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# FUEL CHEMISTRY NEWS

## *Newsletter of the ACS Division of Fuel Chemistry*

Volume 83, Nos. 1&2

<http://www.anl.gov/PCS/acsfuel/>

Fall 2004

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### *Message from the Chair (Steve Benson)*



#### **Spring 2004 National ACS Meeting in Anaheim, California.**

Semih Eser, Program Chair of the Fuel Chemistry Division, put together an excellent program. The symposia at the Spring ACS meeting included Chemistry of Solid, Liquid, and Gaseous Fuels; Heavy Oil and Bitumen Upgrading Processes and Chemistry;

Utilization of Greenhouse Gases; Ash and Slag Chemistry in Power Systems; Hydrogen Production, Storage, and Utilization; Mercury Measurement; Transformations, Control, and Related Issues in Power Systems, the Storch Award Symposium; Molecular Modeling and Reaction Chemistry; and Carbon Dioxide Capture and Sequestration. The Hydrogen Production, Storage and Utilization session was very successful, with attendance of over 170 people. The session included presenters from Basic Energy Science and the EERE of DOE. A portion of the presentations was on the "Basic Research Needs for the Hydrogen Economy," which was a summary of the Basic Energy Sciences Workshop on Hydrogen Production, Storage, and Use.

#### **The Fall 2004 National ACS Meeting in Philadelphia, Pennsylvania.**

The Fuel Chemistry Division had a very successful meeting in Philadelphia. Semih Eser, the 2004 Program Chair, did an excellent job in coordinating the symposia. The symposia included very timely topics on Advances in Hydrogen Energy; Carbon Materials and Organic Chemicals from Coal; Characterization, Upgrading, and Utilization of Heavy Hydrocarbon Resources; Chemistry and Applications of Carbon Nanotubes and Nanoparticles; Chemistry of Coke and Carbon Deposition in Fuel Systems; Chemistry of Renewable Fuels and Chemicals; Chemistry of Solid, Liquid, and

Gaseous Fuels; Fuel Cell Chemistry and Operation; Fuels for the Future: Leading the Way with Chemistry; and Ultraclean Transportation Fuels. Of specific interest was the "Fuel for the Future: Leading the Way with Chemistry symposium," which was an ACS Presidential Symposium that was held on Tuesday morning of the Philadelphia meeting.

**Richard A. Glenn Award.** I was pleased to announce the winners of the Richard A. Glenn Award for outstanding paper at the Fuel Chemistry Division Symposia at the Fall 2003 New York meeting. The paper, entitled "NEW, COMPUTER-DISCOVERED PATHWAYS FOR METHANE AND ETHANE PYROLYSIS," was presented by David M. Matheu<sup>a</sup>, Jeffrey M. Grenda<sup>b</sup>, Mark Saey<sup>c</sup>, William H. Green, Jr<sup>d</sup>

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<sup>b</sup>ExxonMobil Research and Engineering Annandale, NJ 08801

<sup>c</sup>Universiteit Gent, Petrochemical Technology Lab Ghent, Belgium, B-9000

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In 1956, the Division of Fuel Chemistry, in cooperation with Bituminous Coal Research, Inc., established an award to recognize outstanding papers presented at Fuel Chemistry Division symposia. In 1972, the award was named in honor of Richard A. Glenn, who served as Assistant Director of Research at Bituminous Coal Research, Inc. and as Chairman of the Fuel Chemistry Division in 1960. All papers presented at Fuel Chemistry Division symposia are eligible for this award. Session chairs review the papers in their sessions and select about one paper for every ten submitted that they feel are the most innovative and interesting. A selection committee then reads all of the papers and attends the presentations of those papers at the meeting. Based on the oral presentation, technical subject matter, and the quality of the preprint, the committee selects a paper to receive the Richard A. Glenn Award.

