

AU Engineering News

Volume 6, number 1

October 2004

Also in this issue ...

Student News

Industrial Co-op enhances AU engineering education ... page 3
Int'l students enliven AU campus ... page 3

Program News

Message from the Dean ... page 4
SOE news you can use ... page 4
Engineering Freshmen off to a running start ... page 4

Research Center News

UNITECH04 links new technology with investors ... page 6

Conference News

Interdisciplinary Glass Workshop ... page 5
NCM9 - conference brings int'l focus to WNY ... page 6
3rd Int'l Conference on BioMed Ethics ... page 8
ACerS call for papers ... page 8
Fractography Conference set for July 2006 ... page 8

Research and Faculty News

Glass Art and Science establish new studio-lab ... page 5
Hall, Shelby develop practical hydrogen storage ... page 6
Varner reports on German Sabbatical ... page 7
Faculty News ... page 7
Short Courses and Outreach 2004 - a successful summer ... page 8

Third International Conference on Ethical Issues in Biomedical Engineering
June 4-6, 2005

The Call for Papers and early registration information has been posted at:

<http://nyscc.alfred.edu/conferences/biomed/>

See story page on 8.

Undergraduate research spans disciplines at AU

Undergraduate research - whether part of a class, funded summer studies or laboratory research with a professor, off-campus co-op experience, or senior thesis - is an important factor in engineering education at Alfred University.

CEER funds undergraduate environmental research

AU's EPA-funded Center for Environmental and Energy Research is a multidisciplinary research and education program addressing three main areas: 1) Materials Efficiency, Flow, and Environmental Impact; 2) Generation, Detection and Fate of Pollutants; and 3) Renewable Energy Technology and Policy. Projects have linked industry with AU faculty and students in materials science, ceramic/glass science & engineering, mechanical engineering, electrical engineering, environmental studies, chemistry, biology, and economics.

Recent graduate research projects have focused on materials for fuel cells, hydrogen generation and storage, and renewable energy to leverage AU's strengths in ceramic and glass engineering.



Dawn Mandich checks a chemically cleaned AIN sample for her CEER-funded research.

(Continued on page 2)

Park to present annual John F. McMahon Lecture

October 14, 2004

11:20 am Holmes Auditorium



Dr. Chong-il Park

Dr. Chong-il Park has been selected to be the 2004 John F. McMahon Lecturer. Park is currently Vice President of the Research and Product Technology Center for Kyocera America, Inc. headquartered in San Diego, California. Kyocera America, a subsidiary of Kyocera Corporation in Kyoto, Japan, develops and manufactures integrated circuits and microelectronic

(Continued on page 5)

Fuel Cell Materials take center stage October 14th at AU

In conjunction with the annual McMahon Lecture, Alfred University's School of Engineering will host a half-day workshop, "Materials Issues for Fuel Cells" on October 14th in the AU Nevins Campus Theater. The workshop is co-sponsored by AU's Center for Advanced Ceramic Technology (CACT) and the SUNY Research Foundation.

Keynote speaker is Dr. Harry Tuller, professor of ceramics and electronic materials, Massachusetts Institute of Technology, on "Overview of Materials Issues Confronting Fuel Cell Technology Development." Thirteen presentations are scheduled, with contributions from researchers at AU's SOE, Clarkson University, Cornell University, University of Rochester, and SUNY Binghamton and Farmingdale. The afternoon workshop will



Dr. Harry Tuller

(Continued on page 5)

Undergraduate Research

(Continued from page 1)

CEER also funds summer undergraduate projects involving students and faculty mentors. External collaborators have included several industrial partners, the New York State Energy Research and Development Authority, the New York State Department of Agriculture and Markets, the US Department of Agriculture, and the SUNY College of Environmental Science and Forestry. The Center also has three renewable energy demonstration systems in place: solar water pumping, solar water heating, and a 10 kW wind turbine installation.

Summer 2004 projects were:

Michael Snyder (senior, GES), Boron Volatilization from Borosilicate Melts.

