can also be used to profile tape wound on a reel, which gives edge damage information along with tape stagger. Edge view of a single tape layer has been found to be most useful. SEM can be used on a selected basis to analyze the edges at high resolution to learn about deformation mode. It is the tape edge view which comes into contact with the guides and is the key to proper guiding. It has been observed that there is a good relationship between the quality of the tape edge at the magnetic coating and backcoat sides and the edge view. Since it is easier to measure edge quality using optical microscopy, this technique is recommended.

As observed in Fig. 3, the boundary conditions for the tape edge are different. The edge on the left-hand side is not supported from beneath (backcoat side) by the blade, while the edge on the right is supported. Due to the action of the converging blades, bending of the tape occurs and tensile stresses are developed in magnetic coating on the left-hand side and in backcoat on the right-hand side (Fig. 3). It is known from the literature [Bobbi and Bhushan, 2001] that if a tensile stress is applied to magnetic tape, cracks develop at the magnetic coating surface perpendicular to the loading direction. It is observed from Fig. 2 (upper edge, magnetic coating) that cracks developed are not strictly parallel with the slit edge. The crack propagation path is altered by the stress component acting in the direction of the web motion due to the tension applied to the web to pull it along the blades. Some cracks can be developed at the backcoat on the right-hand side, which is also been bent by a lower blade. However, we did not find any cracks in this region. If any cracks are present, they cannot be distinguished on the rough backcoat. While it may seem that a perfectly straight and smooth edge would be desirable, this is not necessarily the case. A perfectly smooth edge would result in a high real area of contact between the tape and edge guides. This would increase friction and could cause the edge to melt at high tape speeds as well as material transfer onto the guides. The latter will result in polymer-polymer contact with high friction leading to tape dimensional changes, debris generation and deterioration in the drive performance. One should also realize that tape edges are just a part of the system, and though reducing their degradation is important, proper selection of other drive components is also crucial to minimizing data loss.

References

Message from the Department Chair
By K. (Cheera) Srinivasan
As we get set to usher in the 2004-2005 academic year, we welcome new additions to the college and university administration. Effective July 1, William A. "Butt" Baeslack III assumed his position as Dean of Ohio State's College of Engineering. Baeslack is a familiar presence at the university, having been an Ohio State faculty member since 1982 before leaving in late 1999 to become Dean of the School of Engineering at Rensselaer Polytechnic Institute in Troy, New York. He served as Chair of Ohio State's Department of Welding Engineering from 1991-1994 and as Associate Dean of Research and College Development in the College of Engineering from 1994-1998. In addition, he served as Interim Vice President for Research and President of The Ohio State University Research Foundation from 1998-1999. A national search resulted in the selection of Baeslack for the Dean's position. He has an international reputation as an expert on the materials science and engineering aspects of joining advanced materials. We are very pleased that we could attract a person of his academic stature, administrative experience, and knowledge of OSU to this position.

At the university level, Robert T. McGrath, former Associate Vice President for Research and Director of Strategic and Interdisciplinary Initiatives at Penn State, joined OSU as Senior Vice President for Research. A plasma physicist and engineer by training, McGrath had also worked for Sandia National Laboratories in Albuquerque, New Mexico, from 1984 through 1998 in Sandia's tokamak fusion energy program. Our faculty members continue to forge new directions in research. Professor Chia Hsia Meng, in conjunction with other faculty members in the ME department as well as the department of Physiology in the College of Medicine, has been awarded a grant of $420,000 by the National Science Foundation for developing an automatically visually guided control system for atomic force microscopes for 3D imaging and manipulation of biological and engineered systems at scales ranging from nanometers to millimeters. Professor Tom Blue has been awarded $795,000 by NASA's Glenn Research Center for characterization of power and propulsion devices in mixed field radiation environments. Professor Noriko Katsuhe, in collaboration with other faculty members in the Colleges of Engineering and Dentistry, has been awarded $380,000 by the National Institute for Dental and Craniofacial Health for research on interfacial fatigue damage in ceramic restorations. See the section on honors and awards for details on faculty recognition.

