

# CALL FOR PAPERS

April 20-21-22, 2007

THEME: Ohio Institutes as Research Centers for

## Emerging Energy Technologies

Hosted by

CUYAHOGA COMMUNITY COLLEGE-EASTERN CAMPUS

for details see <http://www.ohiosci.org>

Abstract Deadline: **Postmarked by November 6, 2006**



### About the Annual Meeting

THE OHIO ACADEMY OF SCIENCE'S Annual Meeting is for academic, governmental, and industrial scientists and engineers, university and pre-college educators, and pre-college, undergraduate, and graduate students, and interested lay citizens in the Ohio region. Annually the several hundred scientific presentations are complemented by workshops, symposia, an All-Academy Lecture, and field trips on local geology and plant sciences.

### Call for Papers

WHATEVER YOUR SCIENTIFIC INTERESTS this Call for Papers is your invitation to participate in the 116<sup>th</sup> Annual Meeting of The Ohio Academy of Science to be hosted by Cuyahoga Community College Eastern campus on April 20-22, 2007. Poster and podium sessions will be on Saturday, April 21. Two basic options are available to present papers: (1) professionals, college students of all levels, and pre-college students who have completed research may submit an abstract; (2) college undergraduates only, may submit an Undergraduate Research-in-Progress Summary. Undergraduates also may submit an abstract if research *results* are included. **All abstracts and summaries will be peer-reviewed.** Acceptable abstracts and summaries will be published in the Program Abstracts issue of *The Ohio Journal of Science* to assure that researchers across Ohio, elsewhere in the United States, and in dozens of foreign countries will have access to your work. The Journal also will publish Undergraduate Research-in-Progress Summaries.

Symposia, workshops and field trips may be arranged by special permission. Research papers are welcome in ALL FIELDS of science, engineering, technology, education and their applications.

### On the Web

Please use this brochure or retrieve forms and instructions from: <http://www.ohiosci.org>

### Our Host

CUYAHOGA COMMUNITY COLLEGE opened in 1963 and was Ohio's first community college. It now serves 55,000 students each year at three traditional campuses, two Corporate College locations, 50+ off-campus sites, and via television and the Internet. More than 700,000 county residents have passed through Tri-C's doors, representing one in five county residents.

Tri-C, Ohio's largest community college, offers associate degrees, certificate programs and the first two years of a baccalaureate degree. Students can choose from nearly 1,200 credit courses in over 130 career, certificate and university transfer programs. More than 125 off-campus credit courses are available at various locations near home, at work sites, on cable television, and via the Internet; and over 225 non-credit workforce and professional development courses are offered each semester through Corporate College and Workforce Development.

Tri-C offers a top quality education and flexible learning options at the lowest tuition in Northeast Ohio. The College also generates

spending of about \$500 million annually in Northeast Ohio and sustains more than 25,000 jobs.

In addition, more than 500,000 Northeast Ohio residents attend college-sponsored cultural, community and sports programs each year. The College is home to Tri-C JazzFest Cleveland, the nation's premier educational jazz festival, and also hosts popular cultural arts programs at Playhouse Square and at campus theaters.

### Meeting Site: Eastern Campus Overview

THE EASTERN CAMPUS in Highland Hills, southeast of Cleveland, opened in the fall of 1971 with permanent facilities being completed in 1981. The campus features high-tech classrooms, laboratories, a library, a 600 seat performing arts center, a business conferencing center, a gymnasium, an indoor jogging track, an art gallery, music studios, a Children's Center, a cafeteria and an outdoor athletic complex equipped with basketball, volleyball and tennis courts, an Olympic running track and a soccer field.

The Technology Learning Center, which opened at the Eastern Campus in 1996, contains state-of-the-art electronic classrooms capable of videoconferencing and distance learning, three advanced technology lecture classrooms, a 130-computer open lab and seven individual computer classrooms providing students with e-mail and Internet access.

The Eastern Campus is located southeast of Cleveland off I-271 at:

4250 Richmond Road  
Highland Hills OH 44122  
216.987.2000

PLEASE COMPLETE AND RETURN THE SUBMISSION FORM  
POSTMARKED BY MONDAY, NOVEMBER 6, 2006.

