
FUEL CHEMISTRY NEWS

Newsletter of the ACS Division of Fuel Chemistry

Volume 82, No. 2

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

Fall 2003

Message from the Chair (James Franz)



Fall, 2003 National ACS Meeting in New York City.

Congratulations go out to Program Chair Chunshan Song for a highly successful Fall, 2003, Meeting in New York City. The Fuel Chemistry Division Symposia continues to target timely areas of broad technical interest, yielding

excellent audience sizes as well as participation of internationally recognized scientists in important areas.

The success of the sessions measured by audience participation was particularly gratifying, since individual symposia lost a number of speakers due to inability to obtain visas, in spite of substantial lead times and written pleas to U.S. consulates. The technical meeting was wonderfully complemented by the environment of New York City, with many Division members availing themselves of Broadway plays, museums, restaurants and clubs.

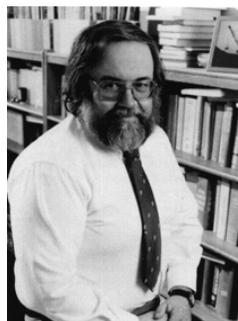


The Division thanks Professor Chunshan Song (center) for a highly successful 2003 Technical Program, along with Symposium Co-Chairs J.A. Moulijn (left) and I. Mochida (right).

Symposia at the Fall Meeting included Biomass Processing, Clean Fuels, Chemistry of Fuels and Emerging Technologies, Computer Modeling and Simulation, Fuel Cells, Fundamental Reaction Pathways, Synthetic Clean Fuels, and Computer Modeling and Simulation in Fuel Chemistry and Catalysis. Chunshan Song received a plaque at the Joint Fuel/Petroleum Division Dinner in appreciation of an extremely successful year in organizing the Fuel Chemistry Division program.



Heavily attended lecture during the "Catalysts and Processes for Environmentally-Cleaner Gasoline and Diesel Fuels" Symposium of the Division of Fuel Chemistry at the Fall 2003 ACS Meeting in New York City.



2004 Storch Award. The Fuel Chemistry Division is pleased to announce the winner of the 2004 Storch Award. Dr. Harold Schobert is Director of the Energy Institute and Professor, Department of Energy and Geo-Environmental Engineering, Penn State University.

The Storch Award is given biennially to an individual who has made an outstanding contribution to research in the field of fuel science. This includes research on all aspects of the chemistry and utilization of all hydrocarbon fuels, with the exception of

petroleum. 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 environment. The Award includes a \$5000 prize and travel expenses to attend the Storch Award Symposium to be held to honor the awardee at a national meeting of the American Chemical Society. The Fuel Chemistry Division would like to express its appreciation to Professor Schobert for his contributions to fuel science, as well as appreciation for his leadership in the field and his mentorship of students and colleagues over the years.

Glenn Award from Spring 2003 ACS Meeting, New Orleans. The Richard A. Glenn Award of the Division of Fuel Chemistry of the American Chemical Society has been awarded for the paper entitled "Atomic-scale study of hydrodesulfurization model catalysts," Fuel Chem. Div. Preprints 2003, 48(1) 84-85, by Jeppe V. Lauritsen, Bjerne S. Clausen, Henrik Topsøe, Jens K. Nørskov, and Flemming Besenbacher. The Fuel Chemistry Division expresses its thanks to the authors, who have helped maintain a strong technical program within the Fuel Chemistry Division. The Glenn award was established in 1956 in cooperation with the Bituminous Coal Research, Inc. (BCR) to recognize outstanding papers at Fuel Chemistry Division Symposia. In 1972, the award was named in honor of Richard A. Glenn who, prior to his death, served as Assistant Director of BCR and was an active member of the Division.

