



THE AMERICAN CHEMICAL SOCIETY DIVISION OF

# Industrial & Engineering Chemistry

## Fall 2009 Newsletter—*Putting Science to Work*

### Industrial & Engineering Chemistry Division Receives ChemLuminary Award



*At the American Chemical Society meeting in Washington, DC, 18 August 2009, the Industrial & Engineering Chemistry Division received a ChemLuminary Award from the Committee on Divisional Activities in "recognition of innovation and outstanding service to members of a division" for the work done on the 100th anniversary celebration last year. Accepting the award for the Division was Chair Joe Zoeller, center.*

### Industrial & Engineering Chemistry Division Election Results for 2010

During the Executive Committee meeting in Washington DC on 17 August 2009, it was announced that Phil Savage, of the University of Michigan, was elected Chair-Elect for 2010, Dean Peterman, of the Idaho National Laboratory, was elected Treasurer for 2010-2011, and Martin Abraham, Youngstown State University, was elected Counselor for 2010-2012.



*I&EC Historian Bill Flank, member Nancy Jackson and Chair Joe Zoeller enjoying the activities at the ChemLuminary Award celebration on 18 August 2009 in Washington, DC. Jackson was elected President-Elect of the American Chemical Society in November, 2009.*

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2009-2010 Chair, ACTS  
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## **Applied Chemical Technology Subdivision, Division of Industrial and Engineering Chemistry**

September 23, 2009

To the I&EC Division membership:

We would like to announce the formation of a new subdivision of the Industrial & Engineering Chemistry Division, to be called Applied Chemical Technology Subdivision (ACTS), which has occurred by folding the former TECH Division into I&EC. This subdivision welcomes all those members who have roles we will call "Applied Chemical Professional". This is more inclusive of all the roles we fill and better defines our profession than the former "technician/technologist" role.

The mission of this subdivision is to offer technical and career development programming for the Applied Chemical Practitioners and others interested in chemical technology and to nurture an Applied Chemical Practitioner community in I&EC.

We invite all members of I&EC division to join our ranks, especially those involved in the role traditionally called technician/technologist. Further, if you work with or know someone who fills this role, we encourage you to invite them to join as well.

I welcome you to contact me if you have any questions or concerns.

Respectfully,



John H. Engelman, D. Sc.  
Chair - ACTS

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**From the I&EC Chair-Joe  
Zoeller**

Joseph Zoeller, Research Fellow, Eastman Chemical Company, Chair I&EC

In the Fall Newsletter, it is typical for the chair to review accomplishments within the division over the last year. I will stick to tradition. However, before doing so, I would like to thank the people who have worked to keep the Industrial and Engineering Chemistry (I&EC) division operating and prospering in what have been very trying economic times for the membership. The volunteers operating the division have not been immune to the effects of cutbacks and travel curtailments, but they have all met their commitments regardless. Further, these volunteers managed to maintain the fiscal health of the division and make progress on our strategic goals despite these difficulties. We should all thank them and consider this our greatest accomplishment.

On the lighter side, I believe our key accomplishments in 2009 were in the following areas:

- 1) **Strategic Plan:** We launched a new strategic plan and have people heading each of the key strategic thrusts which

are: Programming, Improved Communication, and Membership. Examples of progress in each area are shown below:

- a) *Membership.* As I indicated in the last newsletter, I believe we are taking a unique approach to membership by focusing on students as they start their education and enter the workforce. Proposals are now under consideration for student awards and programming which will facilitate and encourage student participation at both the graduate and undergraduate level.
  - b) *Communication.* We will be moving to an upgraded website hosted by the American Chemical Society to facilitate communication both to our members and between our members.
  - c) *Programming.* We have initiated policies that provide fiscal support for programs operated under the I&EC banner. We have also extended our interactive programming with other divisions. You should start to see the impact of these efforts in San Francisco.
- 2) **Subdivisions:** We now have a leadership succession plan for each of

