

# ENGINEERING News

Kazuo Inamori School of Engineering  
Alfred University

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## Also inside this issue ...

### STUDENT NEWS

Tau Beta Pi inducts four ... page 2

Morris wins at MS&T '08

... page 2

Alumni in the news ... page 2

Berwald presents solar energy seminar

Mauro edits "Odyssey" in Glass

Co-op success at Ceralink

... page 3

Alumni, Faculty meet at

MS&T'08

... page 6

### PROGRAM NEWS

Jones honored with McMahon

Award ... page 4

Scholarship winners - Materials

Science and Engineering Day

... page 4

### MATERIALS RESEARCH NEWS

CEER reports on research

progress ... page 5

Save the Date - Advanced Energy

Workshop ... page 5

### FACULTY NEWS

Cormack, Misture at Kyoto

Prizes ... page 6

Alumni, Faculty meet at

MS&T'08 ... page 6

Pilgrim teaches teachers ... page 7

### CONFERENCE NEWS

Center conference report:

"Solutions for a global Crisis"

... page 5

Fractography 2010 ... page 7

Solid State Ionics update

... page 8

**CANY seeks High School  
Scholars Nominations**  
Special recognition award  
for outstanding High School  
Juniors  
More info on page 5!

## Meet Dr. Ping Li, visiting faculty in the Inamori School of Engineering

The Inamori School of Engineering is pleased to welcome Dr. Ping Li to our engineering faculty as a visiting professor in electrical engineering for the 2008-2009 academic year. Dr. Li, professor of optical science and engineering at Shandong University, Shandong Province, Peoples Republic of China, is a guest of Dr. Xingwu Wang, professor of electrical engineering. Dr. Li's visit is to enable him to learn experimental and characterization techniques of benefit for industrial projects in his home country.

Currently, Dr. Li is doing research in Wang's thin films labs, studying the electrical, optical and mechanical properties of oxide and nitride thin films including aluminum oxide, aluminum nitride, cerium oxide, and silicon nitride. In addition, Li is studying the materials properties via X-ray diffraction, Raman and FTIR spectroscopy, SEM/EDS and XPS.

Li's other focus while here is related to Laser Technology, studying laser and material interaction; and the design of optical devices based on the thin films.



Dr. Ping Li



## Cheer for an Engineer!

Engineering and sports are a natural combination at Alfred University. The drive, energy and leadership talent that ensures AU graduates' success are well reflected in our undergraduate engineer athletes!

Over 80 AU engineers participated in varsity athletics in the Fall and Winter seasons, with significant contributions in several men's and women's teams. We can't name them all so check out the rosters the next time you're at a game! In addition to those teams highlighted, engineers competed as equestrians, in soccer and in lacrosse.

*continued on page 3*

## Mr. Mike Dunn, CACT Research and Development Scientist

The Center for Advanced Ceramic Technology is introducing a new face in the Ceramic Corridor - Mike Dunn, Research and Development Scientist, brings his many years of industrial experience in the ceramics industry to the CACT. His broad based expertise ranges from materials processing through production and sales.

Dunn's primary role is in support of the CACT industrial affiliate members. In addition to this responsibility with the Center for Advanced Ceramic Technology, he will be serving as the Director for the new NanoMaterials Innovation Center located in the CCIC building.



## Tau Beta Pi inducts four

Four engineers were inducted into the honor society Tau Beta Pi at the November 24, 2008, ceremony held at Susan Howell Hall. Inductees were Patrick DiCesare (junior CE), Robert Koch (junior CE), Kaleb Von Berg (Junior ME), and Michael Buisman (junior ME).

Tau Beta Pi, the second oldest Greek-letter honor society in America, is designed to "offer appropriate recognition for superior scholarship and exemplary character to students in engineering," and is similar in stature to Phi Beta Kappa in liberal arts.



*Pictured (l-r): TBP treasurer Kate Glass (senior CE) and secretary Sarah Chiara (senior CE); TBP advisor Dr. Scott Misture, Inamori Professor of Materials Science and Engineering; inductees Patrick DiCesare, Robert Koch, Kaleb Von Berg and Michael Buisman; TBP vice-president Alex Weller (senior BMES) and Tim Prunyn (senior CE), TBP AU chapter president; and Tom Pinkham, Tau Beta Pi District 2 area director.*

## Morris wins at MS&T '08

Stephanie Morris (Dec '08 GES) was First Runner-up in the Material Advantage Student Speaking Contest at MS&T '08, Pittsburgh, PA, October 5, 2008. In addition to \$300 for travel expenses as a finalist, Morris won \$100 for her presentation entitled "Properties of  $K_2O-Rb_2O-GeO_2$  Glasses."

