

ENGINEERING News

Kazuo Inamori School of Engineering
Alfred University

Volume 9, Number 2

January 2008

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CACT dedicates \$1.8M Nanotechnology lab hosts technology workshop to celebrate dedication

The Center for Advanced Ceramic Technology and the Kazuo Inamori School of Engineering hosted a full program in conjunction with the annual McMahon Lecture to celebrate the opening of the new Nanotechnology pilot plant facility in the Ceramics Corridor Innovation Center. Members of the Ceramic Association of New York (CANY) and the Western New York section of the American Ceramic Society also participated.

The schedule of events, October 24-25, 2007, started with a Wednesday evening reception held at the beautifully restored Fasano House (formerly the Delta Sig fraternity house). Hosted by Dean Alastair N. Cormack, Kazuo Inamori School of Engineering, the reception honored the recent recognition of three faculty - Dr. Arun Varshneya, awarded the 2007 International Congress on Glass President's Award; Dr. William C. LaCourse, recipient of the 2007 Morey Award from the Glass and Optical Materials Division of the American Ceramic Society; and Dr. L. David Pye (emeritus), newly



Cutting the ribbon to open the new NYSTAR-funded Nanotechnology pilot plant (l-r) AU Provost Dr. Suzanne Buckley, NYSTAR's Cathy Wise, State Senator Catherine Young and AU President Charles Edmondson.

(Continued on page 5)

Richardson is 2008 Scholes Award Lecturer



Dr. K. Richardson

Dr. Kathleen Richardson, Professor and Director, the School of Materials Science and Engineering, Clemson University, Clemson, SC, will present the 2008 Samuel R. Scholes Award Lecture, on Thursday, March 27, 2008, in Harder Hall's Holmes auditorium at 11:20 am. A luncheon will follow in Susan Howell Hall.

Dr. Richardson currently runs the Glass Processing and Characterization Laboratory (GPCL) within the Center for Optical Materials Science Engineering and Technology (COMSET) at Clemson where her team carries out synthesis and characterization of novel glass and glass ceramic materials for optical applications. She has authored more than 95 refereed publications, proceedings and book chapters, and has organized and chaired numerous domestic and international meetings within her discipline. All of Richardson's academic degrees are from the New York State College of Ceramics at Alfred University.

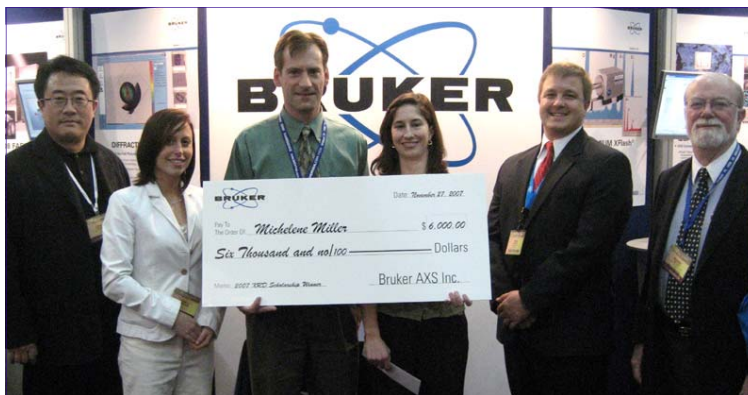
For further information on the 2008 Scholes lecture or luncheon reservations, contact Marlene Wightman, wightman@alfred.edu.

Miller awarded Bruker Scholarship

Michelene E. Miller (PhD candidate, MSE) is this year's recipient of the 2007 Excellence in X-ray Diffraction Scholarship awarded by Bruker AXS. The \$6,000 scholarship award was announced during the Materials Research Society fall meeting.

Miller submitted a paper entitled, "Novel Processing of Microporous Glass-Ceramics for Gas Separation." Miller explained, "Using high-temperature X-ray diffraction, we determined that nickel-doped

cordierite glass-ceramics are candidates for application as permeability-controlled microporous membranes to separate out carbon dioxide and hydrogen gases in fossil fuel power plants, both reducing greenhouse gas emissions and generating hydrogen."



At the award ceremony (l-r): AU alumnus Prof. Chan Park (Seoul National University, Korea), Krista Carlson (AU), Dr. Scott Misture, Michelene Miller, Peter LaPuma (Bruker AXS), and Prof. Robert Snyder (Georgia Tech).

