

AU Engineering News

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AU Alumni reception at ACerS Tuesday, April 20th!

Please join us for the AU Alumni reception The Santa Fe Room. Tuesday, April 20th 5:15 - 7:00 pm Indianapolis Marriott Downtown

For more information, or to let us know you will be attending, please contact: Marlene Wightman NYSCC at wightman@alfred.edu.

AU Electrical Engineers have hands-on learning

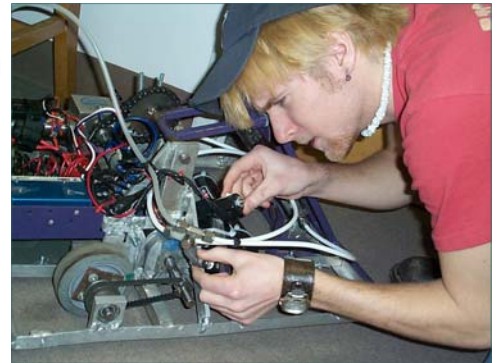
As any engineering graduate can tell you, engineers have fun while they learn and none more so than Alfred University's electrical engineering undergraduates. Small class sizes and modern facilities combine for a great learning experience!

Electrical Engineering in AU's School of Engineering enjoys state-of-the-art laboratory departmental facilities built in 1987 for the program; none of the laboratory equipment is more than 10 years old. Specialist facilities for undergraduate instruction include laboratories for analog and digital circuits, digital logic and signal processing, microprocessor systems, control and communications systems, plasma, laser, and optoelectronics in addition to the extensive computer lab.

EED 110: Discoveries Lab

Discoveries Lab is a hands-on experience for freshman electrical engineering students. They will build motors, generators, lasers, solar-cell power generators,

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Jonathan Ferguson, ME sophomore, at work in EGR 220

Campbell is 2004 Scholes Lecturer



Jack Campbell

Dr. John "Jack" H. Campbell, University of California, Lawrence Livermore National Laboratory, will present the annual Samuel R. Scholes Sr. lecture on April 8, 2004. His lecture, entitled "The Challenge of Developing and Manufacturing Optics for the World's Largest Laser," will be presented at 11:20 a.m., Holmes Auditorium, Harder Hall.

Campbell is Lead Scientist for Advanced Optical Materials for the National Ignition Facility (NIF). In this capacity he oversees the development

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AU School of Engineering at ACerS

The Alfred University School of Engineering and the NYS College of Ceramics will welcome alumni and friends at the 106th Annual Meeting of the American Ceramic Society, April 18-21, 2004, Indianapolis, IN.

We will be at Booth 222, near the Poster Session in the Exposition Hall, April 19-21st. Stop by to learn about new programs and opportunities in the School of Engineering! Drop off your business card for a chance to win a prize! The AU booth is a great meeting point to connect with faculty and friends.



Science on Wheels brings science to young and old!

By Krista Carlson

The Science on Wheels team was hard at work during National Engineering Week, February 23-27, 2004! Over twenty five AU Engineers and their professors participated in a three day science marathon. High School chemistry classes from Alfred-Almond Central School visited AU on Thursday, February 26th, with AACS 8th graders participating at AU Friday morning.

Science on Wheels usually takes its programs to local elementary schools - this was the first time that SOW had done experiments on campus with middle and high school level students, allowing our volunteers to take their experiment and demonstration stations to a new level. Not only could the kids be shown more interesting stuff by visiting us, but the complexity of the experiments was also increased because we were working with older students.

Instead of just talking about simple molecules to explain bonding or how we get different colors in glass,



At left, Mandy Youchak makes ice cream using liquid nitrogen. Above, Youchak uses a balloon and liquid nitrogen to show the nursing home residents and guests how air shrinks and the balloon gets hard and brittle when very cold - then expands and gets soft again as it warms.

we could now talk about atoms and electrons and how they interact. This not only helped the SOW volunteers to really understand the material they were talking about but also showed the kids what roles chemistry and science play in the real world.

Since the program was held at AU, the SOW team added new and improved stations to their roster. Glass, biomaterials, and ceramics stations were all done in their respective areas so the laboratories and different instruments could be shown. The ceramics station was done in the mud lab area where kids got to examine the

jigger press and extruders and also look at a bullet proof vest.

