Newsletter

No. 14, October 2001

Editor: F.B.Stumpf

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Alumni Newsletter

No.14, October 2001

A Note from the Chair

Louis E. Wright

Greetings to friends and alumni of the Department of Physics and Astronomy of Ohio University. Once again, I'm delighted to report that our faculty, staff and students are all performing at a very high level, and with the continuing financial success of the University and your financial support we have been able to move the department to a higher level of achievement. Furthermore, with some recent successes to be reported on below we are anticipating even greater success over the course of the next few years.

The department continues to be in a state of change. We are pleased to welcome Carl Brune (Experimental Nuclear Astrophysics), ***Saw Wai Hla*** (Nanoscience), and ***David Tees*** (Nanoscience and Biological Physics) to our faculty for the academic year 2001-2002. In addition, ***Heather Krugman*** has replaced ***Shane Gilkey*** as Department Administrator and we have hired Paula Hale into a half-time position as Graduate Program Administrator. The two new faculty who came last year: ***Daniel Phillips*** (Nuclear Theory) and ***Brian McNamara*** (Astrophysics) are settled in and are already making significant contributions to our program. I am sorry to report that we also lost two faculty: ***Normand Mousseau*** (Condensed Matter Theory) took a faculty position at the University of Montreal and ***Paul Gailey*** (nonlinear dynamics and biophysics) took a position with the Fetzer Foundation. We wish both of them the greatest success.

The faculty in the department continue to be very successful in obtaining external support for their research. During the 2000-2001 year, faculty in the department were awarded over three million dollars in grants. These funds along with additional university monies associated with our Doctoral Enhancement to create a Program in Nanoscience program at Ohio University, has permitted us to increase our graduate student enrollment up to the low sixties. I'm also pleased to report that we are already having success with our nanoscience initiative. A group of faculty headed by ***Victoria Soghomonian*** of our department was awarded one of 44 (out of 375 proposals submitted) NSF Nanoscience Initiative Program Grants funded at the level of about $1.2 million over four years. The co-grantees include ***Jean Heremans*** and ***Sergio Ulloa*** in Physics and Astronomy at Ohio University, ***Bruce McCord*** in Chemistry and Biochemistry at Ohio University, and ***Nicholas Bonesteel*** at Florida State and the National Magnet Lab. The title of the project is "Zeolitic Materials for Nanoscale Electronics and Quantum Computing." In order to focus our efforts in this exciting new research area, a new institute named the Nanoscale and Quantum Phenomena Institute has been created. ***Jean Heremans*** is the Director, and faculty in physics, chemistry, biological sciences and engineering are members of the Institute.

The department will be seeking two new faculty this year. One position is in Condensed Matter Theory--a replacement for Mousseau, and the second was awarded from a special program to increase active learning in general education courses. This position is in Astronomy/Astrophysics and the successful candidate will join ***Tom Statler***, ***Joe Shields*** and ***Brian McNamara*** to create a four-person group in the department. Our

move into Astrophysics six years ago has to be judged a great success. The faculty have been very successful in attracting graduate students, revitalizing our undergraduate astronomy curriculum, and obtaining external research support. ***Joe Shields*** has just been appointed one of seven new scientific editors of the **Astrophysical Journal**.

As many of you know, Ohio University has initiated the Bicentennial Campaign which will reach its conclusion in 2004. As part of the fund raising for this campaign, the department has created a new endowment fund called the Department of Physics and Astronomy Fund. We already have raised more than the $15,000 necessary to meet the condition for an endowed fund and are hoping to achieve our goal of $50,000. The interest on this fund will be used to support the activities of the department, and I would like to encourage you to consider this fund along with the Shipman Scholarship Fund and the Grimes Memorial Fund (for support of undergraduate major activities) when you make contributions to the department. As we have indicated in the past, we are always delighted if you can visit us on campus. We will be glad to show you around and discuss our plans for the future.

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DEPARTMENT OF Physics & Astronomy @OHIO UNIVERSITY

Alumni Newsletter

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Feature Article: Observatory Progress

The Department is proceeding with efforts to obtain a teaching observatory for the Ohio University campus. Discussions with campus planning officials have resulted in the identification of a site for the observatory, located on a prominent hilltop at the Ridges, adjacent to the old Beacon School.

Members of the Astrophysics Group have assembled a preliminary floor plan for the observatory. The structure would include two stories with classroom and lab areas, and a rooftop observing platform with two permanent domes and additional space for portable telescopes. Under this arrangement, the University's historic 10-inch Fecker refractor (now located on the roof of the Research and Technology Building) would be renovated and placed in one dome, while the other dome would house a modern one-meter-diameter reflecting telescope. These facilities would be suitable for hosting public viewing sessions as well as advanced laboratories for our undergraduates.

Attention is now focused on obtaining funding for the observatory, which is projected to cost approximately 2.4 million dollars. The Department is currently seeking support from private donors for a significant fraction of this cost, which in turn can be used to leverage additional support from foundations.