Dawn Mandich (senior, MSE), Removal of Laser Slag on AlN via Chemical Cleaning.

William Fabrizio (senior, ME), Construction of a Hybrid-Renewable Energy- Efficient Home Water Heating Unit.

David Streib (senior, GES), A New Disc Design Containing a Charge Storage Layer for the Application of Electrical Energy Generation via Wind Power.

Martin Klingensmith (sophomore, EE), Electrostatic Air Filters Modifications.

Janelle Villone (senior, MSE), Development of a Microarray System for Analysis of Contaminated Water.

Istvan Szabo (junior, CES), Mechanical Properties of Lightweight Alloys.

Cassandra Clark (sophomore, BMES), Initiating Use of the Environmental SEM for CEER.

CEER will announce a new call for undergraduate research proposals in December with proposals due in late February. Announcements will be posted to <http://ceer.alfred.edu/education/fellowships.html>.

Electrical Engineers: recent research in brief

Undergraduate research in the AU School of Engineering's Electrical Engineering program is as varied as its students. Student projects bring together multiple disciplines and provide a chance to combine classroom and laboratory skills with practical knowledge and personal interests.

Entertainment emulator: John Oshetski (BSEE 03) constructed the Video Game emulator as part of his senior project, an emulator designed to play any of the many 8 bit video games that were developed from 1970-1990. Oshetski is currently an EE graduate student working with Dr. Wallace B. Leigh, professor of electrical engineering.

Magnetic Levitation: The electromagnetic force must be adjusted to counteract the weight of the object and account



David Streib demonstrates a unique magnetic glass.



Aaron Shipman (left), EE graduate student, and Doran Shetall (right), EE senior. Near Shetall's hand a small ferromagnetic object is suspended, without contact, beneath an electromagnet.



Aaron Shipman with his solar scooter project.

for disturbances. This is accomplished by measuring the location of the object using a non-contact sensor, and adjusting the current in the electromagnet based on this measurement in order to maintain the object at a predetermined location. The project was supervised by Dr. Jianxin Tang, professor of electrical engineering.

Solar Scooter: Aaron Shipman's system uses only solar power, making it renewable and cost effective. The sun's energy is harnessed by solar panels, generating electrical energy that is then forced into an electric scooter's batteries using a charge controller. Shipman, now a graduate student, created this project as a senior working with Dr. Xingwu Wang, professor of electrical engineering.

Bioteesting grip design links SoE and Instron

Undergraduate Stephen Eric Robin (Senior, CE), spent this summer as an intern at Instron Corporation in Canton, MA, working on a project on developing a Gripping Mechanism for Mechanical Testing of Soft Tissues. The internship was an offshoot of the continuing relationship of Instron, an affiliate member of Center for Advanced Ceramic Technology, and Dr. Subrata Saha, professor of biomaterials, in the development of new methods for soft tissue characterization.

Robin will continue this work as his senior thesis project with Saha and the Instron team.

Business needs spark "Team Linear" to success

Peter Stull (AU '75), "The Bicycle Man" of Alfred Station, specializes in the sales and service of recumbent bikes and recently expanded his business to include building recumbents by purchasing the assets of the Iowa-based Linear Manufacturing Company. One of his first goals was to improve the performance and durability of the Linear bicycles to better compete in the retail bicycle market.

Stull approached the School of Engineering Mechanical Engineering program to explore the opportunities for a small business-University partnership. Dr. Steven Mayes, assistant professor of mechanical engineering, responded. Mayes and three senior ME students, Chad Currie (BSME Dec 04), Stephanie Forsey (BSME May 04), and Dale Smith (BSME, May 04), formed "Team Linear". This team was a Senior Design Project designed to fulfill both their Mechanical Engineering Capstone Experience requirement and assist Stull. Each team member selected a component of the bike for redesign: Currie the rear wheel mount, Forsey the frame, and Smith the seat.

