



## Listen Up: President's Speech

Saturday 1 August  
19:00, Glasgow Science  
Centre

A great deal can happen in two years, which is one reason the IUPAC president's State of the Union address is so important. Delivered only at the General Assembly, the address gives the president the chance to reflect on all that has occurred since he or she assumed the presidency and



*continued on page 3*

## Don't Forget the Congress!

GA delegates are reminded to take advantage of the concurrent IUPAC Congress, which features a number of symposiums, workshops, and lectures involving IUPAC members. The four events listed below may be of special interest, but there are many others. Read more on page 4 and see the detailed program at [www.iupac2009.org](http://www.iupac2009.org).

### Congress Symposia of Note

*Ethics, Science, and Development*  
(ChemRAWN XVIII)

Mon. 3 Aug. (afternoon) & Tues. 4 Aug. (morning)

*Safety Training Workshop*

Tues. 4 Aug. (afternoon)

*Developing Polymer Materials*

Wed. 5 Aug. (morning)

## IYC on Tap for Round Table Discussions

Back by popular demand, the council roundtable discussions again will be an important part of the General Assembly. Successfully introduced at the 2007 GA in Torino, four round table discussions will be held the afternoon of Monday 3 August. And this year, the topic is one that is already on everyone's mind: the International Year of Chemistry in 2011.

The format for the discussions allow small groups of Council delegates to discuss subjects of mutual interest in a setting conducive to the easy exchange of ideas. The discussion topics are the same as the goals of the IYC 2011:

- increase the public appreciation and understanding of chemistry in meeting world needs
- encourage the interest of young people in chemistry
- generate enthusiasm for the creative future of chemistry
- celebrate the role of women in chemistry or major historical events in chemistry, including the centenaries of Mme. Curie's Nobel Prize and the founding of the International Association of Chemical Societies

Each round table discussion is limited to no more than 40 participants. Participation is restricted to delegates attending the Council.



International Year of  
**CHEMISTRY**  
2011

## Say Hello to the YOs

"Any scientific discipline, if it plans to remain vibrant and innovative, must explore ways to renew itself as it expands into new areas and develops new techniques." These were the words of former IUPAC Bureau member E.P. Przybylowicz and he was referring to the Young Observers (YOs) program.

For more than a decade, Young Observers have participated in sessions of the General Assembly. These chemists, who represent a broad array of expertise and professional backgrounds, add

*continued on page 10*

## Schedule

Division Presidents' and Secretaries' Briefing

Fri. 31 July (08:00 to 09:00)

Division Committees

Fri. 31 July and Sat. 1 Aug. (AM & PM)

CPEP: Sun. 2 Aug. and Mon. 3 Aug. (AM & PM)

CHEMRAWN: Sun. 2 Aug. (AM & PM)

COCI: Sun. 2 Aug. (AM & PM)

CCE: Sun. 2 Aug. (AM&PM) and Mon. 3 Aug. (AM)

CHEMRAWN & COCI & CCE: Mon. 3 Aug. (PM)

ICTNS: Sun. 2 Aug. and Mon. 3 Aug. (AM & PM)

President's Address, Members' Reception

Sat. 1 Aug. (19:00)

Congress Opening Ceremony/Welcome Reception

Sun. 2 Aug. (time to be confirmed on site) *ALL GA delegates welcome—no preregistration required just wear your GA badge*

Council Roundtable Discussions: Mon. 3 Aug. (PM)

WCLM (World Chemistry Leadership Meeting):

Tue. 4 Aug. (AM)

Council: Wed. 5 Aug. (AM & PM) and

Thu. 6 Aug. (AM)

Council Reception: Wed. 5 Aug. (19:00)

## Welcome to Glasgow!

**S**urely, the buzz word at IUPAC's 2009 General Assembly is going to be "the International Year of Chemistry." IYC two eleven is now "something" tangible to which we are all committed. Following the proclamation by the UN early this year, everyone can now shift into gear and start planning. Every meeting scheduled during this GA will have an agenda item devoted to the IYC. Moreover, the Council Round Table Discussions, as well as the World

Chemistry Leadership Meeting, will be devoted to the topics of the year-long celebration.

One thing you can do right away is to visit [www.chemistry2011.org](http://www.chemistry2011.org) (or [iyc2011.org](http://iyc2011.org)) and join in the IYC network. In this current phase, the website offers background information and ideas, but it is essentially a virtual meeting place. We will be building on the site and soon it will provide more functionality. In the end, it will be a central depository of resources and references and of activities being planned for the IYC. Be part of the IYC, sign in and invite your colleagues to do the same.

Make the most of this GA to plan for your IYC activities.

See you around!

[fabienne@iupac.org](mailto:fabienne@iupac.org)

P.S.—This year, the team from the IUPAC Secretariat is all here (except Linda who is guarding the office in the RTP): John, Enid, Paul, Bryan, Chris (production editor of *Gallium* and of your favorite bimonthly news magazine, *Chemistry International*) will also be roving around. We are all looking forward to meeting you!

## Recognition and Appreciation of Service

**T**here is no formal training that can prepare someone to become a good leader in an organization such as IUPAC. Division presidents and standing committee chairs can attest that their jobs are frequently challenging.

One of Piet Steyn's priorities when he was IUPAC president (2002-2003) was to recognize the achievements of chemists and members of IUPAC. In 2003, he instituted a formal ceremony to honor and recognize the service of IUPAC's retiring officers, division presidents, and standing committee chairs. The tradition continues at this year's GA. At the conclusion of the President's Address on Saturday 1 August, IUPAC President Jung-Il Jin will present plaques to the following members:

- **Prof. Bryan Henry**, retiring as vice president, president, past president

- **Dr. Mark C. Cesa**, retiring as chair of the Committee on Chemistry and Industry
- **Prof. Leslie Glasser**, retiring as chair of the Committee on Printed and Electronic Publication
- **Prof. John W. Lorimer**, retiring as chair of the Interdivisional Committee on Terminology, Nomenclature and Symbols (ICTNS)
- **Prof. Michel J. Rossi**, retiring as president of the Physical and Biophysical Chemistry Division
- **Prof. Pietro R. Tundo**, retiring as president of the Organic and Biomolecular Chemistry Division
- **Prof. Gerard P. Moss**, retiring as president of the Chemical Nomenclature and Structure Representation Division

Please join us in recognizing everyone's contributions. The President's Address will be on Saturday 1 August at 19:00 at the Glasgow Science Centre. The address will be followed by a reception. All members welcome!