**The 2004 Storch Award Symposium** for Professor Harold Schobert of the Pennsylvania State University was held on Tuesday during the Anaheim meeting. The speakers who presented as part of the Storch Award Symposium included Robert Hurt from Brown University; Phil Britt from Oak Ridge National Laboratory; Mike Coleman from Pennsylvania State University; and Steve Benson from the Energy & Environmental Research Center at the University of North Dakota. Professor Schobert's presentation was entitled "Extreme Coalification: From Lignite to Anthracite in One Career." It was an honor and a pleasure for me to present the Storch Award for Outstanding Contributions to Fuel Science to Harold. I had the opportunity to work with Harold when he was at the Grand Forks Energy Research Center, currently known as the Energy & Environmental Research Center. During the years I have known Harold, he has been a good friend as well as a mentor, a teacher, and a researcher. Our congratulations and best wishes go to Harold. Congratulations on the award!

environment.



*Harold Schobert receiving the Storch Award from the ACS Fuel Chemistry Division Chair, Steve Benson*



*Left to right – Phil Britt, Bob Hurt, Harold Schobert, Mike Coleman, and Steve Benson*

The Storch Award is given biennially to an individual who has made an outstanding contribution to research in the field of fuel science. The award is cosponsored by Elsevier. This includes research on all aspects of the chemistry and utilization of all hydrocarbon fuels, with the exception of petroleum. The research may have been carried out over a long time period (e.g., a lifetime achievement award), or may be particularly innovative research conducted over a relatively short time period (e.g., several years). Special consideration is given to innovation and novelty in the use of fuels, characterization of fuels, and advances in fuel chemistry that benefit the public welfare or the

**ACS Presidential Event on “Fuel for the Future: Leading the Way with Chemistry” was held in Philadelphia.**



This well-attended event was the highlight of the Fuel Chemistry Symposia in Philadelphia. The aim of the event was to provide a highly visible symposium to inform scientists and engineers from industry, academia, and government of the challenges facing the development of reliable, sustainable, clean, and economic fuel sources that can meet growing global needs.

The invited speakers included:

Kenneth S. Deffeyes, author of *Hubbert's Peak: The Impending World Oil Shortage*

Richard E. Smalley, winner of the 1996 Nobel Prize in Chemistry

Stanley R. Bull, Associate Director for Science and Technology, National Renewable Energy Laboratory  
Shirley Neff, Goldwyn International Strategies, international energy expert

Drew Kodjak, Program Director, National Commission on Energy Policy

The speakers in the afternoon session included André Boehman, Pennsylvania State University; John Winslow, U.S. Department of Energy National Energy Technology Laboratory; David Gray, Mitretek Systems; Gerald Huffman, University of Kentucky; Kevin Stork, U.S. DOE Office of FreedomCAR and Vehicle Technologies; Bruce Bunting, Oak Ridge National Laboratory; Meyer Steinberg, HCE, LLC; Ralph Overend, National Renewable Energy Laboratory; Kelly Ibsen, National Renewable Energy Laboratory; and Howard Stephens, Vision Trust, Inc.

The symposium provided an overview of the significant challenges facing the global community in meeting future energy needs. The presentation provided by Smalley indicated that energy is number one on the top-ten list of challenges to humanity for the next 50 years. Energy use is a vital component in economic prosperity and living standards worldwide. Deffeyes indicated that world oil production will peak this decade if the consumption trends continue to increase, resulting in an imbalance between supply and demand. Overall, this was an excellent symposium, and the speakers provided excellent perspectives on fuels for the future and how we lead the way with chemistry. I recommend checking out the Fuel Chemistry Division Preprints of papers for this symposium.

This symposium would not have been possible without the sponsors. On behalf of the Fuel Chemistry Division and the symposium organizers, we gratefully acknowledge the financial support from the following contributors:

American Chemical Society President's Office  
Fuel Chemistry Division  
Committee on Environmental Improvement  
Committee on Science  
Petroleum Chemistry Division

National Energy Technology Laboratory of the U.S.  
Department of Energy  
Energy Institute of the Pennsylvania State University

**Summary.** The future of the Fuel Chemistry Division looks great. We have excellent programming on topics that are vital to the development of energy resources for the future. Let's continue to lead the way with chemistry. I would like to thank the Program and Symposia chairs for their efforts in developing excellent symposia. I also want to thank the secretary, treasurer, trustees, councilors, past chairs, and chair-elects for their efforts in making the Fuel Chemistry Division operate so smoothly. See you in San Diego!

