outstanding faculty and staff, and together we have built an outstanding department. We expanded into Astronomy (now with four astronomy faculty) and became a Department of Physics and Astronomy, more than quadrupled our external grant funding, increased the size of the faculty from about 18 to 28, increased both the number of graduate students (now in the low seventies) and undergraduate majors (in the low sixties). Our graduates have helped in this success, and we congratulate you on your successes which we trust we helped you achieve. My wife Karin and I plan to continue living in Athens, and I will be teaching one quarter each year for some years to come, so please look me up if you visit Athens.

Finally, I want to thank those of you who have contributed to our new endowment fund called the Department of Physics and Astronomy Fund in addition to the Shipman Scholarship Fund (for undergraduate scholarships), the Grimes Memorial Fund (for support of undergraduate major activities) and our other departmental funds.

Volume 17
Feature Article: Physicists Find Evidence for the Pentaquark

You likely know that atoms are the basic building blocks of matter, and that atoms are made up of electrons swarming around a tiny nucleus. More than 99.9% of the mass of everyday objects is contained within the nucleus of the atoms. Now the nucleus is made up of protons and neutrons, which in turn are made up of quarks. Because of this, most of your body mass comes from subatomic particles that are made up of quarks. Now, knowledge of quarks won't help you lose weight, but it does help scientists to understand other aspects of nature, such as why the sun shines. In fact, the sun's warmth comes from a process called fusion, which turns some of the mass of the nucleus into energy.

When we examine subatomic particles, we find all strongly interacting particles (for example, protons and neutrons in the nucleus) are made up of quarks. There are hundreds of subatomic particles known, and all of the experimentally well-established particles fit into only two categories: so-called baryons (made up of 3 quarks) and so-called mesons (made up of "two" quarks-really a quark and an anti-quark). What is the nature of the force between quarks such that only two types of quark matter can exist? Certainly, there is a mathematical hypothesis (or "theory") for the strong force, called Quantum Chromodynamics (or "QCD"), but in addition to baryons and mesons, the theory allows other configurations of quarks, such as so-called pentaquarks (made up of "five" quarks-really 4 quarks and 1 anti-quark).

Until recently, no firm evidence of pentaquarks existed even though physicists have searched for these objects (also known as "exotic baryons") for over 30 years. In 2002, the first announcement was made for evidence of the pentaquark at an international scientific conference in Osaka, Japan. In 2003, a report of this work was submitted for publication in a peer-reviewed scientific journal by a group of physicists known as the LEPS collaboration from an experiment done at the SPring-8 facility in Japan. Other evidence for the pentaquark has recently been reported by other experiments, with perhaps the strongest evidence coming from the accelerator at Jefferson Lab (Newport News, Virginia) by the group known as the CLAS collaboration.

With the advent of strong evidence for a pentaquark by several independent experiments world-wide, there is good reason to believe that the pentaquark does, indeed, exist.

Why should anyone care that the pentaquark exists? This question is difficult to answer at the present time, because the discovery is so recent. Many of the modern conveniences and medical treatments have come from scientific discoveries in the past that did not seem very useful at the time they were discovered. The answer to the initial question is: we don't know what discoveries of today will be important tomorrow. However, this answer is too general. Let's speculate about why the pentaquark is interesting.

First, the pentaquark announced is the first, clear-cut evidence for a subatomic particle with "five" quarks. This means we have a new classification of particle: the pentaquark (more precisely, an "exotic" baryon). As a possible analogy, consider the classification...
of living things into two categories, plants and animals. If a new type of animal were found that did not fit into any of the usual classifications (mammals, birds, reptiles, etc.) then this would be an exciting discovery for biologists. Now this analogy is not completely appropriate, as for many analogies, but perhaps you get the idea why a new classification is important. The first type of pentaquark has now been seen! We now have lots of work to do to understand more of its properties, and what this implies for our knowledge of the forces between quarks.