The contest was organized for Material Advantage by the Ceramic Educational Council.

Morris is now preparing for her graduate studies at Clemson University.



## Alumni in the news ...

### Berwald presents solar energy seminar

Brad Berwald (BS/MBA EE 2000), senior sales engineer of Morningstar Corp., Washington Crossing, PA, presented "From Trenton to Timbuktu: Solar Electric Systems On and Off the Grid" as invited speaker at the October 31, 2008, Environmental Studies Seminar at AU. He's been with Morningstar for about 6 years.



Berwald spends much of his time supporting Morningstar's industrial sales channels in his areas of expertise - telecommunications systems and developing world applications. Notable projects have been in Israel, Nepal, Nigeria and Thailand. He is particularly interested in working in developing nations.

Berwald writes of his work:

In the telecom field, I often am supporting the installation of

remote transmission equipment such as mountaintop cellular phone towers or VSAT\* repeaters. In the developing world, I provide technical training on the design and installation of SHS (Solar Home Systems) for countries that will most likely never get a modern electric grid. These systems replace kerosene lamps to provide renewable reading lighting - in some cases the systems can power television and radios. We also have worked on larger variations of this type of system for use in health clinics.

Morningstar Corporation ([www.morningstarcorp.com](http://www.morningstarcorp.com)) is a world-leading provider of solar charge controllers and other power electronics equipment for use in remote photovoltaic power systems. Its products are sold in 73 countries through a global network of 164 authorized Morningstar distributors.

*\*\*Very Small Aperture Terminal, an under-3-meter satellite dish station for data, voice and video.*

### Mauro edits "Odyssey" in Glass

John Mauro (AU BS GES 2001, PhD Glass 2003), senior research scientist in the Modeling and Simulation group at Corning, Inc., served as the consulting editor for the November/December 2008 edition of *Odyssey: Adventures in Science*, a science-themed magazine for children.

The issue, "GlassWorks," explores glass: history, composition, application, properties and forming processes. Another AU alum - Dr. James R. Varner, professor of ceramic engineering, a leading expert in the field of glass and ceramic fractography - is a contributing author.

## Cheer for an Engineer!

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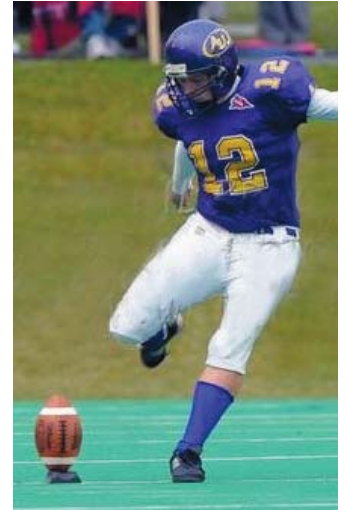


*Elana Lewis*

Kicker Eric Rockwood (freshman ME) has had an outstanding season in both kickoff yardage and field goal success. Also in the lineup for the Saxons were starters senior John Soule (CES) and sophomore Jeff VanDerwalker (BMES) with seniors Justin Hamblin (MSE), Joe Yesesky (ME), Rashaan Parks (CES), and Rob Headwell (CES) seeing significant playing time.

In **women's tennis**, Senior Elana Lewis (MSE) had an excellent season both in singles and doubles play. Lewis and doubles partner Griffin Currie, with an 8-4 record in first doubles over the season, received honorable mention in the Empire 8 all-conference roster.

### *So cheer for an Engineer - Go Saxons!*



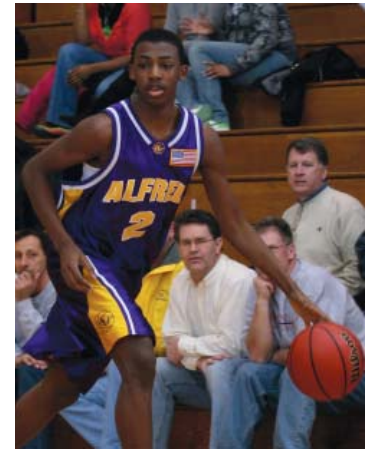
*Eric Rockwood*

Sophomores Gary Kweicen (BMES) (pictured on page 1) and Josh Parker (EE) are strong competitors for **Saxon Basketball**. Starting guard Kweicen is known as a tenacious defender and is one of the team's best ball handlers and scorers; Parker, with freshmen Bryan Bobo (BMES) and Patrick Hollenbeck (BMES) all see time on the boards and are scoring contributors who will do much more as the season progresses into 2009.