OSU had the privilege of hosting NUMIFORM 2004, the 8th International Conference on Numerical Methods in Industrial Forming Processes in June. This conference is a prestigious triennial forum for international researchers and practitioners from academia, industry, and laboratories to discuss recent advancements and future directions in modeling of various manufacturing processes and related materials issues. Well over 400 attendees made this conference a very successful one and a credit to the chair of the conference organizing committee, Professor Somnath Ghosh.

We are pleased to welcome to our faculty Professor Sandip Mazumder. Sandip's research interests include computational and experimental approaches to the modeling of fuel cells, catalytic conversion, radiation in combustion environments, and plasma processing. Following the completion of his PhD in Mechanical Engineering at Penn State University in 1997, he worked for more than six years at CFD Research in Huntsville, Alabama, before joining OSU in April of 2004.

Professor Donald Miller has chosen to retire after many years of distinguished service to OSU as a researcher, educator, and member of the university community. Don is known and respected internationally for his expertise in nuclear reactor instrumentation and control. We are pleased to note that he will continue to be involved with our nuclear engineering graduate program and our department, as an emeritus faculty member.

Our student automotive teams continue to excel in competitions. The Ohio State University's automotive teams recently competed in the 2004 Shell Eco-Marathon and the 2004 National Collegiate Automotive Competition.
Building Update

By Gary L. Kintzel

The Department of Mechanical Engineering moved from Robinson Laboratory into swing space during Autumn 2003 and Winter 2004 in preparation for constructing the new Scott Laboratory. The Department is now officially located at 650 Ackerman Road. All of the faculty and staff have the same phone numbers as before, and mail sent to Robinson Lab is being forwarded by the OSU post office to our new address.

The move into swing space required significant planning because our interim location provides less than half of the space that will be available in the new building. We had to make some tough decisions on what to keep, store, and throw away. However, we have now been in the swing space for almost six months, and the department is generally running smoothly. We have located undergraduate advising, computer facilities, and instructional laboratories in Boyd Lab. We have also been assigned six offices in Boyd Lab, which the faculty members use to meet students for office hours. Graduate advising, faculty offices, and research laboratories are located at 650 Ackerman Road. OSU purchased the Ackerman complex in the summer of 2003, and the department rents space there from the university. Significant renovations were required to adapt the space for our research needs, but all of the labs are now functioning. We created one classroom as part of the renovations, and a few graduate classes are taught at the Ackerman complex. However all of the undergraduate and most graduate classes are taught on main campus so the faculty must commute on a regular basis.

Dedication of Robinson Laboratory began in February 2002 and finished in April. Excavation of the basement for the Scott Laboratory began immediately after the dedication, and at the time this newsletter is in print, the basement excavations will be complete and the foundation work will have begun. Progress of the construction can be followed by watching the web camera at http://relci.ge.ohio-state.edu/construction.html.

The construction project consists of three buildings in addition to an atrium, auditorium, and large multipurpose room. The east building will contain the research and instructional laboratories and the west building contains offices and classrooms. The third building located on the north of the site along 19th Ave. will contain classrooms, student services, and administrative offices. Polshek Partnership in New York designed the buildings. These signature architects are working with a Cincinnati architectural firm (Baxter, Hodel, Donnelly, and Pershing) PM is responsible for the detail design and construction.

The original concept for the Scott Laboratory complex was to construct the three buildings in one piece. However, because of the availability of swing space, and our willingness to move into it, we will be able to construct the buildings in a single phase. This will allow us to move into the new building from 6 to 12 months earlier, and results in substantial financial savings. The project should be completed by Autumn Quarter of 2006. By July 2005, the exterior of the building should appear more or less in its final form. It will take approximately a year to complete the interior of the building.

The new building complex will have approximately 129,400 square feet of assignable space. A breakdown of the spaces is shown in the table. Note that approximately 18,000 sf will be in classrooms. There will be 15 classrooms, and all of these will be state of the art. One will be configured for distance learning. Robinson Lab had only three classrooms, so most classes were conducted outside of the building. We should be able to conduct all of our classes in the new building.