In summary, almost all of the mass of everyday objects is tied up in "quark matter." The warmth of the sun comes from conversion into energy of the mass of quark-matter particles like the proton and the neutron. The more we understand about the forces between quarks, the more we learn about various facets of nature. The pentaquark has eluded previous searches, but within the past year, there is new evidence that strongly suggests that the pentaquark exists. We don't yet know what applications this discovery might have, but this new particle will tell us more about the forces between quarks. At the least, we have found a new classification of quark matter, a particle (specifically, an exotic baryon) with "five" quarks.

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Department News

Faculty News

The faculty have been conducting interesting and significant research, improving and innovating in teaching, and, finally, also giving service to the University, to physics and astronomy professional organizations, and to the community. Several have recently received awards and become officers of professional societies.

Peter Jung is now Chair-Elect for the Division of Biophysics of the American Physical Society.
Charlotte Elster is the Secretary-Treasurer of the APS Few-Body Topical Group.
Thomas Statler recently became Vice Chair of the Division of Dynamical Astronomy of the American Astronomical Society.
Saw Hla joined Sigma Xi, the research honorary.
Sasha Govorov has recently won the Bessel Prize from the Alexander von Humboldt Foundation. This award is given to outstanding young scientists. His research involves the study of spin in semiconductor nanostructures.

David Drabold became a Fellow of the American Physical Society in the Fall of 2003. David's research is in theoretical condensed matter physics.

Here is a list of APS Fellows in the Department of Physics and Astronomy. (The year of the award is shown when known.)

Charles Randall, Jr.
Ray Lane 1964 or 1965
Jack Rapaport 1979
Roger Finlay 1986
Steve Grimes 1980
Earle Hunt 1999
Roger Rolliins 1999
Charlotte Elster 2001
David Drabold 2003

Note there were four elected in the last five years. Only one-half of 1% of the total APS membership is selected for Fellowship in the Society each year. (See www.aps.org/fellowship/).

Burt Stumpf is a fellow in the Acoustical Society of America (awarded in 1989).

Faculty Changes

We now have 28 tenure-track faculty in physics and astronomy. In addition, we have three other non-tenurable assistant professors (Mark Lucas, Nancy Sandler and Tom Massey). The total faculty including part-time faculty is now well over 30. This includes two early-retired members who teach one quarter each year. Two of our early-retired faculty (James Dilley and David Onley) fully retired at the end of last year. They will continue to live in Athens.

This past year saw several promotions - David Ingram to full professor and Daniel Carman and Daniel Phillips to associate professor with tenure.