Miller is a member of the research group of Dr. Scott Misture, professor of materials science; his group studies the dynamic behavior of oxide ceramics and glasses related to energy conversion devices, usually relying on detailed in-situ characterization using X-rays and neutrons

to understand the relationships between structure and properties. Current research is funded by the National Science Foundation, the US Department of Energy, the US Environmental Protection Agency, and other agencies.

Bruker AXS, a leading global provider of advanced X-ray equipment for life and advanced materials sciences, presents the scholarship annually to graduate students who are

doing the most unique research in the field of materials research. "We are quite pleased again this year to provide a Bruker XRD scholarship to another extraordinary student," said Uwe Preckwinkel, Bruker AXS XRD Sales and Marketing Manager.

VanCott attends US-Japan Winter School on New Functionalities in Glass

Laura VanCott (MSE PhD student) attended the US-Japan Winter School on New Functionalities in Glass, Kyoto University, Japan, January 6-17, 2008.

VanCott was awarded a full scholarship to attend the intensive two-week program by NSF's International Materials Institute for New Functionality in Glass, a sponsor of the program, based on her academic profile, research experience and professional commitment to the field of glass science and engineering.

The Winter School is also sponsored by

the International Center for Integrated Research and Advanced Education in Materials Science (Kyoto University) and the Global Centers of Excellence Program, Japan Society for the Promotion of Science.

VanCott is a member of the research group of Dr. Alastair Cormack, professor of ceramic engineering and Dean of the Inamori School of Engineering. The group uses computer-based atomistic simulations to tackle problems in the structure and ion transport properties of inorganic

glasses, especially silica based glasses; and non-stoichiometry and defect structure in crystalline materials. Both molecular dynamics and static lattice techniques are employed to investigate the influence of composition on the atomic ("nano") scale structure and structure-related reactivity.

VanCott's research uses molecular dynamic studies to investigate the elastic properties as a function of composition for flawed and unflawed silicate glasses.

Kelly to Japan with travel endowment

James Kelly (MS student, ceramic engineering) attended the 2nd Int'l Symposium on SiAlONs and Non-Oxides, 2-5 December 2007 in Ise-Shima, Mie, Japan. Kelly's poster presentation was entitled "Microwave sintered silicon nitride - ZrO₂ Composite."

Kelly's trip was made possible through a generous grant from the Bernstein Fund for Student and Faculty Development. Kelly's present work at Alfred University is sponsored by AU's Center for Environmental and Energy Research; his thesis advisor is Prof. Jim Varner. Kelly's project is on the use of

fly ash in the preparation of SiAlON-based structural ceramics.

The Bernstein Fund for Student and Faculty Development was established by AU alumni Gene and Pamela Bernstein to support faculty and students presenting their work at academic events.

Alumnus J. C. "Joe" Lapp honored by Corning Incorporated

Corning Display Technologies has announced that it will memorialize Dr. J. C. ("Joe") Lapp (MS 1983, PhD 1986) by renaming one of its top Innovation Awards as the "Dr. J.C. Lapp Innovation Award," paying tribute to Lapp's dedication to breaking new ground.

Lapp, a development associate with Corning Display Technologies, was the co-inventor of some of Corning's ground-

breaking LCD glass compositions. Over his career, he earned more than 20 patents and authored and co-authored dozens of technical publications.

Lapp died April 26, 2007, after a long battle with cancer. He was 50.



Dr. Joe Lapp

The Dr. J.C. Lapp Innovation Award will inspire future teams at Corning Display Technologies to continue their co-worker's legacy of discovery and passion for science.

Ritt to Germany on International UROP

Patrick Ritt (Junior, CES) will spend his summer in Aachen, Germany, thanks to the RWTH Aachen University International Research Program (UROP). This unique program brings international students together with researchers at Aachen University for 10 weeks each summer to work on projects of mutual interest and technological significance.

Ritt's project will be "Textile Reinforced Concrete: Damage Analysis of yarn reinforcement during tensile test using the acoustic emission analysis." The project supervisor is Dipl.-Ing. Bong-Gu Kang,

Institut für Bauforschung (Construction), RWTH Aachen.

