

ENGINEERING News

Kazuo Inamori School of Engineering
Alfred University

Volume 7, supplementary issue

April 2006

Also inside this issue ...

Students

AU Destructors to compete ...
page 2

AU Math team earns honors ...
page 2

Graduate students in Japan,
Germany ... pages 2,3

Engineers in Sports ... page 3

Saxon Racing faces delays ...
page 3

Keramos at Cocoa Beach ...
page 8

Program News

Summer Institute in Science &
Engineering ... page 8

Faculty and Research

CGR funds targeted research ...
page 4

Glass decoration goes digital ...
page 5

CEER decides 2006-7 funding ...
page 5

Faculty News ... page 6

Conferences and Outreach

Faculty and friends at Cocoa
Beach ... page 7

Short Courses for 2006 ... page 7

NYSTAR-University Nanotech facility Inauguration April 27! Technology Transfer Symposium Planned

The new NYSTAR-funded Alfred University-Clarkson University Nanotech research collaboration will be inaugurated on April 27, 2006, in a 9 am ceremony at the Ceramics Corridor Innovation Center, Alfred, NY.

Late in 2005, a \$1.8 million grant made to the Alfred University Center for Advanced Ceramic Technology (CACT) by the NYS Office of Science, Technology and Academic Research (NYSTAR) Center for Advanced Technology Development Program was announced by NY Governor George E. Pataki.

The funds, to “develop pilot plant facilities and expertise in the synthesis of nano-sized particles and subsequent processing and consolidation into nano-structured ceramic components with enhanced properties,” will enable AU researchers, working with colleagues at Clarkson University’s Center for Advanced Materials Processing, to develop molecular-sized

(Continued on page 4)

Adrian Wright is 2006 Scholes Lecturer



Dr. Adrian Wright,
2006 Scholes Lecturer

Dr. Adrian C. Wright, professor of amorphous solid state physics, J.J. Thomson Physical Laboratory, University of Reading, will present the 2006 Samuel R. Scholes Award Lecture entitled “GLASS: Genesis to Apocalypse.” This year’s lecture will be presented on Thursday, April 27, 2006, at 11:20 am in Harder Hall Auditorium.

In his talk, designed to be enjoyed by both scientists and non-scientists, Wright will explore the past, present and future of glass from the stone-age use of volcanic silica glass (obsidian) to the 21st century’s rapidly evolving understanding of new glass-forming systems. The factors which led to an improvement in glass quality will be examined, with particular emphasis on the synergy between the development of

(Continued on page 5)

**Fractography of Glasses
and Ceramics V
9-12 July 2006
Rochester, NY (USA)**

**Conference Co-Organizers are
Professor Jim Varner (AU) and
George Quinn (NIST).**

**Program now available at
[http://
engineering.alfred.edu/
outreach/conf/fractography/](http://engineering.alfred.edu/outreach/conf/fractography/)**

LaCourse named acting associate provost for Statutory Affairs

Dr. William C. LaCourse, Kruson distinguished professor of glass science and internationally recognized scientist and educator, has been named acting associate provost for Statutory Affairs by Alfred University; he was unanimously affirmed by the State University of New York (SUNY) Board of Trustees at its mid-March meeting.

Since Dr. L. David Pye’s retirement as dean of the NYSCC in 2000, the AU provost has been serving as the head of the College; a year ago, however, SUNY administration said it wanted someone in the post full-time, with no other responsibilities at the University.

LaCourse will serve in the position while a national search for a full-time associate provost is conducted, said AU President Charles M. Edmondson. LaCourse’s appointment ends months of

(Continued on page 6)



Dr. Bill LaCourse

AU Destructors to compete in Battle Beach 4

Students design and build competition robots in light and heavyweight classes

A team of Alfred University engineering undergrads known as the AU Destructors is carrying on the fighting tradition of AU battlebot robots with their latest competitors Purple Haze, a lightweight competitor, and the heavyweight Evil Monkey.

