

Supercritical CO₂ Power Cycle Symposium

Academic Outreach Programs
Rensselaer Polytechnic Institute • Troy, NY, USA
April 29-30, 2009



Rensselaer

REGISTRATION

PERSONAL INFORMATION – use one form per person to register

First Name: _____ Last Name: _____

Name (as it should appear on your name badge): _____

Home Mailing Address: _____

City: _____ State: _____ Zip: _____

Company: _____

Current Title: _____

Company Mailing Address: _____

City: _____ State: _____ Zip: _____

Day Phone: _____ E-Mail: _____

METHOD OF PAYMENT

Registration Fee: \$100.00 per person

Check or money order enclosed – payable to Rensselaer Polytechnic Institute.

Purchase order enclosed or P.O. No.: _____

Please send invoice to: _____

Visa MasterCard Expiration Date: _____

Card #: _____

Print Name on Card: _____

Signature: _____

HOW TO ATTEND

Call (518) 276-6431 to register by phone. The Academic Outreach Programs Office is open Monday-Friday 8:30a.m. – 5:00 p.m. EST.

Fax your registration form to (518) 276-8738.

Mail your registration form to: Rensselaer Polytechnic Institute – Attn: Academic Outreach Programs Office, 110 8th Street, Low Center Suite 4011; Troy, NY 12180-3590

How did you hear about this symposium? _____

Supercritical CO₂ Power Cycle Symposium

Sponsored by Knolls Atomic Power Laboratory (KAPL)
and Bettis Atomic Power Laboratory
Hosted by Rensselaer Polytechnic Institute



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Academic Outreach Programs
CII Suite 4011, 110 8th Street
Rensselaer Polytechnic Institute
Troy, NY 12180-3590 USA



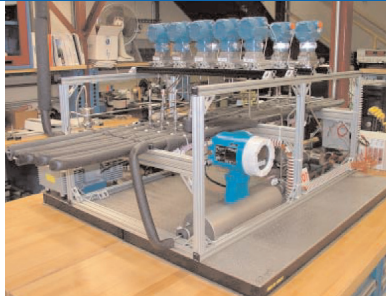
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Synopsis

The Knolls Atomic Power Laboratory (KAPL), Bettis Atomic Power Laboratory and Rensselaer Polytechnic Institute (RPI) are holding a symposium on April 29 and 30, 2009 to share and discuss the state of development and testing for supercritical carbon dioxide (S-CO₂) Brayton systems. The overall goal of the symposium is to review recent progress in the field and discuss future needs and priorities among the various attending organizations. This symposium follows a similar meeting held at the Massachusetts Institute of Technology in 2007.

Symposium Overview

The S-CO₂ Brayton system may provide competitive efficiencies with substantially smaller and less complex equipment than conventional plants. S-CO₂ Brayton systems offer performance and cost advantages in conventional power production and advanced nuclear reactor systems.



KAPL S-CO₂ Flow Resistance Test Loop

The symposium will review the status of overall development, including:

- System Concepts (both conventional and nuclear)
- System Modeling and Control
- Fundamentals of S-CO₂ Fluid Mechanics & Heat Transfer
- Materials Issues for S-CO₂ Systems
- Heat Exchanger Design
- Turbomachinery Design
- Electrical Generator Design
- Small Scale System Testing
- Large Scale Test Plans
- Integrated View of Development Priorities

The objectives of the meeting are to share the status of world developments, discuss feedback on development status and direction from participants, and obtain an integrated view of development priorities. The perspective gained will allow researchers to better coordinate work and allow the participants greater insight into overall direction of this technology.

Format of Symposium

The symposium will be arranged based on topical areas with presentations held over the course of two days. The length of the presentations will be 20-30 minutes. On both days, a poster session area will be provided for display and review by participants during breaks from the formal sessions.

General Guidelines

Content

The contents of the abstract must include the objectives of the study/investigation and the methodology used. It should also briefly describe the main findings and their potential applications. Sufficient information should be included for an independent reviewer to determine its suitability for the symposium. Authors are encouraged to submit full-length papers along with their presentations to provide full documentation of their work. However, presentations will be accepted without papers as long as they provide sufficient technical details of the work. Selected papers from the symposium will be recommended for publication in a special topical issue of an archival journal.

Acceptance Criteria

Abstracts, papers and presentations are expected to contain descriptions of work that is significant and relevant to the symposium purposes. Documentation will be reviewed prior to acceptance by the scientific committee. Submissions should contain data and investigations that are of general interest, address problems of interdisciplinary significance or include in-depth discussions of scientific and technical issues. Documentation must be submitted electronically to Ryan McNab at mcnab@kapl.gov and Tara Gallaway at gallat2@rpi.edu. All papers must be in English and no longer than 10 pages.

Deadline

The final presentations and papers (if applicable) must be submitted electronically no later than **March 31, 2009**.

Author's Organizational and Personal Approval

All internal reviews and organizational approvals must be completed prior to submittal. It is the responsibility of the author to protect proprietary information.

Additional Guidance

Proceedings, provided to attendees, will include all conference presentations and accompanying papers where available.

Important Deadlines

February 15, 2009	Topic abstracts
March 31, 2009	Final presentations and papers
April 3, 2009	Registration

Registration

Attendance will be by invitation only. A registration fee of \$100 is required to cover costs of the meeting. Registration deadline is **Friday, April 3, 2009**.

Opening Night Dinner Reception - April 29, 2009

An opening night dinner is planned at Sage Dining Hall on the RPI campus with the speaker to be announced at a later date. Cost is included in the meeting registration fee.

Accommodations

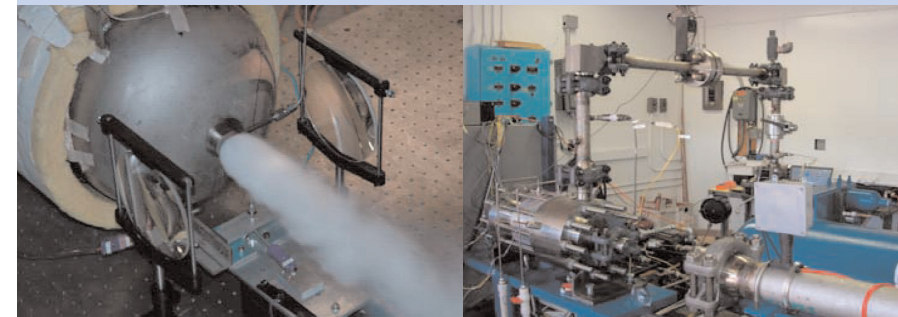
A block of rooms has been reserved at the Franklin Inn & Suites for \$107 a night. Guests should mention they are a part of the Supercritical CO₂ Symposium to receive the \$107 a night rate. The rate will be good until April 1, 2009 after that the block will be lifted. The toll free number for reservations is 866-708-2233.

Conference Co-Chairs

Michael Z. Podowski (RPI) and Kenneth J. Kimball (KAPL)

Scientific/Organizing Committee

Steven P. Antal (RPI), Tara Gallaway (RPI), Pavel Hejzlar (TerraPower, LLC), Damon Howard (Bettis), Ryan McNab (KAPL), Anton Moiseyev (ANL), Brian Morris (KAPL), and Steve Wright (SNL).



CO₂ Blowdown Testing at the University of Wisconsin

S-CO₂ Compressor Testing at Barber Nichols