The program is a great international opportunity that Dr. Jim Varner (professor of ceramic engineering and materials science and coordinator of SOE study-abroad programs) and Petra Visscher (Director, AU Office of International Programs) hope will be investigated by other engineering students. Intensive language support is provided and there are no tuition fees; scholarship support to assist in living expenses may also be available although the student must provide for

their own transportation.

For more information about Aachen's international UROP program, go to www.rwth-aachen.de/go/id/mpr. Although it's too late to apply for this summer's programs, new projects are posted in October and applications should be submitted by the end of November (Check the website to confirm information for 2008!). Project descriptions are listed www.rwth-aachen.de/go/id/ozy.

Naylor awarded Richard Kelly Grant for luminous art

Mark O. Naylor, MS student in glass science, has been awarded a prestigious Richard Kelly Grant for his work with luminous art created with fluorescent rare-earth doped glass and sequential UV excitation.

Naylor earned dual degrees in 2006 from Alfred University, a BS in glass engineering science and a BFA in glass art and design. His research is currently

with Dr. Alexis Clare, professor of glass science, on full-color photosensitive glass ceramics.

The purpose of the Richard Kelly Grant is to recognize and encourage creative thought and activity in the use of light. The Illuminating Engineering Society of North America has awarded the scholarship since 1985.



One of Naylor's works: "Infinite Peruse" (animated neon sculpture, 2005).

Engineers in AU Sports - Engineer-Athletes earn all-conference honors

Senior kicker Chris Reynolds (EE) earned Empire-8 All Conference First Team football honors as he finished the season 7 of 10 on field goal tries and an impressive 41 of 44 extra points. Reynolds was second on the team in

scoring with 62 points and will leave Alfred tops in all career and single season kicking categories.

Reynolds, a three-time E-8 all-star was also named to the D3football.com All-East Region Second Team.

Senior defensive lineman Mike Penkin earned Empire-8 Second Team recognition. Penkin racked up 46 tackles (6.5 for loss) and had two sacks.

Exploring wireless communication to benefit wildlife

Elec 106 Discoveries Lab - technology to help endangered Asian elephants



Grad student Kodikara C. ("Chatu") Gunaratne (MS EE) wants her research to make a difference - to improve the quality of life of humans and animals. Gunaratne particularly would like to protect the elephants roaming free in her native Sri Lanka, and to this end she has enlisted the aid of students in Dr. Xingwu Wang's Elec 106 Discoveries Lab to try out new ideas in wildlife tracking using wireless communications technology.

Sri Lanka is an island nation only half the size of New York State with a population nearing 20M, yet has set aside almost 10% of its territory over to wildlife preserves and managed wilderness. However, the protected areas are not contiguous and only about half of the elephants are found in preservation areas. Elephant-human conflict is the major danger to the elephant population.

Elephants may travel over 20 miles in a day and herds may roam 200 miles or more, so tracking the herds becomes critical to ward off conflict before it leads to property damage and animal death. Tracking is now done principally through aerial observation of herds, very difficult in their habitats of forest wetlands, scrub forest and jungle.

Gunaratne felt that a wireless monitoring system could be developed to track and protect the elephants. On the advice of



Images clockwise from left - Chatu Gunaratne leads her team; EE Freshman Nate Bigelow tracks quarry under simulated "station" conditions (Free standing partitions simulate the exterior wall of an experimental station); Seniors Nick Martucci and Fred "Tad" Gertz set up tracking experiments at Foster Lake



industrial mentor Dr. John Prentice (Indian River Silicon, Melbourne, FL), she has developed her work around the new-generation IEEE 802.11n standard wireless LAN, an exciting and important topic at the moment. The new standard should make wireless networks as fast as wired ones and to ensure transmissions at a distance several times that of the previous standard.

After design research and lab trials it was time for Gunaratne to construct a network of monitoring stations and try out the experiments in the Alfred wilderness!

Alfred University lacks elephants, but abounds in student volunteers, helpful staff and wild habitat. AU's Foster Lake, a 220-acre reserve of lake, forest and wetlands about 5 miles from campus, provided the team with an ideal setting for outdoor experiments in tracking - a wilderness with no interference from any other computer networks!

Gunaratne and senior EE student Nick Martucci conducted Wireless-n tracking experiments with help from students in Elec 452 Applied Electromagnetism and Elec 106 Discoveries lab. ITS staffers Ben Roma, Mike Stone, Josh McGraw, and Candy O'Brien contributed their laptops and expertise. The group was also aided by Mike Neiderbach and Steve Kernan (AU physical plant), and Cherise Haase (AU Environ Health/Safety Coordinator).