## Host Companies Needed

### Safety Training Program

The IUPAC Committee on Chemistry and Industry (COCI) is seeking host companies for the IUPAC Safety Training Program, which enables experts from developing countries to learn about safety and environmental protective measures by visiting and working with IUPAC Company Associates in industrialized countries.

Several trainees are currently awaiting placement at Host Companies. All are professional scientists and engineers who are supervisors or managers in chemical companies, government institutions, or academic laboratories. IUPAC provides funding for trainee travel to the Host Company, and the Host Company provides for local expenses during training.

Contact Mark Cesa <[mark.cesa@ineos.com](mailto:mark.cesa@ineos.com)>, COCI chair and STP coordinator, for more information and to volunteer!

[www.iupac.org/standing/coci/safety-program.html](http://www.iupac.org/standing/coci/safety-program.html)



第廿一屆國際化學教育研討會

21<sup>st</sup> International Conference on Chemistry Education

21st International  
Conference on  
Chemical Education

Chemical Education &  
Sustainability in the Global Age

8–13 August 2010  
Taipei, Taiwan

<http://icce2010.gise.ntnu.edu.tw/>

## President's Address

*continued from page 1*

to provide a vision for the Union's future.

President Jung-Il Jin will make a first address to all IUPAC members on Saturday 1 August at 19:00. Then, on Wednesday 5 August, he will present a more formal statutory report to the Council assembly.

Given the pace of recent activities, there are a multitude of items on which President Jin could report. However, because of time limitations, he will focus only on the following more salient issues:

- International Year of Chemistry and related activities
- increases in the number of National Adhering Organizations (NAOs) and what it means
- deeper cooperation with the United Nations and other international organizations
- the project system and the state of efforts to streamline IUPAC operations and governance
- other important developments
- future visions for the Union

Clearly, momentum is building behind the IYC, which makes these

exciting times for IUPAC. In his address, the president will report on his many meetings in the past year with presidents and representatives of different chemical societies all over the world during which he explained to them the importance of the IYC for the whole chemistry community. As Jin will explain, the IYC is expected to offer us a number of opportunities:

- increase the public appreciation of chemistry in meeting world needs
- increase the interest of young people in chemistry
- generate enthusiasm for the creative future of chemistry
- celebrate the role of women in chemistry, including the centenaries of Mme. Curie's Nobel Prize and the founding of the International Association of Chemical Societies

The success of the IYC primarily depends on activities at the national and regional levels. Nevertheless, IUPAC plans to hold several cornerstone events:

1. advance publicity at PACIFICHEM in Honolulu in December 2010
2. the official launching of the IYC with UNESCO in Paris in January 2011

3. the IUPAC Congress and GA in San Juan, Puerto Rico, in August 2011
4. a closing event in Brussels in December 2011

Jin will also discuss proposed Bylaw amendments that will allow IUPAC to accept new NAOs every year under certain provisions. If adopted, it will mean that they no longer have to wait two years or more to become actively involved in IUPAC activities.

For consideration at this meeting are six organizations that have applied for NAO status: the Institute of Chemistry Ceylon, National Research Fund Luxembourg, Institut Kimia Malaysian, Saudi Chemical Society, Chemical Society of Thailand, and the Société Chimique de Tunisie.

The last part of the president's address will be devoted to his future Vision of the Union. Jin will discuss the tremendous opportunities available to address large "global issues that are waiting for the wisdom and expertise of international groups such as ours." However, as he will point out, operating on such a large scale will require much greater financial strength.

## The Congress Scene

### ChemRAWN Symposium on Ethics, Science, and Development

Monday 3 August (afternoon) &  
Tuesday 4 August (morning)

As a global organization, IUPAC acknowledges the need to ensure that chemical research and the application of the chemical sciences are conducted in accordance with basic ethical principles. Therefore, the Union has started drafting a code of conduct for chemists. This is not an easy task because ethical issues are so broad in scope and context. Clearly, ethical conduct cannot be taken for granted nor will it always be easily settled upon.

The ChemRAWN Symposium on Ethics, Science, and Development will raise ethical issues relevant to chemists working in a number of settings, from a university research facility to a field campaign in a developing country. The symposium, which is organized by former IUPAC President Leiv Sydnes, will feature a number of notable speakers from academia, government, and the nonprofit sector. See table for a list of speakers and their topics.

Some of the issues to be covered include scientific misconduct, academic norms under pressure, ethical aspects of intellectual property rights, and the dual use of chemicals. In addition, the symposium will discuss the social responsibilities of chemistry, including global equity issues such as the lack of research into new drugs for diseases affecting developing countries. The presentations will focus on concrete and practical approaches, showing how teaching, research, technological development, corporate culture, policy advice, and national and international regulations could be improved with respect to ethics and/or development.

Check the Congress program for specific times and locations: [www.iupac2009.org](http://www.iupac2009.org)

### Developing Polymer Materials

Wednesday 5 August (morning)

The IUPAC Polymer Division is presenting an exciting Congress symposium on Developing Polymer Materials on Wednesday 5 August. Division President Chris Ober, of Cornell University, USA, is one of the conveners of this cutting-edge event, which focuses on “nanopatterning and self-assembling materials,” in particular

#### REMINDER:

The Congress Opening Ceremony will take place in the Clyde Auditorium at the Scottish Exhibition and Conference Centre (SECC; i.e., the Armadillo) on Sunday 2 August (time to be confirmed on site). The Opening Ceremony includes an award ceremony for the winners of the IUPAC Prize for Young Chemists.

Immediately following the Opening Ceremony, a Welcome Reception will be held across the River Clyde at the Glasgow Science Centre.

#### Symposium on Ethics, Science, and Development

<i>Keynote Speakers</i>	<i>Lecture Title</i>
Sarah Chan, School of Law, University of Manchester, UK	“Science, Ethics, and Responsibility”
Silvio Funtowicz, European Commission—Joint Research Centre, Italy	“Ethics and Precaution in Science Methodology”
<i>Speakers</i>	<i>Lecture Title</i>
Alastair Hay OBE, University of Leeds, UK	“Chemistry and Ethics”
Peter Mahaffy, The King’s University College, Edmonton, Canada	“Freedom and Responsibility for Chemistry Teachers and Learners”
Sospeter Muhongo, Director, ICSU Regional Office for Africa, South Africa	“Science, Ethics, and Development: Africa’s Perspective”
Graham S. Pearson, IUPAC Task Group on Recommendations for Codes of Conduct, and University of Bradford, UK	“Why Chemists Need a Code of Conduct”
Ambassador Rogelio Pflirer, Director General, Organisation for the Prohibition of Chemical Weapons (OPCW)	“The Chemical Weapons Convention and the Role of the OPCW in Promoting International Cooperation for the Peaceful Uses of Chemistry”
Roger Strand, University of Bergen, Norway	“Ethics of Chemistry: Form, Content, and Implementation of Hard and Soft Regulation”
Bernard West, Westworks Consulting, Ltd., Toronto, Canada	“Industrial Awareness and Responsible Care”

the synthetic, physical, and materials chemistry of self-organizing polymers such as liquid crystals, block copolymers, and related biopolymers. Speakers will discuss the use of these materials to enable nanopatterning at length scales smaller than conventional high-resolution lithography. This symposium is extremely timely in terms of scientific and technological impact, with the microelectronics and information storage industries making regular advances in this area.