While bones were cracking and being fixed in the biomaterials lab, Prince Rupert drops were exploding in glass station, showing the importance of annealing. The biomaterials station was new and was run by Dr. Matt Hall. The fiber draw tower was a highlight for the students who learned how glass fiber speeds their high speed internet access to their houses.

A new microscopy station was headed by Dr. Carl Boehlert. Boehlert, along with his grad students and stu-

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AU's Engineering Week involves campus and community

National Engineering Week, February 23-27, 2004, was celebrated on campuses all across the United States; a time to get involved, have fun and generally show the rest of the world what they are missing out on! The national effort is sponsored by a broad spectrum of corporations and foundations. Go to <http://www.eweek.org/to> learn more about the national effort!

AU's student engineers sponsored events to involve other undergraduates, local school children and our community in learning about engineering and science.

A week long display on the second floor of Powell Campus Center allowed all of the campus community to try out

the Society of Women Engineers (SWE) hoop gliders, learn more about aspects of the engineering professions from displays sponsored by the American Ceramic Society (ACerS), Institute of Electrical and Electronics Engineers (IEEE), American Society of Mechanical Engineers (ASME) and SWE.

Students and faculty could show their ability to recall the infinite digits of π for a chance to win a famous Tinkertown pie, or put a team together for the scavenger hunt sponsored by TauBetaPi, the engineering honor society.

Many showed their creative skills in the Rube Goldberg Competition or their mental agility in Team Trivia, sponsored

by AU's student ASM/TMS chapter. The ever popular ping-pong tournament was again sponsored by Keramos.

The movie industry's presentation of advanced technologies in Terminator II was the topic of discussion following a screening of the film in Nevins Campus Theater on Thursday night. Thursday also brought local students to campus for Science on Wheels' (SOW) demonstrations of engineering and materials science (see separate article).

The week wrapped up with Friday night's Engineering Barbeque - free to all engineer's and engineering faculty! Good fun and good food to celebrate a great engineering effort by all!

SEMED - insight into the "small" world of materials

by Krista Carlson

Scanning Electron Microscope Education (SEMED) is an outreach program to teach non-engineering majors, high school students and their teachers about materials science and engineering. The program was started by Dr. Carl Boehlert, assistant professor of materials science and engineering, to stimulate students' interest in learning and maybe even choosing a career in MSE.

The program brings middle and high school students from the surrounding area to Alfred University during the Fall semester. After the instructor's introduction - what an electron microscope is and how to use the three SEMs at AU - students actually control the microscopes under the supervision of AU volunteers. Students view samples of ceramics, metals, glasses and biological materials. During the Spring semester, these students return to AU to look at their own samples.

Bolivar-Richburg High School students turned their SEMED experience



Carl Boehlert

into a requirement for a term project called "Life Beneath the Naked Eye." The students were required to make a return trip to AU to take pictures of a specific organism or a series of organisms that are connected in some manner and create a poster. Posters examined human hair or insects at different magnifications, explained how SEMs were different from light microscopes or explained a forensic examination of different types of fibers from clothing, showing how it could be used in crime scene investigations.

AU volunteers for the program range from faculty and technical staff to undergraduate and graduate MSE students, helping to improve their understanding of the SEM technology while learning communications skills. Many of the students volunteering in the program are also involved in the ASM/TMS student chapter; the chapter has recently been

awarded a grant of \$800 to establish and maintain the SEMED outreach program.

Several surrounding area schools (Bolivar-Richburg, Belfast, Alfred-Almond, Hornell, Scio, Canisteo, and Andover) have already participated. Next semester's activities will resume again in the beginning of September. For more information about the program and upcoming events, go to <http://sem.ed.alfred.edu/>.



High school students operate the SEM under supervision of an AU student volunteer during a SEMED session.

SOE Distance Learning: Flexible Options for Off-campus and On-campus

By Jeff Povelaites

Distance Learning in the School of Engineering is a new and expanding program that allows students outside of Alfred University to take classes offered only here. Helpful for those in industry who would like to take classes for professional advancement and continuing education or

students from other schools who want to take a class specific to AU Engineering, the program is also a particular help for Co-op students who need to take a class that is offered only while they away. On-campus students who might benefit from flexible scheduling use Distance Learning, too. In each of the past three semesters, over 15

off-campus and about 5 on-campus students have taken part.