**Men's swimming and diving** are poised for another winning season, particularly with the depth of talent supplied by AU Engineers - of the 27 team members, 11 engineers make quite a splash! Diver Kameron Chambliss (junior MSE) is a strong winner for the Saxons on both 1-meter and 3-meter boards, as are freestylers Scott Sarkissian (EE), Andy Moragne (EE), Matt Lobban (MSE), Dan Steere (CE), and Warren Dolben (EE). Dolben, a freshman, is also a strong contributor in the IM and breaststroke.

In **women's swimming**, congratulations to junior Meghan Jones (BMES), a team captain and strong competitor in freestyle. Fellow engineers Julie Dalbey (freshman MSE) and diver Laura Turo (senior CE) add to the Lady Saxons competitiveness.

Distance runner Jesse Schuster (junior MSE) was consistently one of **AU Cross Country's** top finishers. Seven of the eleven competitors for the Saxons were engineers, including senior Matt Phillips (CES); juniors Jim Thierman (ME) and Kirk Peskor (EE); sophomores ME's Dave Hensel and Dave Cogswell, and freshman Ken Noll (MSE).



*Josh Parker*

## Co-op success at Ceralink

Engineering Co-op Nick Vandervoort (senior CE, at left), Shawn Allen (BS CE 2002), senior materials engineer, Ceralink; and Morgana Fall (BS CE 2003), operations engineer, Ceralink, demonstrate the transparency and color range of ceramics produced using Ceralink's RF Glass Lamination Technology.

Ceralink, a global leader in the development of microwave processing technologies, specializes in materials consulting, R&D, microwave technology and scale up, materials analysis, and lean green engineering. Ceralink was founded in 2000 by Dr. Holly Shulman (BS CE 1986).

Picture provided by AU '02 Business grad Patricia Strickland, Ceralink CEO.







## Jones honored with McMahon Award

Dr. Linda Jones, director of the Smith College Picker Engineering Program and Rosemary Bradford Hewlett '40 Professor of Engineering, received the John F. McMahon Engineering Achievement Award. The commemorative award, an elegant Steuben Glass prism, was presented at the luncheon following her talk, *The Practice of Engineering in the 21st Century*, given on Thursday, October 16, 2008.

The annual McMahon Award, named in honor of NYSCC Dean John F. McMahon, recognizes Jones for outstanding achievement in the field of ceramic engineering.

### Congratulate our scholarship winners! Engineering and Materials Science Day 2008 October 30, 2008

Twenty-one schools participated in the the Annual Engineering and Materials Science Day. A total of 89 students came to AU campus for the event on October 30, 2008, that included not only the Scholarship exam, but also tours and demonstrations in the Inamori School of Engineering laboratories.

The Scholarship exam winners are Peter Thayer, a senior at Wayne Central School, first place, receiving a \$10,000 scholarship (\$2,500 per year, 4 years); second place went to Vasily Kuksenkov (not pictured), a junior at Corning-Painted Post West High School, \$8,000 scholarship, (\$2,000 per year, 4 years); and third place went to Frank A. Kramer IV, a senior at Frewsburg Junior-Senior High School, \$6,000 scholarship (\$1,500 per year, 4 years).

The students must enroll in one of the Kazuo Inamori School of Engineering programs upon high school graduation in order to receive the scholarships.

The students and their teachers and guidance counselors had the opportunity to see these demonstrations by the engineering faculty and their graduate students:

**Dr. James Varner**, professor of ceramic engineering and materials science, presented "Picking Up the Pieces — How to be a Glass Detective," featuring a demonstration on the fractography of glasses.

**Dr. Xingwu Wang**, professor of electrical engineering, and students talked about "Three-Phase Motor Control" and "Thin Film Capacitor & LabVIEW-based Measurement System."



First place scholarship winner Peter Thayer with Wayne Central counselor Riley E. Wheaton (left) and Dean Alastair Cormack.



3rd place scholarship winner Frank A. Kramer with his proud mother Patricia (left) and Dean Cormack.