<table>
<thead>
<tr>
<th>Space Type</th>
<th>ASF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research</td>
<td>54,280</td>
</tr>
<tr>
<td>Office, Support, and Conference</td>
<td>2186</td>
</tr>
<tr>
<td>Specialized Areas</td>
<td>18,540</td>
</tr>
<tr>
<td>Classrooms</td>
<td>18,000</td>
</tr>
<tr>
<td>Teaching Laboratories</td>
<td>11,500</td>
</tr>
<tr>
<td>Students' Organizations, Counseling, Journal, Graduate Program</td>
<td>5,200</td>
</tr>
<tr>
<td>Total ASF</td>
<td>129,400</td>
</tr>
</tbody>
</table>

Among other spaces, we expect to have attractive student areas in the north building. The first floor of this building will contain the offices for student organization, a student lounge, kitchenette, and meeting rooms. In addition, there will be an atrium between the north and east buildings which will allow us to display the most from student projects and to promote student activities such as ASME picnics. Overall, our goal is to provide a building space where the students will feel welcome to visit and learn.

The Mechanical Engineering Building Complex Design
as consistency with Graduate School rules. An online academic and information newsletter, The Graduate Academe, dedicated to publicizing important program and curriculum information, was created in 2003. A newsletter for graduate student population and make the graduate experience more enjoyable for our students by reducing bureaucracy. Professor Ahmed Sallam met took over as GSC Chair on July 15, 2003, and has given the Graduate Program's tradition of quality service and academic excellence.

Over the past two years, the thrust of our recruitment efforts has been to admit high quality applicants from reputable institutions, recruit more students to the PhD degree, and increase the diversity of our graduate student population.

The exceptional quality of our incoming classes to Professor Gregory Washington who spearheaded domestic graduate recruitment, GSC Chairs Professor Ahmed Sallam and for their dedication to admitting only the best applicants from top tier institutions, and GSC members, faculty and graduate program staff who actively promoted our Graduate School Fellowship nominations.

During the 2004-2005 recruitment year, graduate staff processed 208 applications (126 to the PhD program, 109 to the MS program; 77 domestic admit). An interesting paradox has emerged about the mid-point of the 2004-2005 recruitment year. We have received thus far compared to the same time last year, we have already admitted 224 applicants (111 to the PhD degree, 113 to the MS degree; 70 domestic admits).

The Graduate School awarded 18 fellowships to our applicants in 2003 (GPA range 3.5-4.0), 14 of which were accepted, and 24 fellowships in 2004 (GPA range 3.6-4.0) of which 11 were accepted. The remaining of the fellowships that business received were needed for the student. Currently, we have ME/ME, ME/EE, and ME/NE students in the program.

Sixty graduate degrees were awarded during academic year 2003-2004: 11 PhD (8 ME, 3 EM), and 49 MSME degrees. Some of our most recent graduates have accepted teaching positions around the world, while others have gone to ABAGUS Inc., Air Force Office of Research, Caterpillar Inc., Cummins, NASA Glenn Research Center, Raytheon, and Sandia Labs. Interestingly, continuing education seems to be a recurring theme among some of our MS graduates. Several have stayed on for their PhD degree in ME; one student has transferred from the Civil Engineering School, and another has enrolled in OSU Law School – both choices are unique to ME graduates.

Four new courses were added to the ME graduate curriculum during the 2003-2004 academic year: ME 715, Introduction to Micro and NANO Fluidics; ME 727, System Modeling, Simulation and Control of Hybrid Vehicles; and ME 890, Metal Forming Machines and Tooling.

ME Undergrad Program

By Dan Mendelsohn

The Undergraduate Program continued to grow in 2003-2004. During Autumn 2001, the program has experienced a record number of students applying to its major. As a result of new faculty hiring and student demand, the department has revised its requirements for students to increase its maximum number of major acceptances per year to 200 students, up from 160. Despite the 40 percent increase in the number of new majors this year, between 160 and 200 students in the major, the increased student population has not led to an increased number of majors.

