

**8<sup>th</sup> Annual Green Chemistry & Engineering Conference  
Preliminary Program**

*Last Updated 15 June 2004*

**Tuesday, June 29**

9:00-10:00 A.M.

**Opening Keynote**

*Auditorium*

Chair:

Alan Hecht

U.S. Environmental Protection Agency

Speakers:

Theodore Kassinger

Department of Commerce General Counsel

Paul Gilman

Assistant Administrator, Office of Research and Development, U.S. Environmental  
Protection Agency

10:00-10:40 A.M.

**2004 Presidential Green Chemistry Challenge Award Winners**

*Auditorium*

Chair:

Richard Engler

U.S. Environmental Protection Agency

10:40-11:10 A.M.

Break

*Great Hall*

11:10 A.M.-12:10 P.M.

**2004 Presidential Green Chemistry Challenge Award Winners (cont.)**

*Auditorium*

12:10-1:15 P.M.

Lunch

*Great Hall*

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**Tuesday, June 29 (cont.)**

1:15-7:00 P.M.

**Posters**

*Great Hall*

1. Microwave chemistry for eco-friendly alternative synthesis of Dapsone -- a drug for leprosy and AIDS patients  
A. K. Bose  
Stevens Institute of Technology
2. Microwave enhanced synthesis of some pharmaceuticals  
S. N. Ganguly  
Stevens Institute of Technology
3. Greener solvent selection, solvent recycling and optimal operation under uncertainty for pharmaceutical and bio-processing industries  
S. Ulas  
University of Illinois at Chicago
4. Impacts assessment and trade-offs of fuel cell based APUs: A multi-objective analysis  
U. Diwekar  
University of Illinois at Chicago
5. Development of Fe based peroxide activation catalysts  
S. W. Gordon-Wylie  
The University of Vermont
6. Octanol-water partition coefficients of imidazolium-based ionic liquids  
L. J. Ropel  
University of Notre Dame
7. Catalytic C-C bond forming hydrogenations: Atom economy and the reductive coupling of basic chemical feedstocks  
M. J. Krische and H. Y. Jang  
University of Texas at Austin
8. Group IB metals catalyzed three-component-coupling of aldehyde, alkyne, and amine in ionic liquid  
Z. Li  
Tulane University
9. Analysis of the relationship between dimensional stability and microstructures of poly(lactic acid)  
S. L. Hsu  
University of Massachusetts Amherst

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**Posters (cont.)**

*Great Hall*

10. Raman spectroscopic study of conformational changes in the amorphous phase of poly(lactic acid) during deformation

S. L. Hsu

University of Massachusetts Amherst

11. Benign processing of thermally unstable acrylic copolymers using super-critical carbon dioxide: Extrusion and slit-die rheometry

D. G. Baird

Virginia Tech

12. Plasma etching and polymerization: Green processes for metal pretreatment

M. Gupta

University of Cincinnati

13. Conducting polymer/polyimide nanocomposite coatings as replacements to chromate conversion coatings on AA-2024 alloy

K. Shah and S. Kottarath

University of Cincinnati

14. The environmentally benign synthesis of materials for Dye-Sensitized Solar Cells

A. S. Cannon

University of Massachusetts Boston

15. Molecular design for hazard reduction using green chemistry

N. Anastas

University of Massachusetts Boston

16. Chemical industry sustainability survey 2004

B. R. Beloff and D. S. Schuster

BRIDGES to Sustainability and American Institute of Chemical Engineers

17. Toxicity control map: A new decision support tool for designing safer chemicals

K. Yano

Yano Research Laboratory

18. Internet collaborative portals accelerate sustainability progress

W.G. Russell

SKN Worldwide-USA, Inc.

19. Sustainability assessments support Sarbanes-Oxley compliance requirements

W. G. Russell

SKN Worldwide-USA, Inc.

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**Posters (cont.)**

*Great Hall*

20. SDR as an efficient organic solvent evaporator

N. Jeremic

University of Newcastle upon Tyne

21. Process intensification: Step change technology for exploiting advances in green chemistry

R. J. J. Jachuck

Clarkson University

22. Application of SDR for green chemistry process

M. Vicevic

University of Newcastle upon Tyne

23. Bacterial modified electrodes: A novel approach to environmental sensors and remediation

A. A. Ekechukwu

Westinghouse Savannah River Company

24. Bitterns as coagulants for treatment of municipal wastewater

G. I. El Diwani

National Research Center, Cairo, Egypt

25. Use of curable viscoelastic polymeric surface-active agent in removal of organic pollutants from aqueous and airborne influent streams

H. Alper

MYCELX Technologies Corp.

26. Pump-it up – How going green improves the bottom line

N. Westcott

GoatThroat Pumps

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**Tuesday, June 29 (cont.)**

1:15-2:00 P.M.

**Keynote**

*Auditorium*

A Perspective on Sustainability in Agriculture

Chair:

Charles P. Casey

University of Wisconsin-Madison

President, American Chemical Society

Speaker:

Pamela G. Marrone

Chairman and Founder, AgraQuest, Inc.

2:00-3:30 P.M.

**Panel: The Next Generation of Business Leaders**

*Auditorium*

Moderator:

Meghan Chapple

World Resources Institute

Speakers:

Andrea Larson

The Darden School

University of Virginia

Andrew A. King

Tuck School of Business

Dartmouth College

Jeff McDaniel

Velocys Inc.

3:30-4:00 P.M.

Break

*Great Hall*

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4:00-5:00 P.M.