**Dr. William LaCourse**, professor of glass science, hosted a demonstration on glass fibers.

**Dr. Scott Misture**, Inamori Professor of materials science, and **Eric Nichols**, a graduate student, presented "X-Ray Powder Diffraction and its Application to Archeological Exploration."

Bioscience Technician **Raymond Lewis** presented "Atomistic Computer Simulation of Materials."

**Dr. Joe Rosiczkowski**, associate professor of mechanical engineering, presented a program on "Beetle Bots (robotic warriors)."

Student **Stephanie Morris** presented a session on glass pouring.

**Dr. Jianxin Tang**, professor of electrical engineering, talked about "Maglev 'Train' (superconductor)."



**Dr. Jinghong Fan**, professor of mechanical engineering, hosted "Investigating Important Materials Mechanics."

Student **Anatoly Kishinevski** offered "Scientific Glassblowing and its Applications."



**Dr. William Carty**, professor of ceramic engineering and materials science, and Matt Katz, research assistant, discussed "Ceramic Materials and Processes," focusing on slip casting and other "cool" things.

Congratulations go out to the students for a job well done!

For more information about this program or to add your local school to our contact list, contact Marlene Wightman, Director of Continuing Education/Outreach, [wightman@alfred.edu](mailto:wightman@alfred.edu).

## CEER reports on research progress

The Center for Environmental and Energy Research (CEER) is a multidisciplinary consortial research effort involving Alfred University faculty and students, industrial partners, and state and federal

### CANY seeks high school scholars

The Ceramics Association of New York (CANY) is searching out the best and brightest high school scholars for special recognition. These young people are the future of engineering and science and, we hope, materials science and engineering!

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.

If you know a high school junior worthy of special recognition for his or her achievements, please contact Marlene Wightman, CANY secretary/treasurer, [wightman@alfred.edu](mailto:wightman@alfred.edu), as soon as possible so that she may send out information and application materials.

The deadline for submission is February 28, 2009

agencies in its mission, to "utilize AU's world renowned expertise and facilities in ceramic engineering, materials science/engineering, and related programs to develop materials and processes for environmental sustainability". The funded research projects reflect the Center's focus on 1) materials and processes for clean, renewable energy, and 2) improvements in materials efficiency, environmental impact and recycling.

CEER funding is provided by the US EPA National Center for Environmental Research (<http://es.epa.gov/ncer/>). Of the eight projects recommended for funding by CEER's Science Advisory Committee in September 2006, four have been completed, two are near

completion, and two will finish by the end of the project period in 2009. Research reports can be found on CEER's web site, <http://ceer.alfred.edu>.

Soon to be completed projects include:

**Magnesium Rich Coatings for Corrosion Control of Reactive Metal** (R. DeRosa\*)

**The Use of Fly Ash in the Production of SialON Based Structural Ceramics** (J. Varner)

**Nanoscale Layered Photocatalysts** (S. Misture and D. Edwards)

**Novel Glass-Ceramics Gas Separation Membranes** (S. Misture)

*\*now with Corning, Incorporated.*

## Save the Date - Advanced Energy Workshop March 19, 2009

The Center for Advanced Ceramic Technology and the Syracuse Law Center are planning an Advanced Energy Workshop at Alfred University on March 19, 2009.

The afternoon program will include several invited speakers and discussions.

For more information, please contact Marlene Wightman, Director of Continuing Education/Outreach, [wightman@alfred.edu](mailto:wightman@alfred.edu).

## Center conference report: "Solutions for a Global Crisis" Hauppauge, Long Island November 18-20, 2008

**Dr. Doreen Edwards**, professor of ceramic engineering and materials science, and Center for Advanced Ceramic Technology Assistant Director **Steven Arrasmith** attended the 2008 Advanced Energy Conference "Solutions for a Global Crisis" in Hauppauge, Long Island, on November 18-20, 2008, to learn and to network with people and organizations from around the state.

The Energy Conference, produced by the Advanced Energy Research & Technology Center at Stony Brook University with partners National Grid and LIPA, featured 134 global energy experts presenting and speaking - sharing energy research, energy

technologies and applied energy technologies with global applications. Over 50 exhibitors included companies that provide products and services for energy efficiency and alternative energy generation including American Superconductor, Plug Power Inc., and a number of wind and solar energy companies.