## Safety Training Workshop

Tuesday 4 August (afternoon)

The fourth in a series of Safety Training Program Workshops will be held as part of the IUPAC Congress. This half-day workshop will feature presentations by recent Safety Training Fellows who will discuss recent activities in their home countries. In addition, regional speakers who are experts in chemical health, safety, and environmental protection will give lectures.

The Safety Training Program allows safety experts from developing countries to learn more about safety and environmental protective measures by visiting and working in plants of IUPAC Company Associates in the industrialized world. IUPAC and the United Nations Educational, Scientific, and Cultural Organization (UNESCO) and the United Nations International Development Organization (UNIDO) established the Safety Training Program to disseminate state-of-the-art knowledge on safety and environmental protection in chemical production.

The beneficiaries are expected to use the training in their home countries to improve health, safety, and the environment. In recent years, the program supported Fellows from China, India, Nigeria, Kenya, and Uruguay, and coordinated their visits to host companies in the USA, South Africa, Japan, Sweden, and Belgium.



These workshops are useful for evaluating the effectiveness of the Safety Training Program and for soliciting ideas for improvements in the program and for possible expansion to incorporate new host companies and new regional trainees.

## Analytical and Risk Considerations for Emerging Environmental Issues

Tuesday 4 August

(morning and afternoon)

The Symposium on Analytical and Risk Considerations for Emerging Environmental Issues, which will take place Tuesday 4 August (morning and afternoon), will focus on the complex interrelationship between environmental chemistry and sustainable environmental management with specific reference to industrial and agricultural activities, as well as the effects of naturally occurring materials of toxicological significance.

The symposium, presented by the IUPAC Division of Chemistry and the Environment and organized by Hemda Garelick of Middlesex University, UK, is based upon the premise that the full understanding of chemical processes in the environment should involve:

- Consideration of the underlying natural processes
- Introduction of new materials
- Sources of pollution
- Risk that chemical pollution can pose both to human and ecological health
- The interactions between the different environmental compartments of air, soil and water also play a major role in the above interactions and strongly influence potential routes of human exposure via inhalation and/or consumption of food and water.

The above issues and interactions will be addressed in a range of papers presented by speakers from different chemical disciplines and geographical locations with the aim of identifying coherent themes from analytical and risk considerations that impinge on emerging environmental issues.

## Other Symposia Organized by IUPAC Members within the Framework of the Congress

### Polymerization Kinetics: Fundamentals for the Design of Novel Processes

Convener: Michael Buback, Georg-August-Universität Göttingen, Germany  
*Monday 3 August (morning and afternoon)*

Polymer chemistry continues to be a rapidly developing area in both academic and industrial research, and novel polymerization techniques have been designed which provide access to fascinating macromolecular structures. Among these, methods of controlled radical polymerization play an important role.

Advanced polymerization research is highly interdisciplinary, with strong links to organic chemistry, inorganic chemistry, physical chemistry, analytical chemistry, chemical engineering, physics, materials science, and biology. With this in mind, the aim of this symposium is to provide a forum for the presentation and discussion of the frontier research in radical polymerization kinetics, and encourage the exchange of ideas between researchers from varied scientific backgrounds working in both industry and academia.

---

### Polymer Molecular Characterization

Conveners: Harald Pasch, Technische Universität Darmstadt, Germany; Taihyun Chang, Pohang University of Science and Technology, Korea  
*Tuesday 4 August (morning and afternoon)*

Polymer molecular characterization stands for the analysis at the molecular level of polymers, which include separation, spectroscopy, mass-spectrometry, and scattering. The molecular properties are the most fundamental information in understanding their final properties in applications. The field may be thought to be mature at a glance, but the demand for more precise characterization is increasing nowadays with the development of new tailored polymers by controlled polymerization methods.

In addition, the development of new analytical methods allows far more detailed characterization of polymers, which was impossible in the past. Therefore, molecular characterization draws interest from a broad audience, from synthetic scientists to process engineers.

### Formulating for the Green Renewable Age

Convener: David Higgins, Consultant, UK  
Keynote Speakers: Colin Brennan, Syngenta, UK, and Pietro Tundo, Ca'Foscari University of Venice, Italy  
*Tuesday 4 August (morning and afternoon)*

Almost every product produced is usually a blend of more than one ingredient and therefore can be defined as a formulation. It is this blending of materials which improves efficiency and performance. Formulation science and technology is the study of mixing the right ingredients in the right order with an optimized process to give the desired product, and then analyzing the resultant material.

Due to recent changes in public opinions and government policy, industrialists and academics have been forced to look at new formulations which are "green" and sustainable. But what does "green" and sustainable mean and how have these issues been addressed?

The overall aim of this symposia is to focus on the complex chemistry behind these new formulations and processes. Speakers will address the issue of what "green" and renewable means in formulation science.

---

### Bioinorganic Toxicity, Poison or Cure

Convener: John Duffus, Edin Tox, Edinburgh, UK  
*Friday 7 August (morning)*

Our understanding of the role of metallic elements in relation to human health and pathology is developing rapidly and providing new possibilities for intervention to treat pathological conditions.

This symposium will consider some of the most promising new developments that are taking place. For example, cancer may be treated by using cytotoxic drugs to kill cancer cells selectively. Among these drugs are platinum azide complexes, developed by Professor Sadler, the keynote speaker. These drugs are relatively unreactive and nontoxic in the dark but can be activated by light. They appear to destroy cancer cells by a novel mechanism and could provide a basis for a new form of photochemotherapy. Studies such as this have opened up new horizons for medical science and new challenges for inorganic chemistry.

[www.iupac2009.org](http://www.iupac2009.org)

# MACRO2010

## 43rd IUPAC World Polymer Congress

### Polymer Science in the Service of Society



11 - 16 July 2010

SECC, Glasgow, UK

'Macro2010' is the latest in the series of the biennial meetings of the IUPAC Polymer Division. With a history spanning several decades, this is the largest international multi-symposium conference dedicated to all aspects of polymer science and engineering.