Courses available this semester include: CES 302 - Introduction to Glass Science (Dr. A. Clare), CES 307 - Thermal and Mechanical Properties (Dr. L.E. Jones), EED 390 - Electronic Circuits* (W. Leigh),

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Science on Wheels

(Continued from page 2)

dents from the undergraduate microscopy, CES 252, volunteered to teach the kids how to use three of the scanning electron microscopes.

SOW rounded off their National Engineering Week with a trip to a local nursing home in Wellsville, NY. While a few brave volunteers had their hair

stand on end by touching the VanDeGraff Generator, other seniors just enjoyed the shocking experience of watching lightning being generated in the middle of the room. After showing the effects of liquid nitrogen on materials with the frozen racquet ball experiment, SOW volunteers showed them the tastier side of liquid nitrogen by making ice cream.

Science on Wheels will continue its outreach activities for the rest of the semester with more high school and middle students visits to AU now being planned.

Krista Carlson is a senior in glass engineering science with a minor in astronomy.

Gen*NY*sis helps BMES promote growth through BIOS program

by Steve Florczyk

The Biomedical Materials Engineering Science (BMES) program is rather new at Alfred University, but it is already promoting economic growth and job creation in the Southern Tier. In the fall of 2002, BMES received a \$2.5 million grant from the Generating Employment through New York State Science (Gen*NY*sis) program, a state-wide effort to maximize the potential of life sciences research conducted at New York's public and private academic research institutions. These funds were used in part to establish a Biomaterials Industrial Outreach Service (BIOS) Center at Alfred University.

Dr. Alan Goldstein, BMES program chair, reports that the BIOS program was started here to take advantage of AU's strength in glass and ceramic biomaterials. The biomaterials industry tends



Alan Goldstein

to focus on polymeric materials and overlook glass and ceramic materials.

The BIOS Center is designed to provide unique services to the biotechnology industry, including fast turn-around bioengineering services and custom production of biomaterials. BIOS is an extension of the BMES program that makes research opportunities available to students and promotes corporate-university research, that promotes long-term job creation.

The BIOS program is designed to work in two phases: first, to attract companies to place research contracts with AU; and second, to create or characterize new biomaterials while training students as they do the required work to perform the research.

BIOS works with the Center for Advanced Ceramic Technologies (CACT) to attract companies to New York State; the program now has 5 startup companies

in the area and looking for 2 more in the Ceramic Corridor Innovation Center. BIOS has provided funding for state-of-the-art equipment for characterization and fabrication, including funding for an environmental scanning electron microscope. Faculty research projects have been ongoing since the inception of BIOS and are expected to increase.

The future of BIOS is in an increasing number of industrial research projects and in the custom production of biomaterials, particularly helping to bring about a bioengineering revolution in glass and ceramics biomaterials. The BIOS program allows New York State to take advantage of its strength in materials research and to provide biomaterial companies with the latest materials science information while contributing to economic growth and job creation for the Southern Tier.

Steve Florczyk is a senior in ceramic engineering primarily interested in biomaterials

New environmental SEM funded by NSF

by Krista Carlson

In August 2003, Dr. Caspar McConville and Dr. Carl Boehlert, assistant professors of materials science and engineering, received a Major Research Instrumentation (MRI) Award from the National Science Foundation. The MRI program was designed to give academic institutions access to state-of-the-art scientific and engineering equipment for research and education activities, to encourage cross-disciplinary and industrially-sponsored research.

The MRI grant will be used to purchase a Field Emission Gun Environmental Scanning Electron Microscope costing around \$700,000. The ESEM, to be installed in late 2004, is a unique instrument in which specimens can be examined with a field emission source electron beam in a low or intermediate-pressure chamber environment. Even uncoated samples and samples prone to out-gassing can be examined; allowing observation of non-conducting experience like paper, biomaterials, and ceramics and also

eliminating any surface destruction or artifacts caused by coating and other preparation procedures.