Regional Campus Faculty

The list of regional campus physics and physical science faculty is: OU - Eastern
James Kettler (Early Retired) OU - Zanesville - David Pascoe, B.S. 1997 OU - Lancaster - Steve Nerney OU - Chillicothe - Arun Venkatachar OU - Southern - Robert Dils, Maryanne Graham and Philip Steed. Maryanne has taught at Proctorville also. These people have served well for many years in the Ohio University regional campus system. Recently Claudell James has taught physical science at OU - Pickerington. Clyde Baker has retired from teaching at OU - Zanesville and still lives in The Plains. Retired Faculty Jack Rapaport and his wife, Irma, moved to Conover, North Carolina and also will spend time in Florida. They leave our department after 34 years. Jack was a Distinguished Professor of Physics. Those retired faculty who live full- or part-time in the Athens area are: Charles Chen, Earle Hunt, Roger Finlay, Ray Lane, James Dilley, Roger Rollins, Ernst Breitenberger, Charles Brient, David Onley and Burt Stumpf. Those faculty who retired but live elsewhere are: Ronald Cappelletti (Montgomery Village, Maryland); Seung Yun (Phoenix); James Shipman (Bellington, West Virginia); Tomo Tanaka (Japan); and Jerry Barry (Gainesville, Florida). Gene Stoppenhagen, Ph.D. 1968, retired from OU - Lancaster and lives nearby. As reported previously, Edward Sanford and Darrell Huwe are deceased. Darrell is honored by the Darrell Otto Huwe Scholarship Fund, and Edward is honored by the Edward R. Sanford Astronomy Fund. John Edwards, our former chair, died in 2003. The Accelerator Lab was named in his honor. We have not heard recently from Charles Randall, who was our chair from 1957 to 1968. Our latest correspondence from Charles was from Ormond Beach, Florida. Thomas Smith, who was a professor of physics and also provost of Ohio University, died in May 2004 in Appleton, Wisconsin. He had retired previously as the president of Lawrence University in Appleton. He became president in 1969. Postdocs and Visiting Faculty This academic year, we had several visiting research professors. In addition, several postdocs joined the department. Faculty Activities to Promote Teaching Several faculty members are improving and extending interactive teaching in our new lecture hall near the stadium. With large projection screens in the lecture halls, the use of Power­Point and other computer systems is very effective. We continue to use CAPA, which is now web-based, and last year several faculty started using the Personal Response System to enliven the lectures. James Kettler (OU - Eastern) and Burt Stumpf (OU - Athens) are active members and officers of the Appalachian Section of AAPT. Each gave a contributed paper at the Fall 2003 meeting at WVU - Tech in Montgomery, West Virginia. The department held a Physical Sciences Contest in Spring 2004 for high school students. It was given along with our open house. The seniors were given one test and the sophomores and juniors another test. Prizes were given to the final winners. They include a Shipman Scholarship, along with a cash award, for first place in each group. Several faculty and Heather Krugman, Department Administrator, ran the test. Mark Lucas manages for the department the Southeast Ohio District Science Day where middle and high school students bring their school science projects to Ohio University for judging and prizes. Mark also manages the LONCAPA program for the department. In addition, he is introducing interesting innovations in the 201 series (college physics) courses. Mark participated in Project Sustain where a Lancaster High School physics teacher traded classes with him. The program helps both the high school teacher and the professor gain knowledge about physics teaching at both levels. It also helps to bridge the gap between high school and university teaching and aids in understanding and improving the instruction at each level for a better transition from high school to college. Staff News We have a fine current staff who do their work well and help to build a strong department. Their contribution is most important to our success. Candy Dishong was honored in November 2003 as the Ohio University Classified Employee of the Month. She is an administrative assistant for the department. Her work is with the Condensed Matter and Surface Sciences group. Those former staff who live in the Athens area are: Betty Craddock, Roxanne Dicken, Bob Young, Tom Tigner,
David Sturbois, Scott Mash and Roger Smith. Clyde and Karen Baker live in The Plains. As reported previously Army Rist and Paul Beasley died in 2003. Kenneth Davis, who worked in the Physics Department shop, died in May 2004. He was 79. Ken was a U.S. Marine and also served as Nelsonville's police chief. He worked in the shop as a machinist and left quite a few years ago to take jobs outside the university. *Interesting Items About the Department*

**We awarded in this year (July 2003 thru September 2004) the following degrees:** ten Ph.D.'s; sixteen Master's; and six Bachelor's degrees. At the beginning of the 2004-2005 academic year, there were 62 undergraduate majors in physics and astronomy. **We had, in September 2004, a total of 73 graduate students.**
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Alumni News

Previous Graduates

We are sorry that many of our physics and astronomy alumni are not included in this newsletter. Please e-mail or send in the attached form and give us information about you. Use wright@ohio.edu or stumpf@ohio.edu. If you have information on other alumni, please also send it to us. You are important to our Ohio University physics family.

Physics alumni living in the Athens are and working at Ohio University are:

- James Dilley, BA. 1955 and M.S. 1956;
- Laurence Larson, B.S. 1956;
- Joshua Thomas, B.S. 1998;
- Robert R. Conatser, Jr., M.S. 1987;
- Mary Louise Trivett (Mary Louise Cooke, B.S. 1967) retired from being departmental administrator for the Department of Environmental and Plant Biology;
- Clyde Baker, M.S. 1968, is a former Assistant Professor in our department and lives with his wife, Karen, in The Plains, near Athens. His retired but still does some teaching in the department.
- Ralph Kelsey, Ph.D. 1986, is an instructor in computer science. His advisor was Dr. Koshel.
- David Resler, Ph.D. 1987, joined Ohio University in Communications Network Services.
- Andrew Russ, B.S. 1984, also is part of a research group in our engineering college.
- Ellsworth Holden, B.S. 1955 and M.A. 1959, has been on the faculty in our Department of Management Information Systems.
- Devon Jacobs, B.S. 1994 and M.S. 1998, is an accelerator engineer in our department.
- Peter Hoffman-Pinther, Ph.D. 1973, has retired from his position as a professor at the University of Houston - Downtown Campus. He now lives in Athens with his wife, who retired from Alden Library at Ohio University.

