

# The Crucible



<http://membership.acs.org/P/Pitt>

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## Pittsburgh Section Welcomes New Chair, Fu-Tyan Lin

The Pittsburgh Section is pleased to welcome Fu-Tyan Lin as 2008 Chair.

Fu-Tyan retired three years ago from the Chemistry Department at the University of Pittsburgh where he was the Director of the NMR Lab for 25 years. He is currently doing some consulting and research works in his lab at the UPARC. He has been an ACS member for 31 years and he is also an active member of SSP (since 1983), SACP (since 1999) and the PITTCON Committee (since 1993).



Lin sees the ACS Pittsburgh Section as very active consisting of the Executive Committee, Councilors, 10 Standing Committees, 7 Groups, 12 additional Committees, The Crucible, and Web Master.

“Our dedicated volunteers and members have run successful programs that deepen the understanding and appreciation of Chemistry in the community. There are many

programs for students that include small kids, high school and college students. Those programs include National Chemistry Week (NCW), Project Seed, Kids In Chemistry, and the Student Affiliates Group. These programs will be continued in 2008. All of these programs plus sub committees and groups require forward planning under our budget”, says Lin.

**2008 Pittsburgh Section Chair, Fu-Tyan Lin** will also strive to get more volunteers, members and new members to participate in programs. He is looking forward to working with all of you and building on this firm and active foundation in 2008.

Fu-Tyan welcomes and also appreciates your comments and/or recommendations for the ACS 2008 Pittsburgh Section.

Best wishes to the Section for a successful year!

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**Wednesday, February 20, 2008**

**“Healing Broken Hearts with Our Cells”**

**Dr. Jorge Genovese, Research Professor in the Department of Surgery  
University of Pittsburgh Medical Center**

The recent progress in cellular and molecular biology allows the development of new therapies for many serious diseases including heart failure and the conditions that originate it. One of the most innovative therapies consists in the transplantation of stem cells into the myocardium for heart muscle regeneration. Adult myocardium cannot effectively repair itself after infarction due to the limited number of stem cells. Thus, most of the injury is irreversible.

The goal of cell transplantation is to grow new muscle fibers (myogenesis) and/or to develop new blood vessels (angiogenesis) in the damaged myocardium. This may potentially contribute to improve ventricular function and to reverse the process that concludes in a condition that many times could be resolved by a heart transplant only.

Adult cultured autologous stem cells do not raise immunological, ethical, tumorigenesis or donor availability problems. The development of this therapeutic tool could change dramatically the evolution of many diseases and our mode of treatment. The use of stem cells represents a new paradigm of “cure by replacement”: an etiological treatment, a real cure.

Tissue engineering by the combination of stem cells with different scaffolds may contribute to improving the efficiency of cellular therapy for organ regeneration opening the amazing possibility to generate “bio-artificial organs”.

In this presentation an overview of the state of the art in stem cell research and clinical application will be done emphasizing the stem cell usefulness in cardiology.

Bio

Dr. Jorge Genovese received his M.D. in 1980 summa cum laude from the School of Medicine of Buenos Aires University, where he obtained his Ph.D. in 1987 after completing a thesis on TGF-Beta, which received an “outstanding” grade. Dr. Genovese has been Fellow of the Argentinean National Council of Scientific and Technological Investigations and of Buenos Aires University. He has also been an Assistant Researcher at the Veteran’s Administration in his capacity of external fellow of Buenos Aires University, at the St. Louis University where was designated Faculty member of the Internal Medicine Dept. Dr. Genovese completed his second postdoctoral training at Rorer Biotechnology in Philadelphia under Prof. Joseph Schlessinger direction.

Dr. Genovese has been Vice President of the Tissue Engineering Society International and he is the Honorary President of the Tissue Engineering Committee at the National Academy of Medicine and Science of China.