A team of eight faculty members led by Vish Subramaniam and Dan Mendelsohn was awarded a one-year Planning Grant during which the planning and proposal for a large three-year Implementation Grant were recently completed. The major themes of the proposal reforms are: (a) inclusion of modern thinking (micro, nano, bio, information, computations, and simulations), and (b) use of modern teaching methods informed by modern cognitive science, and (c) use of rigorous educational research and assessment protocols for the evaluation of student learning outcomes. These new and planned efforts, ME at OSU is joining a growing number of major projects in the university and in the university to improve engineering education.

The Exchange Staff:

Prem Rose Kumar, Editor
Michael Shafer, Graphic Artist
DuJuan Daniels, Editorial Assistant
Paul Scawceros, Editorial Assistant
Elizabeth Eberlin & Elizabeth Wittman, Coordinator

Your comments, suggestions, and news articles for The Exchange are always most welcome. Please e-mail them to mepubs@osu.edu.

NE Graduate Program

By Audra Ferndam

The Nuclear Engineering Program expanded its scope and received increased recognition in the past year. Three Nuclear Engineering Program faculty members have recently joined the national Fellows of the American Nuclear Society. They are Tine Akliden, Thomas Blue, and Brian Hajek. They join Don Miller and Richard Denning as the OSU NE faculty members who have received Fellowship.

Nuclear Engineering graduate students and undergraduates enrolled in the BS/MS program are taking advantage of opportunities to build their skills and expand their networks through summer internships and workshops. This summer, two students are working at Oak Ridge National Laboratory, two at Los Alamos National Laboratory, and one at Argonne National Laboratory. Three more are working at nuclear utilities or private research laboratories. Eight students took part in a 5-day workshop at the Department of Energy's (DOE) Advanced Fuel Cycle Initiative program in July.

Several students have been awarded fellowships. Two graduate students, Michael Fiorino and Carl Willis, hold prestigious Department of Energy Fellowships that cover the cost of their education during the PhD and provide additional research opportunities at a national laboratory. Over the past three years Ohio State has been awarded more Institute for Nuclear Power Operations (IPO) fellowships than any other nuclear engineering program in the country, averaging over three fellowships per year. An incoming student, Sylena Smith, is the recipient of a multiple-year OSU fellowship.

In response to the nuclear industry's critical and growing need for engineers with at least some knowledge of nuclear science and technology, OSU's Nuclear Engineering Program has established an undergraduate minor. Approximately 20 students from a wide variety of disciplines, including but not limited to Engineering, Science, and Arts, have received the minor. Faculty, staff, students, and alumni from OSU's NE Program are involved.
in a number of American Nuclear Society (ANS) activities. Some are taking a lead role in organizing the 4th International Topical Meeting on Nuclear Plant Instrumentation, Control and Human-Machine Interface Technologies to be held in Columbus, September 19-22, 2004. The OSU ANS Student Branch has been selected to host the 2005 National ANS Student Conference to be held in Columbus.

In NE alumni news, Steven Arndt (MSNE, 1981) has been elevated to Fellow Status in the American Society for Quality. He is also a Fellow of the American Nuclear Society, the American Society of Mechanical Engineers, and the American Association for the Advancement of Science. Having spent 15 years with the Nuclear Regulatory Commission, Mr. Arndt is an internationally recognized expert in nuclear instrumentation and control, software quality assurance, and reliability engineering.