The project was supported by "The Bicycle Man" (material & fabrication), the Mechanical Engineering program (equipment,

(Continued on page 3)

Industrial Co-op enhances AU engineering education

Fifteen SOE students are off-campus this semester, working in the real world to gain important professional experience, so if you've missed seeing a familiar face, check out this list! On Co-op Fall 2004 are:

Robert Woods, CES - Sterling ChinaUSA, LLC
 Ashley Taylor, EE - Naval Research Laboratory
 Katie Sieg, CES and Chem (dual major) - Norton Co.
 Jim Palmer, ME - BorgWarner Morse TEC
 Christopher Brenna, CES - Osram Sylvania
 Stephen Sanford, MSE - CertainTeed Corporation
 Carolyn Hunter, CES - Swindell Dressler
 Joe DeMarco, MSE - CertainTeed Corporation
 Tom Logan, GES - CertainTeed Corporation
 Matt Brophy, CES - Motorola
 Shawn Schlee, CES - Silicon Carbide Products
 Kate Deprez, CES - The Wizard of Clay
 Dan Burnett, CES - Advanced Ceramic Research
 Brian Loncto, GES - Pilkington Libbey Owens Ford
 Matt Barnhardt, CES - Pratt & Whitney

Co-op (EGR 326) is an opportunity to experience real-life industrial manufacturing and research while still an undergraduate. Usually taken between junior and senior year (but sometimes at the sophomore level), co-op runs from 5 to 6 months and usually includes the summer months. AU School of Engineering students receive credit for their time working and competitive professional salaries are offered.

A wide range of Co-op opportunities are available. For current students in good standing, the best way to get started is to talk to your academic advisor or contact Ms. Stephanie Spackman, AU Career Development Center.

Int'l Students enliven AU Campus



2004 International students: Front row (l-r) Heidi Schulze (SOE study abroad in Spain, Spring 04), Elena Sanz Garrido (Spain), Michael Herbig (Germany). Back row Jan Mergenthaler, Eike Hahn, Jakob Wilfert, and Bjorn Gutbrod (all from Germany). Eric Protois not pictured.

Seven exchange students from three of our partners in Europe are studying in the School of Engineering this semester.

Jakob Wilfert, Michael Herbig, Eike Hahn, Bjorn Gutbrod, and Jan Mergenthaler join us from the Universität Erlangen-Nürnberg (Erlangen, Germany). Our partnership in Erlangen is our oldest, dating back to 1968. Students from Erlangen receive support from the Deutsche Akademische Austauschdienst (German Academic Exchange Service).

Elena Sanz-Garrido is from the Universitat Jaume I in Castellon, Spain (the Institute for Technical Ceramics). Eric Protois is from the Ecole Nationale Supérieure de Ceramique Industrielle (ENSCI) in Limoges, France.

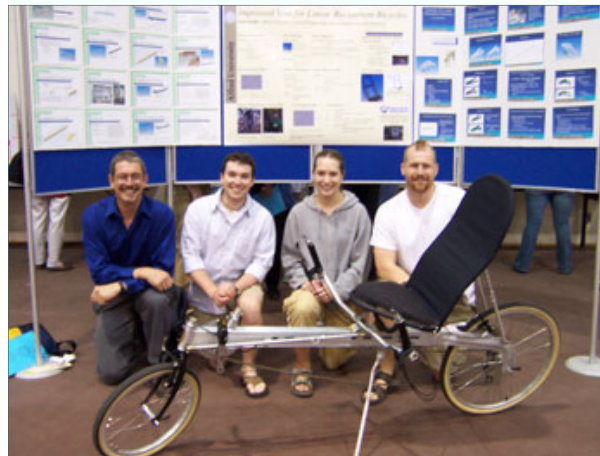
Undergraduate research

(Continued from page 2)

fabrication, and materials), the AU Machine Shop (fabrication) and the students (\$100/semester each).

Team Linear pictured with their modified recumbent bicycle: (L-R) Dr. Steve Mayes, Dale Smith, Stephanie Forsey, and Chad Currie.