During last years, Dr. Genovese’s was devoted to different fields of tissue engineering: keratinocytes culture and different application ways, corneal epithelium and chondrocytes cultures and dermoepidermic devices generation. He has also cultured non-arrhythmogenic skeletal myoblasts successfully used for cell therapy in humans. Dr. Genovese’s research focuses on basic aspects of adult stem-cells differentiation and cell therapies in cardiology and he is the Director of the Cardiac and Molecular Biology laboratory at the Heart, Lung and Esophageal Surgery Institute (UPMC).

## ENERGY TECHNOLOGY GROUP

Pittsburgh Section,  
American Chemical Society

**Thursday, February 7, 2008**

### **Two Views of the Universe**

A Conversation with  
Thomas Ruppel and Mordecai Treblow

### **More Restaurant,**

214 N. Craig St. Oakland Area,  
Pittsburgh PA, 412-621-2700

11:30 am      Networking, Cash Bar

12:00 noon    Luncheon

1:00 pm       Presentations

### ***“Six Days or Forever, Some Cosmic Musings” -- Tom Ruppel***

Tom will provide a brief discussion of cosmology, which will include present day considerations of the origin, age, size, shape, and future of the universe.

Tom is a retired Senior Engineer with Parsons Corporation, a site support contractor for the U.S. Department of Energy's National Energy Technology Laboratory. He previously served as an environmental specialist in the DOE's Clean Coal Technology Demonstration Program. Author of approximately 40 publications and presentations, Tom is a past Chairman and Director of the Pittsburgh Section of the ACS. Tom's interest in cosmology originated with reading a 1948 prediction by George Gamow that there should be a faint ubiquitous microwave glow left of the Big Bang that should pervade the universe. The 1979 Nobel Prize-winning experimental observation by Penzias and Wilson was a beautiful confirmation of cosmological thinking.

### ***“Creation in Genesis vs. the Big Bang Theory” - Mordecai Treblow***

Mordecai will compare the story in Genesis I with Gamow's theory, proposing that the two are compatible. He will draw on Hebrew, Catholic, and Protestant Biblical sources.

Mordecai has a BA from the University of Pennsylvania, an MS from Penn State, and a PhD from the University of Pittsburgh, all in chemistry. His career has been in teaching and in industry. A member of ACS for over 50 years, Mordecai has served 5 terms as Councilor for the Pittsburgh Section and as a Region Director on the national Board. He has had a major interest in U.S. energy policy. Other interests include philosophy of science, comparative religion, and cosmology.

**To register for this lively, informative session,  
call Christina Carpenter at 412-386-4484.**

## **Pittsburgh Section Election Results**

Congratulations to the following winners of the 2008 election.

### **Chair**

Fu-Tyan Lin

### **Chair-Elect**

Nick Tsarevsky

### **Secretary-Elect**

Joe Jolson

### **Treasurer - Elect**

Simion Coca

### **Director**

Mille Perry

### **Councilors**

Jim Manner

Mark Bier

### **Alternate Councilors**

Michelle Blanken

Almudena Prudencio

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# Society for Analytical Chemists of Pittsburgh



## February Meeting

Monday, February 4, 2008

Duquesne University, Maurice Falk Hall

Dinner - Student Union, City View Café (6<sup>th</sup> Floor) 6:30 P.M.

Technical Presentation 8:00 P.M.

## *“Exploring the Limits of Resolution in Liquid Chromatography and Capillary Electrophoresis”*

James Jorgenson, Ph.D.