Purple Haze, in the 60 lb weight class, is ready for competition in April 8th's "Battle Beach 4, for the Robot Fighting League (RFL) Southeast Championship, at the Volusia County Fairgrounds in Deland, Florida.

Both radio-controlled robots are descended from a Saxon fighting lineage that includes 2003's "Grimace", a middleweight competitor in Mechwars 7 (120 lb) and 2005's "Hairy Vetch", a heavyweight contender in Mechwars 8 and Battle Beach 3. Evil Monkey is a redesign of Hairy Vetch with a stiffer, lightweight alloy frame that should increase its quickness and competitiveness. Electrical problems have resulted in Evil Monkey's late withdrawal from Battle Beach 4, but the heavyweight team hopes to compete later in the year.

Purple Haze gets its name from its quickness, a result of light-weight materials and a redesigned, quick-maneuvering, drive system. The team hopes to outmaneuver the competition and "not break anything expensive"!

The AU Destructors are advised by Dr. Joe Rosiczkowski, associate professor of mechanical engineering. The team is funded by the students themselves and by corporate sponsors.



Purple Haze is assembled and tested by AU Destructors.



48 Hour Challenge for 2006

(June 26-28, 2006)

Registration now full - time to plan for next year!

What is the Alfred University 48-Hour Challenge? - it's a mind-bending game, especially for high school students who excel in science, math and technology.

A team from Northwestern-Lehigh High School in New Tripoli, PA, won 2005's \$5,000 first prize in Alfred University's 48-Hour Challenge, a math-science-engineering competition for high school students.

To learn more, go to

<http://engineering.alfred.edu/challenge>

AU Math team earns math honors

Alfred University's three-member Math team participated in the 2005 William Lowell Putnam Mathematics Competition on December 3, 2005; placing 89th out of 500 colleges; the top 18th percentile. To understand just how competitive the exam is, the top 10 schools were Carnegie Mellon, Duke, Harvard, Princeton, Stanford, Toronto, Waterloo (Ontario, Canada), and Yale universities; California Institute of Technology; and Massachusetts Institute of Technology.



Aaron Cooke

AU's team included Aaron Cooke, (senior, GES and math) and senior math majors Jim Krysiak and K.C. Flynn.

The Putnam Competition is the elite collegiate mathematics competition in North America. Held annually on the first Saturday of December, it is a daylong exam in which the best college math students from across the United States and Canada tackle 12 diabolical problems in three-member teams. In December, 3,545 contestants participated in the 65th annual contest. The exam is constructed to test originality as well as technical competence.

The AU Mathematics Division began participating in the Putnam competition in 2002 and team has enjoyed phenomenal success - a small Division III school showing strong performances against the Harvards and MITs of the academic world.

Graduate student Moschiano will spend June in Osaka

Master degree student Holly Moschiano will spend June 2006 in Osaka, Japan, at the Laboratory of Professor Akiyoshi at the Osaka Okayama University. Her work, on biological attachment to biocompatible glasses, will be made possible by a grant from the NSF International Materials Institute for New Functionality in Glasses at Lehigh University.

Moschiano is a December 2004 AU grad in Glass Engineering Science, currently finishing her Master's with faculty advisor Dr. Alix Clare. She will travel to Osaka immediately after defending her thesis on May 24th, returning to start a new job in the United States later in the summer.

Grad student Holly Moschiano at work recently in Binns-Merrill Hall.



Engineers in Sports

Striker awarded First Team swim honors from the Empire 8

Junior Brandon Striker (CE) has again earned Empire 8 First Team Swim honors in the 200-yard freestyle. Striker placed second in that events at the state championships and also earned Second Team honors in the 500-yard freestyle (4:43.71).