A major factor in selecting the observatory site was ease of access by students and the public. While more remote venues would provide darker skies, the Ridges location offers the advantages of proximity to campus, existing utility and road access, and security. To preserve and improve observing conditions in the area, the Astrophysics Group continues to be active in the community in promoting the use of light fixtures that minimize light pollution. This effort has paid off in several instances, including pledges to use shielded full-cutoff lighting at two major apartment complexes under construction on the south side of campus. Members of the group also remain active in building community interest in astronomy through their participation in the Southeast Ohio Astronomical Society, a local group of amateur astronomers. The Department and the SEOAS recently announced the second annual "Friends of the Stars" Award, presented this year to the City of Athens for use of shielded outdoor lighting at the new Community Recreation Center.

While completion of the observatory lies in the future, the Department today offers a growing array of observing opportunities for students. Freshman-level night-time laboratories taught by instructors George Eberts and Tom O'Grady continue to be popular with our undergraduates.

This year Professor Tom Statler also developed and taught for the first time an advanced astronomy lab, in which students designed and carried out projects using the "Great Ohio Telescope," a portable 10-inch reflector equipped with a computer-controlled CCD imaging detector. This course proved highly successful, and the resulting student reports are now archived at the website http://www.phy.ohiou.edu/~tss/ASTR410/. We look forward to having a permanent

astronomy facility that will enable our students to carry out more ambitious and diverse observing projects.

This article was written by ***Dr. Joseph Shields***, associate professor of physics. ***Dr. Tom Statler*** and ***Dr. Brian McNamara*** are also doing research in astrophysics. The group has several grants and conducts research with the Hubble Space Telescope.

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Department News

Current Faculty News

- ***Joseph Shields***, Associate Professor of Physics, carried out research written about in the *Columbus Dispatch* and the *Sunday Times of London*. These articles explained his recent discovery of a black hole in the Galaxy NGC 4203. Observations on the Doppler shift of spectral lines of gases with the Hubble Space Telescope led to the discovery. The Doppler shifts give the velocity distribution of matter in the region of the black hole.
- ***Jean Heremans***, Assistant Professor of Physics, had his research on materials exhibiting magnetoresistance published in an article in *Science* for September 1, 2000. This work has application in computer read heads. These heads can be used with position sensors, for example. Jean also received the NSF Early Career Development Program Grant in 2000.
- ***Art Smith*** in October 2000 was awarded the nation's top honor for early-career scientists. He was one of 59 recipients of the **Presidential Early Career Award for Scientists and Engineers**. Art was the only Ohioan to receive the award this year. The Award was given by Neal Lane, Director of Science and Education Policy, in Washington, D.C. This was Art's second national honor recently. The **NSF Career Award** was given to him earlier. A new class of semiconductors including scandium nitride is being studied by Art in his award-winning research. This research may lead to improved sensors and lasers.
- ***David Drabold*** had a figure from his September 15, 2000 paper in *Physical Review B* included in the Poster for *100 Years of Condensed Matter Physics*. The poster was presented at the Centennial Meeting of the American Physical Society. David's paper (with two coauthors) included his research on the computation of Wannier-like functions in amorphous semiconductors. These calculations lead to information on electron states.
- ***Peter Jung*** had his work on stochastic processes in ice formation referred to in Science for October 27, 2000. He, with others, suggested that there is a stochastic resonance causing a 1500-year climate cycle in Greenland ice formation.
- ***Normand Mousseau***, Assistant Professor, who joined our faculty in January 1998, is leaving to take a position on the faculty of the University of Montreal in Canada. Condensed matter theory was his research field. He earned his Ph.D. at Michigan State University in 1993.
- ***Paul Gailey***, Associate Professor, has left Ohio to take a position at the Fetzer Institute in Kalamazoo, Michigan.

We have several new faculty members. They are:

- ***Carl Brune*** is a nuclear astrophysicist who will do research with our accelerator. He comes from the University of North Carolina at Chapel Hill where he was a research assistant professor. His Ph.D. is from Cal. Tech.

- ***Saw Wai Hla*** joined the new nanoscience program in the department from a postdoc position at the Institute of Experimental Physics at the Free University of Berlin in Germany. His research was in condensed matter physics. Saw's Ph.D. is from Ljubjana in Slovenia.
- ***David Tees*** also joined the nanoscience program from a postdoc at the University of Pennsylvania. David earned his Ph.D. at McGill University in Montreal, Canada.

Three faculty were promoted recently. They are:

David Drabold to Full Professor.
Allena Opper to Associate Professor.
Larry Wilen to Associate Professor.

Four faculty were honored in May as they went into full retirement. They are ***Earle Hunt***, ***Jacobo Rapaport***, ***Roger Finlay*** and ***Seung Yun***. Previous newsletters have described their careers.

The Department has had two visiting **Rufus Putnam Professors**: ***Alexander Govorov*** from Novosibirsk, Russia, and ***Ben Hu*** from the University of Akron. ***Jia Ya*** from Central China University is a visiting scientist.

Several past or current **physics faculty are authors** or **coauthors** of textbooks. The list includes:

- ***James T. Shipman***, ***Jerry Wilson*** and ***Clyde Baker*** are coauthors of several editions of *Physical Science*, published by Heath.
- ***Jerry Wilson***, who also taught at Lander University, wrote several editions of *College Physics*, published by Prentice Hall.
- ***Tomo Tanaka*** wrote *Methods of Statistical Physics*, which is being published by Cambridge University Press in England.
- ***Burt Stumpf*** is the author of *Analytical Acoustics*, published by **Ann Arbor Science** in Ann Arbor, Michigan.