Professor, Department of Chemistry

University of North Carolina

### Abstract:

While the basic separation mechanisms of chromatography and electrophoresis are different, there are still some interesting parallels between them. Pressure is a primary factor controlling separation efficiency (theoretical plates) in liquid chromatography, while electrical potential is a primary factor controlling separation efficiency in electrophoresis. It is possible to increase the separation power of liquid chromatography through the use of smaller particles of packing material and the application of higher pressures for pumping mobile phase. In an analogous manner it is possible to increase the separating power of capillary electrophoresis through the application of higher electrical potentials. Alternatively, enhanced separations can be achieved by creating an “endless” separation system. In capillary electrophoresis, this can be accomplished by doing separations in a circular system (Cyclic Capillary Electrophoresis) or in a linear system with a counterflow (Flow Counterbalanced Capillary Electrophoresis). Similar improvements can be attained by doing liquid chromatography in a cyclic system (Recycling Chromatography). While the basic separation mechanisms of chromatography and electrophoresis are different, there are still some interesting parallels between them. Pressure is a primary factor controlling separation efficiency (theoretical plates) in liquid chromatography, while electrical potential is a primary factor controlling separation efficiency in electrophoresis. It is possible to increase the separation power of liquid chromatography through the use of smaller particles of packing material and the application of higher pressures for pumping mobile phase. In an analogous manner it is possible to increase the separating power of capillary electrophoresis through the application of higher electrical potentials. Alternatively, enhanced separations can be achieved by creating an “endless” separation system. In capillary electrophoresis, this can be accomplished by doing separations in a circular system (Cyclic Capillary Electrophoresis) or in a linear system with a counterflow (Flow Counterbalanced Capillary Electrophoresis). Similar improvements can be attained by doing liquid chromatography in a cyclic system (Recycling Chromatography).

### Bio:

James Jorgenson was born in Kenosha, Wisconsin in 1952. He received his undergraduate education at Northern Illinois University where he received a B.S. in Chemistry in 1974. Following this he entered graduate school at Indiana University, where he worked in the research group of Professor Milos Novotny, and received a Ph.D. in Chemistry in 1979. His Ph.D. research concerned two principal areas; the study of mammalian pheromones, and the development of new detection schemes for liquid chromatography.

Dr. Jorgenson joined the faculty of the University of North Carolina as an Assistant Professor of Chemistry in 1979. He was promoted to Associate Professor in 1985, Professor in 1987, appointed the Francis P. Venable Professor of Chemistry in 1994, and William Rand Kenan, Jr. Distinguished Professor of Chemistry in 1999. He was Chair of the Chemistry Department from 2000 to 2005.

Among the honors he has received are the Esselen Award for Chemistry in the Public Interest in 2004, the Pittsburgh Conference Analytical Chemistry Award in 2005, the American Chemical Society Award in Analytical Chemistry in 2007, and elected to the American Academy of Arts and Sciences in 2007.

Professor Jorgenson is one of the originators of capillary electrophoresis, with his first publications on this topic appearing in 1981. His current research interests include ultrahigh pressure liquid chromatography, multidimensional separations, microscale separations coupled to mass spectrometry, and the design of detectors for chromatography and capillary electrophoresis.

**Dinner Reservations:** Please email Larry Senor, Arrangements Co-Chair at [senor@pittcon.org](mailto:senor@pittcon.org), by Thursday, January 31, 2008 to make dinner reservations. Should you not have email, please call Larry at 724-327-4428. Dinner will cost \$8 (\$4 for students) and checks can be made out to the SACP. If you have any dietary restrictions, let Larry know when you leave message.

**Parking:** Duquesne University Parking Garage entrance is on Forbes Avenue. Upon entering the garage receive parking ticket and drive to upper floors. Pick up a parking sticker at the dinner or meeting. Contact Dr. Mitch Johnson at Duquesne University if any difficulties arise.

## NCW Poster Contest Winners

As part of the 2007 National Chemistry Week (NCW) celebration, the Pittsburgh Section ACS sponsored a poster contest for students in four grade categories: K-2<sup>nd</sup>, 3<sup>rd</sup>-4<sup>th</sup>, 5<sup>th</sup>-8<sup>th</sup>, and 9<sup>th</sup>-12<sup>th</sup>. Students were invited to create a poster that celebrated the theme "The Many Faces of Chemistry." Posters were judged on artistic merit (use of color, quality of drawing, poster design & layout), poster message (should be fun, motivational and inspire students to pursue a career with emphasis on the chemistry in the career), originality and creativity (unique, clever and/or creative design), and neatness.

1<sup>st</sup> and 2<sup>nd</sup> place were awarded \$50 and \$25 prizes. In addition, each winner and their families were offered free admission to the Carnegie Science Center on October 27<sup>th</sup> to celebrate National Chemistry Week, where the winning posters were on display! All 1<sup>st</sup> place winners of the Pittsburgh contest were entered into a national NCW poster contest sponsored by the ACS's Office of Community Activities and Committee on Community Activities.