#### Themes

- Delivering New Polymers for Service in Society: Advances in Polymer Chemistry
- Molecular to Macroscopic Behaviour of Polymers
- Sustainability: Renewable Resources and Environmentally-Friendly Polymers
- Polymers in Support of Life
- Functional Polymers for Electronics, Energy and Analysis
- Polymer Science in Everyday Life
- Advances in Colloidal and Nanosize Polymer Materials
- Young Polymer Scientists: Contributions, Nurturing and Networking

A more detailed list of topics and invited speakers are published on our regularly updated website [www.MACRO2010.org](http://www.MACRO2010.org).

#### Confirmed Plenary Speakers

Professor Jean M J Fréchet  
University of California, Berkeley, USA

Professor Sir Richard Friend, FRS  
University of Cambridge, UK

Professor Ming Jiang  
Fudan University, China

Professor Laura Kiessling  
University of Wisconsin-Madison, USA

Professor Kiyohito Koyama  
Yamagata University, Japan

Professor Ludwik Leibler  
ESPCI CNRS, Paris, France



#### Call for Abstracts

The Macro2010 call for abstracts opens in late summer 2009. For your chance to present your work submit an abstract by 29 January 2010.

#### Sponsorship and Exhibition

Promote your organisation at the congress – contact us at [macro2010@rsc.org](mailto:macro2010@rsc.org) for more details

## Council Meeting

Wednesday 5 August (AM & PM) and  
Thursday 6 August (AM)  
Argyll Suite/Crowne Plaza

As previous General Assembly participants know, the intense and intricate schedule of various committee and division meetings and events culminates with the Council meeting—essentially a mini-United Nations of chemists who gather to discuss the business of the Union. Over the course of the day-and-a-half meeting, delegates will be briefed on progress made during the two-year period since the last meeting in Torino in August 2007.

The Council will hear the Statutory Report of the President on the State of the Union as well as a report from the treasurer. The elections for vice president and for elected members of the Bureau will be held at 9:30 on 6 August 2009.

Six organizations have applied for IUPAC National Adhering Organization status, and the Council will be asked to approve these applications: the Institute of Chemistry Ceylon, National Research Fund Luxembourg, Institut Kimia Malaysian, Saudi Chemical Society, Chemical Society of Thailand, and the Société Chimique de Tunisie. This approval is subject to payment of the 2010 National Subscription by the applicant organization.

With an eye on the future, the Council will have to decide where the 2013 and 2015 Congresses will be held. Due to a rule change last year, the time for approving a GA was increased from four to six years. So, the council will hear a proposal from the Turkish Chemical Society to host the GA and Congress in 2013 and from the Korean Chemical Society to host the GA and Congress in 2015. M. Mahramanlioglu will present the proposal from Turkey and the Korean delegation will present its proposal. After the presentations, the delegates will be asked to vote on whether or not to accept them.

John Corish will present the Treasurer's Report in which he will note that despite the very difficult worldwide financial climate, IUPAC has held the value of its income streams during the past biennium and maintained its full range of activities. This was despite a decrease in the overall value of its portfolio, the income of which consists of both dividends and interest and gains and losses on the values of investments. Corish will also report on the continued growth and success of the project system, on the development of the Strategic Opportunities Fund, and on the challenge, and more importantly, on the strategic opportunities provided by

the International Year of Chemistry in 2011. He also will note that the need still very much exists for IUPAC to diversify and increase its income streams to provide for its future activities.

The treasurer will also report that the conservative investment policy pursued by the Finance Committee has served IUPAC very well during the recent turmoil in the world's markets. It both ensured the continuation of the investment stream of income and rendered the losses due to the collapse in the value of equities much less than it might otherwise have been. Nonetheless, he will point out, there was a decrease in the overall value of our assets: detailed figures for this are available in the report.

### IUPAC Elections

According to IUPAC statutes, Council must elect officers of the Union and elected members of the Bureau. Nominations for the various positions that fall vacant at the end of 2009 had to be received by the Secretary General at the IUPAC Secretariat before 5 June 2009 (i.e., two months before the start of the Council meeting).

Nicole Moreau (France), vice president and president elect, will be president on 1 January 2010. The vice president to be elected will be president elect on 1 January 2010 and will become president on 1 January 2012. The retiring president, Jung-Il Jin (Korea), will remain an officer and a member of the Bureau for a period of two years. Secretary General David StC. Black (Australia) was re-elected to a four-year term for 2007–2011 and continues his service for two more years. Treasurer John Corish (Ireland) was elected to a four-year term for 2007–2011 and continues his service for two more years.

*Full bios of candidates were provided with the Council Agenda documentation and will also be available on the delegations table at the time of the Council meeting.*

The nominations received for **Vice President** are as follows:

**Srinivasan Chandrasekaran** (India) is currently a member of the IUPAC Bureau (2002–2009) and has served as a member of the Project Committee (2002–2007). He is currently a member of the Evaluation Committee and the Executive Committee. He is also the chairman of India's National Committee of IUPAC at the Indian National Science Academy.





**Kazuyuki Tatsumi** (Japan) is the president of the IUPAC Inorganic Chemistry Division, which he has been a member of since 2002. He was appointed the chair of the IUPAC Subcommittee of the Science Council of Japan in 2008.



Elected Members of Bureau, retiring in 2009, who are not eligible for reelection, but may be nominated for another office:

- Chunli Bai (China)
- Srinivasan Chandrasekaran (India)
- Alan Smith (UK)

Elected Members of Bureau, retiring in 2009, who are eligible for reelection for a further four-year period:



**Stanislaw Penczek** (Poland) is a titular member of the Polymer Division and was elected to the Bureau in 2006, in which he serves on the Evaluation Committee. He was chair of the IUPAC World Polymer Congress 2000. He has also been chair of two, and co-chair of four, international IUPAC

symposia. Recently, he published the *Glossary of Terms Related to Kinetics, Thermodynamics, and Mechanisms of Polymerization*.

**Elsa Reichmanis** (USA) has been a member of the IUPAC Bureau since 2005. She was a member of the U.S. National Committee for IUPAC for six years and has served on the U.S. delegation to the IUPAC General Assembly three times. She has been active in the Polymer Division of IUPAC, having served a term as a titular member.



**Maria van Dam-Mieras** (Netherlands) has been a member of the Bureau since 2005. She is a member of the joint ad-hoc Committee for IUPAC of the Royal Netherlands Chemical Society and the Royal Netherlands Academy of Sciences. Since 2003, she has been a board member of the KNCV and was previously president

elect, president, and immediate past president.