Regional-Campus Faculty News

Ohio University has five regional campuses where courses in astronomy, physical science and introductory physics are taught. All of these faculty members have several years of experience at Ohio University and make an important contribution to our teaching program. ***Burt Stumpf*** is the regional campus coordinator. Some recent activities of these faculty are:

- ***Steve Nerney*** at Ohio University - Lancaster served on a NASA grant proposal panel in Washington, D.C. Grants were awarded for proposals for the Sun-Earth Connections Program. He also serves as the coordinator for District Science Day for District 8 for the Ohio Academy of Science. Steve has given a recent paper at the Fall 2000 Meeting of the Appalachian Section of AAPT at Fairmont State College in West Virginia.
- ***James Kettler*** at Ohio University - Eastern in Belmont County, Ohio is active in the Appalachian Section of AAPT and serves as Secretary-Treasurer. He was President in 1982 and also in 1992.
- ***Clyde Baker*** at Ohio University in Athens taught Physical Science this academic year (2000-2001) at Ohio University in Zanesville. He is active in the AAPT - Appalachian Section. ***David Pascoe***, B.S. 1993, also taught with Clyde at OU - Zanesville. David teaches science in a high school in Zanesville. Previously (1960's) Clyde Baker also taught at the regional campus of Ohio University in Portsmouth. Ohio U's program was replaced by Shawnee State several years ago.

- ***Arun Venkatachar*** teaches physical science, physics and chemistry at Ohio University - Chillicothe.
- ***Robert Dils***, a former professor at Marshall University, teaches astronomy at the Ohio University Southern Campus (OUSC) in Ironton, Ohio.
- ***Mary Anne Graham*** teaches physical science at OUSC in Ironton and Proctorville.

  At OUSC the introductory physics course without calculus is taught by ***Phil Steed***. He formerly taught science at Ironton High School and now also works in the nearby petroleum industry.

- ***Robert Culp***, who teaches chemistry at OUSC, helps to administer the physics program there and is developing relations with the local high school science programs. He has had experience in industrial chemistry and holds the Ph.D. degree.

  In the past, our regional campuses have been served by others. ***Dr. Hubler*** and ***Dr. Thomas Manakkil*** (Marshall University) taught at Portsmouth. ***Dr. Thamburaj*** taught at OU - Zanesville. Previously ***Dr. Orsini*** and professor ***Plymale*** from Marshall taught at the Ironton regional campus. ***Charles Bulger***, who taught at OU - Chillicothe, died in 1992.

Retired Faculty News

- ***Ernst Breitenberger***, who was a professor of physics, retired and lives in Athens. He travels extensively all over the world and gives interesting talks on these trips. Ernst was a member of the Committee on the Undergraduate Program in Mathematics of the Mathematical Association of America and contributed to the Meeting Report for October 1999 at Bowdoin College.
- ***Raymond Lane***, a distinguished professor, lives in Athens with his wife and has pursued photography as a hobby in his retirement.
- ***Tomo Tanaka***, a professor, lives part of the year in Japan and part of the year in Athens. He has taught a graduate course in recent years for one quarter each year and has written a book on statistical physics. He travels during his retirement.
- ***Seung Yun***, professor, retired and has taught one quarter each year. He lives in the winter in Phoenix and in the summer in Athens. Golfing is his hobby which he and his wife enjoy.
- ***John E. Edwards***, B.S. 1930 and M.S. 1932, lives in Athens still. He earned his doctorate at Ohio State and was chair of our department from 1951 to 1957. John was also a distinguished professor and had the Edwards Accelerator Lab named after him. John attended the Colloquium on May 18, 2001, given by Tom Boster, his Ph.D. student.
- ***Earle Hunt***, professor, has taught one quarter each year and carries on funded research in experimental chaos physics with a postdoc. He also travels around the United States. Earle lives in Athens with his wife.
- ***Charles Chen***, professor, is retired and travels extensively across the world with his wife. They live in Athens and she is a professor of journalism.
- ***Burt Stumpf***, professor, is retired but writes this newsletter and *the Science Teachers' Newsletter*. Burt is also active in the Appalachian Section of AAPT and the Central Ohio Chapter of the Acoustical Society of America. He gave a contributed paper on the propagation of sound in the atmosphere at the AAPT-Appalachian Section meeting in October 2000. He lives in Athens with his wife.
- ***Jacobo Rapaport***, distinguished professor, has taught one quarter each year and conducts research in nuclear physics. He and his wife life in Athens.
- ***Jerry Barry***, professor, who retired several years ago, lives in Florida still as far as we know.
- ***Charles Randall***, Chair 1957-1968, lives in Palm Coast, Florida. He has been

active in church, professional and family activities..