Preliminary results were encouraging and have already led to a very small but successful try-out of the system tracking horses at AU's Bromeley-Daggett Equestrian Center!

Scholarship fund honors Lapp Insulator founder

Lapp Insulators of LeRoy, NY, will donate \$10,000 over the next two years to create the John S. Lapp Scholarship in Ceramics Engineering at Alfred University. The scholarship is named for the late John S. Lapp, a pioneer in the design and manufacture of high voltage insulators, who founded Lapp Insulators in 1916.

Lapp VP and CEO Rob Johnson remarked, "This scholarship is an investment in our future. Our collaboration with Alfred University will help ensure that talented young employees come to Lapp Insulators with a strong background in ceramics engineering and production. Lapp is

proud to help support the education of tomorrow's leaders and innovators in ceramic insulators." Johnson is himself an AU ceramic engineer.

Lapp Insulators, LLC is a leading supplier of high voltage insulators for the global electric utility industry with manufacturing facilities in LeRoy, Sandersville, GA, Wunsiedel, Germany, and the People's Republic of China. First named one of Rochester's Top 100 fastest growing companies in 2006, Lapp's core businesses include ceramic and composite insulators for applications ranging from 15 kV to 765 kV.

Hauser named 2007 McMahon Scholar



Bethany Hauser (SR CE) was named 2007 McMahon Scholar in recognition of outstanding performance on her co-op assignment with Greatbatch Inc. of Clarence, NY, with senior research scientist Warren Dabney (AU CE '97). Hauser is pictured with Dr. Jim Shelby (left), McMahon Professor, and McMahon Lecturer Dr. Bob Snyder (Georgia Tech).

Nanotech

(Continued from page 1)

installed president of the American Ceramic Society - and served as a wonderful welcome to campus for the guests and speakers.

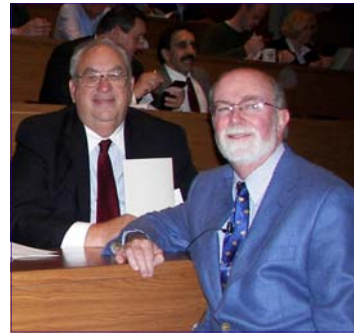
Nanotechnology was the focus of the Thursday program.

The first highlight of the morning was the ribbon cutting ceremony to officially open the new \$1.8M Nanotechnology Pilot Plant in the Ceramic Corridor Innovation Center. State Senator Catharine Young performed the ribbon-cutting ceremony to mark the opening of the new facility.

The nanotechnology pilot plant is a joint project of AU's CACT and the Center for Advanced Materials Processing (CAMP) at Clarkson University. Both are NYSTAR-funded research centers.



The Class-10,000 cleanroom facility in the new NYSTAR-funded Nanotechnology Pilot Plant in the Alfred Ceramic Corridor Innovation Center.



Dr. L. David Pye, president of the American Ceramic Society with Dr. Robert L. Snyder, 2007 McMahan Award Lecturer

(NYSTAR)," Young said, referring to the state agency that provided the funding for the creation of the new facility. "We are building what we need to move ahead."

After the ceremony and a facility tour, the group returned to campus for the 2007 John Francis McMahan Award Lecture, presented by Dr. Robert L. Snyder, Georgia Tech, on

Nanotechnology is engineering on a molecular scale, creating new materials by designing them atom-by-atom, molecule-by-molecule, to create desired properties, such as strength, toughness, the ability to conduct heat or electrical current, or compatibility with the human body. Partner industries include Ferro Corp., Ferronics, Inc., AVX, and Cooper Power Systems.

"This is why the Legislature works so hard to fund the New York State Foundation for Science, Technology and Innovation

"The New World of MSE: Nano & Bio Technology." His talk fascinated a capacity crowd in AU's Roon Lecture Hall and was a perfect kick-off for the afternoon workshop on Nanotechnology Commercialization.

The afternoon Workshop presentations highlighted Industry-University collaborations through AU's CACT, Clarkson's CAMP, Rensselaer Polytechnic Institute, Cornell University and University at Albany (SUNY), with contributed talks from both industry and academic perspectives.