All papers presented at Fuel Division sponsored symposia were eligible for this award. The papers were judged by the symposium chairs, and a second group of judges selected by the Chair-Elect, who is responsible for coordinating the review. The papers were judged based on the oral presentation, technical subject matter, and quality of the preprint. Over 200 papers were presented at the New Orleans meeting, thus the process is quite competitive. The Fuel Chemistry Division will present the Award at the joint Fuel/Petroleum Division dinner to be held at the Spring, 2004 National American Chemical Society Meeting in Anaheim, CA.

Elsevier/Fuel Support of the Storch Award. The Executive Committee Meeting at the Fall 2003 New York ACS meeting considered the proposal by Elsevier Publishing to contribute \$1500/year in support of the Storch Award. With several modifications, the Executive Committee has approved the letter of

agreement between Elsevier and the Fuel Chemistry Division. Fuel Division activities will be advertised in the journal Fuel, FUEL will advertise in this Newsletter, and Elsevier will support the Storch Award to the amount mentioned above. The initial agreement will have a term of four years. The agreement may be expected to enhance efforts to get Symposia published as journal special issues. The offer of Elsevier to partially support the Storch Award is appreciated by the Fuel Chemistry Division.

Election Results. The results of the election of officers for the Fuel Chemistry Division are in. Congratulations to the Officers-Elect:

Chair-Elect:	<i>Marek Wójtowicz</i>
Treasurer:	<i>Andre Boehman</i>
Councilor:	<i>Katie Carrado</i>
Director at Large:	<i>John Larsen</i>
Alternate Councilor:	<i>A.C. Buchanan and Caroline Burgess Clifford</i>

Innovative Projects Award. Karl Vorres' proposal to begin CD-archiving of past issues of Fuel Chemistry Division Preprints was funded. Thanks and congratulations to Karl. Part of the success of this proposal reflects timely report-writing on past Innovative Award work. The cap on award level was \$5000 this year, but next year the amount of funding of the award is to be \$7500. The Fuel Chemistry Division should be in an excellent position to win additional funds for Outreach and other Division activities.

Summary. The Fuel Chemistry Division has completed a very successful year, has achieved financial stability and has produced an attractive technical program. The technical programs for the next several years are shaping up well, and we look forward to continuing success in growing the Division through an attractive technical program. I would like to thank again the program and symposia chairs for their tremendous effort in building a strong technical program. I also thank our treasurers, trustees, and councilors for helping to stabilize expenditures and establish a policy for maintaining the Trust Fund. The present chair extends a welcome to our chair-Elect, Steve Benson, who will take on the leadership of the Fuel Chemistry Division.

A Report from the Long Range Planning Committee (Kathleen Carrado Gregar, Harold H. Schobert)

A Report from the Long Range Planning Committee
October 14, 2003

A Strategic Plan for the Division of Fuel Chemistry, *FUELS 2015*, was developed by the Long Range Planning Committee and presented to the Executive Committee during the Fall 2003 meeting. The document represents a strategic plan for the Division for the period 2005–2015 and is a modification, updating, and revision of the previous plan, *Fuels 2005*, which was prepared for the period 1995–2005. A new strategic plan is necessary because the societal, technical, and political environment in which the Society and our Division operate will continue to experience an ever-accelerating pace of change. This note summarizes briefly the contents of the Plan.

FUELS 2015 begins with a Mission Statement: “The Division of Fuel Chemistry provides a forum for documentation and communication to the international community of research and development results concerning fuel research, and promotes efficient and environmentally acceptable fuel production and use”. A “Vision” is then delineated, that, as the year 2015 approaches, our Division will continue to be recognized as the leading source for information in fuel chemistry and technology. Specific targets with respect to this vision are effective and strong preprints, symposia, electronic procedures, public education, outreach, and international membership.