Research in Nuclear Engineering and the Nuclear Reactor Laboratory is increasing. Professors Miller, Aldemir, and Blue continue to work on DOE programs related to instrumentation and control for nuclear power plants. Professor Blue is leading an effort for NASA to study the effects of radiation on electronics equipment expected to be used on the spacecraft sent to the icy moons of Jupiter. Professor Finkman has been collaborating with the United States Enrichment Corporation (USEC), the company which manages the uranium enrichment plant in Piketon, Ohio, to characterize and remove deposits of radionuclides from the enrichment equipment before it is dismantled. Professor Hajek continues to manage a number of joint programs with nuclear utilities in Ohio and surrounding states. Ohio State is now part of the Big 10 INIE (Innovations in Nuclear Infrastructure and Education) Consortium. The goal of the INIE Consortium is to increase the utilization of the remaining university research reactors and to increase awareness of nuclear science and technology among faculty, students, and the general public.

An external Advisory Committee, consisting of 11 members from nuclear utilities, energy-related government agencies, and other universities has been formed and has held two meetings, in October 2003 and April 2004. The Advisory Committee provides valuable insights into the nuclear industry's research and staffing needs and offers suggestions for program modifications.

**Outstanding Grads**

By Prem Rosa Kumar

It is my pleasure and pride to introduce a few of our exceptional current graduate students and recently graduated alumni with accomplishments ranging from academic honors and research excellence to national defense and contributions to world peace.

L to R: Carrie Janello, Prof. Raj Singh, Allison Holub, and Vivek Asnani

Mechanical Engineering BS/MS students Vivek Asnani, Allison Holub, and Carrie Janello, received the 2003 Institute of Noise Control Engineering (INCE) Undergraduate Student Award. Vivek's research interests encompass both electrical and acoustic engineering. Allison, whose research interests are in the field of system dynamics and vibrations, ultimately plans to pursue a PhD degree and make an impact in the field of engineering education. Carrie is actively involved in system dynamics and vibrations research with an emphasis on automotive applications; her research goal is to contribute to quality and safety in the automobile industry. Having received their undergraduate degrees at the Spring 2004 Commencement, Vivek, Allison, and Carrie are now in the MS portion of their BS/MS curriculum.

Mechanical Engineering alum, Dr. Ashley Dunn (PhD ME, August 2003), received the 2003 Society of Automotive Engineers (SAE) Myers Award for Outstanding Student Paper. This award was established in honor of University of Wisconsin-Madison Professor Phil Myers, a renowned expert on internal combustion engines.

Dr. Ashley Dunn

Ashley was the lead author of the paper titled "New Model for Simulating the Dynamics of Pneumatic Heavy Track Brakes with Integrated Anti-Lock Control" while still in the ME doctoral program. The winning paper was co-authored by Dr. Dunn's advisor Professor Dennis Guenther, as well as Professor Giorgio Rizzoni and Dr. Gary Heyding. Ashley works for the National Highway Traffic Safety Administration's Vehicle Research and Test Center in East Liberty, Ohio.

ME doctoral student LeAnn Faileley placed first in the Engineering Sciences Division of the 2004 Edward F. Hayes Graduate Research Forum held on April 17, 2004. This forum is co-sponsored by the Council of Graduate Students, the Graduate School, and the Office of Research.

LeAnn is currently working in the area of smart materials and intelligent systems with the Ferromagnetic Shape Memory Alloy, Ni-Mn-Ga, under the direction of Professor Marcelo Dapino and Professor Gregory Washington. LeAnn's project involves the characterization, modeling, and control for this material as a core element in a solenoid transducer.

Born in Rome, Italy, LeAnn received her BS (Physics and Eng. Science) and MS (Engineering Mechanics) degrees from Iowa State University. Her career goal is to become an engineering professor.