- ***James T. Shipman***, professor and chair from 1968-1973, lives in West Virginia and continues writing for his physical science texts.
- ***David Onley***, professor and chair from 1973 to 1978 and 1997 to 1999, teaches one quarter each year and lives in Athens. He has traveled to Australia and in the United States.
- ***Roger Finlay***, distinguished professor, has taught one quarter each year and lives with his wife in Athens part of the year. During the winter, he plans to live in Beaufort, South Carolina.
- ***Jim Dilley***, professor, lives in Athens with his wife. He also teaches one quarter and travels extensively.
- ***Charles Brient***, who retired in 2000, still teaches one-third time and is active in musical activities in Athens. Charles and his wife have traveled extensively.
- ***Gene Stoppenhagen***, Ph.D., Ohio University 1968, retired in 1995 from teaching physics and physical science at Ohio University - Lancaster and now lives in the Lancaster area.

Four, who retired from our faculty, died several years ago - ***William Pierce*** in 1970, ***Darrell Huwe*** in 1996 and ***Edward Sanford*** in 1998. ***Richard Bulger***, who taught physics and physical science at Ohio University - Chillicothe, died in 1992.

Staff News

- ***Robert Young***, who was our Electronic Design Specialist from 1996 to 1999, lives in Athens with his wife. He is active in tennis, taking courses at the University and is helping a local school with its computer program. Robert also worked for the Department from 1963 to 1974 before going to DuPont. He was replaced by ***Michael Koren***.

Betty Craddock, former Assistant to the Department Chair, lives in Athens and travels extensively to China (where her son lives and works) and in the United States. She retired in 1999 after 31 years. She was replaced by ***Shane Gilkey***.

- ***Army Rist***, our electronics technician, retired in 1994 and still lives in the Athens area with his wife.
- ***Tom Tigner***, former Electronics Design Specialist, works for Ohio University's Avionics Engineering Center. He retired in 1995.
- ***David Sturbois***, our accelerator engineer, retired in April 2001 after several decades of service. He lives in the Athens area. David's engineering degrees (B.S. and M.S.) are from Ohio.
- ***Roxanne Dicken***, our former secretary, works for the School of Art Office at Ohio University. She left the Department in 2000. Roxanne was replaced by ***Ruth Webb***.
- ***Ralph Cade***, who was supervisor of the department's machine shop, is retired and lives in Fort Myers, Florida. He visited Athens in June 2001.
- ***Paul Beasley***, who also was supervisor of the shop after Ralph and before ***Roger Smith***, has moved to The Plains area near Athens. Roger and ***Randy Mulford*** are now our shop staff. Randy is supervisor. ***Ken Davis***, former machinist, lives near Nelsonville.
- ***Shane Gilkey***, Assistant to the Chair, left to take a position in the Research Office at Ohio University.
- ***Devon Jacobs***, M.S. 1994, is now our accelerator engineer having replaced ***David Sturbois***.

Other recent changes are: ***Heather Krugman*** replaced ***Shane Gilkey***; ***Paula Hale*** is our new Graduate Program Administrator; and ***Ryan Higgins*** is to be hired as a Technical Engineer.

Postdocs

- ***Suvendra Dutta***, a former postdoc, develops engineering software for the Innovation Chain Company in the Boston area. He did research with Dr. Statler on galaxy formation.
- ***John Magan*** teaches physics at West Virginia State College in Institute. He is active in the Appalachian Section of AAPT and was President in 1994. John was a member of Dr. Breitenberger's many-body group and was the first postdoc at Ohio University.
- ***Valentina Dimitrova***, who was a postdoc with Dr. Kordesch in experimental condensed matter physics, has taken a research position with Nortel Corporation in the Boston area.
- Other postdocs who are with us now or just left are: Kuiying Chen, Robert Deininger, Prashant Gade, Ryan Higgins, Jun Li, Rachid Malek, Gabriel Niculescu, Jianwei Shuai, H.Q. Yang, Wei Zhang and David Jordan.

  Prashant Gade has taken a postdoc position at the Max Planck Institute in Leipzig, Germany.

Outreach to Schools

The Physics Department continues to be involved, as in the past, with activities which help schools with their science instruction. These are: mailing two *Science Teachers' Newsletters* each year; judging and helping with the **Southeast Ohio Science Day**; helping with the **Women in Science** program for girls in middle and high school; and offering the STARS program to a high school science teacher to come to campus and work with a research group in physics for the summer. ***Dr. Statler*** runs that program. ***Dr. Smith*** runs the **ATOMS** program which trains a high school teacher to operate a portable demonstration scanning tunneling microscope. An Athens High School physics teacher now uses the microscope in his classes. ***Dr. Lucas*** has offered the CAPA (Computer-Assisted Program Assignments) program to local schools.

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Alumni Newsletter

No.14, October 2001

Alumni News

We list information about the physics alumni we have heard from or about. Please send us current information about yourself so that we and your friends and classmates can be aware of your accomplishments and where you live and work. You are important members of our physics family around the world, and we would like to hear from you.