Brandon Striker

Striker is also part of three award-winning relays. The 400-yard and 200-yard medley relay teams of Matt Baker, Brian Gotham, Striker and Alex Crowell each set new conference championship and AU

records (3:28.67 and 1:34.51, respectively). The AU 800-yard freestyle relay team of Gotham, Baker, Page Beecher and Striker also won a state title.

All-conference honors are determined using results turned in by Empire 8 teams that competed at the February 22-25, 2006, Upper New York State Collegiate Swimming Association (UNYSCSA) championship meet. The AU men's swimming and diving team is ranked in the top 25 nationally.

Landis competes in equestrian championships

Junior Lisa Landis (EE) represented Alfred University in intermediate equitation at the Intercollegiate Horse Show Association

(IHSA) Zone II, Region II championships Saturday, April 1, at St. Lawrence University in Canton, NY. Team member Stacy Eaker (senior, accounting) competed in the walk-trot competition.

Riders from 13 colleges competed. The top three riders in each event at the regional championships advance to the IHSA Zone II championships April 8-9 at Centenary College in Hackettstown, NJ.

Landis finished well at 5th while teammate Eaker will advance to the Zone II Championships with her 2nd place finish.

The top two riders in each event at the zone championships earn a trip to the IHSA national championships May 4-7 in Harrisburg, PA.

Saxon Racing faces delays; team to compete in 2007

AU's Formula SAE team reports funding delays and technical challenges have resulted in the decision to delay competition until next year. The team reports on their decision at their website, <http://www.saxonracing.com> ...

Paul Kiser (junior ME), Co-Captain/Sponsorship Team Leader, writes:

"... As we move to within weeks of this year's competition, our team has been forced to acknowledge the fact that we will be unable to compete in this year. This is due to many reasons. For the most part, we had been seemingly assured of a couple major cash sponsorships that ended up falling through. Had these donations come through in a timely matter, I am confident we could

have finished the car in time for this year's competition. As it is though, we are currently lacking the funding to purchase some key parts and equipment.

The fact that we won't be able to compete this year is a serious disappointment, especially for the seniors on our team who will not get to see their designs and hard work get put to use. This extra time will end up allowing us to build a better car. Right now, most of the frame is complete, although with the extra time now available, we may end up making some minor modifications. Also, we will likely end up running an aftermarket Engine Controller next year as the custom unit that our senior electrical engineers designed did not get sufficient testing to be tuned well

enough for use.

We have had some success in the past few months. A few new sponsors have generously made donations and many more are pending. As a benefit for all of our sponsors who have patiently followed our progress with this program, we will be getting t-shirts made up in the next few weeks, and they will be mailed out once available.

In closing, I would once again like to thank all of our sponsors, and to invite anyone who is interested in becoming one to contact Paul Kiser, Co-Captain/Sponsorship Team Leader."

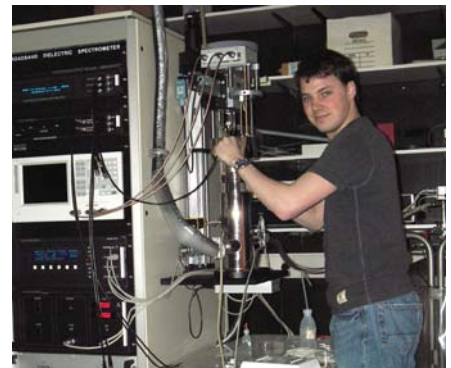


Graduate student Snyder spending March - May, 2006 at the Universität Dortmund

Masters degree student Joshua Snyder is spending March, April, and May, 2006 at the Universität Dortmund, Dortmund, Germany. His work entitled "NMR Study of Photo-Enhanced Gas Diffusion in Glasses" has been made possible by an International Semester Exchange Collaboration grant from the International Materials Institute for New Functionality in Glass.