Stull commented, "Team Linear successfully analyzed the current components, identified areas for improvement, developed new designs, fabricated prototypes, and tested them to validate their performance, all within my stated budget. I'm delighted with the new designs and eager to incorporate them in future Linear Bicycles.



Team Linear pictured with their modified recumbent bicycle: (L-R) Dr. Steve Mayes, Dale Smith, Stephanie Forsey, and Chad Currie.

Team Linear has been a valuable resource for a small business like mine. I hope that the collaboration with AU continues in the future."

The quality of Team Linear's engineering work was further highlighted when Smith won first place in the Olean Section of the American Society for Mechanical Engineering annual Technical Speaking Competition with his presentation "The Design of an Improved Recumbent Bicycle Seat"

Message from the Dean

The School of Engineering is now well into the 2004-2005 academic year. This semester, we welcomed over 100 new freshmen and transfers, about a 50% increase over last year. An important explanation for this jump is the introduction of a new "Undecided Engineering" track, for those who want to come to Alfred University, but are not sure which engineering discipline is best for them.

The School has been active in promoting engineering careers in Western New York, signing an unprecedented articulation and acceptance agreement with Bishop Timon-St. Jude High School of Buffalo, NY, enabling graduates of their pre-engineering curriculum ready acceptance into AU's School of Engineering programs. Their pre-Engineering Program, which will begin in the 2004-2005 school year, is designed to attract highly motivated and academically gifted students to engage in honors and advanced placement courses in the sciences and mathematics, as well as several new engineering courses that will be introduced into the curriculum.

We also participate in a SUNY system-wide articulation agreement to enable easier transfer from SUNY programs.



Signing the new articulation agreement are (seated, l-r) Thomas Sullivan, Bishop Timon-St. Jude High School principal; Alastair Cormack, Dean of the School of Engineering; and James Rzad, Bishop Timon President and Chief Financial Officer. Standing: Father Joel Campbell OFM and Andy Corman, AU engineering recruitment specialist.

An important activity for the faculty this year will be the preparation for our next periodic accreditation visit. ABET accreditation is important for both the School and its students; to become a licensed professional engineer one must graduate from an accredited program. In addition, non-accredited engineering

programs will not be registered by the New York State Education Department.

Preparation for the ABET accreditation review includes completion of a self-study for each program and a visit, during the 2005-2006 academic year, from a team of engineers to examine our facilities and detailed program materials.

Whilst we must not be complacent about this exercise, the AU engineering programs have been accredited since the process began in 1932.

On the research and scholarship front, our faculty continues to be active. Of particular note is the success enjoyed by Drs Shelby and Hall in winning grants to support research into hydrogen storage in glass. We have also recently acquired an ion probe and a scanning auger, and have placed an order for a new state of the art environmental scanning electron microscope, thanks to grants from NY State and the National Science Foundation. We expect to invest another \$1.75 million in instruments for biomaterials characterization, also thanks to generous grants from NY State.

SOE news you can use

The SOE faculty have had a busy summer, working toward increasing undergraduate program options. For example, all engineers now share common freshman core courses, while the prerequisites for upper level engineering elective courses have been revised to allow the greatest freedom for interdisciplinary studies.

A new Business minor has also been approved for all engineers - check with your advisor if interested in this option.

SOE is working toward streamlining website information to enhance your undergraduate experience - all SOE degree programs' "curriculum by semester" sheets are now available; go to engineering programs by semester, click on your program, and download the pdf version for easy printing!

And speaking of streamlining, the transfer process for incoming students from two-year and other SUNY programs has been made much easier, thanks to the adoption of a system-wide articulation agreement (ask Dr. Pilgrim what that means!). So if a friend is interested in engineering at Alfred University, it may be a lot simpler than you might expect.

Finally, for specific questions on engineering programs, you should know the engineering program chairs for 2004-2005:

BMES - Dr. Alan Goldstein
 CES - Dr. Paul Johnson
 GES - Dr. Alix Clare
 EE - Dr. Wallace Leigh
 ME - Dr. Carl Pian
 MSE - Dr. Linda Jones

Your undergraduate program director is Dr. Steve Pilgrim.