- 3) **Recognition:** (i) The division received a Chemluminary award for its 100 year celebration and associated symposia and book. (ii) The division also extended its recognition of outstanding chemists and chemical engineers. We continued the I&EC fellows program which awards a fellowship to one engineer and one chemist annually who have demonstrated accomplishments at the intersection of chemical engineering and chemistry. Regarding national awards, we will continue to host the E.V. Murphree National Award symposium. However, the better news is that the ACS National Award in Separation Sciences and Technology has been reinstated and I&EC will begin hosting the associated award symposium in 2010. (iii) Nine members of I&EC were selected to the inaugural ACS Fellows class.

Thanks, Joe

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**From the Councilor—Spiro D.  
Alexandratos, Councilor  
2008- 2010**

Dear Colleagues - I would like to take this opportunity to give you my view of the state of your Division, to bring to your attention an important issue that we are dealing with at Council, and to tell you of my work representing the Division on the Committee on Science.

There is a lot happening within the Division. Our I&EC Fellows Award is now well established; both nominees and awardees are top caliber scientists and engineers. We

will have two award symposia at the San Francisco meeting and they will be part of an outstanding program that represents the forefront of applied chemistry and engineering. This is not meant to be a pep talk - review the program critically when it is published and see whether you agree. If you think there is an area that we should be covering but have not done so over the past two or three years, let me know and we will work together to get it done. We are always working to have an effective outreach program and are discussing how to set up a student symposium on a permanent basis. Another area we discuss but need to put a plan in place is involvement in regional meetings. If this is something that would interest you, let me know and, again, we will work together to get it done.

An issue that was discussed at the last Council meeting and will be discussed again in San Francisco, probably to end in a vote, is whether we should keep the current system of electing the ACS president, in particular whether to keep the current mechanism of petition candidates, or whether we should have petition \*nominees\* with those nominees going through the same vetting process as the nominees chosen by the procedure we have used for many years. There are pros and cons for both sides. At the last Council meeting, one past ACS president said he supports the change because it levels the playing field for all nominees; another past ACS president went to the microphone to say he opposed the change because it diminished the power of the membership. Since I believe that Division Councilors represent their membership, if you have an opinion one way or another, let me and your other councilors know. The whole point of having a Council, I think, is to mimic within the ACS, the idea of representative government.

One last point I'd like to bring to your attention is what I have been doing on the Committee on Science. This committee has decided that it can best serve the membership by highlighting the work being done on Alternative Energy Systems. There are many issues that we, as chemists, are uniquely qualified to address and to do so in a manner that benefits society as a whole.

On any such list of issues, energy sustainability surely ranks in the top three. As the chair of the Science & Technology subteam, my group is charged with the responsibility of compiling reports relevant to biofuels, nuclear, solar and hydrogen as alternative energy sources. Other subteams will handle how the material is communicated to the membership at large and what policy recommendations we can make.

That's it for now - there's a lot going on. Since this issue will hit the web around the holidays allow me to close with my best wishes for a happy new year with family and friends. - Spiro

Thank you., Spiro Alexandratos

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### **I&EC Members Recognized as ACS Fellows**

The officers of the Industrial and Engineering Chemistry Division are honored to recognize five new ACS Fellows who were nominated by the Executive Committee in recognition of their exemplary service to the Division in addition to their professional accomplishments in the fields of chemistry and chemical engineering:

**Martin A. Abraham** is the founding dean of the College of Science, Technology, Engineering and Mathematics at Youngstown State University, and previously served as Dean (2000-07) and Professor of Chemical Engineering (1996-2007) at the University of Toledo. His dedication to the concept of sustainability has been consistently practiced in his research, his teaching and his service to ACS. Since starting his academic career at the University of Tulsa in 1987, Martin has published dozens of pioneering studies on heterogeneous catalysis in supercritical water and carbon dioxide, and has developed courses to teach chemical engineers how to avoid—not just remediate—pollution. He has provided a decade of outstanding leadership and service to the Industrial and Engineering Chemistry Division, including Programming

Chair of its Green Chemistry & Engineering Subdivision from 1999-2002, Division Chair in 2003, and Councilor since 2003. As the chair of the ACS Committee on Environmental Improvement's subcommittee on sustainability (2006-08), Martin initiated a highly successful collaboration with the Committee on Meetings and Expositions to explore and institutionalize sustainable practices at ACS national meetings.