A large portion is then dedicated to values. The values of an organization represent the fundamental assumptions that underlie the philosophy of operation and decision-making. Values provide the motivation for achieving the vision of an organization. These core values will guide us in fulfilling our vision: (a) leadership in fuel science and technology, (b) environmental responsibility, (c) honesty and integrity, (d) objectivity, (e) member relations, and (f) public education. Of course, external factors will affect the ability of the Division to meet its objectives, and these include (1) environmental, (2) governmental, (3) industrial, (4) economic, (5) political, and (6) public awareness. The implications of each are briefly described in the Plan.

A list of objectives and the various strategies to accomplish them, as well as measures by which to monitor their effectiveness, is provided. Objectives include: (a) enhancing and diversifying programming, (b) providing improved membership recruitment, retention, and member services, (c) maintaining fiscal soundness, (d) promoting and influencing public policy and education, and (e) improving worldwide recognition of the division.

If any member would like more information about *FUELS 2015* or, even better, to volunteer their time or expertise regarding any of the objectives, please see any current member of the Executive Committee.

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



Following recommendations from the Executive Committee meeting in New Orleans, last Spring we thoroughly investigated establishing a multiyear contract for our publication needs in an effort to cut down costs. Different vendors were contacted and the supplied quotes and proposals were reviewed by the Executive Committee that recommended to establish a multiyear agreement with Mira based on cost, experience and product quality. Mira has provided us with a 10% discount for a four-year agreement and also fixed costs. In addition, we are getting discounted prices for licensing the software and indexing, and free of charge a feature to be able to print all the papers of a chosen symposium.

For the Fall’03 meeting in New York, we assembled 204 preprints. Congratulations to the Program Chair and all the Symposia Organizers!! We produced 1,250 CDs, where 940 were mailed to the Fuel members (as per the labels provided by the ACS), 54 were shipped to libraries/institutions, and the remaining 256 CDs will be for sale at the Fuel table. The approximate total cost of producing a CD is then \$7.09. For comparison, the cost per CD was \$7.87 for our previous Spring meeting. Therefore, we have saved a total of \$980.88 in publication costs for this last meeting!.

The overall quality of our CD is very good, as many

members have told me. In addition to the symposia preprints, the CD contains Division information (Membership application, Membership benefits, Executive Committee), Newsletter and Fuel Future Symposia 2004 and 2005. In addition, the Fall'03 CD contains a feature that allows you to print all the papers in a given symposium with a few key strokes rather than opening each individual file and printing. Please, let me know if there is anything else you would like to see in the CD.

Finally, let me remind you of two websites I encourage you to visit: The preprint 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 has been changed to reflect how our preprints are cited. Please, check the Fuel website for the update template.

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, or 814- 863 8265

Hydrogen-on-Demand Demonstration at ACS Fuel Division Meeting (Chunshan Song)



In the ACS Fuel Chemistry Division Symposium on Fuel Cell Systems and Fuel Processing for Fuel Cell Applications at 226th ACS National Meeting in NYC during Sept 7-11, 2003, a small car demonstration attracted the interests of many participants.

The car was slightly bigger than the regular toy cars, but is equipped with the "Hydrogen-on-Demand" technology developed by Millennium Cells Inc. in Eatontown, NJ 07724. The demonstration was a part of the presentation by Dr. Ying Wu, Director for R&D at Millennium Cell Inc., and her co-authors for two ACS papers, one on "SYNTHESIS OF SODIUM BOROHYDRIDE FOR ENERGY APPLICATIONS (By Ying Wu, Jason C. Brady, Michael T. Kelly, Jeffrey V. Ortega, Jonathan L. Snover)", and the other on "SODIUM BOROHYDRIDE FOR HYDROGEN STORAGE (By Ying Wu, Richard M. Mohring)".

The picture below shows Ying Wu and her coworkers (left) and the "Hydrogen-on-Demand" car (right). There were many interesting presentations at this ACS symposium with over 40 papers, which was a part of the ACS Fuel Chemistry Division program with over 200 papers presented from Sunday morning through Thursday afternoon.