Steven A. Benson  
Chair, Division of Fuel Chemistry

***Fuel Preprint News (M. Mercedes Maroto-Valer, Editor/Director of Preprints)***



Our preprints enjoy an excellent health. We continue beating our record on the number of preprints we published. For the Spring and Fall 2004 meetings we assembled a total of 435 preprints (206 in Spring and 229 in Fall) and produced 1,300 CDs for each meeting. Congratulations to the Program Chair and all the Symposia Organizers! At the same time, we are reducing our publication costs due to the multiyear agreement with Mira Digital Publishing. We are now in the second year of our current four-year agreement with Mira that started in Fall'03. This agreement has provided us with a 10% discount, fixed costs, discounted prices for licensing the software and indexing (\$1,728 vs. \$3,000), and free of charge (\$240 worth) a feature to be able to print all the papers of a chosen symposium. I have estimated that so far we have saved a total of over \$5,500 in our publications costs for the last three meetings.

I would like to remind all the preprint authors that they should carefully follow the template when preparing their preprint. This can reduced editing costs and turn around times during editing and production. The template and detailed instructions for the authors can be

found in the Fuel website: <http://www.anl.gov/PCS/acsfuel/preprintinfo.html>. The text of the footer of our preprints is updated every meeting to reflect the meeting year and volume. Please, check the Fuel website for the update template before submitting your preprint. Authors lacking access to the internet or necessary word processing tools should contact their symposium organizer for assistance. Technical issues concerning the preprint template should be directed to my attention. I also want to remind symposium chairs that they need to review the preprints to ensure that they comply with the required format.

Finally, I also want to remind you that all the ACS-Fuel Chemistry Division members have full access to the on-line version of the Fuel Preprints through the ACS website: <http://pubs.acs.org/meetingpreprints/>. This webpage also contains the meetings preprints back to the Spring'01 meeting in San Diego.

Please, do not hesitate to contact me if you have any questions regarding the preprints.

Mercedes Maroto-Valer  
Contact information: [mmm23@psu.edu](mailto:mmm23@psu.edu), or 814- 863 8265

### ***History and Status of the Trust Fund (Michael A. Serio, Head Trustee)***



The Trust Fund was formally established as the Awards Trust Fund by the Division on April 30, 1985 to provide for the stewardship of financial assets that were donated to the Division in support of the Henry H. Storch Award. The value of the Fund was approximately \$106,000 at the

end of the first full year (1986). A Trust Agreement was drawn up which is included as an Appendix to the Officer's Manual. The original purpose of the Trust Fund was to support the Storch Award and other awards (Richard A. Glenn Award for Best Paper, Distinguished Service Award). In the early 1990's, the Fund was first used to make up for deficits in the Operating Fund due to rising preprint costs. In the late 1990's, this practice continued and the Fund was also

used for non-Award purposes, such as educational outreach. Since 1990, the Trust Fund has paid out \$93,870, which includes \$5,950 for Glenn Awards, \$5,000 for Distinguished Service Awards, \$22,000 for Storch Awards, \$44,420 for the Operating Fund, \$15,000 for the Vision Trust (educational outreach), \$1,000 for the Derbyshire Endowment Fund and \$500 for the Gordon Conference on Fuel Science. During this same time period, the Trust Fund balance has grown from about \$125,000 to about \$200,000, with a maximum balance (in 2000) of about \$250,000.

In the revision of the Officer's Manual that was completed in 1999, the name of the Fund was changed from the "Awards Trust Fund" to "Trust Fund" to reflect this broader scope of use of the Fund. As a practical matter, the ACS recommends that each Division holds reserves equal to twice its annual operating expenses and the Trust Fund, by default, serves the dual purpose of acting as this reserve fund for the Division.