CANY and SOE to honor High School scholars

The Ceramic Association of New York and the Kazuo Inamori School of Engineering will honor outstanding high school juniors in Western New York at CANY's Spring Meeting at Alfred University, March 27, 2008. The CANY Spring meeting is held in conjunction with the annual Scholes Award Lecture, this year to be presented by Dr. Kathleen Richardson.

Engineering requires mathematical abilities and scientific knowledge. It has become increasingly important in engineering to have strong communication skills.

The CANY Scholastic Recognition Award for Juniors is given to recognize a student who demonstrates a solid mathematical and scientific background while also excelling in English.



Students are nominated by their high schools.

The CANY Scholars and their teachers will learn more about engineering careers and tour the AU campus and facilities prior to their recognition at the evening event.

CACT, CANY and WNYACerS honor service at Awards Dinner

The Center for Advanced Ceramic Technology, the Ceramic Association of New York and the Western New York section of the American Ceramic Society honored long-term service of several members at their joint awards dinner on October 25, 2007, held at the Snug Harbor Restaurant, Hammondsport, NY.

Honorees were:

Les Rickard (retired) for service to the CACT, the Kazuo Inamori School of Engineering, CANY and WNYACerS.

Tom Sonnevile (AluChem Inc), CANY President; for service to the CACT, the Inamori SOE, and CANY.

Keith Leackfeldt (Ferro Corp), CANY Vice-president; for service to the CACT, the Inamori SOE, and CANY.

Bob Locker (Corning Inc), long-time member of the CACT Advisory Board, for service to the CACT and the Inamori SOE.

Founded in 1933 at the New York College of Ceramics, CANY encourages

communication between industry and government, promotes ceramic education and the development of ceramics industries, and provides networking opportunities. For more information about CANY and its activities go to canyny.org.

The WNY section of the American Ceramic Society has held its charter since 1944. Sections are divided by geographic location. To learn more about the WNYACerS go to wnyacers.org.

Fan co-chairs international conference

Dr. Jinghong Fan, professor of mechanical engineering, is one of the distinguished panel of organizers of the 2nd International Conference on Heterogeneous Materials Mechanics (ICHMM-2008) to be held June 3-8, 2008, in Huangshan, China.



Dr. Jinghong Fan

This unique conference series was established in 2004 as a forum for common ground of interchange between the communities of materials scientists,

mechanics of materials researchers, and design/applications engineers. ICHMM is not your usual mechanics meeting, with explorations of the principles of composite materials, fracture of bi-material interfaces, multiscale modeling, etc. Rather, ICHMM is intended to delve more deeply into complex aspects such as stochasticity of microstructures, multiphysics and multiscale modeling with widely disparate theories, in situ experiments and model validation, nonequilibrium evolutionary processes, nonlocal effects in real materials, and so

forth. These endeavors demand integration of materials science, physics, applied mechanics, computing and advanced experimental methods.

The meeting is divided into six symposia: Multiphysics and Multiscale Modeling, Modeling Realistic Microstructures, Atomistic to Continuum Methods, Bio- and Nature-Inspired Materials Design, In Situ Experiments and Model Validation, and Stochastic Microstructure Evolution and Degradation. Over 600 participants are expected to attend.

Edwards appointed Associate Dean

Dr. Doreen Edwards, associate professor of ceramic engineering and materials science, has been appointed to the position of Associate Dean in the Kazuo Inamori School of Engineering. Edwards also serves as Graduate Program Director.



Dr. Doreen Edwards

In her expanded role as Associate Dean, Edwards will coordinate all SOE degree programs, lead SOE strategic planning efforts and oversee SOE marketing activities, in addition to continuing with her Graduate Program responsibilities.

Stay up-to-date with Faculty research!

It's easy to find out about current research - the most recent publications of the Kazuo Inamori School of Engineering faculty are listed twice annually (July and January) in our on-line newsletter

engineering.alfred.edu/newsletter
and also at
engineering.alfred.edu/research/recentpubs.html

Faculty News

Dr. Jim Shelby, professor of glass science, and **Dr. Matt Hall**, assistant professor of biomaterials, have received an additional \$175K grant from the US Dept. of Energy to extend their current work "A Radically New Method for Hydrogen Storage in Hollow Glass Microspheres." On this research, Shelby and Hall's program is partnered with separately funded work by Savannah River National Laboratory.