Engineering Freshmen off to a running start

Over a 100 freshmen are enrolled in the Freshmen Seminar (CES 171), a weekly meeting that serves as an ideal platform for students to learn and understand the broader contexts of modern engineering and technology. Freshman seminar complements their science-intensive courses, giving these basic courses an engineering context.

As in the past years, a Peer Mentoring program is being initiated in this class. There has been an overwhelming response to peer mentoring, proven to be very valuable for success in engineering education.



Dr. Suhas Bhandarkar, associate professor of materials science, CES 171 coordinator.

Glass Art and Science establish new Studio-Laboratory

A new glass studio furnace facility is to be established for glass science students to experience creative glass making and for glass artists to gain a more scientific knowledge of glass. The facility will be housed in the Glass Studio area of Binns-Merrill Hall.

The facility, in memory of Lura Virginia "Ginny" Latta (BS '37), is being established under the auspices of the Paul Vickers Gardner Glass Center, furthering its mission to foster education in the combined study of science and art.

When completed, the facility will be staffed by a MFA (glass) teaching assistant who will assist in individual projects as well as with planned special sessions of undergraduate glass lab, CES 308.



Alix Clare, SOE professor of glass science, and Steve Edwards, SoA&D professor of glass, in the Binns-Merrill glass studio, home to the future facility for science students.

Interdisciplinary Glass Workshop November 21-23, 2004

AU's Paul Vickers Gardner Glass Center, the Glass Manufacturing Industry Council, and Corning, Inc, will host "Glass Art and Science: A Voyage of Exploration" November 21-23, 2004.

The invitation-only workshop will feature split with sessions - at Corning Inc in Corning, NY, and the NYSCC at AU. The on-campus portion will include lectures and demonstrations conducted by members of AU faculty plus hands-on sessions in studio and lab. Presentations by William C. LaCourse (professor of glass science), Steven Dee Edwards (professor of glass), Fred Tschida (professor of glass design), and Alexis Clare (professor of glass science) will be featured.

The purpose of this exploratory meeting of preeminent glass artists and glass scientists is to provide an environment for exchanging ideas and consider the possibility of "cross-cultural" innovation within their respective fields.

To learn about this unique workshop, contact Michael Greenman, Executive Director, GMIC or Dr. Matt Hall, chair, PVGCG, hallmm@alfred.edu.

McMahon

(Continued from page 1)

packages for high-performance and high reliability applications.

Park received his Masters degree in Ceramic Engineering from Alfred University in 1975 and his Doctorate in Ceramic Science from Rutgers University in 1979. He received a Corning Research Fellowship between 1975 and 1978. He joined Kyocera International, Inc. as a Senior Engineer

in 1979 and has held various positions within Kyocera's United States operations, including research and development, manufacturing and quality engineering.

The McMahon Lecture will be held Thursday, October 14, 2004, 11:20 am in Holmes Auditorium, Alfred University. The lecture entitled "Electronic Packaging from a Ceramic Point of View," will discuss the nature of

electronic packaging and how it meets performance requirements for modern electronic systems used in the telecommunications and information technology markets.

To register to attend the lecture please contact Marlene Wightman, director, Continuing Education/Industrial Outreach, Alfred University, at 607-871-2425 or email wightman@alfred.edu.

Fuel Cell

(Continued from page 1)

conclude with a dinner for all participants.

The main objective of this workshop is to provide a forum for discussion on advances and networking opportunities

among the scientists and engineers to exchange information, experiences, and insights in fuel cell materials research needs; to identify barriers that impede technology development; and to further stimulate activities in this important

emerging field. An outcome of this workshop is to prepare proposals for joint research collaborations between university and industry scientists and engineers through funding secured from State and Federal agencies.

Hall and Shelby develop practical hydrogen storage

Dr. James Shelby, the McMahon Professor of Ceramic Engineering, and Dr. Matthew Hall, assistant professor of glass science, have obtained federal Department of Energy grants totaling more than \$2 million to develop new technology for a hydrogen storage system to power a new generation of vehicles.