The Executive Committee asked the Trustees to provide them with a plan or mission statement for the Trust Fund at the Anaheim meeting in the Spring of 2004. A list which describes most of the anticipated uses of the Trust Fund was provided for discussion:

1. Fund the Storch, Glenn, Service and other awards.
2. Provide financial relief to the Operating Fund to meet unanticipated shortfalls.
3. Preserve the inflation-adjusted principal for future generations.
4. Fund other initiatives which benefit the membership; if funds are available after the primary objectives have been met.
5. Grow the real (inflation-adjusted) principal when possible.

The purpose of the Trustee's Report at the Anaheim meeting was to initiate a discussion in order to arrive at a consensus as to the priority of each of these potential uses and to determine if any of these should be dropped or if any new uses should be added. At the Philadelphia Meeting (Fall 2004), this discussion continued and, as a result, a request was made to the Trustees to provide a report at the end of each year that would include any excess funds above what is needed to meet the future obligations of the Trust Fund and maintain the original (inflation-adjusted) principal.

## **Combustion Institute Celebrates 50th Anniversary (Michael A. Serio, Head Trustee)**



At the 30th International Symposium on Combustion, held at the University of Illinois at Chicago on July 25-30, 2004, the Fiftieth Anniversary of the Combustion Institute was celebrated. The Combustion Institute was founded in 1954 as a non-profit scientific and engineering society whose purpose was to promote research in the field of combustion science. However, the origins of the Combustion Institute were in the Gas and Fuel Chemistry Division of the American Chemical Society (ACS), as the Fuel Chemistry Division was known at that time. The first two Combustion Symposia were held under the auspices of the Fuel Division in 1928 and 1937, respectively. The 1927 meeting was part of the annual ACS meeting, held in Swampscott, MA, while the 1937 meeting was part of the annual ACS meeting held in Rochester, NY. These are both small cities, which gives you an idea of how the ACS has grown since that time. As interest in the combustion field began to increase in the 1940's, a third symposium was held at the University of Wisconsin in 1948, which was the first meeting held independently from the Fuel Division. At the conclusion of this meeting, the Standing Committee on Combustion Symposia was formed. This led to a fourth meeting held at MIT in 1952 and the formal establishment of the Combustion Institute (based in Pittsburgh, PA) in 1954. The Combustion Institute now has 29 sections in 27 different countries and is responsible for the publication of the journal Combustion and Flame. For additional information, please go to [www.combustioninstitute.org](http://www.combustioninstitute.org).

## **2004: A Good Year for Programming (Semih Eser; Program Chair)**



I would like to thank again all the symposium organizers who worked hard to deliver a successful technical program in 2004. It was a great pleasure with a little suspense, I must admit, to see how the symposia took shape as the programming deadlines approached. I bet Tom

Autrey will relate to this closely as his deadlines approach for the San Diego meeting. Brief reflections on the 2004 Spring and Fall meetings follow.

### **Spring 2004 in Anaheim**



A total of 206 papers were submitted for presentation in three parallel sessions on each day, except Tuesday, with two evening sessions held

on Monday and Wednesday to accommodate all of the accepted papers. The evening sessions were not popular, as one would expect, but they were well attended (i.e., not only by the speakers). The Storch Award Symposium organized by Harold Schobert was held on Tuesday morning. As Harold put it his research has encompassed a case of "Extreme coalification: From lignite to anthracite in one career" with a by-pass through jet fuels, of course. Phil Britt did his usual magic and organized, in a matter of two weeks, a special session of hydrogen symposium held in the afternoon on Tuesday. The special session on future directions for hydrogen energy research, coordinated with the DOE Basic Energy Sciences Division and chaired by Michelle V. Buchanan, featured six invited presentations from prominent speakers. This session was well attended with over 200 people in the audience. Altogether, nine symposia were held in Anaheim co-sponsored with CEI, GEOC, PETR, and PHYS divisions. Symposia on Carbon Dioxide Sequestration, Utilization of Greenhouse Gases, and Molecular Modeling and Reaction Chemistry attracted large numbers of papers with great quality.

Sixteen papers were not presented at the meeting principally because of the problems the Chinese authors encountered in securing a visa to enter the U.S.