**Spiro Alexandratos** is Professor of Chemistry at Hunter College of the City University of New York, and is currently serving in his second term as I&EC Division Councilor and on the ACS Committee on Science (COMSCI). After completing his B.A. in Chemistry at Manhattan College and his Ph.D. at UC Berkeley, Spiro worked for four years at Rohm and Haas in Philadelphia and then started a professorship at the University of Tennessee, Knoxville (1981-2001). Spiro has published extensively in the area of functional polymers, and has been a co-recipient on two R&D 100 awards for his contributions to the development of bifunctional ion exchange resins. As Associate Editor of the journal *Industrial & Engineering Chemistry Research*, Spiro actively expanded the visibility and reputation of the journal among academic chemists by introducing a new section entitled "Applied Chemistry." Spiro has been a key player in I&EC Division governance for nearly two decades, chairing the Division in 1994 and its Separation Science & Technology Subdivision in 1991. In 2007 he conceived and brought to fruition the Division Fellows Award, annually honoring a chemist and a chemical engineer for their contributions to industrial chemistry.

**Madan M. Bhasin** is the recipient of the 1999 ACS Award in Industrial Chemistry, and was elected to the National Academy of Engineering in 2006 in recognition of his outstanding research accomplishments in the area of oxidation catalysis. During his 46-year career at Union Carbide (later Dow Chemical), Madan discovered, developed, led, and assisted in commercialization of eleven generations of improved-efficiency ethylene oxide catalysts which have contributed \$30 million to \$60 million income

per year. His discovery of catalysts for the synthesis of ethylene via oxidative coupling of methane also led to worldwide research in this area. Madan served as Chair of the I&EC Division in 1990, as Secretariat General of the Catalysis Secretariat in 1997-98, and as Chair of the Kanawha Valley Section in 2002, organizing the Section's successful 75th Anniversary celebration. Within Dow, he has been honored with the Herbert H. Dow Gold Medal (2006) for the commercial impact of his work, and this past year, he was also recognized by the Industrial and Engineering Chemistry Division as a Division Fellow. Madan is a graduate of the University of Delhi (B.S., 1958), Indiana University (M.S. 1960), and the University of Notre Dame (Ph.D. 1963).

**Kathleen M. Schulz** has been involved in Society service and governance for 40 years, and has been a strong voice and influence in I&EC Division, having served as its Division Chair in 1989, as Councilor from 1994-2002, and on the Program Committee from 1990-1996. Kathleen started with a background in analytical chemistry (B.S., Eastern New Mexico University; Ph.D., University of Missouri at Columbia), and quickly demonstrated her leadership capabilities in marketing, management, business development activities and organizational transformation in such organizations as Hewlett-Packard, Midwest Research Institute, and Rockwell Hanford Operations. Between 1993 and 2008, she played a pivotal role in transforming Sandia National Laboratory into a diversified, post-Cold War national security laboratory, and subsequently formed her own consulting company, Business Results, Inc. Kathleen also served as Chair of the President's Task Force on Leadership Development which created the ACS Leadership Development System in 2009. Currently she is Councilor for the Division of Business Development and Management (BMGT) and has been serving on the Nominations and Elections Committee (2002-2007) and the Council Policy Committee (2008-present).