1900-1959

- Arnold L. Aronson, B.S. 1953, lives in New York, New York and is on the staff at Brookhaven National Laboratory. Arnold is in the Department of Energy Sciences and Technology.

1960-1969
• Danny L. Ball joined our physics graduate program for 1961, 1962 from Morris Harvey College (now the University of Charleston). His career included work in space technology at TRW and positions in the Department of Veteran Affairs.

• Lawrence Crum, Ph.D. 1967, is a research professor at the Applied Physics Lab of the University of Washington in Seattle. His research is in acoustics. He was president of the Acoustical Society of America, is a Fellow, and received the Society's Silver Medal in 2000. His research mentor was Burt Stumpf in experimental acoustics. Lawrence has made major contributions to the field of sonoluminescence. He recently had papers at the Acoustical Society of America meeting on lithotripsy and other related topics.

• Thomas Hess, Ph.D. 1967, and Charles Smith, Ph.D. 1968, are on the physics faculty at the University of Maine in Orono.

• George L. Murphy, B.S. 1963, earned the Ph.D. in physics from Johns Hopkins in 1972 and the M. Div. from Wartburg Seminary in 1983. He is now a pastoral associate at St. Paul's Episcopal Church in Akron, Ohio. George has written four books on the science-theology dialogue. The latest is entitled The Cosmos in the Light of The Cross, which is published by Trinity Press International.

• Roger T. Richards, M.S. 1969, has been chair of the Committee on Regional Chapters of the Acoustical Society of America for several years. He works in acoustics at the Naval Undersea Warfare Center in Newport, RI. He was in the Acoustics Group (Dr. Yun and Dr. Stumpf) for his research at Ohio. Roger has a Ph.D. from Penn State in the field of acoustics.

• John Rosaa B.S. 1965, is retired from McDonnell Douglas (Boeing - St. Louis) and lives in Rocky Mount, Missouri. His work included hardware and software for weapon systems for advanced military aircraft.

1970-1979

• Eliseo Chan, Ph.D. 1975, was led in his research in solid state theory by Tomo Tanaka. Eliseo is employed by Ontario Hydro in Toronto, Canada.

• Al Ekkebus, M.S. 1972, is the User Program Manager for the Spallation Neutron Source (SNS) at Oak Ridge National Lab in Oak Ridge, Tennessee. The completion date for SNS is 2006. The Source is used in neutron scattering experiments to determine the structure of material.

• Ed Frederick, Ph.D. 1973, is the Planetarium Director at the EcoTarium, a museum in Worcester, MA. He also teaches astronomy in the evenings at Clark University. Most of his career in the first 20 years after graduating was with research in X-rays and (γ-rays as applied to astronomy, medicine and security. Charles Randall led his doctoral research dealing with the Crab Pulsar.

• Hadi Hadizadeh, Ph.D. 1978, is spending two years as a visiting professor in the nuclear physics group. He comes from a faculty position at Ferdosi University in Iran. Roger Finlay was his advisor. His daughter Nastaran is an undergraduate physics major.

• Wai Ching Ho, Ph.D. 1975, works in geophysics for the oil and industry and lives in Sugar Lane, Texas, near Houston.

• Clement Lam, Ph.D. 1970, has taught for several years at North Harris County Community College in Houston, Texas. His research in experimental acoustics was with Burt Stumpf.

• David Maloney, M.S. 1973, is active in National AAPT and gives workshops and papers at the national meetings. He is on the faculty at Indiana University - Purdue University in Fort Wayne, Indiana. David has a Ph.D. from Ohio University's College of Education. Recently, he gave workshops on assessment instruments and also on physics problem solving.