### Fall in Philadelphia



A total of 230 papers were submitted to ten symposia including the presidential event, Fuels for the Future, which was a highlight of the program. Conceived by Steve Benson's correspondence with the president of ACS and organized by Howard Stephens and Tom Squires, this event had prominent speakers in the invited papers session in the morning followed by contributed papers in the afternoon on Tuesday. Howard and Tom also worked hard to widely publicize this event. The presidential event on fuels is well coordinated with the other symposia, including the symposia on hydrogen energy, fuel cells, renewable fuels, and ultraclean transportation fuels, co-sponsored CEI, ENVR, PETR, PMSE, PRE, and PHYS divisions. Symposia on fuel cells, hydrogen energy (with evening sessions in each) and ultraclean transportation fuels attracted large numbers of papers. To my knowledge, symposia on carbon nanomaterials, and coke deposition in combustion engine fuel systems were included for the first time in the FUEL division program. Thanks to the presidential event, the vision of the program committee, and the hard work of the symposia chairs, the Philadelphia meeting has increased the visibility of the FUEL division.

Problems with attendance, particularly of the Chinese authors, due to the visa problems still persisted and affected this meeting as well.

### Programming update for 2005 (Tom Autrey; Program Chair, 2005)



We are looking forward to another great year in the Fuel Division. The tremendous efforts by the Division membership have resulted in excellent programming at the ACS National meetings. We plan to continue to offer topical symposium on cross-cutting issues on Fuel and the Environment, the Hydrogen Economy, Fuel Cells, Clean Fuels, Catalysis, New Carbon Materials and Carbon Chemistry and many of the specialized scientific symposia addressing unique approaches and methods to understand the complex chemistry of fuels.

Below is a list of the Symposia planned for the Fuel Division Program in San Diego this next Spring (March 13th-19th 2005). The deadline for ACS abstract and Fuel Preprints in November 15th. Please contact the Symposium Chairs if you have any specific questions.

Have a wonderful Holiday Season and I hope to see you in San Diego!

Tom Autrey



2005 Program Chair: Tom Autrey, Fundamental Science Division

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#### Spring 2005

229<sup>th</sup> ACS Meeting, March 13<sup>th</sup>-17<sup>th</sup> San Diego, CA.  
Online submission of abstract (150 word) and preprint paper (2-pages) via ACS website

<http://oasys.acs.org/oasys.htm>

Instructions for preprint papers available on-line at

<http://www.anl.gov/PCS/acsfuels/>

Deadline for abstract and preprint Nov 15, 2004

### [Advances in CO<sub>2</sub> Conversion and Utilization](#)

John C. Linehan, Fundamental Science Division, Pacific Northwest National Laboratory, 902 Battelle Boulevard, P.O. Box 999, Richland, WA 99352, Phone: (509) 375-3983, [john.linehan@pnl.gov](mailto:john.linehan@pnl.gov). Thomas Bitterwolf, Department of Chemistry, University of Idaho, Moscow, ID, 83844.

[bitterte@uidaho.edu](mailto:bitterte@uidaho.edu), (208) 885-6361. Leo Fifield, Pacific Northwest National Laboratory, POB 999 MS#K2-12, Richland, WA 99352, Phone: (509) 375-6424, [leonard.fifield@pnl.gov](mailto:leonard.fifield@pnl.gov).

### [Catalysis in Fuel Chemistry](#)

Charles H. F. Peden, Interfacial and Processing Science, Pacific Northwest National Laboratory, K8-93, 902 Battelle Blvd, Richland, WA 99352, Phone: 509-376-1689, Fax: 509-376-5106, [mailto:chuck.peden@pnl.gov](mailto:mailto:chuck.peden@pnl.gov).