The 960 conference participants were welcomed by speakers including Robert Catell, Chairman, USA National Grid; Paul DeCotis, NYS Deputy Secretary for Energy; NY State Senator John Flanagan; NY State Senator-Elect Brian Foley; Stony Brook University President Shirley Sturm-Kenny; NY State Senator Kenneth LaValle; and

Dr. Yacov Shamash, Vice President for Economic Development and Dean at Stony Brook University.

The conference was designed around five concurrent "tracks": Advancing Energy Options, The Regulatory Process; Renewables; Networks of the Future, Gas & Electric; Conservation & Efficiency; and Innovation.

In his remarks on Innovation, NYSTAR Executive Director Ed Reinfurt said

"Progress walks hand in hand with technology. I would like to talk about the most under discussed, under appreciated, and under invested aspect of the nation's

*continued on page 7*



## Cormack and Misture represent the Inamori School of Engineering at 2008 Kyoto Prize celebration

Dr. Scott Misture, Inamori Professor of materials science and engineering, and Dean Alastair N. Cormack, Inamori School of Engineering, visited Japan in early November 2008 at the invitation of The Inamori Foundation to attend the Kyoto Prize Ceremony.

While in Japan, Cormack and Misture visited the Kyocera Central Research Laboratories in Kagoshima, to discuss joint research projects and to map out future research collaborations. As this was Misture's first visit, the pair also had a tour of their facilities.

In Kyoto, the pair visited Kyocera's Head Office and toured their Fine (i.e. Technical) Ceramics Museum.

They met with the Museum Director for discussions on the development of our own Fine Ceramics Museum - being planned for the top floor of Binns-Merrill Hall - and saw how much progress Kyocera had made in gathering specimens for the displays in our Museum.



*Dr. Alastair Cormack, Dean of the Inamori School of Engineering at Alfred University, and Dr. Scott Misture, Inamori Professor (AU) met with Dr. Kazuo Inamori prior to the Kyoto Prize ceremonies.*

Finally, just before the Prize Ceremony, Misture and Cormack had a meeting with Dr. Inamori, in which they brought him up to date with the various activities of the Inamori School of Engineering.

Afterwards, Cormack traveled onto Jingdezhen, China, to discuss exchange and 2+2 programs with the Jingdezhen Ceramic Institute. It is hoped Alfred University and Jingdezhen are soon to sign an agreement under which JCI students would come to AU for their junior and senior years, getting a BS in Ceramic Engineering from AU.



*◀As a first-time visitor to Kagoshima, famous for its very fresh seafood (most often served raw), Misture also had to sample the local cuisine!*

*▶ Dr. Scott Misture examines Kyocera specimens gathered by Fine Ceramics Museum Director Mr. Nobuhiro Yoshida (center) and his staff of the Kyocera Museum of Fine Ceramics, Kyoto, Japan. Looking on is Dr. Kazunori Koga, Senior Expert, Business Promotion Division, Kyocera (right).*



## Faculty Grants News

Dr. Scott Misture, Inamori Professor of materials science and engineering, and Dr. James Shelby, professor of glass science, have successfully obtained US Department of Energy funding for their joint project "Viscous Glass/Composite SOFC Sealants."



*Jim Shelby*

Hermetic glass seals are a critical technology to allow long-term operation of SOFCs. The breakthrough technology we aim to achieve is a glass sealant that is able to flow at the operating temperature of the SOFC, thus filling any cracks, voids, or other defects that might develop over the lifetime of the device.

The \$165K grant runs for a three-year period from 2008-2010

## Alumni, Faculty Meet at MS&T '08

The MS&T '08 Fall meeting was well attended by AU alums and faculty! The exposition was a great meeting place as always and the AU alumni reception drew a crowd of a hundred faculty, alumni and friends.



*Pictured (l-r): alumni Morgana Fall (BS CE 2003), Ceralink; Fabienne Raszewski (BS CE 2003), Savannah River National Labs; Mike Wallace (BS CE 2005), Vesuvius; Dr. Doreen Edwards; and Mandy Youchak-Billings (BS GES 2005), Savannah River.*

## Pilgrim teaches teachers to enrich young minds

**Dr. Steve Pilgrim**, professor of materials science and engineering, has recently been active in making sure that public school teachers have better materials awareness and teaching resources in science, offering 6 hours (3 courses) of continuing education credits at the Bath (NY) teachers center.