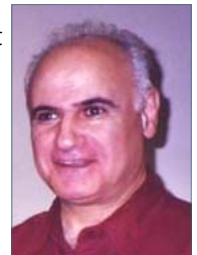
Liquid samples or biological specimens can be examined in the chamber without dehydration. Processes like drying, crystallization and phase changes upon heating can also be examined with high resolution. The deformation of materials can be observed and videoed in situ as a tensile-testing accessory will be available inside the chamber.

The instrument will be used to aid in the many diverse research projects happening at AU. It will not only aid in our on-going research but it might also facilitate collaborative research projects with other universities and industrial companies. Initially, the environmental SEM will initially be used for faculty and graduate student research, but plans are for its eventual use as a teaching tool for undergraduate students and as an outreach tool for attracting high school students to careers in science and engineering fields.

AU Biomaterials group has active Spring 2004

AUBS sponsored the February 12, 2004 SoE undergrad seminar speaker, Dr. Jafar Vossoughi.

Vossoughi is the president of the Biomed Research Foundation in Olney, MD. Vossoughi's talk, "Biological Residual Stress," showed that residual stress exists in almost all animal and human tissues as well as in plant tissues. The talk



Jafar Vossoughi

was very informative and thoroughly enjoyed by everyone who weren't grossed out by the slides!

AUBS has been working on producing a cookbook fundraising project with recipes being donated by the Alfred community. Alumni and friends are also invited to contribute recipes to this effort! Recipe contributions can be sent to Steve Florczyk. The cookbook is to be published in mid-April.

AUBS activities for Engineering Week included a faculty trivia contest online, and displays in Powell Campus Center. AUBS also helped teach area middle and high school students about biomaterials.

Expansion of Study Abroad in AU's New School of Engineering

By Jeff Povelaites

The Study Abroad program was established in the 1960's in the NYSCC by Dr. Van Derck Fréchette as a way for students to experience a new part of the world while staying on track with their technical course schedule.

Ceramic, glass and material science majors can study for one semester in various European countries and even Japan and receive academic credit in their engineering and science majors. Although SA was available to other AU students, no technical credit in mechanical or electrical engineering could be earned - a situation due for a change!

At the end of the Fall 2003 semester, a committee in the AU School of Engineering was formed to explore

overseas opportunities for EE and ME students. The committee includes Dr. James Varner, professor of ceramic engineering and director of the ceramic, glass and materials science study abroad programs; Dr. Scott Mixture, associate professor of materials science, an AU graduate who spent some of his academic career studying in Germany; and Dr. Alexis Clare, professor of glass science.

The committee has decided to explore opportunities at small universities in England first. Clare, a London (UK) native and graduate of the University of Reading, hopes to use her contacts there to see what is available.

"The committee felt that we should try to find a small, personable university in England," Varner stated,

"since that matches the educational setting in Alfred." Starting with England also eliminates language issues, a large problem with international study. ME and EE faculty members have also been asked to explore their overseas contacts in order to find other opportunities, as existing programs have come from personal contacts between AU faculty and their colleagues abroad.

"We would like to keep this model," Varner concluded, "since it has worked very well for [ceramic, glass and materials science programs]." Nothing is official yet, but the faculty are working hard to make similar opportunities for every student in the School of Engineering, regardless of degree program.

Campbell

(Continued from page 1)

of new optical materials and fabrication processes needed to produce the 7360 meter-size optics required by the NIF. For the past 15 years his main research interests have been the development, preparation and use of materials, particularly laser

glasses, for high-energy and high-power laser applications.

Campbell is the author of numerous publications on optical materials and holds several patents on materials and processes that have been commercialized. For his work on optical materials, he has received

three R&D100 awards (1987, 1988 and 2001), is the co-recipient of the 1999 International Otto-Schott Research Award for innovative research on glasses and glass-ceramics and the 2003 recipient of the American Ceramic Society's George Morey award for his research on laser glasses.

Hands-on learning

(Continued from page 1)

programmable robots and more. Here, students built radio-controlled vehicles to learn hands-on how to improve reception and use shielding to avoid signal interference.