Elected Members of Bureau, who were elected at the 44th Council until 2011:

- Anders Kallner (Sweden)
- Werner Klein (Germany)
- Ram Lamba (Puerto Rico)
- Natalia Tarasova (Russia)

At least six Elected Members of the Bureau must be elected at the 45th Council in Glasgow, (i.e., the minimum number of 10 Elected Members (Statute 7.2) less the four Elected Members who continue in office until 2011). The nominations received for **Elected Members of the Bureau** are as follows:



**Colin Humphris** (UK) is the incoming chair of the Royal Society of Chemistry's IUPAC Committee. He is a titular member of the Committee on Chemical Industry. Humphris organized the World Chemistry Leadership Meeting in 2007 in Torino, Italy, and represents ICCA on the

International Year of Chemistry Management Committee.

**Stanislaw Penczek** (Poland)—*reappointment*

**Elsa Reichmanis** (USA)—*reappointment*

**Maria van Dam-Mieras** (Netherlands)—*reappointment*

**Itamar Willner** (Israel) is a chemistry professor at the Hebrew University of Jerusalem. Among his many awards and honors, Willner received the Rothschild Prize in Chemistry in 2008 and the EMET Prize in chemistry (under the auspices of the Prime Minister of Israel) in 2008. His research interests include supramolecular chemistry, molecular self-assembly, and molecular and biomolecular machines, among others.



**Qi-Feng Zhou** (China/Beijing) is the president of Peking University. He has been deeply involved in the study of liquid crystalline polymers with over 200 papers and a few books. He also has extensive administrative experience. Prior to November 2008, he was president of Jilin University for four years.

## Introducing the Young Observers

*continued from page 1*

vitality and a valuable perspective to the committee work in which they participate.

This year, IUPAC and the National Adhering Organizations of Canada and the USA have selected 22 chemists from 10 countries: Bangladesh, China, India, Israel, Italy, Pakistan, Poland, and Thailand, plus Canada and the USA. Please welcome them and show them what IUPAC is all about.

**Christopher W. Bielawski** is an assistant professor of chemistry at the University of Texas at Austin. He began his studies in chemistry at the University of Illinois at Urbana-Champaign, where he worked as an undergraduate researcher in the laboratories of Jeffrey S. Moore on supramolecular systems. After receiving a B.S. degree in 1996, Bielawski enrolled in the graduate studies program at the California Institute of Technology. Under the aegis of Robert H. Grubbs, he was awarded a Ph.D. degree in chemistry in 2003. Bielawski's research program lies at the interface of polymer, synthetic organic, and organometallic chemistry. His group was the first to develop a new class of materials known as reversible, conjugated polymers, which can transition between polymeric and monomeric forms while maintaining desirable electronic properties. The Bielawski group has also developed new classes of redox-switchable catalysts. Among his many awards are the National Science Foundation CAREER award and the Young Investigator Award from the Arnold and Mabel Beckman Foundation.

**Stefanie Bumpus** is a graduate student in the Department of Chemistry at the University of Illinois at Urbana-Champaign, studying in the research group of Neil L. Kelleher. She obtained her undergraduate degree from the University of Louisville (Kentucky, USA), graduating summa cum laude in 2005. While at the University of Illinois, she received a National Institutes of Health Cell & Molecular Biology Training Grant and a Graduate Fellowship from the American Chemical Society Division of Analytical Chemistry. In 2008, she received the Grafton Chase Award from the Clinical Laboratory and Analytical Sciences Society. Her research focuses on the application of high-resolution mass spectrometry to the study of non-ribosomal peptide (NRP) and polyketide (PK) natural product biosynthesis. Currently, she is working on development of novel methods for the detection and characterization of new NRP and PK biosynthetic pathways in bacteria with unsequenced genomes.

**Heather Colburn** holds a B.S. in chemistry and a B.A. in physics from Whitworth College in Spokane, Washington, USA. She attended the University of Washington for graduate school where she earned an M.S. and Ph.D. in analytical chemistry, performing her research in the Center for Process Analytical Chemistry. Colburn has been a scientist at Pacific Northwest National Laboratory since 2005. Her primary work is on Department of Homeland Security-funded projects in chemical and biological forensics. They identify production markers on chemical and biological agents to provide forensic information. Prior to her employment at PNNL, Colburn worked for two small companies on chemical sensing, detection, and bioaerosol collection.

**Bill Connick** is an associate professor of chemistry at the University of Cincinnati. He is a physical-inorganic chemist with research interests in inorganic photochemistry, catalysis, and chemical sensing. Connick received his B.A. degree from Williams College and his M.A. degree in chemistry from the University of Cambridge. In 1997, he earned his Ph.D. at the California Institute of Technology under Harry Gray, investigating the spectroscopy, photophysics, and photochemistry of platinum(II) diimine complexes. He subsequently took a postdoctoral appointment in the laboratory of Rich Eisenberg at the University of Rochester, where he synthesized and characterized metal complexes for catalyzing light-to-chemical energy conversion reactions. He studies light-to-chemical energy conversion and develops new materials for chemical sensing. He has received a Beckman Young Investigator Award from the Arnold and Mabel Beckman Foundation and a National Science Foundation CAREER Award.

**Oleh M. Demchuk** is an assistant professor at the Marie Curie-Sklodowska University in Lublin, Poland, where he is interested in the exploration of the origin of asymmetric catalysis, in a wide sense. His research interests involve the design and synthesis of new chiral phosphorus ligands and the application of their transition metal complexes in homogeneous asymmetric catalyses, especially in asymmetric X-couplings. Demchuk also has an interest in the philosophy of chemical education as well as in the popularization of chemistry among young people. Originally Ukrainian, he received his Ph.D. in 2004 from the Institute of Organic Chemistry, Polish Academy of Sciences, Warsaw. His Ph.D. thesis on "Optimization of Structure of Atropisomeric Ligands for Asymmetric

Synthesis" was completed under the guidance of K. Michal Pietrusiewicz.

**Assaf Friedler** was born in Haifa, Israel, and performed his undergraduate and Ph.D. studies in chemistry at the Hebrew University of Jerusalem in the fields of peptide chemistry and medicinal chemistry. In 2000, Friedler moved to Cambridge, UK, to do post-doctoral research involving biophysical studies of protein-protein interactions at the MRC centre for protein engineering in the lab of Sir Alan Fersht. The major achievement of his research was development of peptides that refold and reactivate mutants of the tumor suppressor p53. Since 2004, Friedler has run an independent research group at the institute of chemistry in the Hebrew University. His major research interests are using peptides to study protein-protein interactions in health and disease, and developing peptides as drugs that modulate these interactions. Specifically, studies are focused on biological systems related to AIDS and cancer. Friedler recently won a starting grant from the European Research Council.