In September, he offered "The "Magic" Inside Electronics" for



*Steve Pilgrim*

teachers of secondary students - explaining how, using applications of fundamental physics, chemistry, and engineering, consumer electronics (cell phones, computers, CD's, DVD's, TV's, etc.) do things that would have been considered "magic" just a century ago.

In October, Pilgrim presented "Polymers--the slinky materials" for teachers of middle school and above, offering the unique properties of polymers (slime, silicone, etc.) through experiments, demonstrations, and consumer products.

In November, he discussed "Light" and it's properties as it is bent by refraction (for rainbows, optic communications), split by diffraction (opals and oil slicks), manipulated through polarization (fish goggles, sunglasses, and stress indicators). Teachers of elementary students learned an understanding of the basics of light pipes for fiber optics and the wave nature of light and were encouraged to use overhead projector to use for mixing colors.

## Fractography of Glasses and Ceramics VI — June 2010

### St Augustine, Florida, USA

Following the highly successful 2006 meeting in Rochester, NY, preparations have begun on the latest in this important conference series, so mark your calendars and start preparing your contribution!

Conference proceedings will be published by The American Ceramic Society -John Wiley and Sons as part of the Ceramics Transactions Series. For 2010, co-organizers include:

**Dr. James Varner** is a Professor of ceramic engineering in the Kazuo



*Dr. Jim Varner*

Inamori School of Engineering, New York State College of Ceramics, Alfred University. Varner was an organizer of Fractography of Glasses and Ceramics V.

**Dr. Jack Mecholsky** is Associate Chair and Professor of materials sci-



*D. Jack Mecholsky*

ence and engineering at the University of Florida. His research focuses on biomaterials, fractal analysis, fractography and the application of fracture mechanics to the

failure analysis of advanced ceramics and composites.

**Mr. George Quinn** has recently retired after 18 years at NIST. At NIST, his work entailed mechanical testing and reliability analysis with emphasis on refinements to and standardization of test methods. Quinn is a past chairman of ASTM Committee C-28, "Advanced Ceramics," a past Chairman of Versailles Advanced



*Mr. George Quinn*

Materials and Standards Technical Working Area #3, "Ceramics," and the chairman of 3 working groups in International Standards Organization TC 206, Fine Ceramics. Quinn was an organizer of Fractography of Glasses and Ceramics V.

**Dr. Jill Glass** is the manager of the Materials Reliability Department



*Dr. Jill Glass*

at Sandia National Laboratories in Albuquerque, New Mexico. As a Principal Member of the Technical Staff, Glass has led and contributed to research, development, production, and failure analysis

activities focused on the mechanical properties of glasses and ceramics.

## "Solutions for a Global Crisis"

*continued from page 5*

new energy-clean energy agenda - the electric grid... The last major expansion of NY's bulk power system occurred in 1987..."

Reinfurt called for a DARPA (Defense Advanced Research Projects Agency) type approach, with the State bringing industry and energy planners together in a collaborative manner.

"[The DARPA approach] foresees new innovation-based capabilities and then works back to the fundamental breakthroughs required to make them possible."

This was the second Annual Energy Conference produced by the Advanced Energy Center.

Dr. Yacov Shamash remarked, "We look forward to facilitating academic and industrial partnerships, playing an integral role in the research and commercialization of alternative energy technologies, and hosting larger international conference next year."

## Solid State Ionics update (SSI- 17)

17th International Conference on Solid State Ionics

June 28 - July 3, 2009

Fairmont Royal York Hotel, Toronto, Canada

The clock is counting down to the start of SSI-17! With less than six months before the opening session in Toronto, Canada, now is the time to finalize your abstract for direct submission on the conference website - the deadline is 1/31/08!



Visit the website for complete registration and travel information, including important and helpful links for hotel, airports and Canadian visa application (<http://www.ssi-17.net>).

On the website, you will be able to conveniently register for the conference as well as for the Wednesday Niagara Falls/Winery tour/dinner excursion and Sunday afternoon technical workshops. Preregistration/prepayment is needed for the excursion. Complete information for both credit card

payments and bank transfers is provided.

Full information on plenary lecturers is now available and the site is constantly updated with the most recent abstract information available.

Manuscripts may be submitted for publication in a special volume of the Journal Solid State Ionics (SSI). All manuscripts will be refereed according to the usual standards of Solid State Ionics. Only those papers actually presented will be included in the proceedings.