Snyder is part of the Research group of Dr. Jim Shelby that is investigating the

properties of hollow glass microspheres (HGMS). When HGMS are placed in hydrogen gas at moderate temperatures, the gas diffuses in and fills the cavity; the HGMS remain until exposed to near-infrared light. Shelby and faculty colleague Dr. Matt Hall have suggested this phenomenon may be the basis of new practical hydrogen storage, a completely new functionality for glass and the potential for a major new industry.



Josh Snyder at work in the NMR lab at the Universität Dortmund, Dortmund, Germany.

NYSTAR - University

(Continued from page 1)

building blocks for new materials, and use them to manufacture prototypes of electronic components. Partner industries in the collaboration include Ferro Corporation, Ferronics, Inc., AVX, and Cooper Power Systems.

In conjunction with the morning celebration, an afternoon symposium (see following story) on issues in technology transfer will be held in Nevins Theater, AU Powell Campus Center.

Those interested in attending are encouraged to contact Marlene Wightman, wightman@alfred.edu.

CACT sponsors technology symposium: The Role Of University/Industry Collaboration In The Current Climate Of Globalization And Outsourcing

Nevins Theater, Powell Campus Center, Alfred University
2:00 pm - 4:00 pm, April 27, 2006

The Center for Advanced Ceramic Technology (CACT) is sponsoring a half-day symposium on "The Role Of University/Industry Collaboration In The Current Climate Of Globalization And Outsourcing" on April 27, 2006, immediately following the annual S.R. Scholes Lecture/Luncheon.

Speakers will include Dr. Güven Yalcintas, Vice President for Technology Transfer, SUNY Research Foundation; Prof. Ted Hagelin, Director, NYS Science and

Technology Law Center; Ms. Marjorie Zack, Director, Sponsored Research Service, RIT; Mr. Douglas Mann, Corning, Inc.; Mr. John Olenick, President, EnrG Inc.; and Dr. S.V. Babu, Director, Center for Advanced Materials Processing (CAMP) - Clarkson University. Interested participants are also invited to adjourn for a casual dinner at the Snug Harbor, in Hammondsport, NY.

The Symposium will cap off the day's events - beginning with the 9:00 am

-Highlights - April 27, 2006

9:00 am	Facility Dedication, at Ceramics Corridor Innovation Center, Alfred, New York.
11:20 am	Scholes Lecture, Holmes Auditorium, Harder Hall, AU
12:30 pm	Scholes Lecture Luncheon, Howell Hall, AU (reservation required)
2:00 pm	Symposium on Technology Transfer. Nevins Theater, Powell Campus Center, AU
6:30 pm	Dinner at the Snug Harbor, in Hammondsport, NY (reservation required)

inauguration of the new NYSTAR - University Nanotech Facility (see the day's program above). For reservations for the luncheon or dinner, please contact Marlene Wightman, wightman@alfred.edu.

CGR funds targeted research for glass industry

The NSF Industry-University Center for Glass Research (CGR) held its winter 2006 meeting in San Antonio, TX, on January 10-12, 2006. Representatives from Johns Manville Int'l, St. Gobain Recherche, US Borax, US Silica, Ferro Corp., Owens-Illinois, and Corning Inc. joined 10 CGR faculty and staff to review 12 faculty proposals from Alfred University and The Pennsylvania State University and to receive 2 semi-annual project progress reports.

CGR has three specialized university sites: basic and advanced glass research (Alfred University), glass surfaces and interfaces (The Pennsylvania State University), and refractories for glassmaking (University of Missouri-Rolla).

Faculty research proposals were written to address specific industry-expressed problems as defined by "problem statements" submitted by the CGR member companies. This process

resulted in a large number of projects that met expressed corporate needs, making the selection process very difficult. "... we would have funded all of them if we had the money," commented one CGR industrial member after the voting.

Projects selected for 2006-07:

Batch Melting Kinetics (Dr. Scott Misture, associate professor of materials science and engineering, Inamori School of Engineering, AU).

Nanomechanical Properties of Commercial Glasses (Dr. Carlo Pantano, distinguished professor of materials science and engineering, PSU).