**Torsten Hegmann** received his Ph.D. in 2001 from the Martin Luther University in Halle (Germany) under the supervision of Carsten Tschierske, for work on metal containing liquid crystals (or metallomesogens) and liquid crystalline macrocycles. He then moved to Queen's University in Kingston (Ontario, Canada) as a postdoctoral fellow in the group of Robert P. Lemieux, where he worked on ferroelectric liquid crystal mixtures under a DAAD/NATO postdoctoral fellowship. In 2003, he joined the Department of Chemistry at the University of Manitoba, where he is currently an associate professor focusing on the design, synthesis, and characterization of liquid crystal/nanoparticle and magnetic nanopar-

ticle composites. Of particular interest are inherent structure-property relationships in these materials and the use of the final composites in electro-optic devices or in medical applications.

**Pierangelo Metrangolo** is an associate professor (since 2005) in the Department of Chemistry, Materials, and Chemical Engineering "Giulio Natta" of the Politecnico di Milano. His research interests are in the fields of fluorine chemistry, crystal engineering, and supramolecular chemistry. In this context, he developed the concept and practice of halogen bonding. He is also interested in structural studies on fluorinated materials as well as their applications in the fields of functional liquid crystals and electrolytes for dye-sensitized solar cells. Metrangolo is author of around 100 original papers in international journals with high impact factors. In 2005, he was awarded the Ciamician Medal of the Italian Chemical Society, which honors the most meritorious contribution of a younger chemist, below 35 years of age, working in any area of organic chemistry. That year, he also won the Journal Grant for International Authors of the Royal Society of Chemistry.

**Ram Mohan** has been a member of the Illinois Wesleyan University (Bloomington, Illinois, USA) faculty since 1996. In 2008, he was named the Earl H. and Marian A. Beling Professor of Natural Sciences. Mohan's research interests include environmentally friendly organic synthesis using bismuth (III) compounds and the use of ionic liquids as solvents. His research, conducted in collaboration with undergraduates at IWU, has been funded by grants from ACS-PRF, the National Science Foundation, and Research Corporation. A 1985 graduate of Hansraj College in Delhi, India, Mohan earned

a master's degree in organic chemistry from the University of Delhi in 1987, and a doctorate in chemistry from the University of Maryland, Baltimore County, in 1992. Following his education, he conducted postdoctoral research at the University of Illinois at Urbana-Champaign. He is a recipient of The Camille and Henry Dreyfus Teacher Scholar Award and the University of Maryland Baltimore County Outstanding Alumni Award. In 2009, he was awarded a Green Chemistry Award from Pfizer, Inc.

**Partha Sarathi Mukherjee** was born in Burdwan, India, and obtained his M.Sc. degree in chemistry with specialization in inorganic chemistry in 1998 from Jadavpur University, Calcutta, India. He started his research career as a Ph.D. student under the guidance of N. Ray Chaudhuri at the Indian Association for the Cultivation of Science, Calcutta. After completing his Ph.D. work on Cu(II)-based magnetic materials, he joined the group of Peter J. Stang at the University of Utah, USA, as a postdoctoral fellow in 2003. In 2004, Mukherjee moved to the University of Gottingen to work with Herbert W. Roesky as an Alexander von Humboldt fellow. Since July 2005, he has been an assistant professor in the Department of Inorganic and Physical Chemistry at the Indian Institute of Science, Bangalore. Mukherjee's main research interests include the discovery of new single molecule magnets and self-assembly of functional molecular architectures for the detection of explosives. He has published 58 papers in peer-reviewed international journals.

**Sherine Obare** is an associate professor of inorganic chemistry at Western Michigan University. She received a B.S. in chemistry from West Virginia State University in 1998. She then obtained a Ph.D. in chemistry from the

University of South Carolina in 2002 under Catherine J. Murphy. Thereafter, she joined Gerald J. Meyer's research laboratory at Johns Hopkins University as a Dreyfus Postdoctoral Fellow. Her research interests lie in the area of designing nanoscale materials with controlled size and shape to gain a fundamental understanding of their chemical and physical properties. She studies the optical, catalytic, magnetic, and electrochemical properties of these materials and works toward exploiting their use toward environmental remediation, sensor development, biomass conversion, and alternative energy. She is the co-director of the NIH-sponsored Bridges to the Baccalaureate Program. Among her numerous awards are the National Science Foundation CAREER award and the ACS PROGRESS/Dreyfus Lectureship Award.

**Dmitrii Perepichka** is currently an assistant professor in the Department of Chemistry, McGill University. He was born in Donetsk, Ukraine, where he received his B.Sc. and Ph.D. (1999) in chemistry. He was a post-doctoral fellow in the lab of Martin Bryce at Durham University (1999–2001) and in the lab of Fred Wudl at UCLA (2001–2002), where he established himself as an organic materials chemist. He started his career at INRS-EMT, Université du Québec in 2003 and subsequently moved to McGill University in 2005. His achievements include the first solid-state polymerization in thiophene series; synthesis of molecules with unprecedentedly low HOMO-LUMO gaps ( $<0.3$  eV); and the first asymmetric substitution of single-wall carbon nanotubes. He is a recipient of NSERC Accelerator grant awards, the DuPont Young Professor Award, and the CNC-IUPAC Award. His current work includes design of pi-functional organic materials, supramolecular chemistry at surfaces, and organic/molecular electronics.

**Daniel Rabinovich** is a professor in the Department of Chemistry at the University of North Carolina at Charlotte, USA. He was born and raised in Lima, Peru, where he obtained his undergraduate degree from the Catholic University (1990). He received a Ph.D. in inorganic chemistry from Columbia University in 1994 and, after postdoctoral work at Los Alamos National Laboratory in New Mexico, he joined UNC Charlotte in 1996. His research interests are in synthetic and structural inorganic, bioinorganic, and organometallic chemistry, including the coordination chemistry of multidentate sulfur-donor ligands and the synthesis of model compounds for sulfur-rich metalloenzymes, as documented in some 60 peer-reviewed publications. He is also the editor of *Philatelia Chimica et Physica*, a quarterly publication dedicated to the study of postage stamps related to chemistry and physics. He regularly writes a column on this topic for *Chemistry International*.

**Michelle Rogers** is a research chemist with the Lubrizol Corporation in Wickliffe, Ohio, USA, where she develops new components for lubricating compositions and serves as sustainability steward. Rogers joined Lubrizol in 2007 upon receiving her Ph.D. in organic chemistry from the University of Wisconsin-Madison, under the mentorship of Shannon S. Stahl. She also holds a B.A. in biochemistry from Washington University in Saint Louis (2002). In addition to new component development responsibilities, her research interests focus on the use and development of sustainable technologies with the chemical industry.