**Robin D. Rogers** has provided leadership to ACS for over 30 years, beginning with his time as President of his ACS Student Affiliates chapter while still a student at the

University of Alabama (B.S., 1978; Ph.D., 1982). He is a former Chair of the Industrial and Engineering Chemistry Division, and was instrumental in the creation of its Green Chemistry and Engineering Subdivision and the leadership of the Separation Science and Technology Subdivision. Robin is the founding editor for the ACS journal *Crystal Growth and Design*, and was a member of the Committee on Science. He has served as a member of the organizing committee for the Green Chemistry and Engineering Conference, as well as several other ACS conferences, and numerous symposia at national meetings. As a member of the faculty of Northern Illinois University (1982-96) and the University of Alabama (1996-present), with a joint appointment at the Queen's University of Belfast since 2007, Robin has published extensively in the areas of crystallization and separation technologies, and more recently became a key figure in the explosive growth of research on the fundamentals and applications of ionic liquids. His work in ionic liquids research was recognized with a Presidential Green Chemistry Challenge Award in 2005.

In addition, the following members of the Industrial and Engineering Chemistry Division were elected to the inaugural class of ACS Fellows. We applaud their technical achievements and service to the profession of chemistry:

**Christopher J. Bannochie**, Savannah River National Laboratory

**Helen M. Free**, Bayer Diabetes Care (Retired)

**Catherine T. Hunt**, Dow Chemical

**Mary K. Moore**, Eastman Chemical

**James P. Shoffner**, Columbia College Chicago (Retired)

*Contributed by Rebecca Chamberlin*

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## I&EC Facebook Group—Join In!

Pete Smith has set up an I&EC group in Facebook. Feel free to join the group, make comments, etc. We'll see how it works out as a communication tool. The site is: <http://www.facebook.com/group.php?gid=11736689063>.

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## I&EC REGIONAL AND LOCAL PROGRAMMING FUND CONTINUES

**Summary:** The Industrial and Engineering Chemistry (I&EC) Division has budgeted a total of \$6000 in calendar 2010 to conduct joint programming with ACS regional meetings and local sections. Programming will be tied to the interest areas represented by I&EC and its subdivisions.

I&EC Division supports the effort within the ACS to strengthen regional and local activities. The Division has already encouraged and co-sponsored ACS Innovation Awards linked to regional outreach activity.

The Division also supports ACS Regional Meeting programming that serves to increase awareness of the Division, promote membership and leadership recruitment, and better serve industrial members who do not travel to ACS National Meetings.

Proposals for symposium support should be submitted to the Program Chair and the Past Chair of I&EC Division, and should specifically identify how the funds, up to \$2000, will be used (e.g. speaker travel, reception). Activities will be selected twice per year by the Executive Committee, which meets at each ACS National Meeting. Preference will be given to activities that explicitly support the objectives of the I&EC Division Strategic Plan. There is a funding cap of \$2000 per proposal, and funding can be used for activities up to two years away. The symposium organizers are expected to

acknowledge I&EC sponsorship according to guidelines provided by the Program Chair.

### Proposal Deadlines:

- Spring 2010: 2 weeks before the annual meeting (San Francisco meeting is 21-25 March 2010, so proposals due 7 March 2010)
- Fall 2010: 2 weeks before the annual meeting (Boston meeting is 22 -26 August 2010, so proposals due 8 August 2010)

### Contact:

Joe Zoeller, Past Chair,  
[jzoeller@eastman.com](mailto:jzoeller@eastman.com)  
Jim Ciszewski, Program Chair,  
[iecprogramchair@gmail.com](mailto:iecprogramchair@gmail.com)

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A new I&EC Web Site will be up on or before 31 January 2010 at <http://acs-iec.webs.com/>.

## Novel Chemistry with Industrial Applications (NCIA) Subdivision

The NCIA Chair is Tom Baker (University of Ottawa). Our past-Chair, Joe Zoeller, will be serving as the programming chair, but was also elected to serve as Chair for the I&EC division.

As outlined in our subdivision newsletter, a number of symposia are planned for the next few years. In the near future, we will be soliciting papers for a symposium on "Process Intensification" for the Spring 2010 meeting and one on "Catalysis Applications for Renewable Energy" for Fall 2010 in Boston.