Left: Ying Wu (second from left) and her co-authors (Jeff Ortega, Jason Brady and Qinglin Zhang) from Millennium Cell at the podium of ACS Fuel Chemistry Division Symposium on Fuel Cell Systems and Fuel Processing for Fuel Cell Applications at 226th ACS National Meeting in NYC. Right: The on-site demonstration of a small car based on "Hydrogen on Demand" from Millennium Cell Inc., that can be moved by a remote control, attracted attention from many participants.

Programming for 2004-2005 (Marek Wójtowicz; Program Secretary)



Dear Friends and Colleagues:

I am writing to bring you up to date with the symposia planned for 2004–2006, and also to solicit your help in the process of building a strong program for the coming years.

As you know, we strive to make early plans so that Program Chairs and symposium organizers have enough time to prepare outstanding symposia. We also try to be flexible by accommodating additional symposia and by building the program around topics of current interest to our members, such as hydrogen energy and fuel cells, greenhouse-gas emissions and control, carbon materials, etc. At the same time, we make every attempt to provide enough breadth in the program so that no one feels left out and so that diverse topics are presented and discussed before the Division.

This is a delicate balancing act that we undertake collectively, as the program is nothing more and nothing less than what we, the members, make it. I would like to take this opportunity to thank all of you who have over the years contributed to the program as presenters, meeting attendees, symposium organizers, and Program Chairs.

One of the goals of my letter is to encourage active participation in the program. If you have suggestions for new symposium topics, or would like to co-organize a symposium that needs a chairperson, please contact one of the Program Chairs:

- 2004 – Dr. Semih Eser (seser@psu.edu)
- 2005 – Dr. Tom Autrey (tom.autrey@pnl.gov)
- 2006 – Dr. Robert Hurt (robert_hurt@brown.edu).

Please note that we normally have 2–4 co-organizers per symposium, and that volunteers and ideas for new symposia are always welcome. For your future reference, an up-to-date program for the Division can be found on the web at:

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

In what follows, you will find the program for 2004–2006. Please note that the abstract and preprint submission deadline for the Spring 2004 meeting is 1st December, 2003. I look forward to seeing you in Anaheim.

A handwritten signature in black ink that reads "Marek Wójtowicz". The signature is fluid and cursive.

Marek Wójtowicz
Program Secretary
ACS Division of Fuel Chemistry
marek@AFRinc.com

227th ACS National Meeting, Anaheim, CA, March 28-April 1, 2004



[Advances in Analytical Characterization of Fuels and Fuel Precursors](#) *Cosponsored with GEOC*

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[Ash and Slag Chemistry in Power Systems](#)

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Fax: 701-777-5181, sbenson@undeerc.org. Arun Mehta, Electric Power Research Institute, Palo Alto, CA, Phone: 650 855 2895, amehta@EPRI.com

[Carbon Dioxide Capture and Sequestration](#)

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[Chemistry of Solid, Liquid, and Gaseous Fuels](#)

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[Energy Choices and the Environment](#)

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[Heavy Oil and Bitumen Upgrading Processes and Chemistry](#)

Cosponsored with PETR

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[Molecular Modeling and Reaction Chemistry](#)

Cosponsored with PHYS

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[Mercury Measurement, Transformations, Control, and Related Issues in Power Systems](#)

Cosponsored with CEI

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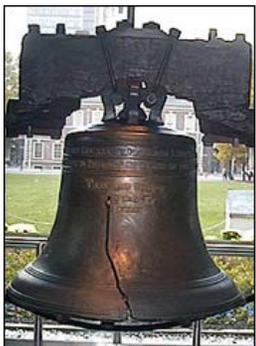
[Storch Award Symposium](#)

Invited papers only

Harold Schobert, The Energy Institute, The Pennsylvania State University, C211, Coal Utilization Lab, University Park, PA 16802, Phone: 814-863-1337, schobert@ems.psu.edu

[Utilization of Greenhouse Gases](#)