## HOW TO PREPARE AN **ABSTRACT** FOR PEER REVIEW

**A**N ABSTRACT MUST BE PREPARED FOR EACH PAPER to be presented at the Annual Meeting. An abstract is a **concise summary** of the educational, scientific, engineering, or technological **research contents of the paper**, and not merely a general description of what the paper is about. Tell what the specific facts are, not what they are going to be when you talk.

Quality abstracts are highly structured and contain all of the following elements: (1) background or introduction including goals, objectives, purpose, and hypothesis, (2) methods and materials, (3) results, data or observations, and (4) discussion or conclusion(s). **Phrases like "will discuss, will review, will talk about, or will present" are unacceptable in an abstract.** All important facts should be stated with brevity, but not such sparing use of words as to leave ambiguity. Abstracts should be

250 words or fewer. Tables and graphs should not be included. New techniques or new apparatus and their functions should be mentioned. New constants, critical data or formulae should be included. Names of new species should not be listed in the abstract; use full scientific names for all organisms. Use the term "significant" only if you state the statistical test(s) used. Always define the sample(s), population or trials ( $N=?$ ). The value of abstracts is real and considerable, not only for those in attendance, but also for others unable to attend. All abstracts will be **peer-reviewed**. Acceptable final abstracts --**to be submitted by Email when requested**--will be published in the program abstracts issue of *The Ohio Journal of Science* and **shall be presented by the first author**. It is the responsibility of the first author of multi-authored abstracts to obtain permission from all authors to submit the content of the abstract.

## HOW TO PREPARE A COLLEGE UNDERGRADUATE RESEARCH-IN-PROGRESS SUMMARY

**I**N ORDER TO ACCELERATE THE ENTRY OF COLLEGE undergraduate students into the professional world of education, science, engineering, technology, or their applications, The Ohio Academy of Science has adopted the following policy and procedures to accept and publish summaries of college undergraduate research-in-progress in lieu of abstracts for the Annual Meeting. Papers, based on the student's research, may be presented in either podium or poster format. Undergraduates whose research is unfinished by the abstract submission deadline may submit an Undergraduate Research-in-Progress Summary in lieu of an abstract. This summary is a statement following the general typing and submission instructions for an abstract.

**The summary shall contain the following elements:** (1) background or introduction including goals, objectives, purpose, and hypothesis, (2) methods and materials, and (3) if available, initial observations. **Phrases like "will discuss, will review, will talk about, or will present" are unacceptable in a summary.** All important facts should be stated with brevity, but not such sparing use of words as to leave ambiguity. Summaries should be 250 words or fewer. Tables and graphs should not be included. New techniques or new apparatus and their functions should be mentioned. New constants, initial critical data,

if available, or formulae should be included. Names of new species should not be listed in the summary; use full scientific names for all organisms. **State the statistical test(s) you plan to use and always define the expected sample(s), population or trials ( $N=?$ ).** The value of summary is real and considerable, not only for those in attendance, but also for others unable to attend. **Summaries shall be presented by the college undergraduate first author.** It is the responsibility of the first author of multi-authored summaries to obtain permission from all authors and research advisor(s) to submit the content of the summary. Undergraduate Research-in-Progress Summaries shall be reviewed for conformity to general format but ***shall not be considered a peer-reviewed scientific publication.*** Summaries shall not be accepted for publication without a signed statement from the advisor(s) whose name(s) appear in the summary, vouching for the accuracy of the summary and, barring some compelling reason, assuring that the undergraduate will present the work, including results, analysis of results, and any conclusions available, at the Academy's Annual Meeting. Acceptable final summaries--**to be submitted by Email when requested by the Academy**-- will be published in the Program Abstracts issue of *The Ohio Journal of Science* and shall be identified as a summary by (including the advisor's name in parentheses).

PLEASE COMPLETE AND RETURN THE SUBMISSION FORM  
POSTMARKED BY MONDAY, NOVEMBER 6, 2006.