Kathleen A. Carrado, Chemistry Division, Argonne National Laboratory, 9700 S. Cass Ave., Argonne, IL 60439, Phone: 630-252-7968, Fax: 630-252-9288, [kcarrado@anl.gov](mailto:kcarrado@anl.gov). Angela Lueking, Department of Energy & Geo-Environmental Engineering, Pennsylvania State University, 120 Hosler, University Park, PA 16802-5000, (814) 863-6256, [adl11@psu.edu](mailto:adl11@psu.edu)

### [Chemistry of Carbon Materials and Nano Materials](#)

Teresa Bandosz, Department of Chemistry, City College of New York, [tbandosz@ccny.cuny.edu](mailto:tbandosz@ccny.cuny.edu). Bahram Fathollahi, Caliper Technologies Corp, 605 Fairchild Drive, Mountain View, CA 94304, [bfatholl@ucsd.edu](mailto:bfatholl@ucsd.edu), Jun-ichi Ozaki, Section of Nano-Materials Engineering, Department of Nano-Material, Systems, Graduate School of Engineering, Gunma University Kiryu, Gunma, 376-8515, Japan, TEL: +81-277-30-1352, FAX: +81-277-30-1353, e-mail: [jozaki@chem.gunma-u.ac.jp](mailto:jozaki@chem.gunma-u.ac.jp). Robert H. Hurt, Division of Engineering, Brown University, 182 Hope St., Providence, RI 02912, Phone: 401-863-2685, Fax: 401-863-1157, [Robert.Hurt@brown.edu](mailto:Robert.Hurt@brown.edu).

### [Chemistry of Fuels and Emerging Fuel Technologies](#)

Tom Autrey, Chemistry, PNNL, POB 999, MS#K2-57, Richland, WA 99352, Phone: 509-375-3792, Fax: 509-375-2186, [Tom.Autrey@pnl.gov](mailto:Tom.Autrey@pnl.gov)

### [Reaction Pathways in Fuel Processing](#)

Phillip F. Britt, Chemical Sciences Division, Oak Ridge National Laboratory, Building 4500N, MS-6197, P.O. Box 2008, Oak Ridge, TN 37831-6197, Phone: 865-574-5029, Fax: 865-576-7956, [brittpf@ornl.gov](mailto:brittpf@ornl.gov). A. C. Buchanan III, Chemical Sciences Division, Oak Ridge National Laboratory, Building 4500N, MS-6197, Oak

Ridge, TN 37831-6197, Phone: 865-576-2168, Fax: 865-576-7956, [buchananac@ornl.gov](mailto:buchananac@ornl.gov)

### [Computational Methods and Modeling in Fuel Chemistry](#)

Anne M. Chaka, Computational Chemistry Group, National Institute of Standards and Technology, 100 Bureau Drive, Stop 8380, Gaithersburg, MD 20899-8380, Phone: 301-975-2481, Fax: 301-869-4020, [anne.chaka@nist.gov](mailto:anne.chaka@nist.gov). Maciej Gutowski, Fundamental Science Division, Pacific Northwest National Laboratory, 902 Battelle Blvd., P.O. Box 999, MS K1-96, Richland, WA 99352, Phone: 509-375-4387, [maciej.gutowski@pnl.gov](mailto:maciej.gutowski@pnl.gov). Anthony Cugini, Computational and Basic Sciences Department, Phone: (412)386-6023, Fax: (412)386-5920, email: [Anthony.Cugini@netl.doe.gov](mailto:Anthony.Cugini@netl.doe.gov)

### [Gas Hydrates and Clathrates](#)

B. Pete McGrail, Pacific Northwest National Laboratory, Richland, WA 99352, Phone: 509-376-9193, [Pete.McGrail@pnl.gov](mailto:Pete.McGrail@pnl.gov). Charles Taylor, National Energy Technology Laboratory, U.S. DOE/NETL, P.O. Box 10940, Pittsburgh, PA 15236-0940, Phone: 412-386-6058, Fax: 412-386-4806, [charles.taylor@netl.doe.gov](mailto:charles.taylor@netl.doe.gov).