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228th ACS National Meeting, Philadelphia, PA, August 22-26, 2004

[Carbon Materials and Organic Chemicals from Coal](#)

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[Characterization, Upgrading, and Utilization of Heavy Hydrocarbon Resources](#)

Cosponsored with PETR

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[Chemistry and Applications of Carbon Nanotubes and Nanoparticles](#)

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[Chemistry of Coke and Carbon Deposition in Fuel Systems](#)

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[Chemistry of Renewable Fuels and Chemicals](#)

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: 865-576-5235, brittpf@ornl.gov. Robert Evans, National Renewable Energy Laboratory, 1617 Cole Boulevard, Golden, CO 80401-3393, Phone: 303-384-6284, Fax: 303-384-6363, bob_evans@nrel.gov

[Chemistry of Solid, Liquid, and Gaseous Fuels](#)

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[Fuel Cell Chemistry and Operation](#)

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[Hydrogen Production, Separation, and Storage](#)

James R. Brenner, Department of Chemical Engineering, Florida Tech, 150 West University Blvd., 210 Olin Engineering Bldg, Melbourne, FL 32901, Phone: 321-674-7560, Fax: 321-674-7565, jrbrenner@fit.edu. Teclé S. Rufael, Upstream Technology, Texaco Inc, 4800 Fournace Pl, Bellaire, TX 77401, Phone: 713-432-2589, Fax: 713-432-6908, rufaets@texaco.com. Anand S. Chellappa, MesoSystems Technology, Inc, 2425 Ridgecrest Dr. SE, Albuquerque, NM 87108, Phone: 505-348-9188, Fax: 505-348-9177, achellappa@mesosystems.com

Ultraclean Transportation Fuels

Cosponsored with PETR

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229th ACS National Meeting, San Diego, CA, March 13-17, 2005



Advances in CO₂ Conversion and Utilization

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Catalysis in Fuel Chemistry

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Chemistry of Carbon Materials

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. Takashi Kyotani, Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Katahira 980-8577 Japan, Phone: 81-22-217-5626, kyotani@icrs.tohoku.ac.jp. Bahram Fathollahi, Caliper Technologies Corp, 605 Fairchild Drive, Mountain View, CA 94304, bfatholl@ucsd.edu

Chemistry of Fuels and Emerging Fuel Technologies

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Chemistry of Renewable Fuels and Chemicals

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Computational Methods and Modeling in Fuel Chemistry

Cosponsored with COMP

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Environmental Issues in Fuel Utilization – Symposium Chairs needed

[Gas Hydrates and Clathrates](#)

B. Pete McGrail, Pacific Northwest National Laboratory, Richland, WA 99352, Phone: 509-376-9193, Pete.McGrail@pnl.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. Kirk Michaelian, CANMET Energy Technology Centre, Devon, AB AB T9G 1A8 Canada, Phone: 780-987-8646, michaeli@NRCan.gc.ca

[Monitoring and Control of Air Toxics and Fine Particulate Matter](#)

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@enr.uky.edu

230th ACS National Meeting,
Washington, DC, August 28-September
1, 2005



[Advances in Fuel Cell Research: Inorganic, Polymeric and BioFuel Cells](#)

– Inorganic Fuel Cells, Jerry Y. S. Lin, Department of Chemical Engineering, University of Cincinnati, Cincinnati, OH 45221-0171, jlin@alpha.che.uc.edu; John G Darab, MEL Chemicals, Flemington, NJ 08822, JDarab@MEIchem.com. Polymeric Fuel Cells, Peter N Pintauro, Department Of Chemical Engineering, Case Western Reserve University, Cleveland, OH 44106, pnp3@po.cwru.edu; BioFuel Cells. Eugenio Katz, Department of Chemistry, The