The Effect of Process on Adsorption Sites on Multicomponent Glasses (Dr. Karl T. Mueller, associate professor of chemistry, PSU).

Each project is slated for duration of one year and is intended to provide for the support of one graduate student.

Attendees also enjoyed an afternoon tour of the facilities of the Southwest Research Institute with Dr. Vijay Jain (AU PhD 1988).

The Center for Glass Research is a consortium of industrial glass companies and suppliers who have gathered together to jointly fund graduate research that supports the glass industry. The results of the research are shared between the member companies. For more detailed information, please contact: Dr. Harrie J. Stevens, stevenshj@alfred.edu, CGR Director.



Dr. Harrie Stevens

Glass Decoration Goes Digital

The Inamori School of Engineering, NYS College of Ceramics, is working with IIMAK, Inc. (Amherst, NY) to develop glass "inks" for digital printing.

In the IIMAK process, micron- or sub-micron sized glass frit particles are printed on a polymer film directly as a digital image. The film is then applied to glass sheets up to 4' x 8' in dimension for firing during a thermal tempering process. The ink fuses to the surface and becomes a permanent image, replicating the digital computer image with up to 400 dpi resolution. An example of the output of the IIMAK process is shown at right.

IIMAK hopes this new imaging technology will enable significant growth in custom/short run glass decoration for residential and commercial markets currently being served by sandblasting and acid etching. Compared to conventional glass decoration methods such as sandblasting that are limited in precision and weaken the glass, this innovative process produces extremely detailed images with very short set-up and production times and the resulting glass object or panel is strengthened.



Dr. W. LaCourse



Dr. David Earl

Researchers Dr. William LaCourse, Kruson distinguished professor of glass science; Dr. David Earl, associate professor of ceramic engineering and materials science; and Dr. Water Mason, research associate, have addressed major technological obstacles. As a printed image, ink thickness is only a few microns and colors could appear very weak. The team has worked toward development of high chemical durability with low firing temperatures and development of higher color density.

AU has helped IIMAK to develop unique new colors, understand the fundamental of the process and to solve complex problems. "Working with the faculty and staff of Alfred University has enabled IIMAK to take its Decotherm TM digital glass decoration process to a whole new level," comments Dan Harrison, CTO of IIMAK.

The AU team has developed several potential commercial inks including a new process which produces low-fire opaque but glossy black inks and is working on new red as well as additional colors. Some of these new inks may be produced by Santanoni Glass, a company founded by LaCourse, in Alfred. AU will receive a royalty on all sales of these inks.

Additional examples and information on the process can be found at <http://www.decotherm.net>.



Simulated sand-blasted image formed on 4' x 8' glass sheet by printing digital image with "glass ink". Up to 400 dpi resolution is possible. (image used with permission of IIMAK)

CEER's SAC decides project funding for 2006-07

The Science Advisory Committee for the Center for Environmental and Energy Research at Alfred University (CEER) met on February 2, 2006, to evaluate research proposals submitted by AU faculty.

SAC members in attendance were Eldred Chimowitz, University of Rochester; Joseph Koo, University of Texas at Austin; Chad Nelson, University of Massachusetts; Louis Pilato, Pilato Consulting; and William Reinhardt, NYS Energy Research &

Development Authority. Also participating were S. Bala Krishnan, EPA Project Officer; Terese Vascott, Interim CEER Director; and Dr. David Earl, outgoing CEER Director.

Proposals were reviewed and ranked by the SAC based on project merit, environmental relevance, principal investigator qualifications and facilities.

Ten graduate research projects were recommended for funding in 2006-2008. Three projects received 12-month funding,

while the majority were funded for 18 months. Project funding is designed to support a masters degree student.

CEER receives major financial support from the Environmental Protection Agency (EPA). The present research grant selection is pending approval by EPA.

Scholes Lecture

(Continued from page 1)

glass and that of science, from the Roman and Arab ancient world through to the present day and beyond.