# FORMATTING INSTRUCTIONS



## CHECKLIST:

- First authors must be members to submit and present at the Academy's Annual Meeting
- Submission and Membership Form plus one copy
- Submission Fee
- Original submission plus one copy
- Signed **Consent & Release Form** available at <http://www.ohiosci.org/consent.pdf>
- To acknowledge receipt of your summary include a self-addressed, stamped postcard. Only one postcard per envelope is needed.

## Content of Abstract:

Please include one or two sentences on each of the following:

- background or introduction including goals, objectives, purposes, and hypothesis;
- methods & materials;
- results, data or observations; and
- discussion or conclusion(s).

TYPE TITLE IN CAPITAL LETTERS. Continue typing on the same line with name(s) of presenter(s) typed First, Middle Initial, and Last in UPPER/lower case. Do not type your last name in all capital letters. Follow each authors name with Email address. Then, on the same line, add the **complete and accurate** mailing address and ZIP code for the first author/presenter. Only the first author/presenter should have a complete mailing address. All others should be listed with their affiliation if different. All may have emails listed. **DO NOT CENTER THE LINES OF YOUR ADDRESS.** Type flush left, ragged right. Do not indent.

Skip one line and type abstract DOUBLE spaced to make it easier for peer reviewers and the Editor. DO NOT EXCEED 250 words. DO NOT EXCEED ONE PAGE. Abstract must be one paragraph. Use 12 point Times New Roman type. LASER PRINT IS PREFERRED. **DO NOT FOLD YOUR ORIGINAL OR COPIES.** Mail FLAT with cardboard protection. **PLEASE COMPLETE AND INCLUDE THE SUBMISSION FORM.**

**Mail FIRST CLASS  
(postmarked) by Monday, November 6, 2006 to:**

The Ohio Academy of Science  
PO Box 12519  
Columbus OH 43212-0519

## PLEASE INCLUDE THE FOLLOWING:

1. Completed submission form for the **first** author who will present. EACH SUMMARY MUST HAVE A SEPARATE SUBMISSION FORM. **Enclose one additional copy.**
2. Submission and membership fee (check payable to The Ohio Academy of Science). The submission fee includes the registration fee for the first author ONLY and is non-transferrable.
3. Original summary typed double spaced within 1" or wider margins on **8.5" x 11" WHITE PAPER** plus one identical xerographic copy.
4. Signed **Consent & Release Form.** <http://www.ohiosci.org/consent.pdf>
5. Please include a self-addressed, stamped postcard to acknowledge receipt of your summary. Only one postcard per envelope is needed.

## Content of Undergraduate Research-in-Progress Summary:

Please include one or two sentences on each of the following:

- background or introduction including goals, objectives, purposes, and hypothesis;
- methods & materials;
- initial observations, if available.

QUESTIONS? 614/488-2228 or outside 614, toll free, 1-800-OHIOScience

**PLEASE COMPLETE AND RETURN THE SUBMISSION FORM  
POSTMARKED BY MONDAY, NOVEMBER 6, 2006.**

# SUBMISSION AND MEMBERSHIP FORM

**\*IMPORTANT:** Please read and **SIGN**.

\*First Author's Signature **REQUIRED** here:

Name \_\_\_\_\_ Date \_\_\_\_\_

First authors must be members to submit and present at the Annual Meeting of The Ohio Academy of Science. The submission fee includes the meeting registration fee **ONLY** for the first author. Registration information will be sent only to the first author. All meeting attendees, including second authors, must register. The first author, who will be the presenter of each paper, must return this form with the submission and payment to The Ohio Academy of Science. Please use a separate form for each submission. A signed consent and release form (<http://www.ohiosci.org/consent.pdf>) also is required. *As a first author I understand that by submitting this abstract or summary I will present my research at the meeting. If I am unable to attend, then I understand that whoever presents it for me will be required to pay the full meeting registration fee.*

**FIRST AUTHOR INFORMATION:**

Type:  ABSTRACT or  \*Undergraduate Research-in-Progress Summary  
 Check:  Professional  College student  Pre-college student  
 Check:  Ms.  Mrs.  Mr.  Dr.  Prof.  
 Full Name \_\_\_\_\_  
 Job Title \_\_\_\_\_  
 Employer, organization, school, or institution \_\_\_\_\_