Previous Graduates

We were very pleased that several of our graduates returned to our campus and attended the retirement party for Drs. Finlay, Hunt, Rapaport and Yun. The party was held at the Ohio University Inn on May 19, 2001. Those graduates who attended were Gregg Johnson, James Tison, Mahfuza Khatun, Md Saiful Islam, Markus Locher, Sita Locher (Sita Menon), Xun Wang, Juan Ferrer and Peter Hoffmann-Pinther. Further information on these alumni is:

- ***Gregg Johnson***, Ph.D. 1995, works at Optinel Systems in Elkridge, Maryland.
- ***James Tison***, Ph.D. 1970 , is a manager at ADE Corporation in Richardson, Texas.
- ***Mahfuza Khatun***, Ph.D. 1985, and ***Md Saiful Islam***, Ph.D. 1986, are on the faculty at Ball State University in Indiana.
- ***Markus***, Ph.D. 1997, and Sita Locher, M.S. 1994, live and work in the Princeton, New Jersey area.
- ***Xun Wang***, Ph.D. 1994, works at Motorola in the Chicago area.
- ***Juan Ferrer***, Ph.D. 1975, works at ATT in Princeton, New Jersey.
- ***Peter Hoffmann-Pinther***, Ph.D. 1973, is a professor of physics at the University of Houston.
- ***Jin So***, Ph.D. 1998, has had a postdoc at Penn State in the physics department. He did his M.S. in acoustics with Dr. Stumpf and Ph.D. with Dr. Yun. He gave a paper at the December 2000 Meeting of the Acoustical Society of America.
- ***Markus Locher***, Ph.D. 1997, is working for Siemens in the area of data analysis. He lives and works in the Princeton, New Jersey area. His wife is ***Seta Menon***, M.S. 1995. He came to Ohio University from Germany.
- ***Hector Guerrero***, Ph.D. 1998, visited Ohio University recently for research collaboration. He teaches physics at the University of Monterey in Mexico. Dr. Cappelletti served as his advisor in experimental condensed matter physics.
- ***David Maloney***, M.S. 1973, gave a workshop at the Winter 2001 AAPT National Meeting in San Diego, California. David is on the faculty at Indiana University - Purdue University in Fort Wayne. He earned the Ph.D. in Education from Ohio University. He also gave workshops at the Summer 2001 AAPT National Meeting in Rochester, New York.

  Several of our alumni serve on committees of the Acoustical Society of America (ASA). They are:

- ***Roger T. Richards***, M.S. 1969, is Chair of the Committee of Regional Chapters and is on the Engineering Acoustics Committee. He works at the Naval Undersea Warfare Center in Newport, RI. Roger earned a Ph.D. at Penn State.
- ***Robert W. Young***, B.S. 1930, is on the Noise Committee of ASA and was President of ASA from 1960 to 1961.
- ***Barry Wyerman***, B.S. 1971, is also a member of the Noise Committee of ASA. He has a Ph.D. in acoustics from Penn State. He is Director of Advanced materials Engineering at the Lear Corporation in Southfield, Michigan and lives in Novi.

In addition, in the past, ***Lawrence Crum***, Ph.D. 1967, served as President of the Acoustical Society of America in 1997-1998, and ***James Powers***, M.S. 1968, was member of the Technical Council recently.

- ***Peter Hoffmann-Pinther***, Ph.D. 1973, is a Professor of Physics at the University of Houston in Texas. His research advisor, Dr. Jerry Adams, died several years ago.
- ***Ellsworth Holden***, B.S. 1955 and M.A. 1959, is retired from the Department of Management Information Systems at Ohio University and lives in Athens. He is active in local politics and the community.
- ***Laurence Larson***, B.S. 1956, is a Professor of Environmental and Plant Biology at Ohio University. He lives in Athens.
- ***Raul Esquivel-Sirvent***, Ph.D. 1995, and his wife ***Cecelia Noquez*** were visiting scientists for the Fall Quarter 2000-2001. They are both at the Institute of Physics of the National University of Mexico in Mexico City.
- ***Krishan K. Sud***, Ph.D. 1976, is on the physics faculty at the University of Udaipur in India. He recently co-edited a book entitled *Trend in Atomic and Molecular Physics*. Dr. Wright led his research in nuclear theory.
- ***Robert Q. Robe***, B.S. 1962, retired from the Coast Guard Research and Development Center in Connecticut. His research involved icebergs.
- ***Howard Mosbacker***, B.S. 1999, works with computers at the Nationwide Insurance Company in Columbus, Ohio.

In addition to ***Ellsworth Holden***, ***James Dilley*** and ***Laurence Larson*** mentioned previously, several other physics alumni live in the Athens area and work at Ohio University. They are: ***Joshua Thomas***, B.S. 1998; ***Don Weekley***, M.A. 1994; ***Robert R. Conaster***, Jr., M.S. 1987. ***Mary Louise Trivett*** (Mary Louise Cooke) also lives in the Athens. See the following item.

- ***Mary Louise Trivett*** (Mary Louise Cooke), B.S. 1967 and M.S. 1974, is Assistant to the Chair of Environmental and Plant Biology at Ohio. She earned the Ph.D. at Ohio University also. Her husband ***James Carl Trivett***, B.S. 1960 and M.S. 1966, died in 1995. He was an electrical engineer for the DuPont Company.
- In the New York Times for September 26, 2000, is an article about how snapping shrimp produce the snapping sound by producing cavitation bubbles in the sea. The previous research of ***Lawrence Crum***, Ph.D. 1967, in his study of collapsing cavitation bubbles, was referred to in the article. He is chair of the Department of Acoustics and Electromagnetics at the Applied Physics Lab and a research professor at the University of Washington in Seattle. Recently Lawrence was awarded the **Helmholtz-Rayleigh Silver Medal of the Acoustical Society of America**. The award was for his significant research on the physical, chemical and biological effects of acoustic cavitation and of high-intensity ultrasound. Dr. Stumpf was his Ph.D. research advisor. His B.S. and M.S. are also from Ohio University.
- ***Petra Stumm***, Ph.D., 1997, visited us several months ago from her work at Siemens in New York. Petra's research was led by Dr. Drabold in condensed matter theory.
- ***Soon-Cheon Seo***, Ph.D. 1996, also works at Siemens in New York where Petra

is located. Dr. Ingram was her advisor in experimental condensed matter physics.