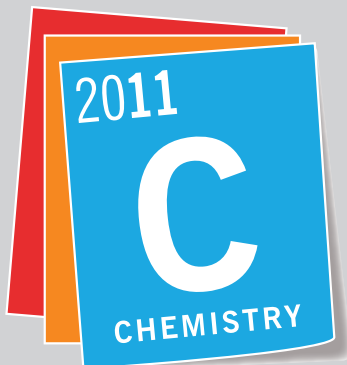
**Jon M. Schwantes** is a senior scientist with the Advanced Radioanalytical Chemistry Group in the National Security Directorate of Pacific Northwest National Laboratory, the techni-

cal point of contact for the lab to the Department of Homeland Security's National Technical Nuclear Forensics Center, and an auxiliary professor within the Nuclear Engineering Program at the Ohio State University. He has a B.S. (1993) and M.S. (1996) degree in chemical oceanography and a Ph.D. (2002) in environmental (civil) engineering from Texas A&M University. He has over 16 years experience as a radiochemist. He has authored or coauthored 36 peer-reviewed journal articles. He is the author of INVRS-K. He was recognized in 2006 by the U.S. Department of Energy for his work in science-based stockpile stewardship.

**Muhammad Raza Shah** was born in Charsadda, Pakistan, and carried out his Ph.D. (2003) work at the Max-Planck Research Institute for Polymer Research in Mainz, Germany. After a post-doc at Geneva University, Switzerland, he moved to the University of Karachi, where he is currently an assistant professor at the H.E.J. Research Institute of Chemistry. He also carried out another post-doc at the Max-Planck Institute involving the characterization of lipid bilayer and monolayer with atomic force microscopy (AFM). His research interests are at the interface of synthetic organic chemistry and supramolecular chemistry focusing on interlocked molecules and artificial ion channels and the characterization of nanomaterials with AFM.

**Mohammad Shoeb** is an assistant professor in the Department of Chemistry, University of Dhaka, Bangladesh. In 2006, Shoeb received his Ph.D. from the Robert Gordon University, UK, in natural product chemistry. His research interests are natural products and environmental chemistry. He is an important member of the International Science Programme (Uppsala, Sweden) supported research project on "Studies

# Celebrate Chemistry



United Nations  
Educational, Scientific and  
Cultural Organization



International Union of  
Pure and Applied  
Chemistry

## International Year of CHEMISTRY 2011

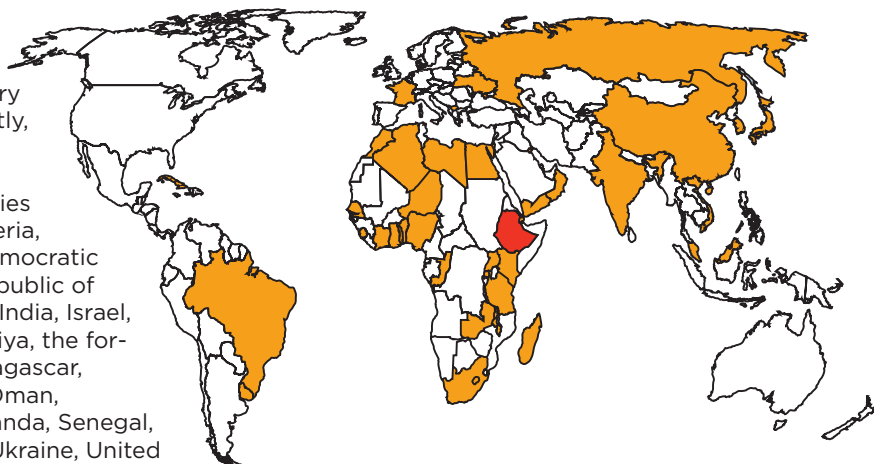
### Goals of the International Year of Chemistry:

- Increase the public appreciation of chemistry in meeting world needs
- Increase interest of young people in chemistry
- Generate enthusiasm for the creative future of chemistry
- Celebrate the 100th anniversary of the Madame Curie Nobel Prize and the 100th anniversary of the founding of the International Association of Chemical Societies

*The International Year of Chemistry—2011 will celebrate the achievements of chemistry and its contributions to the well-being of humankind.*

### A United Nation's Proclamation

The UN resolution for the proclamation of 2011 as the International Year of Chemistry was approved by UNESCO and, subsequently, the UN General Assembly. **Ethiopia** submitted the resolution to UNESCO and the UN General Assembly and the following countries (highlighted on the map) supported it: Algeria, Benin, Brazil, China, Côte d'Ivoire, Cuba, Democratic People's Republic of Korea, Democratic Republic of the Congo, Djibouti, Egypt, France, Ghana, India, Israel, Japan, Kenya, Kuwait, Libyan Arab Jamahiriya, the former Yugoslav Republic of Macedonia, Madagascar, Malawi, Malaysia, Morocco, Niger, Nigeria, Oman, Republic of Korea, Russian Federation, Rwanda, Senegal, Sierra Leone, South Africa, Togo, Uganda, Ukraine, United Republic of Tanzania, Uruguay, Viet Nam, Zambia, and Yemen.



*Chemistry—our life, our future*

[www.chemistry2011.org](http://www.chemistry2011.org)

of Organic Pollutants in Food and Environment” lead by Nilufar Nahar, University of Dhaka. Shoeb is a research grantee of the International Foundation for Science for a project to isolate bioactive compounds from endophytic fungi. He received the IUPAC Young Chemist Award in 2007 and attended the IUPAC Congress in Torino. He is actively engaged in the IUPAC project on IC-NPR: International Center for Natural Product Research (Task Group Chair M. Mosihuzzaman).

**Shuqing Sun** is a professor at the National Center for Nanoscience and Technology (NCNST). Sun holds a B.S. from Jilin University and a Ph.D. degree in chemistry from the Institute of Chemistry, Chinese Academy of Sciences (1997). He has worked at Thin Film Electronics AB (Sweden), UMIST (UK), and the University of Sheffield (UK) as a guest scientist and research fellow, respectively, prior to becoming a professor at NCNST. Sun has published more than 30 peer-reviewed publications in a couple of research areas. The novel method for patterning surfaces chemically, so-called scanning near-field photolithography, developed by Sun and his colleagues, has found many applications. At present, his research interests are focused on the development of novel approaches for ultrahigh sensitive detection for biomolecules based on surface enhanced Raman scattering, surface enhanced fluorescence spectroscopy using noble nanoparticles, and the fabrication and detection of nanobioarrays.