### [Methods and Techniques in Analytical Characterization for Fuel Science](#)

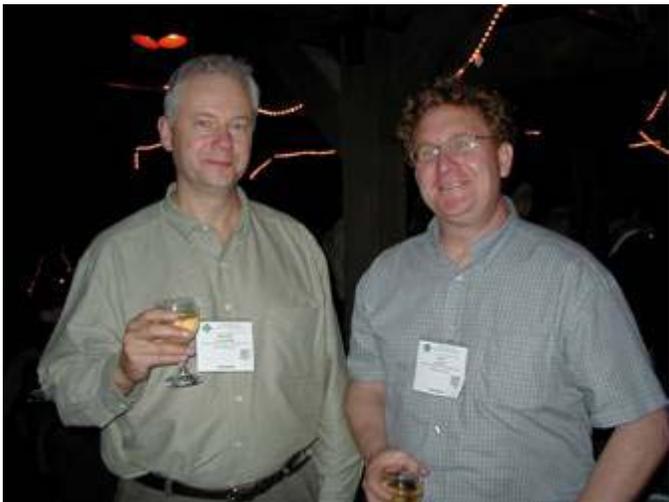
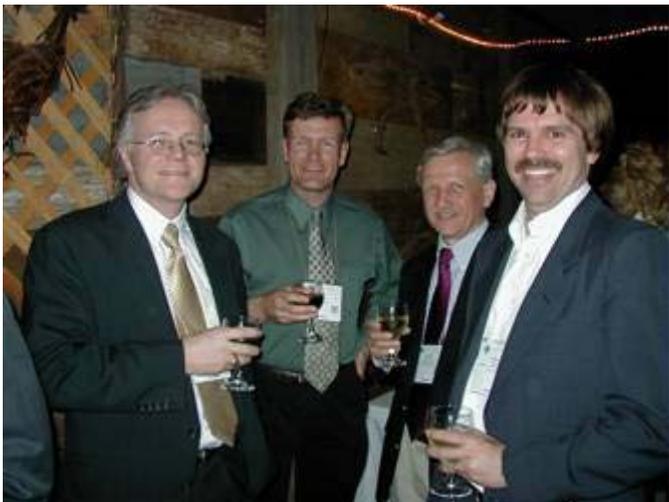
Randall E. Winans, Chemistry Division, Argonne National Laboratory, Argonne, IL 60439-4831, Phone: 630-252-7479, Fax: 630-252-9288, [rewinans@anl.gov](mailto:rewinans@anl.gov). Kirk Michaelian, CANMET Energy Technology Centre, Devon, AB T9G 1A8 Canada, Phone: 780-987-8646, [michaeli@NRCan.gc.ca](mailto:michaeli@NRCan.gc.ca)

[Emissions from Combustion Processes: Environmental Issues, Assessment, and Control](#). Frank Huggins, University of Kentucky, 533 South Limestone Street, 111 S. J. "Sam" Whalen Building, Lexington, KY 40506-0043, Phone: 859-257-4045, Fax: 859-257-7215, [fhuggins@engr.uky.edu](mailto:fhuggins@engr.uky.edu)

### [Research in Global Climate Challenges](#)

Donald J. Wuebbles, Department of Atmospheric Sciences, University of Illinois, 105 S. Gregory, Urbana, IL 61801. phone: 217-244-1568 fax: 217-244-4393. [wuebbles@atmos.uiuc.edu](mailto:wuebbles@atmos.uiuc.edu).

*Pictures from the Joint Petroleum/Fuel Division Dinner (Anaheim; California)*



*Pictures from the Joint Petroleum/Fuel  
Division Dinner (Philadelphia; Chemical  
Heritage Foundation)*







## DISTINGUISHED SERVICE AWARD

The Distinguished Service award is limited to individuals who have been members of the division for at least ten years and who have had, in the opinion of the selection committee, a significant and continued impact on the advancement of fuel chemistry through research, teaching, service or a combination of the three over an extended period of time. The award is granted without regard to age, sex or nationality. In addition, no one who has served in any of the following offices in the award year or two prior years is eligible: Past Chair, Chair, Chair-Elect, Secretary or Treasurer.

The nominations should be made by contacting the Chair or any member of the Executive Committee prior to the Spring Meeting.