EGR 112: Computer Aided Design

All AU engineers must learn effective written, oral and visual communication skills. In EGR 112, students analyze real devices to develop the ability to draw and design in two dimensions, to visualize these drawings using state-of-the-art software like "SolidWorks" 3D computer aided design (CAD) system.

EGR 220, Circuits Lab I

ME and EE students in EGR 220, Circuits Lab I, get deeper into basic electrical engineering topics, learning to characterize device design and response. Students in ceramics, glass and materials engineering and science programs study additional aspects of materials testing,



Junior EE's Kevin Marin and Pat O'Neil in EED 320

characterization and laboratory power systems for high temperatures in CES 336.

Advanced students take their skill out of the labs to work with faculty on projects like Battlebots Project, requiring intelligent robot control and locomotion; device fabrication and analysis with reactive sputtered thin films and coatings; the innovative Silicon Retina Testing project; and Fuel Processor and PEM Fuel Cell studies.

Congratulations to our December 2003 graduates

Doctor of Philosophy - Ceramics
Michael Stephan Haluska

**Master of Science in Biomedical
Materials Engineering Science**
Brian Alexander Metts
Ram Mohan Vaderhobli

**Master of Science in Ceramic
Engineering**
Edward Vincent Bongio
Kevin Donald Rowland, Jr.

**Master of Science in Materials Science
and Engineering**
Eric John Telfeyan

**Master of Science in Electrical
Engineering**
Benjamin Arthur Miller
Craig Marshall Phenex

**Bachelor of Science in Ceramic
Engineering**

Kevin Nicholas Ball
Nicole Ann Bell
Jessica Lynn Bilkey
Rebecca Elaine Cochran
Morgana Lynn Fall
Matthew Clcrnenti Gifford
Cheryl Lynn Junker
Joseph Michael Metcalfe, *magna cum
laude*
Phillip Monteleone
Lance M. Sworts

**Bachelor of Science in Glass Engineering
Science**

Jake Wander Amoroso
Jeffrey James Miller

**Bachelor of Science in Materials Science
and Engineering**
and

**Bachelor of Science in Electrical
Engineering (Double-Degree)**
Erik James Pavlina, *magna cum laude*

**Bachelor of Science in Materials Science
and Engineering**

Nathan John Cassingham
Jennifer Marie Shuler, *summa cum laude*
Christopher M. Williams

**Bachelor of Science in Electrical
Engineering**

Joshua John Brown
Guilford Leroy Mack III, *magna cum laude*
Eric David Maglisco
Steven Howard Tarcza
Thomas Jay Van Sant, Jr.

**Bachelor of Science in Mechanical
Engineering**

J. Dustin Broderick, *cum laude*
Raymond L. Montondo, *magna cum laude*
Lawrence Joseph Rossi
Scott Patrick Sabatino
Mitchell E. Smith, *cum laude*

The Alfred University CDC revs up for 2004 graduates

Spring semester means May graduation and job hunting! Seniors should be working on a resume, taking part in the Career Development Center's campus recruitment and checking out employer websites.

Students should take advantage of CDC's campus recruiting events; a great

opportunity to find a job and make business contacts without leaving campus.

The Business and Engineering Career Fair is on March 18, 2004, from noon to 3:00 pm in the Knight Club in AU's Powell Campus Center and is expected to draw up to forty potential employers. Over fif-

teen potential employers for the engineering graduates are currently listed; an up-to-date, full listing of employers can be found on the CDC website, <http://www.alfred.edu/cdc>.

Distance learning

(Continued from page 3)

EED 490 - Laser Theory and Applications (X. Wang) EGR 220 - Circuit Theory I* (X. Wang), and MED 221 - Mechanics of Materials (J. Fan) (*on campus lab required).

Class lectures are video taped and sent via overnight Federal Express to the remote learner. The lectures can be viewed at the learner's convenience; multiple learners can view the lecture simultaneously at a single location. Past distance learning students have said that they enjoy this set-up because the video taped lectures can be paused to help understand the material the professor is presenting, rewound for immediate re-

view, and can be reviewed before homework submission or as an aid in preparing for exams.

A copy of each video tape is also available at Scholes Library of Ceramics. These tapes are used by the on-campus enrollees and have also proven useful to many students to make up a missed classes or to review a difficult topic.