- ***Fred Hall***, IV, B.S. 1991, is in the graduate program at the Geophysical Institute at the University of Alaska in Fairbanks. He reported on his research on magnetospheric physics at an Astrophysics Seminar in our department in November 2000. He was in our undergraduate physics program and grew up in Xenia, Ohio.
- ***James Powers***, M.S. 1968, gave a paper on piezoelectric transducers at the December 2000 meeting of the Acoustic Society of America. James is at the Naval Undersea Warfare Center at Newport, Rhode Island.
- ***Deborah M. Roudebush***, B.S. 1976, gave a paper entitled "Mechanics Culminating Activity Using Particle Physics, Inquiry and the Internet." This activity used Quark Net. She teaches at West Springfield High School in Virginia and presented the paper at the National Meeting of AAPT in San Diego in January 2001.
- ***Cornelius Bennhold***, Ph.D. 1987, spent a sabbatical period from George Washington University in Washington, D.C. in Germany and Spain. In Germany he was at the Institute of Nuclear Physics at the University of Mainz. Cornelius is an associate professor of physics and lives in Vienna, Virginia. His Ph.D. research was with Dr. Wright.
- ***Pierre Nagel***, Ph.D. 1976, lives and works in France. Dr. Koshel, who is no longer at Ohio, was his advisor in nuclear theory.
- ***Bryan Barmore***, B.S. 1993, received a Ph.D. in physics from the College of William and Mary in 1998. His research involved relativistic heavy ion collisions and also lattice gauge theory. He has had a postdoc at Tennessee and Oak Ridge. Presently, Bryan is developing an air traffic simulation system, while working for a contractor to NASA. He lives in Yorktown, Virginia.
- ***Silvin Savin***, M.S. 1995, is an investment executive with the Government of Singapore Investment Corporation in London. He lives in Brasov, Romania. Silvin also has an M.S. in Applied Physics from Stanford in 1997. Dr. Cappelletti let his M.S. research.
- ***David Werth***, M.S. 1992, earned a Ph.D. in Atmospheric Science in 1997 from the University of Illinois. He is a postdoc at Rutgers and uses a global model for the climate to study the effects of the deforestation of the Amazon region. He lives in Sayreville, New Jersey.
- ***Francis L. Schneider***, Ph.D. 1973, works at JPL at the California Institute of Technology in the field of deep space networks and with Very Long Baseline Interferometer Systems (VLBI). His Ph.D. research was with Dr. Darrell Huwe in elementary particle physics.
- ***Darren Crawford***, B.S. 1990 and M.S. 1992, is Crew Chief for the Accelerator at Fermi Lab. He and his family live in Plainfield, Illinois.
- ***Kallarakal N. Thomas***, Ph.D. 1972, is retired from his position at Baring Union College in India. He teaches part-time and is writing a physics textbook for classes 9 and 10. He and his wife live in Ghaziabad, UP, in India. His research for the Ph.D. was with Dr. Stumpf in Acoustics.
- ***Derek Beck***, B.S. 1999, is a Second Lieutenant in the United States Air Force. Derek is in charge of launching the Space-Based Laser Satellite and the targets used for the Satellite. He is located at the Los Angeles Air Force Base.
- ***Nourredine Boukharouba***, Ph.D. 1991, is a postdoc in nuclear physics at the University of Kentucky in Lexington. His research was with Dr. Grimes for both the Ph.D. and a postdoc at Ohio.
- ***Thomas Boster***, M.S. 1960, Ph.D. 1966, is President of Boster, Kobayashi and Associates in Livermore, California. He recently visited and had an interesting discussion with Dr. Edward Teller at his office in the Hoover Institute at Stanford University. During the 1970's Thomas worked with Dr. Teller on x-ray lasers at the Lawrence Livermore Laboratory. In the visit, which took place in September 2000, Dr. Teller told of his meetings with Niels Bohr and Werner Heisenberg and

also his early life in Budapest, Hungary. Thomas is also a Professional Engineer. Dr. John Edwards, former chair 1951 to 1957, was his research advisor in experimental solid state physics. Dr. Boster announced a future gift to the Department and gave a fine colloquium in May 2001. We greatly appreciate his generosity.