**Charles Sykes** is the Usen Family Assistant Professor in the Department of Chemistry at Tufts University. He received his B.S. and M.S. degrees from Oxford University before moving to Cambridge University for a Ph.D. under the supervision of Richard Lambert. He then relocated to the United States to start postdoc-

toral fellowships with Paul Weiss at Penn State and Mike Fiddy at the University of North Carolina at Charlotte. Research in the Sykes Group at Tufts University is aimed at understanding surface mediated-interactions between atoms and molecules. By understanding these phenomena one can tailor surface composition in order to promote catalytically important events such as mass transport to active sites on catalysts and molecular self-assembly. Low Temperature Scanning Tunneling Microscopy is utilized to directly visualize and manipulate single atoms and molecules on conductive surfaces.

**Patchanita Thamyongkit** is an assistant professor in the Department of Chemistry, Faculty of Science, Chulalongkorn University in Bangkok, Thailand. He holds a Ph.D. certification from Eberhard-Karls-University Tuebingen, Germany. Before joining Chulalongkorn University in 2005, Thamyongkit conducted fruitful postdoctoral research at North Carolina State University, USA, for three years. Drawing on several years experience in synthesis and molecular design of conjugated compounds for light-harvesting and light-emitting diodes, Thamyongkit now focuses mainly on syntheses, molecular design, and photophysical properties of porphyrins and phthalocyanines for optoelectronic devices. Besides serving as an assistant professor in Thailand, Thamyongkit is doing research in optoelectronic device technology supported by a Marie Curie International Incoming Research Fellow Program at Linz Institute for Organic Solar Cells in Austria for 2009–2010.

**Aaron Wheeler** is an assistant professor at the University of Toronto whose research interests include microfluidics, proteomics, mass spectrometry, cell-based screening, drug discovery, and disease diag-

nostics. Wheeler completed his Ph.D. in chemistry in 2003, working with Dick Zare at Stanford University. After graduating, he spent two years as an NIH postdoctoral fellow at UCLA. Since 2005, he has been the Canada Research Chair of Bioanalytical Chemistry at the University of Toronto, with a primary appointment in the Chemistry Department, and cross-appointments at the Institute for Biomaterials and Bioengineering and the Banting and Best Department of Medical Research. In Toronto, Wheeler is fortunate to work with an outstanding research group composed of chemists, biologists, and engineers—their success has led to international recognition including a Sloan Fellowship and an Eli Lilly and Company Young Investigator Award.

**Ilya Zharov** was born in Chelyabinsk, Russia. In 1990, he obtained his B.Sc. (honors) from Chelyabinsk State University and moved to Israel, where he attended Technion-Israel Institute of Technology. He obtained his M.Sc. in 1994. In 1995, he joined the group of Josef Michl at the University of Colorado, Boulder, USA, where he studied Group 14 cations, neutral and anionic carboranes, conducting polymers, and photoresist materials. In 2000, he obtained his Ph.D. and joined the Beckman Institute for Advanced Science and Technology, University of Illinois at Urbana-Champaign, as a Beckman Fellow. In 2003, Zharov began his research and teaching in the Chemistry Department of the University of Utah. Work in his group focuses on responsive nanoporous materials, proton-conducting membranes, and on the development of modular anti-cancer agents. Zharov has received the Camille and Henry Dreyfus Foundation New Faculty Award and the National Science Foundation CAREER Award. In 2009, he was promoted to the rank of associate professor with tenure.



2011 International Year of Chemistry

An Invitation To

# 43rd World Chemistry Congress

**INTERNATIONAL UNION OF PURE  
AND APPLIED CHEMISTRY**

"CHEMISTRY BRIDGING  
INNOVATION AMONG THE AMERICAS  
AND THE WORLD"

and

**46th General Assembly  
International Union  
of Pure and Applied  
Chemistry**

Jointly with

**PRChem 2011**

70th Annual Conference  
and Exhibition

**Colegio de Químicos  
de Puerto Rico**

July 30 – August 7, 2011  
San Juan, Puerto Rico

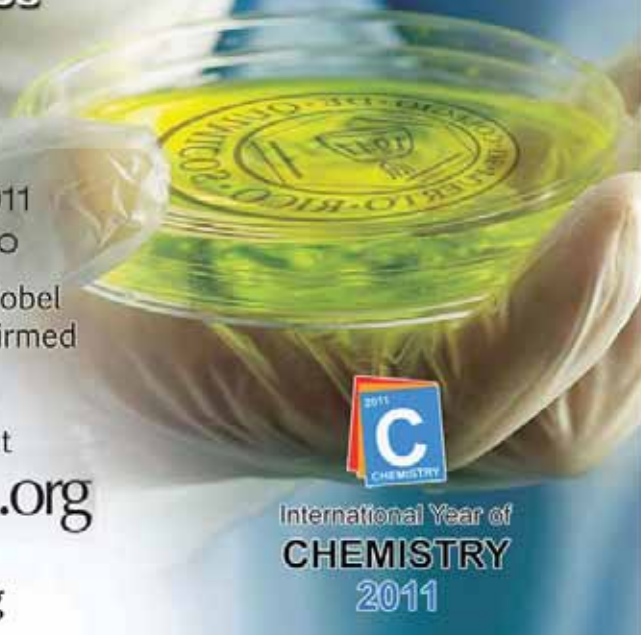
At present, there are Five Nobel  
Laureates in Chemistry confirmed  
as Plenary Lectures.

For more information visit

[www.iupac2011.org](http://www.iupac2011.org)

or email to:

[info@iupac2011.org](mailto:info@iupac2011.org)



International Year of  
**CHEMISTRY**  
2011



Sponsor:

**Waters**

THE SCIENCE OF WHAT'S POSSIBLE.™

# **CHEMRAWN VII**

## ***Prize for Atmospheric and Green Chemistry***

USD 5000 will be awarded to a young scientist (under age 45) from a developing country who is contributing to the field of green chemistry through atmospheric chemistry research.

The first award will be given at the IUPAC International Conference on Green Chemistry in Ottawa, Canada, 15–19 August 2010.

### ***Nominations due by 31 December 2009***

Each nomination should include a CV and two letters of support, plus a brief summary of research, illustrating the contribution of the applicant in the field of green chemistry and emphasizing atmospheric chemistry.

Send nominations to:

IUPAC Secretariat

PO Box 13757

Research Triangle Park, NC 27709-3757, USA

or by e-mail to [secretariat@iupac.org](mailto:secretariat@iupac.org)