Captain Seth Axel Norberg is a graduate student in the MSME Program. Seth grew up in the suburbs of Cleveland and graduated Magna Cum Laude in 1995 with a BSME from OSU under the auspices of the Reserve Officer Training Corps (ROTC). Thereupon, Seth was commissioned as Second Lieutenant in Field Artillery and assigned to Fort Sill, Oklahoma. After transferring to the Ordnance Corps, Seth moved to Fort Lee, Virginia, for the Combined Logistics Captains Career Course. Subsequently, he was assigned to the First Armored Division in Germany as Material Officer for the Division. Seth then participated in peacekeeping efforts in Kosovo as Logistics Plans and Operations Officer for Task Force Falcon. Prior to returning to Ohio State to pursue a graduate degree, CPT Norberg served as a Commander of Bravo Company, 47th Forward Support Battalion. After deploying his company to Iraq last year, Seth relinquished command at the Baghdad International Airport. His company was part of the 2nd Brigade Combat Team which was located in Saddam Hussein's Presidential Palace in Baghdad. The palace, as Seth describes it, remains virtually intact except for one bedroom wall which was blown out by a missile. Seth vividly remembers driving through the streets of Baghdad in the early stages of Iraq's liberation, and the sight of swathes of children waving at the American soldiers. For his Master's thesis in ME, Seth is working on creating a discharge oxygen iodine laser for weapons use under the able guidance of Professors Igor Adamovich and William Rich. This project is funded by the US Air Force. After completing his Master's degree, Seth plans to teach thermodynamics and fluid dynamics in the United States Military Academy at West Point, New York.

LeAnn Faileley

Dr. Prasanna Raghavan

As a mechanical engineering graduate student, Dr. Prasanna Raghavan (PhD EM, March 2003) received the 15th annual Robert J. Melosh Medal and a $500 honorarium for the best student paper on finite element analysis. The underlying research for Prasanna's paper, titled "Adaptive Multi-Scale Computational Modeling of Composite Materials", was sponsored by the Air Force Office of Scientific Research and guided by Professor Somnath Ghosh. As part of the competition, Prasanna presented her work on May 28, 2003 at Duke University. Prasanna currently works for Intel in Phoenix, Arizona.

Outstanding Undergrads

By Andrea Severson

The annual Mechanical Engineering Honors and Awards banquet was held on June 1, 2004 at the Blackwell Hotel. Mechanical engineering alumni, faculty, friends, and honors students of the department attended the program, which included recognition of mechanical engineering undergraduate students for outstanding research and leadership, and mechanical engineering faculty for excellence in teaching.

The following students were recognized for their outstanding achievements during the 2003-2004 academic year.

Leadership Award Winners: Carrie Janello, Jennifer Moore, and Really Sweet.

Research Award Winners: Carlos Castro, Michael Cindy, Anders Fernstrom, Lauren Lecur, Vincent Marucci, and David Moody.

Top Academic Award Winners: Freshman: Brian Sanyt, Sophomore: Robert Snyder, Junior: Keith Smelker, Senior: First: Cynthia Jaques, Second: Tiffany Bunting

A portion of the banquet is dedicated to honoring and remembering Rob Wolf through the presentation of the Rob Wolf Outstanding Senior Award. Rob Wolf earned his BS in Mechanical Engineering from OSU in 1997 and went on to study patent law at the George Washington University Law School. He passed away at the age of 25, after a five-year
out-of-state students from Alabama, Illinois, Michigan, Pennsylvania, South Carolina, and Wisconsin; and local students from all points in Ohio. We wish all of our graduates well in their future endeavors and hope to see them at our annual fall ME Alumni reunions.

Mechanical Engineering Alumni Society News

The Mechanical Engineering Alumni Society sponsored a full year of events for alumni, faculty and students. We continue to sponsor our two main events: the football and hockey tailgates, and add in special activities suggested by alumni. If you have an idea for an alumni event please let us know at jwhite68104@aol.com or mec advisior@osu.edu.

We recognize that many of our alumni use the internet in their professional or personal lives and we feel this is a good way for us to communicate. We are using the website and email to let you know what we are doing in the society and special events for your participation. We encourage you to send us your email address so we can keep in touch with you. Our email address is alumni@vettec.eng.osu.edu. If you would like to contact me directly, you can reach me at jwhite68104@aol.com. We are always looking for new ideas and activities, which promote networking with alumni. I encourage you to let members of the MEAS Board to know what would interest you.

Last spring and again this past May, members were guests at the OSU Transportation Research Center outside of Marysville Ohio. Visitors toured the test facilities and were allowed to drive research cars demonstrating handling and braking dynamics. At both events, we had up to 35 guests and the success of it tells us that you would like us to continue this type of activity.