All of the courses offered have an on-line component which allows for electronic submissions of assignments, forums for students to discuss problems with professors and students presently in the class, access to class documents and supplementary materials, and an individ-

ual grade book where the student can track his or her progress. Depending on circumstances, exams are either taken on-line or at AU.

The Distance Learning website provides a list of the courses being offered and a downloadable pdf formatted registration form. A limited number of classes are offered but any lecture course in the catalog can be delivered to remote students if sufficient interest arises. Further information can be obtained from Dr. Paul Johnson, johnson@alfred.edu.

Jeff Povelaites is a senior ceramic engineer

NCM9 announces invited lecturers

The 9th International Conference On The Structure of Non-Crystalline Materials is to be held July 11-15, 2004, at the Radisson Hotel, Corning, NY, and at Alfred University. Conference organizers are pleased to announce the roster of distinguished invited lecturers:

Horia Chiriac (Bucharest, Romania)
 Jeppe Dyre (Roskilde, Denmark)
 Francois Farges (Marne, France)
 Philip Grandinetti (Columbus, OH, USA)

Neville Greaves (Aberystwyth, UK)
 Setsuro Ito (Yokohama, Japan)
 William Jones (Cambridge, UK)
 Pascal Richet (Paris, France)
 Philip Salmon (Bath, UK)
 Yuanzheng Yue (Aarlborg, Denmark)

For more information on the Call for Papers and registration/hotel information go to engineering.alfred.edu/ncm9.

Authors considering submission are reminded that they are asked to submit

an abstract of about 250 words by March 15, 2004. Please contact ncm9@alfred.edu if you need additional time to prepare your submission.

Abstracts may be submitted on-line through the conference website or mailed to Marlene Wightman, NYSCC at Alfred University, 2 Pine Street, Alfred, NY 14802-1296, USA.

Faculty News

Dr. Alastair N. Cormack, Interim Dean of the School of Engineering and Fréchet Professor of Ceramic Science, has been appointed Regional Editor (USA) for *Solid State Ionics*, an international, interdisciplinary journal devoted to the physics, chemistry and materials science of diffusion, mass transport, and reactivity of solids.

Cormack, along with a colleague at University College London (UCL), UK, has been awarded a grant from the UK Engineering, Physical Sciences Research Council (EPSRC) to support a Post-Doctoral Research Assistant to model the growth of hydroxyapatite on bioactive glass surfaces.

Dr. Subrata Saha, professor of biomaterials, has been reappointed as the ASME representative to the Council of Societies of the American Institute for Medical and Biological Engineering for the year 2004-2005. Saha has also been appointed the chair of the Patient Safety Subcommittee of the Medical Technology Policy Committee of the IEEE-USA.

Saha has also been appointed the Vice-Chairman of the Board of Directors of TMJ Implant Inc., located in Golden, CO; manufacturer of artificial metal temporomandibular joint prosthesis (partial and total). TMJ is an affiliate company of the AU CACT.

Saha presented a seminar on "Improved mechanical properties of bone cement" at the National Institute of Standards and Technology (NIST) on February 26, 2004.

Dr. William Carty, professor of ceramic engineering, with John Gill, AU professor of ceramic art, and Matt Katz (AU BFA '00, currently graduate student at University of Colorado), will present a panel discussion at NCECA 2004 "INvestigations, INspirations: The Alchemy of Art and Science", Indianapolis, IN, March 17-20. The panelists will out-



Alastair Cormack



William Carty



John Gill



Steve Mayes

line the extensive work by the WRC to dispel the mountains of folklore and mythology permeating the development and behavior of bodies for artists and industry and will explore, from the artist's perspective, the thriving art and science synergism at AU.

Carty will also teach a workshop, "Ceramic Science for the Artist" at the Archie Bray Foundation in Helena, MT, and an AU summer school "Ceramic Circus" on the same topic with Gill. These interdisciplinary programs are designed for various audiences of ceramic artists and, in part, resurrect "Ceramic Science for the Artist" as was taught by Dean Larry Lawrence at AU many years ago.