• Critt Ohlemacher. B.S. 1979, is an assistant lab manager at the University of Akron. Critt has an M.S. from the University of Akron. He also is Vice Chair of the Ohio Section of the American Physical Society.

• Venkatraman Ramakrishnan, Ph.D. 1976, was recently elected to the National
Academy of Science in America. In 2003, he was elected to the British Royal Society. His research is in the biological sciences. Venki was led in his research by Tomo Tanaka.

- **Kallarakal N. Thomas**, Ph.D. 1972, is retired from Baring Union College in India and lives in Kottayam in Kerala State in India. His research mentor was Burt Stumpf in experimental acoustics.

- **Jerry Wilson**, Ph.D. 1970, lives in Greenwood, South Carolina, where he retired from the faculty at Landers University. He is the author or co-author of several physical science and introductory physics texts.

- **Barry Wyerman**, B.S. 1971, works for the Lear Corporation in Dearborn, Michigan. His home is in Novi, Michigan. Barry has a Ph.D. in acoustics from Penn State.

**1980-1989**

- **Ricardo Alarcon**, Ph.D. 1985, is a professor of physics at Arizona State University in Tempe. His research for the Ph.D. was in nuclear physics with Jack Rapaport. He was recently made a Fellow of the American Physical Society.

- **Cornelius Bennhold**, Ph.D. 1987, and

- **Frank Lee**, Ph.D. 1995, are on the physics faculty at George Washington University in Washington, D.C. Louis Wright was their research advisor in theoretical nuclear physics. In recent news, we heard that Cornelius became department chair and Frank was promoted to associate professor.

- **Kim Constantikes**, B.S. 1983, is on the staff at Green Bank National Radio Astronomy Observatory. His work involves controlling the surface elements of the large telescope parabola. He holds a master's degree from Carnegie Mellon University. Recently Kim gave us a special colloquium on the control system for the Green Bank Telescope.

- **Chris Honsinger**, B.S 1981, M.S. 1982, is a Senior Principal Scientist at Eastman Kodak Research Laboratories in Rochester, NY. In August 2004, he was inducted into the Eastman Kodak Distinguished Inventors’ Gallery for his contributions to the field of Digital Imaging. He currently holds 22 U.S. patents and has 76 pending patent applications worldwide.

- **Didarul Islam**, Ph.D. 1989, is a member of the physics faculty at Central Michigan University. His research mentor was Ron Cappelletti in condensed matter physics, who is now at NIST.

- Three of our Ph.D. graduates are on the faculty at Ball State University in Muncie, Indiana. They are **Mahfuza Khatun**, Ph.D. 1985, **Md Saiful Islam**, Ph.D. 1986 and **Yong Suk Joe**, Ph.D. 1992. Mahfuza and Yong are collaborating with Sergio Ulloa in the Center for Computational Nanoscience funded by Indiana's 21st Century Fund. Yong is the Director of the Center.

- **Joongtae Kim**, M.S. 1989, is in the oceanography graduate program at Texas A & M. In acoustics, Seung Yun was his research project leader. After leaving Ohio, Joongtae went back to Korea before returning to College Station, Texas.

- **John Marsh**, B.S. 1984, has recently worked at SRICO in Columbus, Ohio. His research involves fiber optics. John earned a Ph.D. from Carnegie Mellon University

- **Steve Mellema**, Ph.D. 1983, is on the physics faculty at Gustavus Adolphus College in Saint Peter, Minnesota. Roger Finlay led his research in experimental nuclear physics.

- **Charles Niederriter**, Ph.D. 1985, is on the physics faculty at Gustavus Adolphus College in Saint Peter, Minnesota, also. His research mentor in experimental solid state physics was Ronald Cappelletti, who is now at NIST in Maryland. Charles is the Section Representative for the Minnesota Section of AAPT.

- **Shailendra Shukla**, Ph.D. 1981, has been a medical physicist at the VA hospital and University of Florida in Gainesville. Seung Yun was his research advisor at Ohio in experimental acoustics.
- **Philip Spickler**, M.S. 1988, earned the Ph.D. at William and Mary College and has taught at Ferrum College in Ferrum, Virginia. While at Ohio he published, with Seung Yun and Burt Stumpf, papers on ultrasound in liquid mixtures. Philip is currently on the physics faculty at Bridgewater College in Bridgewater, Virginia.