**Invitation to Join the Novel  
Chemistry with Industrial  
Applications Subdivision:**

If you feel the Novel Chemistry with Industrial Applications subdivision is a worthy endeavor on the part of the Industrial and Engineering Chemistry Division, we would like to hear from you and have you join the subdivision. There is no additional cost. Simply contact the subdivision past-chair, James J. (Jerry) Spivey, James M. Shrivvers Professor, Department of Chemical Engineering, Louisiana State University, S. Stadium Drive, Baton Rouge, LA 70803  
[jjspivey@lsu.edu](mailto:jjspivey@lsu.edu)  
[www.che.lsu.edu/faculty/spivey/index.htm](http://www.che.lsu.edu/faculty/spivey/index.htm)  
Phone: (225)-578-3690 to join the subdivision or to get additional information.

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**From the Green Chemistry &  
Engineering Subdivision Chair**

Greetings from the Green Chemistry & Engineering subdivision; we are back on our feet. I want to briefly update you all on the activities of GC&E. An Executive Committee has been formed and its 2010 membership is:

Chair – Yinlun Huang, Wayne State University ([yhuang@wayne.edu](mailto:yhuang@wayne.edu))

Chair-Elect – Rich Engler, EPA ([engler.richard@epa.gov](mailto:engler.richard@epa.gov))

Immediate Past Chair – Pete Smith, Westminster College ([smithpm@westminster.edu](mailto:smithpm@westminster.edu))

Program Chair – Qiang Xu, Lamar University ([qiang.xu@lamar.edu](mailto:qiang.xu@lamar.edu))

Please feel free to contact us with any questions or concerns.

GC&E will be sponsoring one symposium at the Spring 2010 National Meeting in San Francisco. The title is Sustainability in Action. This symposium is part of the thematic program for the meeting (Chemistry for a Sustainable World). We have eight presentations lined up including speakers from the Moscone Convention Center, ACS Headquarters, the Syracuse local section, and Rhodia. Please look us up and join us!

We are also planning two symposia for the Fall 2010 National Meeting in Boston:

Green Pharma and a student-organized session on green chemistry. We do not yet have organizers for these symposia. If you are looking for a place to plug into GC&E, this may be it! Please contact Qiang Xu if you would like more details.

We want GC&E to be an active and influential subdivision of I&EC. This can only happen if our members get involved. As March 2010 approaches, look for an email from GC&E listing all of our activities at the San Francisco Meeting. Make a point to join us!

Cheers,  
Pete Smith, GC&E Chair 2009

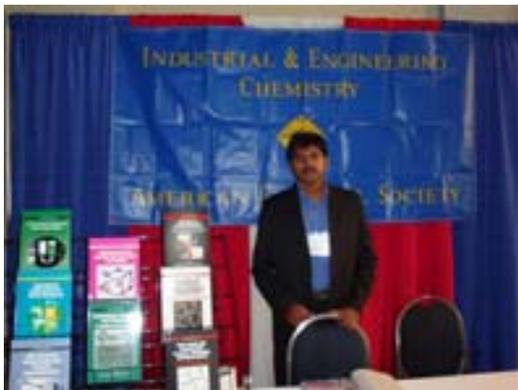
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**ATTENTION!!!! Industrial &  
Engineering Chemistry Division  
Members**

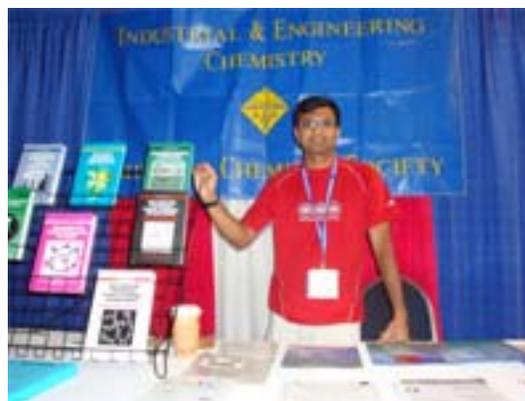
The division is seeking student volunteers to help staff a table with divisional information at the upcoming Spring Meeting of the American Chemical Society on March 21-25 in San Francisco, CA. We plan to staff the table throughout the meeting (Sunday thru Thursday) during the morning (8-12) and afternoon (1-5) sessions. In exchange for the help, the division will reimburse the registration fee for the meeting at the ACS undergraduate (\$95) or graduate student (\$175) member rate. We hope to get enough volunteers so that the time commitment will be no more than 4 hours.