## Recent Faculty Publications

### Patent Applications

**High-temperature dielectric materials and capacitors made therefrom**, K. Bridger, A.V. Cooke, and W.A. Schulze, (Active Signal Technologies, Inc., USA; Alfred University). Application US:20080239627, WO 2008/119014 (2008).

**Composite electrolyte material having high ionic conductivity and depleted electronic conductivity and method for producing same**, V.R.W. Amarakoon; H. Giesche; R. Chockalingam, and G.E. Del Regno, (Alfred University, USA). Application US:2008248363, (2008).

### Energy

**Synthesis of carbon nanotube-TiO<sub>2</sub> nanotubular material for reversible hydrogen storage**, A. Mishra; S. Banerjee; S.K. Mohapatra; O.A. Graeve, and M. Misra, *Nanotechnology*, 19 [44] 7 (2008).

### Glass Properties

**Helium solubility in alkali silicate glasses and melts**, C.C. Tournour and J.E. Shelby, *Phys. Chem. Glasses: Eur. J. Glass Sci. Technol., Part B*, 49 [4] 207-15 (2008).

**Neon solubility in silicate glasses and melts**, C.C. Tournour and J.E. Shelby, *Phys. Chem. Glasses: Eur. J. Glass Sci. Technol., Part B*, 49 [5] 2237-44 (2008).

### Materials Education

**Engineering project laboratory modules for an introduction to materials course**, S.H. Gleixner; E. Douglas, and O. Graeve, p. 989 in *Proceedings of 2008 ASEE Annual Conference and Exhibition*. 2008.

### Materials Processing

**2.45 GHz microwave sintered Si<sub>3</sub>N<sub>4</sub>-ZrO<sub>2</sub> composites**, S. Chockalingam and V.R.W. Amarakoon, *Nippon Seramikkusu Kyokai Gakujutsu Ronbunshi/Journal of the Ceramic Society of Japan*, 116 [1354] 700-5 (2008).

**Spark plasma sintering of Fe-based structural amorphous metals (SAM) with Y<sub>2</sub>O<sub>3</sub> nanoparticle additions**, O.A. Graeve, R. Kanakala, L. Kaufman, K. Sinha, E. Wang; B. Pearson; G. Rojas-George, and J.C. Farmer, *Mater. Lett.*, 62 [17-18] 2988-91 (2008).

### Materials Properties

**Lambdoidal reinforced microstructures of matridae shell**, B. Chen; X. Peng; J. Fan, and S. Sun, *Key Eng. Mater.*, 368-372 [Pt. 2, High-Performance Ceramics V] 1695-8 (2008).

**High temperature reactions between soda-lime-silica glass and lithium aluminosilicate glass-ceramics**, C.W. Sinton; A. Crawford; S. Mixture; J. Seeger; L. Wondraczek, and J. Deubener, *Glass Technology: European Journal of Glass Science and Technology Part A*, 49 [3] 133-8 (2008).

### Modeling Glass Properties

**Exploring the surface of bioactive glasses: water adsorption and reactivity**, A. Tilocca and A.N. Cormack, *Journal of Physical Chemistry C*, 112 [31] 11936-45 (2008).

### Modeling Materials Properties

**A microstructure-based constitutive model for the pseudoelastic behavior of NiTi SMAs**, X. Peng; W. Pi, and J. Fan, *Int. J. Plast.*, 24 [6] 966-90 (2008).

**Experimental and numerical study of cyclic creep of cast magnesium alloy at high temperature**, X. Zeng; Z. Gao; J. Fan, and H. Chen, *Adv. Mater. Res. (Zuerich, Switz.)*, 33-37 [Pt. 1, Advances in Fracture and Materials Behavior, Part 1] 421-8 (2008).

### Phase Equilibrium

**Phase formation and stability of polycrystalline Na<sub>x</sub>Ga<sub>4+x</sub>Ti<sub>1-x</sub>O<sub>8</sub> (x ~ 0.7)**, J.W. Amoroso and D.D. Edwards, *Solid State Ionics*, 179 [21-26] 878-80 (2008).

**Formation and structural refinements of tunneled intergrowth phases in the Ga<sub>2</sub>O<sub>3</sub>-In<sub>2</sub>O<sub>3</sub>-SnO<sub>2</sub>-TiO<sub>2</sub> system**, C.R. Maier; M. Charoenwongsa, and D.D. Edwards, *J. Solid State Chem.*, 181 [10] 2755-62 (2008).

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