Preferred mailing address (College students **must use current residence address** and NOT departmental address; report address change promptly.)  
 \_\_\_\_\_  
 \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Ohio County \_\_\_\_\_  
 Office Phone (\_\_\_\_) \_\_\_\_\_  
 Home Phone (\_\_\_\_) \_\_\_\_\_  
 FAX Number (\_\_\_\_) \_\_\_\_\_  
 E-MAIL \_\_\_\_\_

**FIELD OF SUBMISSION:** \_\_\_\_\_  
 SUBMISSION TITLE (first 5-10 words)

Presentation method  poster **or**  podium.  
 Podium presentations are limited to 15 minutes. **If no method is selected, podium will be assigned.** Pre-college students are limited to poster.

Is this your **FIRST** time to present a scientific paper?  
 YES  NO  
 Are you interested in volunteering to chair a session?  
 YES  NO

**\*ATTENTION: Advisors**

\*College Undergraduate Research-in-Progress Summaries shall not be accepted for publication without the following signed statement from the advisor **whose name appears in the summary:** *I vouch for the accuracy of the College Undergraduate Research-in-Progress Summary being submitted with this form and barring some compelling reason, assure that the undergraduate will present the work, including results, analysis of results, and any conclusions available, at the Academy's Annual Meeting.*

Advisor's Signature \_\_\_\_\_  
 Printed Name \_\_\_\_\_  
 Email \_\_\_\_\_

*First authors must be members to submit and present at the Annual Meeting of The Ohio Academy of Science.*

**Please JOIN or RENEW TODAY!**

**REQUIRED SUBMISSION FEE:**

\_\_\_ \$55 Submission fee. **One fee per submission; fee includes the registration fee ONLY for the first author. Fee is non-refundable**

**REQUIRED ACADEMY MEMBERSHIP:**

- \_\_\_ **NEW** or \_\_\_ **RENEWAL**  
 \_\_\_ \$1,000 LIFE (installment plan available)  
 \_\_\_ \$1,000 Sponsor of the Academy  
 \_\_\_ \$750 Sustainer of the Academy  
 \_\_\_ \$500 Advocate of the Academy  
 \_\_\_ \$500 Corporate Member  
 \_\_\_ \$250 Supporter of the Academy  
 \_\_\_ \$100 Institution, Organization or Agency Member  
 \_\_\_ \$100 Friend of the Academy  
 \_\_\_ \$85 Family (maximum of 3 persons)  
 \_\_\_ \$75 Regular Member  
 \_\_\_ \$40 Retired (age 59 & over) Member with Journal  
 \_\_\_ \$40 College Student with Journal  
 \_\_\_ \$40 Pre-college Student (age 17 & under) w/ Journal  
 \_\_\_ \$25 Retired Member without Journal  
 \_\_\_ \$25 Pre-College Student without Journal

**\*METHOD OF PAYMENT:**

Enclosed is a check made payable to The Ohio Academy of Science for \$\_\_\_\_\_.

\*Please charge my credit card \$\_\_\_\_\_ **Please PRINT your name** below as it appears on your card.

First Middle Last

\*VISA   \*MASTERCARD 

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 Last 3 digits of security code on signature panel \_\_\_\_\_  
 Expiration Date \_\_\_\_/\_\_\_\_  
 Billing address if different \_\_\_\_\_  
 Signature \_\_\_\_\_

**\*ONLINE PAYMENT:** <http://www.merchantamerica.com/ohiosci/>

**MAIL FIRST CLASS (POSTMARKED) BY Nov. 6, 2006**

- Submission and Membership Form plus one copy,
- Submission (abstract or summary) plus one copy
- Combined Abstract and Meeting Registration Fee (non-refundable)
- Membership Fee (renewal or joining) as needed
- Consent & release form

5. Self-Addressed, stamped acknowledgement postcard to:  
**The Ohio Academy of Science**  
 PO Box 12519  
 Columbus OH 43212-0519  
 Phone 614/488-2228 or toll-free, outside (614), 1-800-OHIOSCI