

120TH ANNUAL MEETING OF THE OHIO ACADEMY OF SCIENCE

CALL FOR PAPERS

April 15-16, 2011

Hosted by

Otterbein University, Westerville

Theme: *Science Literacy in the 21st Century*

Abstract Deadline

Postmarked by November 8, 2010



OTTERBEIN
UNIVERSITY

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 120th Annual Meeting of The Ohio Academy of Science to be hosted by Otterbein University, Westerville, on April 15-16, 2011. Poster and podium sessions will be on Saturday, April 16. 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

OTTERBEIN UNIVERSITY IS A PRIVATE, co-educational, comprehensive liberal arts institution founded in 1847. Located in Westerville, a Columbus suburb ranked 15th in Money Magazine's 2009 Best Places to Live, Otterbein enrolls over 3,100 students, including full and part-time students in the Undergraduate Schools, Graduate School and Center for Continuing Studies.

Otterbein has a student-faculty ratio of 12 to one and offers 56 majors as well as individualized fields of study. Master's degree programs are offered in education, nursing and business administration. Accredited since 1913 by the North Central Association of Colleges and Schools, Otterbein has placed high among peer institutions in U.S. News & World Report's "Guide to America's Best Colleges" for over a decade and is currently ranked 15th among its 140 peers in the University-Master's (Midwest) category.

Five Cardinal Experiences--community engagement, undergraduate research, internships and related work experiences, citizenship and leadership, and international study and global engagement--shape the Otterbein student's learning program. Otterbein faculty lead many overseas service-learning programs, including trips to Rwanda and Costa Rica. Traditional overseas learning programs in England, the Netherlands, Italy and Sweden, among other destinations, are also popular.

Otterbein's 140-acre campus is accented by the historic Towers Hall, constructed in 1872 and listed on the National Register of Historic Places. Recent additions include two state-of-the-art facilities: a Center for Equine Studies and a \$20 million Science Center, which links the renovation of the former Mc Fadden and Schear Halls to an additional 30,000 sq ft. of technologically advanced classrooms, dedicated research space, greenhouses, and a spacious atrium. The new Science Center houses the departments of Chemistry and Biochemistry, Equine Science, Life and Earth Science, Nursing, and Physics and Astronomy. The new design enables integration of the natural sciences in curricula developed to meet the challenges of the 21st century.

Please complete and return the Submission form and your abstract POSTMARKED by Friday, November 8, 2010.

How to prepare an ABSTRACT for peer review.

AN 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, problem 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. The first author of multi-authored abstracts must obtain permission from all authors to submit the content of the abstract.

How to prepare a College Undergraduate Research-in-Progress Summary.

IN 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, problem 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).

Formatting and Mailing Instructions**Content of Abstract**

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

- background or introduction including goals, objectives, purposes, problem 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 space and type abstract DOUBLE spaced to make it easier for peer reviewers and the Editor. DO NOT EXCEED 250 words. ABSOLUTELY DO NOT EXCEED ONE PAGE. Abstract must be one paragraph. Use 12 point Times New Roman, Century Schoolbook, Minion or other common serif font. 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
Friday, November 6, 2009 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 or abstract 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 available at <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.

QUESTIONS? 614.488.2228
or by email oas@iwaynet.net

**FINAL 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>
- 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, problem and hypothesis;
- methods & materials;
- initial observations, if available.

Submission and Membership Form**DEADLINE**
Nov. 8th***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 _____ *Undergrad 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.

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)
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 _____ \$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

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*ONLINE PAYMENT: http://www.ohiosci.org/store/annual_meeting.html**MAIL FIRST CLASS (postmarked) by Nov. 8, 2010**

1. Submission and Membership Form plus one copy.
2. Membership and Submission Fee (Non-refundable)
3. Submission (abstract or summary) plus one copy
4. Consent and 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

You May Duplicate This Form. EACH SUBMISSION MUST HAVE A SEPARATE FORM.