Dr. Jim Shelby



Dr. Matt Hall

International Conference on Processing and Fabrication of Advanced Materials, held December 17-19, 2007, in Singapore. His talk was entitled "Nano-Coating: A Case Study, CeO₂/Al₂O₃ Composite Electrolyte for SOFC Applications."

While in the Far East, Amarakoon also visited the International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), Hyderabad, India, to discuss his research in advanced materials for SOFC applications in the context of research partnering - University/Industry/State/Federal collaboration - as exemplified by the CACT.



Dr. Vasantha Amarakoon

Dr. Vasantha Amarakoon, professor of ceramic engineering and director of the Center for Advanced Ceramic Technology, was an invited speaker at the Sixteenth

During October, **Dr. Alastair Cormack**, Dean of the Inamori School of

Engineering, visited Seoul National University to give a seminar in the Department of Materials Science and Engineering. There he met up with several Korean alumni including Dr. Chan Park (AU PhD 1986), Dr. Byeongwon Park (AU PhD 1988) and Dr. Kug Sun Hong (AU PhD 1992). Cormack continued his journeying to China, where he visited the Jingdezhen Ceramic Institute to discuss possible collaborations and faculty, student exchange programs - this followed a visit by their President and others to AU earlier in 2007.

Cormack finished this Asian tour returning to Korea for a stop at the

(Continued on page 7)



Dr. Alastair Cormack

Misture tours German facilities, explores new exchange possibilities

Dr. Scott Misture, professor of materials science and engineering, made an extensive tour of German universities and research facilities this past December - part of a group of about twenty US and



Dr. Scott Misture

Canadian researchers. The tour, "Physics in German: New Developments in Research, Interdisciplinary Cooperation, Higher Education, and Industrial Application," was organized by the Deutscher Akademischer Austauschdienst (DAAD - the German Academic Exchange Service), and sponsored by the Bundesministerium für Bildung und Forschung (BMBF - Federal Ministry of Education and Research).

Focusing on current developments of science in Germany, with special attention given to scientific developments in the field of physics, participants learned about current research at the various institutions, and met with possible future partners in research and student exchange.

Misture traveled from Frankfurt to Munich over the 1-week period, with stops in Frankfurt - University of Frankfurt Darmstadt - Technical University, Gesellschaft für Schwerionenforschung, and Superconducting Electron Accelerator Kaiserslautern - Technical University and Fraunhofer Institute for Image Processing Karlsruhe - Research Center and University of Karlsruhe Stuttgart - Max Planck Institutes for Metal

Research and Solid State Research Munich - Max Planck Institute for Quantum Optics and Ludwig-Maximilians University.

In Munich, Misture also visited Siemens Corporate Research Center and at KristalAnalytik, reconnecting with colleagues and friends.

Misture hopes that formal graduate student, undergraduate, and faculty exchanges can be established with some of the institutions visited, to further strengthen the opportunities abroad for our engineering students. Misture notes that DAAD also supports summer and other programs for student visits to Germany.

Varner honors Oel at memorial symposium

Dr. Jim Varner, professor of ceramic engineering and materials science, gave an invited talk entitled "Contact Damage in Glass—An International Journey" at the 10 October 2007



Dr. Jim Varner

symposium held in memory of Prof. Dr. Heribert J. Oel at the Fraunhofer Institut für Silicatforschung in Würzburg, Germany. Prof. Oel died in June 2006 at the age of 81 in Erlangen where he had devoted his professional life to the Institute of Material Science (Glass and Ceramics) of the University of Erlangen-Nürnberg, Germany.

Oel was a close friend of Alfred University's Prof. Van Derck Fréchette, a

relationship that led to many student and faculty exchanges dating back to 1968. Varner was an assistant professor at Prof. Oel's institute in Erlangen for six years prior to joining the AU faculty.

AU awarded Prof. Oel an honorary doctorate in 1982 in recognition of his many efforts in promoting international friendship and cooperation.

The symposium was organized by the Deutsche Glastechnische Gesellschaft (DGG) and the Hüttentechnische Vereinigung der Deutschen Glasindustrie (HVG), and included contributions from many other former students and colleagues of Prof. Oel.