Wright is a well-known researcher with interests in neutron scattering and modeling studies of the structure and

dynamics of all types of inorganic amorphous solids and is the author of nearly 200 scientific publications. Wright has received many honors from the international glass community; he is a Fellow of the American Ceramic Society and a Fellow and past-president of the Society of Glass Technology. Wright has

been visiting scientist at Xerox Palo Alto Research Center, Argonne National Laboratory and the University of California, Los Angeles; he has been visiting professor at Stanford Synchrotron Radiation Laboratory, University of Florida, and at the NYS College of Ceramics.

Faculty and student presentations highlight latest research

Glass and Optical Materials Meeting 2006
May 16-19, 2006
Hyatt Regency Greenville
Greenville, South Carolina, USA

The Kazuo Inamori School of Engineering, NYS College of Ceramics, Alfred University, will be represented by a number of its glass and advanced materials researchers at the upcoming Glass and Optical Materials Meeting 2006. Presentations include:

Formation of Germanium Nanocrystals in Ge Doped Silica, Elizabeth M Birtch, James E Shelby; Joseph M Whalen, Corning Incorporated (GOMD-S2-009-2006)
Thermal and Photo-Induced Outgassing of Hollow Glass Microspheres, Fabienne C. Raszewski*, Matthew M Hall,

James E Shelby, NYSCC/AU (GOMD-S3-043-2006)
Composite Materials for Radiation Shielding, Aladdin S Geleil*, Matthew M Hall, James E Shelby, (GOMD-S3-044-2006)
Formation of Continuous Ge Films on Germinate Glasses, Amanda L Youchak*, Elizabeth M Birtch, James E Shelby, (GOMD-S3-048-2006)
Mechanical Properties of HGM/LDPE Composites, Melissann Marie Ashton-Patton*, Matthew M Hall, James E Shelby (GOMD-S3-045-2006)
Separation, Purification, and Storage of Hydrogen in Hollow Glass Micro-

spheres, James E Shelby*, Matthew M Hall (GOMD-S3-042-2006)
Effect of Aspect Ratio Changes on the Heat Capacity of Bismuth Borate Glass Fibers, Juergen Walker*, Fabienne C Raszewski, Alexis G Clare (GOMD-S3-002-2006)
Crystallization Kinetics of Lithium Orthosilicate Glasses, Lothar Wondraczek*, Corning SAS, France; Scott T Misture; Joachim Deubener, Clausthal University of Technology, Germany; Regina Knitter, Forschungszentrum Karlsruhe, Germany (GOMD-S2-012-2006)

Faculty travels

Alastair N. Cormack, Dean of the Inamori School of Engineering and Van Derck Frechette Professor of Ceramic Science, was at University College London, London, UK, from March 26-31, 2006, to participate in the meeting "Synthesis,

Design and Function in New Materials Chemistry." He was co-author of a presentation entitled "Molecular dynamics of bioactive silicate glasses" and also served as a session chair. While in London, Cormack also took the

opportunity for a working visit to confer with research colleagues at the Department of Chemistry at UCL, where he is a visiting professor.



Dr. Alastair Cormack

LaCourse appointed

(Continued from page 1)

negotiations between SUNY and Alfred University, which operates the College of Ceramics under a contract with the State.

Edmondson called LaCourse "eminently qualified" to serve as the acting associate provost while the University conducts a national search. "Bill LaCourse is well-respected as a scientist and as a teacher," said Edmondson.

LaCourse joined the NYSCC/AU faculty in 1970. He served as co-director of the Institute of Glass Science and Engineering from 1984 to 1988, and was instrumental in attracting the National Science Foundation Industry-University Center for Glass Research to AU. LaCourse, who holds seven patents, primarily on biomedical applications of glass, also served as director of the biomedical materials engineering program.