- ***Morag Smith***, B.S. in Engineering Physics 1992, is a staff member of the Safeguards Science and Technology Group in the Nonproliferation and International Security Division at Los Alamos National Lab.
- ***Jakob Bak***, Ph.D. 2000, works for Pareto Partners in Los Angeles. Dr. Statler was his research advisor in astrophysics.
- ***Dirk Hansen***, M.S. 2000, is working with computers for a concern in Hamburg, Germany. Dr. Wilen led his M.S. research at Ohio in ice crystal studies.
- ***David Blackburn***, B.S. 1965, works at NIST in Maryland near Washington, D.C.
- ***Albert Frasca***, Ph.D. 1965, is a professor on the physics faculty at Wittenberg University in Springfield, Ohio. Dr. Finlay led his research in experimental nuclear physics.
- ***Keung Sik Kim***, Ph.D. 1996, has a postdoc at Yonsei University in Seoul, Korea. He visited our department last winter to do research with Dr. Wright in theoretical intermediate energy physics.
- ***David Cigna***, Ph.D. 1998, is a systems and control engineer with Burleigh Instruments, Inc. - an EXFO company in Victor, New York. He did his dissertation on non-linear experiments with Dr. Hunt.
- ***Gregg Johnson***, Ph.D. 1995, left NRL and helped to start a new company called Optinel Systems, Inc. in Columbia, Maryland, near Washington, D.C. They develop components for fiber optics. Gregg lives in Fairfax, Virginia. Dr. Hunt was his research advisor in experimental non-linear physics.
- ***Rakesh Godavari-Krishna***, M.S. 2000, is in the Ph.D. program in Electrical Engineering at Ohio University.
- ***Robert R. Conatser***, Jr., M.S. 1987, works in the program for Biomedical Sciences at Ohio University. He is mentioned previously with other alumni.
- ***Shailendra Shukla***, Ph.D. 1981, is a medical physicist at the VA Hospital and University of Florida in Gainesville. Dr. Yun was his advisor in acoustics research.
- ***Jerry Wilson***, Ph.D. 1970, is retired from teaching physics at Lander University in Greenwood, South Carolina. He lives there also. Dr. Yun was his advisor in acoustics.
- ***Carlos I. Calle***, Ph.D. 1984, is a lead scientist at NASA Kennedy Space Center where he is in charge of the electromagnetic physics research laboratory. He joined NASA in May 1999 as a senior research scientist after several years as professor of physics and chairman of the physics department at Sweet Briar College in Virginia. He is currently working on the study of electrostatic phenomena on planetary surfaces, particularly Mars and the Moon, and is involved in the development of instrumentation for NASA's planetary exploration missions. He did research in nuclear reaction theory with Dr. Richard Koshel.
- ***Steve Mellema***, Ph.D. 1983, and ***Charles Niederriter***, Ph.D. 1985, gave papers at the national AAPT Meeting for Summer 2001 in Rochester, New York. They both teach at Gustavus Adolphus College in Minnesota. ***Kenneth Flowers***, Ph.D. 1972, at Castleton State College in Vermont, also presented a paper.
- ***Hadi Hadizadeh***, Ph.D. 1978, is a Professor of Physics at Ferdowsi University in Mashhad, Iran. Hadi is a renowned physicist and was Department Chair. The research for his Ph.D. at Ohio was with Dr. Finlay in experimental nuclear physics.
- ***Dirk Hansen***, M.S. 1999, did research this past summer in ice crystal growth and is in the graduate school at the University of Hamburg in Germany. His research was with Dr. Wilen.
- ***John Marsh***, B.S. 1984, works for JDS Uniphase, a fiber-optics company in Columbus. John is a project manager. His Ph.D. is from Carnegie Mellon

University. John lives in Dublin, Ohio, with his family.

- ***Cornelius Bennhold***, Ph.D. 1987, and ***Frank X. Lee***, Ph.D. 1993, are on the physics faculty at George Washington University in Washington, D.C. They did their research with Dr. Wright in theoretical nuclear physics.
- ***Kwok Keung Ho***, M.S. 1974, visited our campus recently. He received a Doctorate and is teaching. Dr. Onley was his advisor.
- ***Ralph Jamerson***, B.S. 1980, works for Agere Systems at the Opto Electronics Center in Pennsylvania.
- ***Saleh I. Al-Quaraishi***, Ph.D. 1977, did research this past summer in experimental nuclear physics at our Edwards Accelerator Lab. Saleh collaborated with Dr. Grimes, his research advisor for the Ph.D. He came from King Fahd University in Dhahran, Saudi Arabia, where he is on the physics faculty.
- ***Doru Florescu***, Ph.D. 1999, is a staff scientist at EMCORE Corporation in Somerset, New Jersey. Dr. Cappelletti, now at NIST, was his research advisor in experimental condensed matter physics.

Graduates Who are Secondary Science Teachers

The next seven graduates teach or taught science, physics and also, in some cases, math at the secondary level. Some are not physics majors but were prepared to teach physics by taking our courses along with education courses.