- **Farid Zamani**, Ph.D. 1984, is in the physics department at Villanova University. David Onley led his research in nuclear theory.

### 1990-1999

- **Saleh I. Al-Quraishi**, Ph.D. 1997, joined Steve Grimes for research at the Edwards Accelerator Lab during 2003-04 while on his sabbatical. Saleh is on the physics faculty at King Fahd University in Dharan, Saudi Arabia.

- **Issam Abdel Razik**, Ph.D. 1990, is on the physics faculty at An-Najah University in Nablus, West Bank. He did research in acoustics with Seung Yun.

- **Vince Ballarotto**, Ph.D. 1998, is employed by the National Security Agency in the Washington, D.C. area. Martin Kordesch was his mentor in experimental condensed matter physics.

- **Fred Bateman**, Ph.D. 1994, visited the Edwards Accelerator Lab in the Fall of 2003 to do research. Fred is a physicist at NIST. His Ph.D. advisor was Steve Grimes.

- **Derek Beck**, B.S. 1999, is an independent film maker. He writes, directs and produces films. Derek is a Captain in the U.S. Air Force. He has been at MIT earning a M.S. degree in Engineering and Management.

- **Noureddine Boukharouba**, Ph.D. 1991, is a physics professor at the University of Guelma in Algeria. His research in experimental nuclear physics was with Steve Grimes.

- **Henry Clark**, Ph.D. 1993, is conducting research in experimental nuclear physics at Texas A&M. Ken Hicks led his research. Jianjun Dong, Ph.D. 1998, was unanimously recommended for tenure and promotion to associate professor in the physics department at Auburn University in Alabama. He has a DOE grant for research in theoretical condensed matter physics. David Drabold led his research.

- **Hui Li**, Ph.D. 1993, works at the Mercy Medical Center in the Hall Radiation Center in Cedar Rapids, Iowa. Ron Cappelletti was her advisor in condensed matter experiments.


- **Rodney Michael**, Ph.D. 1995, teaches physics at Ashland University in Ashland, Ohio. Ken Hicks was his research advisor in experimental nuclear physics.


- **Eric Montei**, Ph.D. 1996, works at Intel Corporation in California. His research was in experimental condensed matter physics with Martin Kordesch. Eric and his wife, Anita Kumar, Ph.D. 1994, have children. Anita did research with David Onley in theoretical nuclear physics.

- **Howard Lee Mosbacker IV, B.S. 1999, is in the Ph.D. program in physics at Ohio State. Howard lives in New Albany near Columbus.**

- **Punit Paramanda**, Ph.D. 1993, gave a CMSS Seminar in October 2003. He visited us from the faculty of the Independent University of the State of Morelos, Mexico. His research was with Roger Rollins.

- **Andreas Rhode**, Ph.D. 1997, works at a financial institution in New York City. Roger Rollins was his research advisor in nonlinear theory.

in experimental nuclear physics was led by Ray Lane. Burt Stumpf was the advisor for Earl's M.S. research in acoustics.