**From Bench Top to Commercialization**

*Auditorium*

Chair:

Jurgen Exner

ACS Committee on Environmental Improvement

Speakers:

27. Green olefins machine: Development of a low-energy ethylene purification train

M. J. Foral

BP Petrochemicals

28. From bench top to commercialization: Incentives and barriers for adoption of polyolefins in the transportation industry

A. L. Rice

DuPont Dow Elastomers L.L.C.

5:00-5:45 P.M.

**Keynote**

*Auditorium*

The business case for sustainability

Chair:

Paul T. Anastas

American Chemical Society Green Chemistry Institute

Speaker:

J. Michael Fitzpatrick

President and Chief Operating Officer, Rohm and Haas Company

5:45-7:00 P.M.

Reception and Posters

*Great Hall*

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8:30-9:15 A.M.

**Keynote**

*Auditorium*

DuPont's business imperative: Sustainable growth

Chair:

William F. Carroll

Occidental Chemical Corporation

President-Elect, American Chemical Society

Speaker:

Thomas M. Connelly, Jr.

Senior Vice-President and Chief Science and Technology Officer, DuPont

9:15-10:15 A.M.

**Commercial Applications of CO<sub>2</sub> Processes**

*Lecture Room*

Chair:

Darlene Schuster

Institute for Sustainability

American Institute of Chemical Engineers

Speakers:

29. Continuous supercritical fluid reactors: A new approach to understanding reactions in scCO<sub>2</sub>

B. Walsh

University of Nottingham

30. Development and integration of new processes consuming carbon dioxide in multi-plant chemical production complexes

R. W. Pike

Louisiana State University

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9:15-10:15 A.M.

**Sustainability Partnerships**

*Auditorium*

Chair:

Earl Beaver

Institute for Sustainability

American Institute of Chemical Engineers

Speakers:

31. Green and sustainable manufacturing: Meeting the challenge

M. P. Wilkinson

The Crystal Faraday Partnership

32. Value through action: The US Business Council for Sustainable Development and its  
By-Product Synergy Program

A.T. Mangan

US Business Council for Sustainable Development

10:15-10:45 A.M.

Break

*Great Hall*

10:45 A.M.-12:15 P.M.

**Small Business Applications**

*Lecture Room*

Chair:

Larry P. Koskan

ACS Committee on Environmental Improvement

Speakers:

33. Meta-Tec™ adhesive technology provides a lower volatile organic compounds  
("VOC's"), reactive adhesive alternative to traditional flooring adhesive chemistry

R. K. Ddamulira

W.F. Taylor Co., Inc.

34. Technical, marketing and environmental concerns in trials and tribulations of  
developing a third generation wood preservative

R.F. Stockel

Novaflex Technologies

35. Successfully implementing green chemistry technology in the graphic arts industry

M. A. Cohen

Ulano Corporation



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10:45 A.M.-12:15 P.M.

**Cleaner Production**

*Auditorium*

Chair:

Nhan Nguyen

U.S. Environmental Protection Agency

Speakers:

36. Acceleration of implementation of cleaner production programs and technologies

K. L. Mulholland

Kenneth Mulholland & Associates

37. Process Analytical Technology's (PAT) contribution to green chemistry through the application of on-line process control throughout pharmaceutical API manufacturing

C. Mojica

Pfizer Inc.

38. Energy cogeneration: Using green energy for sustainability

F.A. Ericson

SC Johnson

12:15-1:15 P.M.

Lunch and Exhibits

*Great Hall*

**Exhibitors**

American Chemical Society

Green Chemistry Institute

American Institute of Chemical Engineers

National Institute of Standards and Technology

U.S. Environmental Protection Agency

Green Chemistry Program

Green Engineering Program

Office of Research and Development

Technology for a Sustainable Environment

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1:15-2:00 P.M.

**Keynote**

*Auditorium*

Creating Value through Sustainable Development

Chair:

Dorothy Zolandz

National Research Council

Speaker:

Charlene Wall-Markowski

Manager, Eco-Efficiency North America

BASF

2:00-4:00 P.M.

**Pharmaceutical Applications**

*Auditorium*

Chair:

John Warner

University of Massachusetts Boston

Speakers:

39. Green chemistry in the redesign of the celecoxib manufacturing process

L. J. Letendre

Pfizer Global Research and Development

40. Integration of green chemistry into business strategy in pharmaceutical process development

T. Y. Zhang

Eli Lilly and Company

41. Development of an environmentally sound process for production of the new carbapenem antibiotic ertapenem sodium

J. M. Williams

Merck Research Laboratories

42. Discovery and development of an environmentally friendly process to Sildenafil Citrate (Viagra™)

P. J. Dunn

Pfizer Global Research and Development

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2:00-4:00 P.M.

**Metrics/Decision Support Tools**

*Lecture Room*

Chair:

Lyn Beary

National Institute of Standards and Technology

Speakers:

43. Selected decision support tools to enhance green chemistry concepts in the chemical processing industry

L. S. Andrews

Rohm and Haas Company

44. Evaluating life-cycle environmental and economic performance for green purchasing

B. C. Lippiatt

National Institute of Standards and Technology

45. Sustainability metrics: Development, use, and challenges

D. Tanzil

BRIDGES to Sustainability

46. Green chemistry case studies knowledge base

K. M. C. Dye and T. Flanagan

University of Massachusetts – Boston

4:00-4:45 P.M.

**Keynote**

*Auditorium*

Green chemistry in the pharmaceutical industry: Accomplishments and opportunities

Chair:

Jim Solyst

American Chemistry Council

Speaker:

Berkeley W. Cue, Jr.

Vice-President, Pfizer Global Research and Development (retired)

4:45-5:15 P.M.

**Prospective on 2005 Conference**

**Taking Measure of Green Progress: Opportunities to Meet Global Challenges**

*Auditorium*

Robin D. Rogers, Program Chair

The University of Alabama