If you know of a student or are a student that would be interested and available, please respond to me and let me know what days and times that you would be available. I will set up a schedule and let the volunteers know when and where to meet.

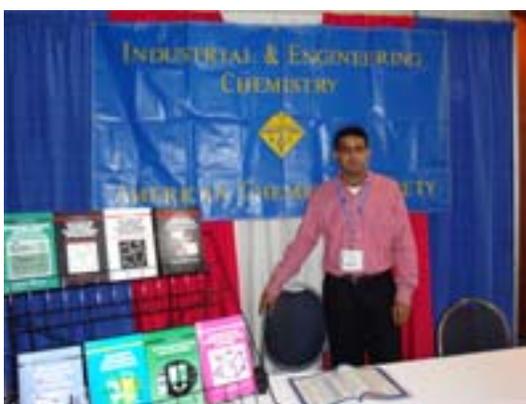
Following are photos of our student volunteers at the Washington, D.C. meeting in August, 2009.



**Debdut Roy – University of Kansas**



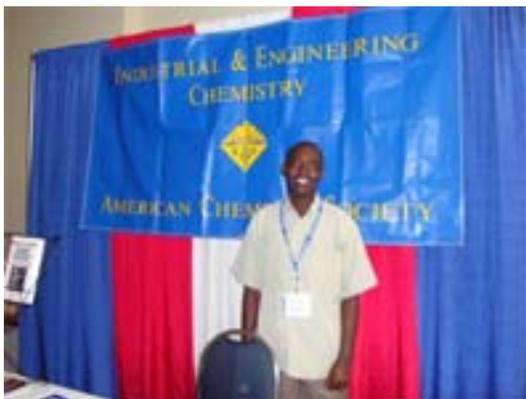
**Varadharajan Kailasam – University of Montana**



**Arindam Ganguly – University of Missouri-Kansas City**



**Srotoswini Kar – Georgetown University**



**Yohani Kayinamura – Georgetown University**



**Chutarat Saridara – New Jersey Institute of Technology**

Thanks for your assistance. David Hobbs  
Meetings Publicity Chair, I&EC Division,  
Savannah River National Laboratory, Aiken,

SC 29808, Phone: 803-725-2838, FAX: 803-725-4704, Email: [david.hobbs@srnl.doe.gov](mailto:david.hobbs@srnl.doe.gov)

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**I&EC Subdivision Programming Chairs**

**Applied Chemical Technology  
Subdivision**

Mary Moore  
Vice Chair and Programming Chair  
[mkmoore@eastman.com](mailto:mkmoore@eastman.com)  
423-229-1911

**Industrial Biobased Technologies**

Steve Zhang, [canaimex@gmail.com](mailto:canaimex@gmail.com)

**Green Chemistry and Engineering**

Qiang Xu, Lamar University  
[qiang.xu@lamar.edu](mailto:qiang.xu@lamar.edu)

**Separation Science and Technology**

Ed Rosenberg  
Chair-Elect and Programming Chair  
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**Novel Chemistry with Industrial  
Applications**

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## Industrial & Engineering Chemistry Division Officers and Leadership for 2009