Dr. Rebecca L. DeRosa, reports that engineering graduate student Eric Telfeyan (MS, MSE, Dec. '03) presented part of his thesis work at the recent Global Plastics Environment Conference (GPEC 2004), Society of Plastics Engineers Environmental Division, February 18-19 Detroit, MI. His presentation was entitled "Expanding the Use of Recycled SMC in BMC's" and was co-authored by DeRosa, assistant professor of polymers science and engineering, and Dr. S.J. Mayes, assistant professor of mechanical engineering. The work will be included in the proceedings of GPEC 2004, to be published by the Society.

Dr. Steve Mayes, assistant professor in mechanical engineering, and Dr. Andrew Hansen, professor of mechanical engineering at the University of Wyoming, published two articles in a special issue *Composites Science*

and Technology (January 2004); "Composite Laminate Failure Analysis Using Multicontinuum Theory" and "A Comparison of Multicontinuum Theory Based Failure Simulation with Experimental Results". The special issue was part of the "World Wide Failure Exercise" in which authors of the leading theories relating to failure in composites materials and structures were asked to conduct blind analytical predictions of composite materials under complex loading conditions. Once their results were submitted to the exercise organizers, the authors were given the experimentally determined results with which to compare and contrast their predictions. The exercise, whose purpose was to determine the state-of-the-practice of the world wide composite community's ability to predict failure in composite materials, attracted approximately 17 participants from six countries.

Dr. Thomas P. Seward, professor of glass science and Director, NSF Industry/University Center for Glass Research, is an invited speaker at the ACerS Annual meeting, speaking on "The Role of University and Center Research in Promoting Innovation in the Glass Industry" in the Glass and Optical Materials Division session on Commercial Glasses. Other faculty serving as symposium organizers or presenting invited talks include Dr. Alastair Cormack and Dr. Alexis Clare, professor of glass science, and Dr. Suhas Bhandarkar, associate professor of Materials Science.



Subrata Saha



Rebecca DeRosa



Tom Seward



Alix Clare



Suhas Bhandarkar

AU School of Engineering Short Course Offerings for 2004

For those interested in increasing their expertise in the field of ceramics and glasses, or those just being introduced, Short Courses are a good option. Designed for professionals in the ceramics and glass industry, these intensive courses offer a chance to update your knowledge of the field in a short period of time.

In order for engineers, technologists and managers to keep up with the swift changes in the field, they must be lifelong learners. In addition to the scheduled courses, a new course can be designed to meet your company's needs. For more complete listings and course fees, go to the Short Courses website or contact Marlene Wightman, wightman@alfred.edu, for more information. Currently scheduled courses include:

- Introduction to Photonics
- Thin Films
- Glass: Its Production and Properties
- Firing of Ceramics: Kilns and Furnaces, Equipment Controls, Firing Profiles
- Glass Science for the Glass and Ceramic Artist
- Lasers: Past, Present and Future
- Introduction to Verilog HDL and FPGA Synthesis
- Introduction to Ceramics for Plant Personnel and Non-Technical Personnel
- Introduction to Biomaterials
- Technology and Applications of Optical Sensors
- Statistical Methods for Industrial Problem Solving
- Introduction to Ceramic Processing
- Fracture Analysis of Glasses and Ceramics

NICE offers short courses at ACerS Annual Meeting

The National Institute of Ceramic Engineers is offering five 1-day short courses for professional advancement on Sunday, April 18, 2004 at the American Ceramic Society's annual meeting in Indianapolis, IN. All courses are \$495.00 each.

- Glass Science for Glass Artists - Dr. William Carty, Alfred University
- Ceramic Science for Ceramic Artists - Dr. Matthew Hall, Alfred University
- Introduction to Photonics Technology - Dr. Alexis G. Clare, Alfred University
- Primer on Statistical Methods for Industrial Problem Solving - Dr. David Earl, Alfred University

Deadline for registration is March 29, 2004. Course and registration information can be found at the NICE website, or by contacting Marlene Wightman, Director, Continuing Education/Industrial Outreach, Alfred University, 2 Pine Street, Alfred NY, 14802-1296. NICE 2004 short courses are coordinated by the Alfred University's School of Engineering Office of Continuing Education as a service to the ceramic engineering profession.

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