Popular with current students and alumni, "Doc" LaCourse was named an honorary alumnus of the University by the Alumni Association. For decades, he has been the "Voice of the Saxons," doing the play-by-play commentary at football games.

An entrepreneur as well, LaCourse founded Santanoni Glass and co-founded Saxon Glass, both start-up companies located in the Ceramic Corridor Innovation Center in Alfred.

What's a Unit Head? What are Statutory Affairs?

The New York State College of Ceramics was established in 1900, long before SUNY was established in 1948. It is a "contract college" and its faculty and administrators are appointed by Alfred University; SUNY can affirm or deny administrative appointments. The College, with its two schools, the Kazuo Inamori School of Engineering and the School of Art and Design, is the "unit" and matters dealing with its governance and finance are "statutory affairs."

Under the present agreement between AU and SUNY, the acting associate provost for Statutory Affairs is the interim unit head for the New York State College of Ceramics, serving as the administrative officer of the College and reporting directly to the provost of Alfred University and on a dotted line to the president of Alfred University and the chancellor of SUNY.

Faculty and Friends at Cocoa Beach

30th Int'l Conference & Exposition on Advanced Ceramics and Composites
Cocoa Beach, FL (January 22-27, 2006)

The Kazuo Inamori School of Engineering was represented by current faculty and numerous alumni at the recent Cocoa Beach meeting. Dr. Scott Misture, associate professor of materials science, and Dr. Xingwu Wang, professor of electrical engineering presented technical contributions. Marlene Wightman, Director of Continuing Education and Outreach, and Dr. Licio Pennisi (AU BS CE 1975), CACT Assistant Director (and roving photographer!), welcomed alumni and friends at the Alfred University Booth in the exhibition. It was a busy meeting place!



(L-R) Dr. Robert L. Snyder (professor emeritus, NYS College of Ceramics) Professor and Chair, Materials Science and Engineering, Georgia Institute of Technology; Dr. James McCauley (past Dean of the NYS College of Ceramics) Army Research Laboratory; Mrs. Mary Ann McCauley; and Dr. William J. Walker (AU BS CE 1989, PhD 1996 and former Asst. Director of the CACT) Federal-Mogul Corp, Ignition Products Tech. Center.



Visitors to the AU Kazuo Inamori School of Engineering displays at Cocoa Beach included (l-r) Dr. Kazunori Koga, Deputy General Manager, Business Planning Div., Corporate Business Strategy, Kyocera and Mr. Rod Lanthorne, President, Kyocera International.



(L-R) Dr. John Wight (AU BS CE 1989, PhD 1995), Corning Inc; Dr. William J. Walker, and Dr. Steve Arrasmith (AU PhD 1997), CACT Assistant Director.

Short Courses for Summer 2006

Energy Relevancy of the Glassmaking Process

(Energy Practices for Engineers and Plant Personnel)

July 25-27, 2006

INSTRUCTORS: Dr.



Dr. Alix Clare

Arvind Thekdi, President, E3M Corporation; Mr. Daniel Wishnick, consultant; and Dr. Alexis Clare, Professor of Glass Science, Kazuo Inamori School of Engineering, NYS College of Ceramics, Alfred University.

Fracture Analysis of Glasses and Ceramics

July 12-15, 2005

INSTRUCTORS: Dr. Jim

Varner, Professor of Ceramic Engineering, Kazuo Inamori School of Engineering, NYS



Dr. Jim Varner

College of Ceramics, Alfred University; and Mr. George Quinn, Ceramic Engineer, National Institute of Standards and Technology, Gaithersburg, MD.

Glass: Its Production and Properties

May 17-19, 2006

INSTRUCTOR: Arun K.

Varshneya, Professor of Glass Science, Kazuo Inamori School of Engineering, NYS College of Ceramics, Alfred University.



Dr. Arun Varshneya

Introduction to Ceramics for Non-Technical Personnel

June 7-9, 2006

INSTRUCTOR: Paul F. Johnson, Professor of Ceramic Engineering, Kazuo

Inamori School of Engineering, NYS College of Ceramics, Alfred University.