Our annual football brunch was held at Hitchcock Hall and sponsored by the College of Engineering before the San Diego State game. Outstanding mechanical engineering alumni honored in 2003 were Robert Britton and Jamil Shah. The alumni later watched Ohio State beat San Diego State.

In February, we co-hosted a hockey tailgate for the mechanical engineering students to meet alumni. We wanted alumni to learn about the students’ work and enable students to ask the alumni questions about the engineer- ing profession. After the tailgate, the party moved on to the Jerome Schottenstein Center to watch the Buckeye hockey team meld down the Michigan State Spartans.

MEAS endeavors to recognize academic and leadership performance with honors such as the Rob Wolf award and the money awarded to the highest ranked students in the freshmen, sophomore, junior and senior classes. The Rob Wolf outstanding Senior Award was presented to Jonathan White. This award has been presented by MEAS for the past 14 years. In 2000, it was renamed in honor of the late Rob Wolf, '97. The Rob Wolf award is for his parents, Kathy and Bob for their generosity and commitment in supporting this award.

We are kicking off next year’s football season with a tailgate at Hitchcock Hall sponsored by the College of Engineering. The tailgate is on September 11th and will be held on the east side of Marshall University. The brunch will begin three hours before the kickoff time for the game. If you have any questions, please call 614-292-0215.

MEAS Contacts:

Activities: John Monahan monahan@battelle.org
Web Page: Rick Granger granger@battelle.org
Membership: Rich Granger, granger@battelle.org
Program: Jeffrey D. White jwhite68104@aol.com
ME Office: meadvisior@osu.edu

Honors and Awards

By Prem Rama Kumar

Mechanical Engineering faculty earned many accolades during the preceding months, featured here in alphabetical order.

Professor Tunc Aldemir was elected Fellow of the American Nuclear Society in recognition of his contributions to the field of nuclear mechanics.

Professor Stephen Bechtel was elected Fellow of the American Society of Mechanical Engineers in recognition of his exceptional contributions to the field of continuum mechanics.

Professor Bharat Bhushan’s pioneering research in nanotechnology has received national recognition. He will receive the 2004 Robert Henry Thurston Lecture Award of the American Society of Mechanical Engineers (ASME) in November 2004. In early 2004, Professor Bhushan was elected Fellow of The Society of Tribologists and Lubrication Engineers for his contributions to the field of Tribology.

Professor Richard Denning has been appointed to the Nuclear Regulatory Commission’s Advisory Committee on Reactor Safeguards.

Professor Audene Fentiman, Chair of the Nuclear Engineering Graduate Program, has been elected to the Board of Directors of the American Nuclear Society. Professor Fentiman also serves as a member of an international committee on public acceptance of nuclear power, and a task force to build a larger and better-prepared nuclear workforce.

Professor Somnath Ghosh was appointed John B. Nordhoff Professor of Mechanical Eng., effective July 2004.

Professor Michael J. Moran received an honorary doctorate “Doctor Honoris Causa” from the University of Galati, Romania in May 2002 for his achievements in the field of engineering thermodynamics.

Professor Robert Parker has been named associate editor of the Journal of Vibration and Acoustics, a journal of the American Society of Mechanical Engineers, for a term of three years.

Professor Giorgio Rizzoni has been appointed to the Ford Chair in Electromechanical Systems from July 1, 2002-June 30, 2007.

The Institute of Electrical and Electronics Engineers (IEEE) has named Professors Giorgio Rizzoni and Vadim Utkin Fellows for their contributions to the advancement of engineering science and technology.

Professor Mohammad Samimi received nationwide recognition in the field of jet engine research in an article published by the Associated Press, and was also featured in The New York Times and other leading newspapers.

Professor Ahmet Selamet was elected Fellow of the Society of Automotive Engineers (SAE) International at the World Congress and Exposition held in March 2004 for his outstanding contribution to the field of performance modeling and acoustic phenomena in automotive engines.