- Joseph Shovlin, Ph.D. 1996, is at Fairchild Semiconductor in Portland, Maine. Martin Kordesch was his advisor in experimental condensed matter physics.
- Jairo Sinvoa, B.S. 1994, has a Ph.D. in physics from Indiana University. Jairo's research area is condensed matter physics. He is on the faculty at Texas A & M. His wife is Barbara (Adams) Sinova, who has a B.S. in physics from Ohio in 1994.
- Raul Esquivel-Sirvent, Ph.D. 1995, and his wife Cecelia Noguez are both at the Institute of Physics at the National University of Mexico in Mexico City. Raul did his Ph.D. research in acoustics with Seung Yun and Doug Green in Geological Sciences. His masters' research in experimental acoustics was with Burt Stumpf.
- Jin So, Ph.D. 1998, who finished a postdoc at Penn State, is now doing research at Los Alamos National Laboratory in New Mexico. Seung Yun, who lives in Phoenix, was his Ph.D. research advisor in experimental acoustics.
- Mike Sumption, Ph.D. 1992, is an Adjunct Professor and Research Scientist in Materials Science and Engineering at Ohio State. He is part owner of a research business. His advisor was Ron Cappelletti. Mike lives in Newark, Ohio.
- Benjamin Tan, who was in our physics graduate program in 1990, is on the faculty in Chiai Teachers College in Chiai, Taiwan. His research in ultrasound in liquids was published with Burt Stumpf and others in the Acoustics Group.
- Chi Tang, Ph.D. 1995, is employed at PPG Industries Incorporated in Concord, North Carolina. Chi is a research and development physicist. David Ingram was his research mentor in condensed matter physics.
- Steve Weppner, Ph.D. 1997, is a tenured faculty member at Eckerd College in St. Petersburg, Florida. His research mentor was Charlotte Elster in theoretical nuclear physics.

2000-present

- Steve Allen, B.S. 2001, is in the graduate program in electrical engineering at the University of Cincinnati.
- Jakob Bak, Ph.D. 2000, and his wife had a baby girl early in 2004. Tom Statler was his research advisor in astrophysics. Jakob works for Pareto Partners, a financial firm in London, England.
- Murat Durandurdu, Ph.D. 2002, finished his postdoc at Michigan and has a tenure-track position in physics at the University of Texas - El Paso.
- Aditi Herwadkar, M.S. 2002, is in the graduate program at Case-Western Reserve University in Cleveland, Ohio.
- Yixiu Kang, Ph.D. 2002, finished her postdoc at Michigan and is now a research scientist at the M.D. Anderson Cancer Center in Houston, Texas. Her research is in radiation physics. David Ingram led her Ph.D. dissertation research in condensed matter physics.
- Serge Nakhmanson, Ph.D. 2001, had a postdoc at North Carolina State and recently joined Rutgers University in New Jersey for a postdoc in theoretical condensed matter physics. His mentor at Ohio was David Drabold.
- Gabriela and Andi Petcualescu Ph.D. 2002. Andi and Gabriela are postdocs at Northwestern University. Previously, they were both postdocs at the University of Mississippi in the Center for Physical Acoustics. Their research advisor in acoustics was Larry Wilen.
- Bassem Sabra, Ph.D. 2000, is back in Lebanon teaching at a college there. His research in theoretical astrophysics was with Joe Shields. Bassem had
a postdoc at the University of Florida in Gainesville. In Lebanon, he is an assistant professor and coordinator of the Math Department at the American University of Science and Technology in Zahle.

- Deepashri Thatte, M.S. 2002, is in the graduate program in astronomy at the University of South Carolina.
- Dan Wik, B.S. 2003, gave a talk in May 2004 to the department on the time he spent in China.

Recent Graduates

We hope that these recent graduates will have successful and satisfying careers.

Recent Ph.D. Graduates

- Murat Durandurdu, Ph.D. 2002, is a postdoc at the University of Michigan. See previous note in the Alumni News section.
- Yin Zhou, Ph.D. 2003, works for Agilent Technologies in the L.A. area of California.

Recent M.S. or M.A. Graduates

- Jebreel Khoshman, M.S. 2003, is pursuing the Ph.D. in physics at Ohio University.
- Ameenah Al-Ahmadi, M.S. 2002, is in our graduate program for the Ph.D. in Physics.
- Costel Constantin, M.S. 2002, is pursuing the Ph.D. at Ohio.
- Yurii Pidopryhora, M.S. 2003, is in our Ph.D. program.
- Aurangzeb Khan, M.S. 2003, continues for the Ph.D. at Ohio.

Recent B.S. or B.A. Graduates

- Elaine Richardson, B.S. 2003. She is working at a museum in Washington, D.C.
- Daniel Wik, B.S., Honors Tutorial College, 2003. He is in the graduate program in Astronomy at the University of Virginia.

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Gifts to Ohio University

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Dr. Louis Wright or Dr. F.B. Stumpf
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