Hebrew University of Jerusalem Givat Ram, Jerusalem 91904 Israel, ekatz@vms.huji.ac.il; Stuart Wilkinson, Mechanical Engineering, University of South Florida, Tampa, FL 33620, wilkinso@eng.usf.edu. Fuel Processing. Yong Wang, Pacific Northwest National Laboratory, Richland, WA 99352, yongwang@pnl.gov

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

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[Hydrogen Energy, Storage, Production and Monitoring](#)

Ying Wu, Millennium Cell Inc, 1 Industrial Way West, Eatontown, NJ 07724, Phone: 732-544-5718, Fax: 732-542-2846, wu@millenniumcell.com. Ali Raissi, Florida Solar Energy Center, University of Central Florida, Cocoa, FL 32922-5703, Phone: 321-638-1446, Fax: 321-638-1010, ali@fsec.ucf.edu. Reginald M. Penner, Department of Chemistry, University of California, Irvine, CA 92697, Phone: 949-824-8572, Fax: 949-824-3168, rmpenner@uci.edu

[Hydrotreating/Hydrocracking Technologies: Status and Future Challenges](#)

Refa Koseoglu, Research & Development Center, Saudi Aramco, P.O. Box 8560, Dhahran 31311 Saudi Arabia, Phone: 966-3-872-3770, Fax: 966-3-872-3931, omer.koseoglu@aramco.com

[Membranes for Energy and Fuel Applications](#)

Benny D. Freeman, Department of Chemical Engineering, University of Texas at Austin, 10100 Burnet Road, Austin, TX 78758, Phone: 512-232-2803, Fax: 512-232-2807, freeman@che.utexas.edu

[New Progress in C1 Chemistry](#)

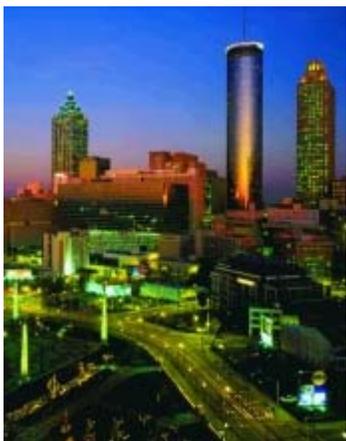
Gerald P. Huffman, Consortium for Fossil Fuel Science, University of Kentucky, Suite 107 Whalen Building, 533 South Limestone Street, Lexington, KY 40506, Phone: 859-257-4027, Fax: 859-257-7215, huffman@enr.uky.edu

[Reaction Pathways in Fuel Processing](#) – Symposium Chairs needed

[Separation Science and Technology for Fuel Applications](#) (Gas, Light Distillants, Diesel Fuels and Additives)

Vicente L. Cebolla, Departamento de Procesos Químicos, Instituto de Carboquímica (CSIC), Miguel Luesma, 4, 50015 Zaragoza Spain, Phone: 34-976733977, Fax: 34-976733318, vcebolla@carbon.icb.csic.es

[Ultraclean Transportation Fuels](#) – Symposium Chairs needed



231st ACS National Meeting, Atlanta, GA, March 26–30, 2006

Tentative Symposium Titles:
[Science and Technology of Greenhouse Gas Management](#) (Symposium organizers needed)

[Computational Fuel Chemistry](#) (Symposium organizers needed)

[Nanostructured Materials for Energy and Fuel Applications](#) (Symposium organizers needed)

[Synthesis and Applications of Carbon Materials and Novel Carbon Nanoforms](#) (Symposium organizers needed)

[Environmental Issues in Fuel Production, Processing, and Use](#) (Symposium organizers needed)

[Advances in Analytical Techniques](#)

(Symposium organizers needed)

[Ash and Slag Characterization in Power Systems](#) (Symposium organizers needed)

[Advances in Fuel Chemistry and Processing Technology](#) (Symposium organizers needed)

232nd ACS National Meeting, San Francisco, CA, September 10–14, 2006



Tentative Symposium Titles:
[Fuel Cell Chemistry](#) (Symposium organizers needed)