The winners of the Pittsburgh Section's 2007 NCW poster contest:

### K-2<sup>nd</sup> Grade

\*Annabel Haberberger\*

Grade 2 - Washington Elementary School

CONGRATULATIONS ANNABEL - winner of the NATIONAL poster contest in the K-2<sup>nd</sup> grade category!

### 3<sup>rd</sup>-4<sup>th</sup> Grade

No entries received.

### 5<sup>th</sup>-8<sup>th</sup> Grade

Li Li

Grade 8 - Mellon Middle School

### 9<sup>th</sup>-12<sup>th</sup> Grade

Lu Li

Grade 10 - Mt. Lebanon High School

Congratulations Annabel, Li, and Lu! Additional congratulations go to Annabel for winning the national ACS's NCW poster contest! The Pittsburgh Section ACS wishes to thank all of the schools who participated in this year's contest. Special thanks also go to Susan Meer for organizing the contest.

*Submitted by V. Michael Mautino, NCW Coordinator*



Winning poster display at NCW Event

## ACS Pittsburgh Chemists Club

Pittsburgh Section, American  
Chemical Society

**February 26, 2008**

*Carnegie Museum:  
Small Group Guided Tour  
of the Hillman Hall of Minerals*

**Luncheon Meeting at Museum Cafe  
Lunch is on your own  
through the line.**

Exact times to be announced. When calling for a reservation, please leave your phone number or e-mail address for contact times.

**Please note early  
reservation deadline!**

**Space is limited!**

For reservations, please call Ed Martin by noon, **Tuesday, February 12, 2008** at (724) 335-0904 or e-mail at [esm@icubed.com](mailto:esm@icubed.com).



## Society for Analytical Chemists of Pittsburgh

### March Meeting

The SACP will not be meeting in March due to Pittcon 2008 Conference and Expo.

The Pittsburgh Conference  
will be held in  
New Orleans, LA  
March 2 - March 7, 2008



# SPECTROSCOPY SOCIETY OF PITTSBURGH



**February Meeting**  
**Wednesday, February 20, 2008**

**Duquesne University, Mellon Hall of Science**  
**(Laura Falk Hall)**

6:00 PM - Social Hour, 6:30 PM - Dinner  
(City View Cafe - 6th Floor)  
8:15 PM - Technical Presentation

***“Raman Spectroscopy - A Key Technology in Biophotonics Research”***  
**Dr. Jurgen Popp, University of Jena**

Raman spectroscopy has emerged in the last years as an extremely powerful method in almost all natural science disciplines. This renaissance of Raman spectroscopy was mainly triggered by the latest achievements in laser technology, by the design of very efficient filter to suppress the elastically scattered Rayleigh light, and by the development of extremely sensitive detectors. The advantages of Raman spectroscopy are its unprecedented high specificity and its versatility. Raman spectroscopy is a non destructive technique and does in general, require only minimal or no sample preparation. Solid, liquid, and gaseous samples can be measured as well as transparent or non transparent samples or samples with different surface textures i.e. Raman spectroscopy can be applied to any optical accessible sample, where a pre-treatment of the sample is not necessary.

In this presentation a report on a Raman spectroscopic characterization of a broad variety of biological probes will be given. Raman spectroscopy is an extremely capable, suitable and prominent method for probing the relationship between structure, dynamics and function of biomolecules. In this context micro-Raman imaging, the surface enhanced Raman scattering (SERS) technique and resonance Raman spectroscopy are commonly applied. These Raman techniques allow one to characterize the structure of e.g. isolated pharmacological relevant substances and the investigation of biological tissues i.e. monitoring of low concentrated active components in plants and especially the localization of pharmaceutical relevant substances in tissues. Not only the localisation but also the investigation of the mode of action of drugs against infectious diseases on a molecular level will be presented. In addition Raman spectroscopy also allows the identification of microorganisms on a single cell level.