- ***Lawrence Pooler***, B.S. 1983, teaches math and physics at Springfield North High School in Springfield, Ohio. He took physics and education courses.
- ***David Pascoe***, B.S. Physics 1993, teaches at Zanesville H.S. and instructs in the physical science labs at Ohio University - Zanesville. He earned a masters degree in education at Ohio.
- ***Fred Smith***, taught science courses at Zanesville High School. He took physics and also education courses. Fred is retired.
- ***Deborah Roudebush***, B.S. Physics 1976, teaches at West Springfield High School in Virginia. See the other item about her that appeared previously in this section. It tells of her service to AAPT.
- ***Joshua Thomas***, B.S. Physics 1998, also taught at the second level in an Athens County School. He now is a technical support analyst for Computer Network Services at Ohio.
- ***Dr. Jon Kinel***, Ph.D. Physics 1972, has taught at the Hawken School in Gates Mill near Cleveland Ohio.
- ***Kevin Blake*** teaches science at the Ottoville Local School in Ottoville, Ohio, near Lima.

There may be other teachers, also, for which we have no information. The teaching they do and have done is important for science education at the secondary level, and we appreciate their contributions.

Recent Graduates

Recent Ph.D. Graduates

- ***Bassem Sabra***, Ph.D. 2000, is a postdoc at the University of Florida in Gainesville. He did research in theoretical astrophysics with Dr. Shields while at Ohio University. His undergraduate study was done in Lebanon.
- ***Xiaodong Zhang***, Ph.D. 2001, has a postdoc at Motorola, located in Tempe, Arizona. His research involves the theory of transport in devices. Dr. Drabold was his advisor.
- ***Serge Nakhmason***, Ph.D. 2001, has a postdoc at North Carolina State University. Serge does research in theoretical condensed matter physics. Dr. Drabold led his research.
- ***Mark Little***, B.S. 1995, Ph.D. 2001, is a staff scientist at ICASE - NASA at the

Langley Research Center in Hampton, Virginia. Mark's activity includes intelligent optics and carbon nanotubes. His research was in surface physics with Dr. Kordesch.

- ***Xiaochun Wang*** (Spring), Ph.D. 2001, did her research in nuclear physics with Dr. Rapaport. She is now in the Computer Science program at Ohio University.
- ***Hong Chen***, Ph.D. 2001, did research with Dr. Kordesch.
- ***Florentina Perjeru***, Ph.D. 2001, has a postdoc with the Air Force Institute in Dayton, Ohio. Her advisor was Dr. Kordesch.

Recent M.S. or M.A. Graduates

- ***Maria Isabel Ortiz***, M.S. 2000, is an optical engineer with CIRREX Corporation in Alphetta, Georgia near Atlanta. The corporation develops optical-electronic systems. She came to Ohio from Mexico.
- ***Stepan Kruglikov***, M.S. 2000, is pursuing the Ph.D. at George Mason University - CSI in Fairfax, Virginia. He lives in Silver Springs, Maryland. Stepan's research was with Dr. Gailey in chaos.
- ***Yin Zhou***, M.S. 2000.
- ***Dazhang Gu***, M.S. 2001.
- ***Cherno Jaye***, M.S. 2001.
- ***Yinglei Song***, M.S. 2001.
- ***Tim Steckmann***, M.A. 2001.
- ***Dirk Blankenberg***, M.S. 2001.

Recent B.S. or B.A. Graduates

These people received their degrees in 2001.

- ***Steve Allen*** - Graduate school at Princeton in electrical engineering.
- ***Sean Calhoun*** - Graduate school at Ohio University in electrical engineering.
- ***Charles Fulton*** - Graduate program in physics at North Carolina State University.
- ***Megan Krejny*** - Graduate program in physics at Northwestern University.
- ***Marc Legros*** - A year off from studies.
- ***Matt Phillips*** (B.A.) - M.S. program in Ohio's Geological Sciences Department.
- ***Scott Phillips*** - M.S. program at the Air Force Institute of Technology near Dayton, Ohio.
- ***Chris Stevenson*** - Unknown.
- ***Kathleen Davison*** (B.A.) - Unknown.

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Alumni Newsletter

No.14, October 2001

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Gifts to Ohio University

Please consider designating the Physics/Astronomy Department when you give your gift to Ohio University. Our Department needs money for books, travel funds for students and faculty, small equipment items, recruiting graduate students, grant - matching funds and paying speakers to visit. In this list, the greatest need is for undergraduate scholarships. These funds are much needed, and we would be most appreciative of your financial support. The level of state funds does not allow us to address these needs adequately. Specifically you may wish to give to the James Shipman Scholarship Fund, the Darrell Otto Huwe Scholarship Fund, Mark Grimes Memorial Funds (for undergraduate and extracurricular activities), the Physics and Astronomy Department Discretionary Fund, Computers in Physics Fund or Physics Observatory Fund or the Edward R. Sanford Astronomy Fund. Be sure you and your company, if they match your donation, designate the Physics/Astronomy Department for the gift. Thanks are extended again to those who have contributed generously already.

News from Alumni

Please downlod following avaliable forms and fill out and send it to:

> Dr. Louis Wright or Dr. F.B. Stumpf
> Department of Physics and Astronomy
> Clippinger Research Labs
> Ohio University
> Athens, OH 45701.
>
> It will help us here in the Physics Department to renew contacts with you and will also let our alumni and your friends get to know more about you and your career. We are very much interested in hearing from you. Even though you responded previously, if there is a change or new development, please return this form so we can keep current with your career. If you have information on other OU physics alumni, please add it to the end of the form. Thank you. The e-mail addresses are: wright@ohiou.edu or stumpf@ohiou.edu.
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