Position	Term	Name	E-mail
Chair	2009	Joe Zoeller	<a href="mailto:jzoeller@eastman.com">jzoeller@eastman.com</a>
Chair-elect	2009	Michael Gonzalez	<a href="mailto:gonzalez.michael@epa.gov">gonzalez.michael@epa.gov</a>
Past-Chair	2009	Gregg Lumetta	<a href="mailto:gregg.lumetta@pnl.gov">gregg.lumetta@pnl.gov</a>
Treasurer	2008 - 2009	Rebecca M. Chamberlin	<a href="mailto:iectreasurer@gmail.com">iectreasurer@gmail.com</a>
Secretary	2009 - 2010	Ann Visser	<a href="mailto:ann.visser@srnl.doe.gov">ann.visser@srnl.doe.gov</a>
Councilor	2008 - 2010	Spiro Alexandratos	<a href="mailto:alexsd@hunter.cuny.edu">alexsd@hunter.cuny.edu</a>
Councilor	2009 - 2011	Melanie Lesko	<a href="mailto:Leskom@tamug.tamu.edu">Leskom@tamug.tamu.edu</a>
Councilor	2009 - 2011	Ken Nash	<a href="mailto:knash@wsu.edu">knash@wsu.edu</a>
Councilor	2007 - 2009	Martin Abraham	<a href="mailto:martin.abraham@ysu.edu">martin.abraham@ysu.edu</a>
Program Chair	2008 – 2009	James Ciszewski	<a href="mailto:ieiprogramchair@gmail.com">ieiprogramchair@gmail.com</a>
Program Secretary	2007 – 2009	Hongmei Wen	<a href="mailto:hongmei.wen@pw.utc.com">hongmei.wen@pw.utc.com</a>
Asst. Program Chair			
Web/Newsletter	2008 – 2009	Dustin James	<a href="mailto:iecdivwebmaster@gmail.com">iecdivwebmaster@gmail.com</a>
Meeting Publicity Chair	2009 - 2010	David Hobbs	<a href="mailto:david.hobbs@srnl.doe.gov">david.hobbs@srnl.doe.gov</a>
Awards		(open)	
Membership	2007 - 2009	Sam Morton	<a href="mailto:mortons@lafayette.edu">mortons@lafayette.edu</a>
Parliamentarian	2007 - 2009	Rick Sachleben	<a href="mailto:rsachleben@momentapharma.com">rsachleben@momentapharma.com</a>
Industrial Relations		vacant	
Informal industrial liaison	2007 - 2009	Amber Hinkle	<a href="mailto:amber.hinkle@bayerbms.com">amber.hinkle@bayerbms.com</a>
I&EC Liaison to the YCC	2007 - 2009	Lealon L. Martin	<a href="mailto:lealon@rpi.edu">lealon@rpi.edu</a>
Historian	2007 - 2009	Bill Flank	<a href="mailto:wflank@pace.edu">wflank@pace.edu</a>
<b>Subdivisions</b>			
ACTS Chair	2009	John Engelman	<a href="mailto:JHEngelm@sci.com">JHEngelm@sci.com</a>
SS&T Chair	2009	Paul Sylvester	<a href="mailto:psylvester@solmetex.com">psylvester@solmetex.com</a>
SS&T Chair Elect	2009	Ed Rosenberg	<a href="mailto:Edward.rosenberg@mso.umt.edu">Edward.rosenberg@mso.umt.edu</a>
SS&T Vice-Chair Elect	2009	Glenn A. Fugate	<a href="mailto:glenn.fugate@srnl.doe.gov">glenn.fugate@srnl.doe.gov</a>
GC&E Chair	2009	Pete Smith	<a href="mailto:smithpm@westminster.edu">smithpm@westminster.edu</a>
GC&E Chair-elect	2009	Yinlun Huang	<a href="mailto:yhuang@wayne.edu">yhuang@wayne.edu</a>
IBT Chair	2009	Steve Zhang	<a href="mailto:canaimex@gmail.com">canaimex@gmail.com</a>
NCIA Chair	2009	Tom Baker	<a href="mailto:rbaker@uottawa.ca">rbaker@uottawa.ca</a>
NCIA Chair Elect	2009	George Stanley	