Introduction to Ceramics for Plant Personnel

June 12-14, 2006

INSTRUCTOR: Paul F.

Johnson, Professor of Ceramic Engineering, Kazuo Inamori School of Engineering, NYS College of Ceramics, Alfred University.



Dr. Paul Johnson

Full descriptions of the Short Course offerings for Summer 2006 may be viewed at http://engineering.alfred.edu/outreach/shor_crs. For further information or information on the availability of a course given in past years, contact Marlene Wightman, Director of Continuing Education, wightman@alfred.edu.

Summer Institute in Science & Engineering (July 16-20, 2006)

The Alfred University Summer Institute in Science & Engineering is an opportunity to learn more about science and engineering, to sample life on a college campus and to meet other students with similar interests and academic ability.

The number of participants is kept small to allow for individualized attention and optimal use of equipment. We expect to accept 50 students into the program this year. When not in class, students enjoy planned activities on campus as well as free time for relaxation. Living, dining and learning together, students have ample opportunity to get to know each other well and develop lasting friendships.

More pictures and fun information about the 2005 summer institute can be found at http://engineering.alfred.edu/outreach/summer_institute/index.html.



In the 2005 Summer Institute, students could (clockwise from top left) produce actual ceramic products from both clays and advanced ceramic materials, learn what it's like to pour molten glass, learn how micro-computers can be used in robotic control, and made sol-gel glass microspheres (with a diameter of ~ 0.05 mm, or 0.02 inches) by dropping glass frit into a bench burner flame.

Keramos at Cocoa Beach

Three Alfred University Keramos members, Katherine Rider (junior MSE), president, Matt Thompson (junior MSE), vice president, and Dan Skorski (sophomore CE), attended the national Keramos meeting at the 31st International Cocoa Beach Conference & Exposition on Advanced Ceramics and Composites in Cocoa Beach, FL, from January 22-27. The Conference included a student meeting on Sunday in which the AU chapter, along with Washington and Illinois, received the Sapphire (third place) Chapter Award for the work accomplished throughout the fall semester.

The putting contest tests the functional and aesthetic aspects of the putter and ball, while the mug drop tests durability (although there is an award for "Best Looking" mug). Initial drop height is 12 inches, increasing by 6-inch increments to a maximum of 12 feet!

For the competition, all entries must be made by undergraduates (not necessarily members of Keramos) using only ceramic (including glass or glass-ceramic) materials - no reinforcing rods, structures or fibers may be used unless totally fabricated by the students. Faculty or graduate students may only advise the undergraduate team. Putters, balls and mugs (which must be functional, hold 16-20 oz and have a handle) must be made as monolithic pieces. All entries must be made during the current 2005-2006 school year.

The NYSCC mug did not make it to the 12ft. height, surviving only the first five rounds, but it was quite an experience to watch the other chapters test the durability of their designs on to the maximum drop. The winners for the mug drop contest were from Missouri-Rolla while University of Washington took first place in the putter contest.

Dan Skorski putting for AU Team in an attempt to repeat last year's first-place sweep of putting contest categories. It was not to be: the AU entry came in third!



Sapphire Chapter Awardees. Front row, l-r: Katherine Rider (AU), Shane Boyd (WA), Julie Wong (IL). Back row, l-r Brad Johnson, Keramos General Secretary and Matt Dejneka, Keramos President.



AU Engineering News is a print version of our on-line newsletter, published four times a year. For complete news and updates, go to <http://engineering.alfred.edu/newsletter> AU Engineering News is edited by Dr. Anna E. McHale. Questions or comments about our newsletter can be sent to her at soeenews@alfred.edu.

**You may also contact us at:
Kazuo Inamori School of Engineering
Alfred University
2 Pine Street
Alfred, New York 14802-1296**