The main focus within the second major topic material photonics is concerned with the derivation of structure-property as well as structure dynamics relationships by means of Raman spectroscopy. In particular the characterization of mineralogical samples like e.g. extraterrestrial material (meteorites) and the derivation of structure-activity and dynamic relationships in artificial light harvesting systems or photocatalysts based on Ruthenium-polypyridyl complexes by means of resonance Raman spectroscopy will be presented.

In summary the presented examples convincingly demonstrate the great capabilities of Raman spectroscopy for life and material sciences making this technique to one of the most essential laser spectroscopical methods.

## **Bio**

Jürgen Popp, born in 1966, received his Ph.D. in chemistry from the University of Würzburg in 1995. In 1996 he spent a year in the Department of Applied Physics of Yale University, USA. He subsequently joined the group of Prof. Dr. Dr. h.c. W. Kiefer, University of Würzburg, where he finished his “Habilitation” in 2000. Since May 2002 he is a full professor at the Friedrich-Schiller University of Jena, Germany where he holds a chair of physical chemistry. In May 2005 he was also appointed head of Micro System Division of the Institute for Physical High Technology, Jena (since March 2007 Institute of Photonic Technology, Jena) and in June 2006 he became the scientific director of this institute. His work has been awarded by the faculty prize of chemistry (1995), by the “Bayerischer Habilitationsförderpreis” (1997), by the “Förderpreis der Würzburger Korporationen” (2001), and the Kirchhoff-Bunsen award (2002). His research interests are focused on natural science problems being resolved by means of innovative frequency-, time- and spatially resolved laser spectroscopic methods and techniques. Thereby bio- and material photonics are setting up the two main priorities of the research activities.

**Dinner Reservations:** Please email Carolyn Benga at [crbssp@yahoo.com](mailto:crbssp@yahoo.com) or call (412) 487-0915 to make dinner reservations **NO LATER THAN FRIDAY, February 15, 2008**. Dinner will cost \$8 and checks can be made out to the SSP. If you have dietary restrictions, please let Carolyn know when you RSVP.

**Parking Instructions:** The Duquesne University Parking Garage is located on Forbes Avenue. Upon entering the garage, receive parking ticket and drive to upper floors. Pick up a parking chit at the dinner or meeting. If any difficulties arise, contact Dr. Mitch Johnson at Duquesne University.

## 2007 Pittsburgh Award Celebration

The Pittsburgh Section held its annual Pittsburgh Award Dinner on October 23, 2007 at the Pennsylvania Athletic Association in Pittsburgh. Honorees were 2007 Pittsburgh Award winner Richard McCullough and Pittsburgh Local Section Distinguished Service Award Recipient Robert Witkowski.



Past Chair, Christina Mastromatteo (front, center) and former Pittsburgh Award Winners are pictured with 2007 Pittsburgh Award Winner, Richard McCullough (left) and 2007 Pittsburgh Local Section Distinguished Service Award winner Robert Witkowski (Right).

## ACS Scholars Program Accepting Applications

Applications are being accepted now through March 1, 2008, for the 2008-2009 American Chemical Society Scholars Program. Applicants should be African-American, Hispanic/Latino, and American Indian students who are high school seniors, or college freshmen, sophomores or juniors. They must plan to major in or already be majoring in chemistry, biochemistry, chemical engineering or a chemically-related science, and they must plan to pursue a career in the chemical sciences.

Since its inception, the ACS Scholars Program has awarded more than \$10.2 million to more than 1,880 students, based on a mix of academic achievement and financial need. Cumulatively, these students have attended more than 400 colleges and universities in all 50 states, Puerto Rico, the U.S. Virgin Islands, and the District of Columbia. Through the support of the program's partners and donors, the Society expects to award approximately \$1 million during the 2008-2009 academic year, to both new and continuing Scholars. Scholarships range from \$1,000 - \$5,000 depending on college level and economic need.