17th International Conference on Solid State Ionics (SSI-17)

June 28 - July 3, 2009

**Fairmont Royal York Hotel
Toronto, Canada**

It's not too early to plan your submission to this important international event. Submission of Abstracts via the website, www.ssi-17.net, starts in September 2008!

The SSI conferences, held every two years, promote international collaboration and cooperation and provide a forum for scientists and engineers to discuss fundamentals, innovations and applications in the field of ion transport in solids. Dr. Alastair N. Cormack, dean of the Inamori School of Engineering, is the conference organizer.

Contact Marlene Wightman, Director of Continuing Education and Outreach, wightman@alfred.edu, for more information.

Faculty News

(Continued from page 6)

Gyeongsang National University in Korea to give a seminar and meet up with Korean alumni who are on the faculty there. Among these, Dr. Sung Gurl Cho (PhD 1989) is currently the Dean of Engineering and Dr. Young-Jae Shim (PhD

1988) is the past Dean of Engineering.

Cormack traveled to Japan in November, presenting an invited lecture at FFAG4 - the 4th International Workshop on the Fracture and Flow of Advanced Glasses - in Nagahama, Japan. His talk was entitled "Molecular dynamics studies of the stress-strain behavior of silica glass

under tensile load." After the conference, Cormack stopped at the Kyoto headquarters of Kyocera to discuss ongoing joint projects. Rounding out his visit to Japan, Cormack also presented a seminar to the Fuel Cells Research Group of the National Institute of Materials Science in Tsukuba, Japan.

Short Courses for 2008 - check website for updates!

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. Courses range from detailed, in-depth examinations of very specific topics to broader introductory classes. We can even design a class for your company's needs! For more information about Short Courses, contact Marlene Wightman, Director of Continuing Education and Outreach, wightman@alfred.edu, tel: 607-871-2425.

Ceramic Processing

June 2-4, 2008

Fundamentals of Ceramics

June 9-11, 2008

Instructor: Dr. William M. Carty is a Professor of Ceramic Engineering, in the Kazuo Inamori School of Engineering, New York State College of Ceramics, Alfred University. Dr. Carty teaches both engineering courses in ceramic processing and whitewares and teaches Ceramic Science for the Artist. His research interests are in ceramic processing of traditional and advanced ceramic materials, microstructure tailoring and evolution, and the identification of defects and their elimination.

These two courses are completely revised by the instructor for 2008, complete course information will be posted when available at engineering.alfred.edu/shortcourses.

Fracture Analysis of Glasses and Ceramics

June 16-19, 2008

This course covers the examination and interpretation of markings on fracture-exposed surfaces of glasses and polycrystalline ceramics, and the analysis of crack systems, i.e., fractography. Further, it covers using fractography in failure analysis, strength testing, and fracture-mechanics testing.

Reserve early; this course has been sold out almost every year for over 10 years. Class limit of 18

Instructors: Dr. James Varner is a Professor of Ceramic Engineering in the Kazuo Inamori School of Engineering, New York State College of Ceramics, Alfred University.

George Quinn is a Ceramic Engineer with the National Institute of Standards and Technology, Gaithersburg, MD.



Dr. Wm. Carty



Dr. Jim Varner

Introduction To Glass

June 23-25, 2008

This course is intended to serve as a brief introduction to the essential features and properties of inorganic glasses. The material will be presented in a manner that is suitable for managers and engineers/scientists who may work in the glass field but do not have a significant background in glass science and engineering.

The short course will cover basic principles of glass formation and glass structure; phase separation in glass; and basic properties of glass, including thermal, mechanical, chemical, and optical properties.

Instructor: Dr. Matthew M. Hall is an Assistant Professor of Biomaterials and Glass Science in the Kazuo Inamori School of Engineering at Alfred University. He received his B.S. degree in Ceramic Engineering at the University of Missouri-Rolla and his M.S. and Ph.D. degrees in Glass Science at Alfred University.

Introduction to Phase Diagrams

June 25-27, 2008

This course is intended to provide the student with a basic appreciation for the practical importance of phase diagrams, particularly with reference to ceramic materials. The course will briefly cover the essential features of phase diagrams; the remainder of the course will then focus on developing the student's abilities to analyze and interpret binary and ternary phase diagrams. The lectures will be supplemented with periodic in-class exercises.

Instructor: Dr. Matthew M. Hall

For complete course information on all courses go to engineering.alfred.edu/shortcourses.



Dr. Matt Hall

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