Shelby and Hall have proposed a system that would encapsulate hydrogen at 10,000 pounds per square inch (psi) in microspheres, tiny glass beads that have a 50-micron diameter, about that of a human hair. The microspheres are produced in quantity by Mo-Sci Corporation, one of AU's partners in the Freedom Car research project.

"The glass beads can literally be made for pennies per ounce," said Shelby, satisfying one goal of the project: creating an inexpensive way to store the hydrogen. The hollow beads can be filled in a pressurized chamber filled with hydrogen. High pressure forces the hydrogen into the glass structure of the beads and is retained when the pressure is reduced.



Matt Hall



Jim Shelby

Containing the hydrogen in minute quantities within the glass beads also meets the second criteria: It's not just safe, but inherently safer than a gasoline-powered vehicle. But how to get the high-pressure hydrogen out of the glass beads, and into the fuel cell quickly enough to not just power the car, but to allow it to respond to traffic conditions, accelerating or decelerating as needed?

Work done by two of Shelby's recent graduate students, Brian Kenyon, who received his BS degree from AU in 1996 and a master's in 1998, and who now works for Vesuvius in Pittsburgh, and Douglas Rapp, who received an MS degree in 1999 and completed his PhD degree at AU earlier this month, demonstrated that when a light is shined on the microspheres that have been "doped" - chemically treated - with an optical activator (something that reacts to

light), the hydrogen is rapidly released. In effect, the light shining on the glass beads causes the dopant to react, opening up the microscopic pores that occur naturally in the glass. The hydrogen, which is under high pressure inside the spheres, will move (diffuse) through the pores to the fuel cell.

An initial \$300K portion of the program, "a radical method for hydrogen storage in hollow glass microspheres," has obtained 3-year DOE funding and is supporting one graduate student. A second \$1600K grant from DOE, with research partners including Mo-Sci Corporation and Savannah River Technology, is in the final stages of certification and will support one post-doc and two graduate students for 4 years.

Developing a method of filling the beads easily, quickly and cheaply is one of the questions that will be addressed in conjunction research partner Savannah River Technology, which has the largest facility for high-pressure hydrogen research in the country.

UNYTECH04 links new technologies with investors

UNYTECH04, the second annual venture forum, was held Sept. 20, 2004 at the Sheraton Syracuse University Hotel and Conference Center in Syracuse, N.Y.; an opportunity for start-up companies created from upstate New York's universities to unite with investors to turn brand-new technology into marketable reality. The over-200 attendees included representatives from over thirty venture capital and investment firms.

Participating schools include Alfred University, Binghamton University, Cornell University, Rochester Institute of

Technology, State University of New York (SUNY), SUNY College of Environmental Science and Forestry, SUNY Upstate Medical University, Syracuse University, University at Buffalo, and University of Rochester - representing combined research and development expenditures totaling over \$1 billion.

"Our universities in Upstate NY are a tremendous resource of intellectual capital," said Robert J. Genco, DDS and PhD, University of Buffalo interim vice president for research and director of the UB Office of Science, Technology Trans-

fer and Economic Outreach, and UNYTECH planning committee chair.

"The ten participating universities have combined research and development expenditures totaling over \$1 billion. This level of research translates into hundreds of commercialization opportunities," said Genco. "At UNYTECH, we are showcasing a several university-affiliated start-up companies; the ones with proven technologies that represent the strongest growth opportunities."

NCM9 - successful conference brings international focus to WNY

Over 100 participants attended the 9th International Conference on the Structure of Non-Crystalline Materials (NCM9), held in Corning, NY from 11-15 July 2004. Local conference organizer was Dr. Alastair Cormack, professor and dean of the school of engineering.

The structure of non-crystalline materials is of great interest worldwide - participants represented 13 countries and four continents. Universities, government research and industry were represented.

The full proceeding will be published

as a special issue of the Society of Glass Technology.