To date, 95 percent of the students accepted into the ACS Scholars program have received an undergraduate degree. In addition, about 400 Scholars have continued on to pursue a graduate degree. More than 150 have been accepted into a Ph.D. program and more than 30 Scholars have already received a Ph.D.

Program partners include founding partner, PPG Industries Foundation, Inc.; GlaxoSmithKline; The Camille and Henry Dreyfus Foundation; Schering-Plough; Xerox; Procter & Gamble; 3M; AstraZeneca; Bayer; Dow Corning; Dow Chemical; and DuPont. The program is also supported through the generosity of many individual donors and ACS members, including more than 60 former ACS Scholars.

For additional details about the ACS Scholars Program and an online application form, visit the <http://www.acs.org/scholars> or call 1-800-227-5558, extension 6250, or e-mail to [scholars@acs.org](mailto:scholars@acs.org).

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## ChemShorts for Kids - 2007

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American Chemical Society  
by Dr. Kathleen A. Carrado, Argonne National Labs  
kcarrado@anl.gov ChemShorts Home

*The Elementary Education Committee of the ACS Chicago Section presents this column. They hope that it will reach young children and help increase their science literacy. Please share with children and local teachers.*

Please note: All chemicals and experiments can entail an element of risk, and no experiments should be performed without proper adult supervision.

### Thermometer Thoughts

Kids, how would you like to make your own thermometer? All you will need is some water, rubbing alcohol, a clear, narrow-necked plastic bottle, food coloring, a clear plastic straw, and tape or modeling clay. Here is what you do:

1. Pour equal volumes of rubbing alcohol and water into the bottle. You want the bottle to be at most 1/4 full.
2. Add a couple drops food coloring.
3. Put the straw in the bottle such that the bottom is under the liquid, but not touching the bottom of the bottle.
4. Fix the straw in place using tape or clay. Seal the bottle so that air can not get in or out of the bottle around the straw.
5. Heat the bottle and watch what happens. The easier way is to hold it in your hands for a few minutes.
6. You can cool the bottle by putting it in the fridge.

Congratulations - you just made a thermometer! Just like any thermometer, the liquid expands when warmed. This makes the liquid no longer fit in the bottom of the bottle. As the alcohol expands the colored mixture moves up through the straw. You can watch your thermometer and see how the liquid changes throughout the day. What happens if your thermometer is in shadow or in sunlight? The liquid should go up the straw with heat and down the straw when cooled (hopefully not all the way or the thermometer might not work anymore).

Why does the level of the liquid change with temperature? Because the air in the bottle changes volume with temperature. As air is heated it either expands or exerts more pressure. In trying to expand and in exerting pressure, it fights gravity and pushes some liquid up the straw. Most common thermometers work with exactly these principles.

### Reference:

<http://www.energyquest.ca.gov/projects/thermometer.html> and

[http://experimentopia.org/experiment/build\\_your\\_own\\_thermometer](http://experimentopia.org/experiment/build_your_own_thermometer)

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*ACS Cut and Paste November/December 2007*

## This Month in Chemical History - I

Harold Goldwhite, California State University, Los Angeles

hgoldwh@calstatela.edu

When I was a boy I enjoyed stamp collecting; a pleasure I am sure I shared with many other children at that time. I had a couple of albums and would beg, borrow, buy and barter exotic postage stamps. I learnt quite a bit from this hobby about the far-flung reaches of what was then the British Empire including its many colonies. As I reached my teens that hobby was abandoned; I sometimes wonder what ever became of those albums?

Later in life, when my enthusiasm for the history of chemistry blossomed, I began collecting, in a desultory fashion, postage stamps that had relevance to science, and especially chemistry. I amassed perhaps a few dozen of these – and those stamps I still have. But when, for my last birthday, my wife Marie presented me with a beautifully illustrated and rather comprehensive volume on the subject I realized that I had barely scratched the surface of chemistry on postage stamps. That book is “A Philatelic Ramble through Chemistry” by Edgar Heilbronner and Foil A. Miller published by Verlag Helvetica Chimica Acta, Basel and Wiley-VCH in 1998. It is illustrated with over a thousand examples in full color. The preface includes as epigraph a statement attributed to Ernest Rutherford: “Science is physics; everything else is postage stamp collecting” which may remind us that Rutherford was quite surprised when he won the Nobel Prize for chemistry for his research in radioactivity. Rutherford’s colleague Soddy was the chemist.