### Past Awardees

Shirley Radding  
C. Thomas Ratcliffe  
Martin "Bob" D. Schlesinger  
Paul Scott  
Karl S. Vorres  
William H. Calkins

## Fuel Division Executive Committee Members

	<p><b>Chair</b>  Steve A. Benson  Energy and Environmental Research Center  University of North Dakota  P.O. Box 9018  Grand Forks, ND 58202-9018</p>		<p><b>Editor/Director of Preprints</b>  M. Mercedes Maroto-Valer  Penn State University  Energy and Geo-Env. Eng. Dept.  122 Hosler Building  University Park, PA 16802</p>
	<p><b>Past-Chair</b>  James Franz  Pacific Northwest National Laboratory  902 Battelle Boulevard MS K2-57  Richland, WA 99352</p>		<p><b>Secretary</b>  Charles Taylor  U.S. DOE  National Energy Technology Laboratory  Mail Stop: 94-321  P.O. Box 10940  Pittsburgh, PA 15236-0940</p>
	<p><b>Chair-Elect</b>  Marek Wójtowicz  Advanced Fuel Research, Inc  87 Church Street  E. Hartford, CT 06108-3728</p>		<p><b>Councilor</b>  Kathleen Carrado  Chemistry Division  Argonne National Laboratory  9700 South Cass Avenue, CHM 200  Argonne, IL 60439-4831</p>
	<p><b>Program Secretary</b>  Joseph M. Calo  Division of Engineering, Box D  Brown University  Providence, RI 02912</p>		<p><b>Alternate Councilor</b>  A.C. Buchanan  Chemical Sciences Division  Oak Ridge National Laboratory  Building 4500 N, MS-6197, P.O. Box 2008  Oak Ridge, TN 37831-6197</p>
	<p><b>Treasurer</b>  Andre' Boehman  Penn State University  Energy and Geo-Env. Eng. Dept.  405 Academic Activities  University Park, PA 16802</p>		<p><b>Alternate Councilor</b>  Caroline E. Burgess Clifford  Penn State University  The Energy Institute  209 Academic Projects Building  University Park, Pa 16802</p>
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	<p><b>Program Chair, 2005</b>  Tom Autrey  Pacific Northwest Laboratory  902 Battelle Boulevard, MS K2-57  Richland, WA 99352-1794</p>		<p><b>Newsletter Editor</b>  David J. Clifford  Penn State University  The Energy Institute  209 Academic Projects Building  University Park, PA 16802</p>

	<p><b>Program Chair, 2006</b>  Robert H. Hurt  Division of Engineering  Brown University  Box D, 182 Hope Street  Providence, RI 02912</p>		<p><b>Director of Subscriptions</b>  Position Available</p>
	<p><b>Public Policy</b>  Thomas G. Squires  Assoc. of Western Universities  4190S. Highland Dr., Suite 211  Salt Lake City, UT 84124-2600</p>		<p><b>Director at Large</b>  John Larsen  Penn State University  The Energy Institute  209 Academic Projects Building  University Park, PA 16802</p>
	<p><b>Trustee</b>  Frank Burke  CONSOL, Inc  4000 Brownsville Road  Library, PA 15129</p>		<p><b>Director at Large</b>  Kathleen Carrado  Chemistry Division  Argonne National Laboratory  9700 South Cass Avenue, CHM 200  Argonne, IL 60439-4831</p>
	<p><b>Trustee</b>  Michael Serio  Advanced Fuel Research, Inc.  87 Church Street  E. Hartford, CT 06108-3728</p>		<p><b>Director at Large</b>  Anthony Cugini  U.S. DOE  National Energy Technology Laboratory  Mail Stop: 58-103A  P.O. Box 10940  Pittsburgh, PA 15236-0940</p>
	<p><b>Trustee</b>  Eric Suuberg  Division of Engineering, Box D.  Brown University  182 Hope Street  Providence, RI 02912</p>		<p><b>Long Range Planning</b>  Harold H. Schobert  Pennsylvania State University  The Energy Institute  C211 Coal Utilization Laboratory  University Park, PA 16802</p>