NCM9 continues the tradition started in Cambridge, England in 1976. Recent meetings in the international series were held in Sardinia, Italy (1997) and Aberystwyth, Wales (2000).

Varner reports on German sabbatical

Dr. James Varner, professor of ceramic engineering, recently returned to AU after spending seven months at the Martin-Luther-Universität Halle-Wittenberg as a Guest Professor.



Jim Varner

Varner explains, "I chose this location for my sabbatical leave, because I wanted to work with the group that invented recording microindentation (microhardness). Prof. Peter Grau in the Physics Department was my host, and he was one of the pioneers in this field. The technique that was developed in Halle was later extended to very low indenter loads, i.e., to nanoindentation. As a Guest Professor, I gave lectures and conducted research. My research project involved studying crack initiation behavior in glasses that had systematic variations in alkali or alkaline-earth compo-

nents. It was a wonderful collaboration, not only with Halle, but also with the Fachhochschule in Nürnberg, since Prof. Armin Lenhart provided the specimens."

Varner will present his results at next year's Annual Meeting of the German Society of Glass Technology (DGG).

Other activities during Varner's leave included invited visits to the glass departments at the universities in Aachen, Freiberg, and Clausthal, and to Schott AG in Mainz. He attended several meetings of the DGG, including the Annual Meeting,



The Physics building of the Martin-Luther-Universität Halle-Wittenberg. The tower was built for astronomical observations, and is still used for that purpose. It also accommodates a Foucault pendulum

presenting a paper on work done at AU. Varner also participated in three short courses, including one sponsored by the International Commission on Glass (ICG).

Varner adds, "Halle (Saale) is a city of about 250,000, and is in that part of Germany that was formerly the German Democratic Republic ("East Germany"). Living there, and getting to know people who lived through, and participated in, the "quiet revolution" that resulted in peaceful reunification of Germany was a fantastic learning experience for my wife and me."

Faculty News

Dr. Alexis Clare, professor of glass science, presented invited talk at the Kreidl Conference to celebrate Norbert's 100th birthday in Trencin Slovakia June 22-25, 2004. Clare also co-organized a meeting on the Biological Applications of Glass and Glass Ceramics in Honor of Sam Hulbert at Roswell Park Institute, Buffalo, NY, on 23-24 July that featured an AU-sponsored reception.



Alix Clare

Dr. Alastair Cormack, SOE dean and Van Derck Fréchet Professor of Ceramic Science, recently returned from Japan where he gave an Invited Talk at the XX International Congress on Glass to be held in Kyoto, Japan, from 24 September - 1 October. Cormack's topic was his research work on the atomic scale structure of glass using molecular dynamics simulations.



Alastair Cormack

Cormack immediately headed to Germany to give an Invited Talk at the 84th International Bunsen Discussion Meeting on Structure and Dynamics of Disordered Ionic Materials at the University of Muenster from 5 - 9 October.

In June, Cormack visited the National Institute of Materials Science (NIMS) in Tsukuba, Japan, where he has been invited to serve as an adjunct advisor to their newly established International Center for Young Scientists (ICYS). While there, he gave a seminar and also had the opportunity to visit the University of Tokyo.

Dr. Doreen Edwards, SOE graduate program director and associate professor of materials science and engineering reports that her research group gave several presentations and posters at the April 2004 American Ceramic Society Annual Meeting. At that meeting, grad student Nathan Empie (and Edwards) won second place in the Scanning Probe Microscopy Category of the Ceramographic Poster Competition for his entry titled "Defect Structures in Gallia Doped Rutile."



Doreen Edwards

Edwards was recently honored with the SUNY Chancellors Award for Teaching Excellence and is a 2004 recipient of the McMahon Teaching Award.

Annette P. Richards, SOE grad student, and Edwards have published a

paper in the Journal of Solid State Chemistry, "Subsolidus Phase relations and crystal structures of the mixed-oxide phases in the In₂O₃-WO₃ system" (177 (2004) 2740-2748).