[Hydrogen Generation, Separation, and Storage](#) (Symposium organizers needed)

[Small Fuel Cells and Distributed Power](#) (Symposium organizers needed)

[Ultraclean Transportation Fuels](#) (Symposium organizers needed)

[Polyaromatic Hydrocarbons: Formation, Characterization, Phase Behavior, and Surface Interactions](#) (Symposium organizers needed)

[Fuel Chemistry for Advanced Energy Technologies](#) (Symposium organizers needed)

[Transformations and Capture of Mercury and Trace Metals from Coal](#) (Symposium organizers needed)

[Chemistry, Structure, and Processing of Renewable Fuels](#) (Symposium organizers needed)

*Pictures from the Joint Petroleum/Fuel
Division Dinner (New York City)*



Spring 2004 Meeting
of the
American Chemical Society
Anaheim, California
March 28 – April 1, 2004

Fuel Division Symposium
“Molecular Modeling and Reaction Chemistry”

Organizers

Tim Barckholtz (ExxonMobil)
Hai Wang (University of Delaware)

Topics for discussion

Molecular Modeling

- Automatic mechanism generation
- Mechanism reduction – coupling kinetics with CFD
- Mechanism optimization
- Uncertainty propagation

Reaction Chemistry

- “Ab initio” kinetics
- Computational approaches for large molecules
- Thermochemistry of unusual molecules

Abstract deadline: November 15, 2003

Contact: tim.barckholtz@exxonmobil.com or hwang@me.udel.edu

(conflicts with Meeting of the Western States Section of the Combustion Institute will be minimized)

CALL FOR PAPERS
SYMPOSIUM ON HEAVY OIL AND BITUMEN UPGRADING
PROCESSES AND CHEMISTRY"

American Chemical Society
Division of Fuel Chemistry
March 28 – April 1, 2004
Anaheim, California, USA

Topics may include:

- Thermal and catalytic processes
 - Chemistry of upgrading
 - Kinetics
 - Phase behavior
 - Product quality
 - Spent catalyst recovery
 - Use of coke from deep conversion
 - Separation processes
 - Bio-upgrading routes
 - Fouling
 - Emulsified fuels
 - Environmental issues (SO_x, NO_x, GHG)
 - Novel uses of heavy oil streams
-

Please submit your abstract and preprint electronically by November 15, 2003 to:
<http://oasys.acs.org/oasys.htm>

Organizers

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American Chemical Society (ACS) Symposium

Ash and Slag Chemistry in Power Systems

March 28–April 1, 2004, Anaheim, CA
227th American Chemical Society (ACS) National Meeting
Sponsored by ACS Fuel Chemistry Division

Call for Papers

Contributions Are Invited on the Following Topic Areas Involving the Utilization of Fossil Fuels and Biomass (Straw, Wood, etc.):

Impacts of precombustion technologies
Advanced methods for analysis of the inorganic composition of fuels
Fuel-handling impacts
Ash formation mechanisms
Formation and mitigation of popcorn ash
Slag formation – chemical and physical properties
Boiler impacts – erosion, wall slagging, convective pass fouling
Gasification system impacts – slag flow, deposition on syngas coolers, and plugging of filter systems
Air pollution control device (APCD) impacts: NO_x–SO_x–particulate–mercury reduction technologies – burner region and selective catalytic reduction (SCR) issues, electrostatic precipitators, fabric filtration, and scrubbers
Prediction methods – advanced indices and phenomenological models
Ash utilization – fuel and APCD impacts

Key Dates for On-Line Submissions:

November 15, 2003: Deadline for submission of abstracts on-line through ACS Web site:

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

November 15, 2003: Deadline for preprint submission on-line through the above ACS Web site; instructions available in the Fuel Division Web site: <http://www.anl.gov/PCS/acsfuel/>

Please contact one of the following co-organizers for inquiries and submissions:

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CALL-FOR-PAPERS

ACS, Division of Fuel Chemistry
(Joint symposium with Geochemistry)
March 28-April 1, 2004, Anaheim, California,
227th ACS National Meeting

Symposium on

Advances in Analytical Characterization of Fuels and Fuel Precursors

Topics for technical papers include but are not limited to

- Instrumentation
- Methodologies
- Applications
- Simulations

Abstracts must be submitted electronically by November 15th. The URL for electronic submission is <http://oasys.acs.org/oasys.htm>.