Professor Rajendra Singh was elected president of the Institute of Noise Control Engineering at OSU. Professor Singh holds The Donald D. Glower Chair in Engineering and is very active in the Center for Automotive Research.

Professor Vadim Utkin is the recipient of the 2003 Rufus Oldenburger Medal awarded by the American Society of Mechanical Engineers (ASME) for his outstanding achievements in the field of automatic control.

College of Engineering Awards:

This year’s Boyer Award for Excellence in Teaching Innovation went to Professor Anthony Luscher. The Lumley Awards, to recognize research contributions of faculty and researchers, were given to Professors Michael Dunn, Giorgio Rizzoni, and Vadim Utkin. This year’s Lumley Interdisciplinary Research Award given in recognition of interdisciplinary research accomplishments by a team of faculty or researchers goes to Professor Somnath Ghosh.
Next time you open a bottle with a tamper proof seal, you can thank Mr. William E. Fillmore for that piece of mind in knowing your beverage is safe to drink. William Edgerton Fillmore graduated in 1936 from The Ohio State University with his Bachelor’s degree in Mechanical Engineering. Since then he has led a full life, which included 32 patents, time in the Navy, as well as a wife and two children.

After graduation in 1936, Mr. Fillmore went to work for Babcock & Wilcox in Barberton, Ohio. He spent roughly a year and a half in their employment before moving on to Owens-Illinois, Inc. (O-I), where he spent the remainder of his professional career. His career with O-I began in November of 1937, when he joined the firm. Fillmore returned to work with the company continuously until his first retirement in December 1983. In July of 1985, O-I asked him to return as a consultant to help with some projects for a few weeks. Those “few weeks” turned into another nine years with the company. After his second retirement from Owens-Illinois in June of 1994, William was once again asked to lend his expertise to O-I from September 1994 through June 1995. At this time he had to provide his services through an outside consulting firm (ITS Technologies, Inc.) due to legalities.

During William’s career as an engineer and manager at Owens-Illinois, he has been successful in 32 patents and inventions. Many of his concepts became successful commercial products used by consumers that have been discussed in this book. He is included in; child resistant packaging (commonly used for over the counter medications), vapor-seal safety cap and container (commonly used for prescription drugs), tamper-proof closure (the plastic ring seal, commonly seen on beverage containers), seal roller dispensing package (commonly used in roll-on deodorant and perfumes), and the pump for inkjet cartridges. Raj Krishna, Vice President, Director of Technology for Owens-Illinois credits William Fillmore as “an authority on product design and development.”

On military leave from 1944 to 1946, commissioned in the United States Navy, William was part of an ammunition rework unit in the Pacific. They rebuilt ammunition that wasn’t functioning properly, and while his profession was mechanical engineer, his work related exactly to this work, his ingenuity and ability to work efficiently proved valuable in his service to our country during World War II. William is also a family man; he married Jean in 1943, they have two children, a daughter Julie, and son James. In November of 1998, William decided it was time to make another move in his life, this time to the west coast. He now resides in California, within the same town as daughter Julie. According to Mr. Fillmore, San Clemente, CA is the most beautiful place in which he has ever lived. The weather is perfect, not too hot during the summer and not too cold during the winter, the ocean is just down the hill from him, and he is half way between Los Angeles and San Diego. Although California has the mark of beauty, OSU still holds a special place in his heart. Mr. Fillmore has been on campus a couple of times during the past few years, once in 1999 when he was awarded the Distinguished Alumnus Award from the College of Engineering. He said the notable change on campus since his graduation in 1936, is the ever growing number of buildings on the campus. "Being a resident of Ohio most of his life, William remarked that, he was able to "watch Ohio State grow up, and there have been changes specifically in the last 10 to 15 years".

**Alumni address changes may be sent by e-mail to ADIS@osu.edu** or by mail to OSU Alumni Development Information, Room 114, 2400 Oldentang Road, Columbus, Ohio, 43210.