Dr. Linda Jones, professor of ceramic engineering and science, was elected recently to the Executive Committee of the American Carbon Society. Jones has also become the chair of the SOE Materials Science Program.



Linda Jones

Jones and her research group presented a paper on "Novel Carbon Nanotubes," at CARBON 2004, which was held at Brown University in July.

Jones, Clare and Dr. Jalal Bagdadchi, assistant professor of electrical engineering and physics, received Joseph Kruson Fund Awards for Excellence in Teaching at the April 2004 Alfred University Honors Convocation.

Dr. Jim Shelby, McMahon Professor of Ceramic Engineering, was a recipient of the 2004 McMahon Teaching Award.



Jim Shelby

Third International Conference on Ethical Issues in Biomedical Engineering

June 4-6, 2005

The Call for Papers and early registration information for Third International Conference on Ethical Issues in Biomedical Engineering has recently been posted. The conference is funded in part by a "Conversations in the Disciplines" grant through SUNY. Other co-sponsoring societies include:

American Institute for Medical and Biological Engineering (AIMBE)
 American Association Physicists in Medicine (AAPM)
 American Society of Mechanical Engineers (ASME Bioengineering Division)
 American College of Clinical Engineering (ACCE)
 BMES - University of California Davis
 IEEE /Engineering in Medicine & Biology Society (EMBS)
 NYSSPE - New York Professional Engineer
 Society for Biomaterials and Artificial Organs - India
 Department of Biological and Agricultural Engineering, University of Arkansas



Subrata Saha

Dr. Subrahta Saha, professor of biomaterials, is the conference chair. For further information or to be placed on the conference mailing list, contact Marlene Wightman, wightman@alfred.edu.

Call for abstracts, ACerS 2005

Dr. Rebecca DeRosa, assistant professor of polymers science and engineering, will co-chair a session on "Glass surfaces and Functionalization" at the 107th Annual Meeting & Exposition of The American Ceramic Society in Baltimore, MD April 10-13th, 2005. The co-chair for the session is CQ Shen, a former PhD student of Dr. LaCourse. We are happy to accept abstracts for oral presentations in this session.



Rebecca DeRosa

Abstracts are due November 1st, 2004. Anyone interested in contributing to the session can feel free to contact DeRosa, derosa@alfred.edu, or follow the on-line instructions for submitting an abstract at www.acers.org

Fractography Conference set for July 2006

Planning has begun for "Fractography of Glasses and Ceramics V" to be held July 9-12, 2006 in Rochester, NY - the fifth "Alfred" Fractography Conference. Co-Organizers are Dr. Jim Varner, professor of ceramic engineering, and George Quinn (NIST, Gaithersburg, MD).

Prof. Derek Hull, author of an important book on the fundamentals of fractography, will be the keynote speaker. Sessions on fractography of dental and biomedical ceramics, ceramic armor, and rocks and lithic materials are planned. Full conference details, invited speakers, and conference topics, will be in the official conference announcement. The call for papers can be found at **Fractography Conference** on the SOE website.

For more information or to be placed on the conference mailing list, contact Marlene Wightman, wightman@alfred.edu.



2004 short courses: a successful summer

Failure Analysis of Brittle Materials, is a short course taught Dr. Jim Varner, SOE; and George Quinn, NIST; the course attracted students from across the United States, and from India, France, and Belgium. As is usually the case, this year's course had a waiting list, since there are only 18 slots available!

Thirteen short courses were offered this past summer; the 2005 listing will be announced in the spring. To learn more about short course offerings, get in touch with Marlene Wightman, wightman@alfred.edu.

AU ENGINEERING NEWS IS AN ABBREVIATED VERSION OF OUR ON-LINE NEWSLETTER. FOR COMPLETE NEWS AND UPDATES, GO TO <http://engineering.alfred.edu/newsletters/soe>

CONTACT US AT
 AU SCHOOL OF ENGINEERING
 2 PINE STREET
 ALFRED, NEW YORK 14802-1296

EMAIL: SOENEWS@ALFRED.EDU