The Heilbronner and Miller book “is not a history of chemistry which uses stamps instead of the usual illustrations, but a collection of short essays and comments on such chemistry as can be found on postage stamps and other philatelic items. In other words the choice of topics is dictated by the philatelic material available.” Nevertheless it turns out that postage stamps have represented many, perhaps most, of the major figures who feature in the history of chemistry with some notable exceptions (Robert Bunsen for one). The items chosen for this collection are reproduced in color either in the size in which they were issued or enlarged. It is a great browsing or “coffee table” book.

(I have no financial interest in either of the publishers named, by the way.)

To begin at the beginning a Greek stamp shows Democritos of Abdera (ca. 460 – 370 B.C.) who is cited as an initiator of an atomic theory of matter. His ideas lost out to those of Aristotle, also portrayed on a Greek stamp, who developed the four element theory of earth, air, fire, and water beautifully portrayed in a modern painting on a Swiss stamp. Jumping ahead somewhat the seven metals of the ancients, each associated with a planet in alchemy and astrology, are shown on a handsome collectors set from the Marshall Islands. Alchemy is well represented on postage stamps. For example a first day cover issued at PITTCON in

1990 features the US Postal Service’s “Chemistry” stamp of that year and a reproduction of an engraving made from David Teniers’ well-known painting “The Alchemist” which at that time was in the Fisher Collection and is now at the Chemical Heritage Foundation. Alchemical apparatus including retorts, stills, and furnaces are depicted on stamps from Switzerland, Czechoslovakia, and Portugal among others. The great Arabic alchemists are well represented; Jabir is on a Jordanian stamp, Razi on an Iranian stamp, and ibn Sina on a Libyan stamp. Paracelsus has multiple representations from Germany, Switzerland, Austria, and Hungary.

Of course particular countries tend to honor their own. Thus the 16-17 century chemist/alchemist Van Helmont is shown on a Belgian stamp while Eire honors Robert Boyle, a son of the Earl of Cork. Boerhaave, a distinguished teacher of chemistry in Leiden in the 17-18 century, is featured on a Dutch stamp and one of the rare US scientific commemoratives honors Joseph Priestley who ended his career in the United States.

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## The Crucible

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# Pittsburgh Area Calendar

## February

- Fri. 1 **Job Searching for Chemical Technicians**  
Harbor Gardens, Student Services Area Conference Rooms, Bidwell Training Center, Pittsburgh
- Sat. 2 **Job Searching for Chemical Professionals**  
Ashe Auditorium, University of Pittsburgh
- Mon. 4 **Society for Analytical Chemists of Pittsburgh (SACP)**  
Duquesne University, Maurice Falk Hall  
*"Exploring the Limits of Resolution in Liquid Chromatography and Capillary Electrophoresis"*  
James Jorgenson, Ph.D., Professor, Department of Chemistry, University of North Carolina
- Thur. 7 **ACS Energy Technology Group**  
More Restaurant  
*Two Views of the Universe*  
Thomas Ruppel and Mordecai Treblow
- Wed. 20 **Spectroscopy Society of Pittsburgh Technology Forum**  
Duquesne University, Mellon Hall of Science, Laura Falk Hall  
*"Healing Broken Hearts with Our Cells"*  
Dr. Jorge Genovese, Research Professor in the Department of Surgery, University of Pittsburgh Medical Center
- Wed. 20 **Spectroscopy Society of Pittsburgh**  
Duquesne University, Laura Falk Hall  
*"Raman Spectroscopy - A Key Technology in Biophotonics Research"*  
Dr. Jurgen Popp, University of Jena
- Tues. 26 **ACS Pittsburgh Chemists Club**  
Carnegie Museum  
*Small Group Guided Tour of the Hillman Hall of Minerals*

## The Crucible

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