Symposium Organizers

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206 Hyde Park Drive
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tntcech@attbi.com



Call for Papers
Symposium on

***CARBON DIOXIDE
CAPTURE AND SEQUESTRATION***

March 28-April 1, 2004, Anaheim, CA
227th American Chemical Society National Meeting
ACS Division of Fuel Chemistry

This symposium will cover several aspects of the development of carbon capture and sequestration systems to reduce greenhouse gas emissions.

Topics will include, but not limited to:

- Separation and capture
- Sequestration in geologic formations
- Mineral sequestration
- Ocean sequestration
- Natural sinks/terrestrial sequestration
- Measurement, monitoring and verification
- Advanced conversion concepts: biological processes, etc.
- Greenhouse gases utilization
- Modeling and assessment

Online submission of abstract (150 words) and preprint (2pages)
by November 15, 2003 via ACS website:
<http://oasys.acs.org/oasys.htm>

Instructions and template for preprint at:
<http://www.anl.gov/PCS/acsfuel/preprintinfo.html>

For more information contact Symposium organizers:

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American Chemical Society (ACS) Symposium

Mercury Measurement, Transformations, Control, and Related Issues in Power Systems

March 28-April 1, 2004, Anaheim, CA
227th American Chemical Society (ACS) National Meeting
Sponsored by ACS Fuel Chemistry Division

Call for Papers

Contributions Are Invited on the Following Topic Areas:

Mercury control with sorbent technologies
Mercury control for dry scrubber applications
Mercury control in wet scrubbers
Advanced mercury control technologies
Mercury chemistry and fundamentals
Mercury transformations
Analysis and measurement of mercury in coal-fired systems
Fate of mercury in coal combustion by-products
Mercury regulatory issues and status
Health issues relating to mercury emissions

Key Dates for On-Line Submissions:

November 15, 2003: Deadline for submission of abstracts on-line through ACS Web site:
<http://oasys.acs.org/oasys.htm>

November 15, 2003: Deadline for preprint submission on-line through the above ACS Web site;
instructions available in the Fuel Division Web site: <http://www.anl.gov/PCS/acsfuel/>

Please contact one of the following co-organizers for inquiries and submissions:

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CALL FOR PAPERS

2004 ACS Division of Fuel Chemistry Symposium on

Utilization of Greenhouse Gases II

At the 227th ACS National Meeting

March 28 – April 1, 2004 in Anaheim, California, USA

Since the first symposium on Utilization of Greenhouse Gases at the Orlando ACS National Meeting in 2002, significant progress has been achieved worldwide in this truly international field. The value of such utilization technologies has been recognized. Encouraged by this progress, we organize the 2nd Symposium on Utilization of Greenhouse Gases.

This symposium features work on all aspects of utilization, and processing of greenhouse gases. Topics include, but are not limited to:

- ⇒ CO₂ Utilization
- ⇒ Methane Conversion
- ⇒ Mutual Conversions of Greenhouse Gases
- ⇒ Utilization of Coalbed Methane
- ⇒ Utilization of Methane Hydrates
- ⇒ Technical/Economic Evaluation of Utilization Options

Experimental, engineering, and theoretical contributions are welcome. Abstracts and Preprints for the Symposium are due by November 2003. Both are to be submitted using the ACS OASys system at <http://oasys.acs.org>. Selected papers will be published in a peer-reviewed journal.

Symposium Organizers:

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