

119TH ANNUAL MEETING OF THE OHIO ACADEMY OF SCIENCE

# CALL FOR PAPERS

April 9-10, 2010

Hosted by

Ohio Northern University, Ada



Abstract Deadline

**Postmarked by November 6, 2009**

## About the Annual Meeting

**T**HE 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

**W**HATEVER YOUR SCIENTIFIC INTERESTS this *Call for Papers* is your invitation to participate in the 119<sup>th</sup> Annual Meeting of The Ohio Academy of Science to be hosted by Ohio Northern University, Ada, on April 9-10, 2010. Poster and podium sessions will be on Saturday, April 10. 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

**O**HIO NORTHERN UNIVERSITY (ONU) is a selective, comprehensive University with an enrollment of more than 3,500 students from 43 states and 23 countries. ONU is one of the few private universities to offer a distinctive blend of nationally ranked liberal arts and professional programs in its five colleges: Arts & Sciences, Business Administration, Engineering, Pharmacy and Law.

Ohio Northern is a student-centered, service-oriented, values-based institution of higher learning committed to a rigorous pursuit of academic inquiry and achievement. Education is a collaborative process at Ohio Northern. Students work side-by-side with accomplished faculty members in a constant pursuit of new knowledge. The result is serious research, real collaboration and meaningful learning experiences that extend to both sides of the classroom.

More than 200 full-time faculty members bring extensive academic, work, travel, and life experience to their classrooms. Ohio Northern values excellence, innovation, technology, diversity and its people.

Students choose from a variety of campus activities including: nearly 200 student organizations; four national sororities and six national fraternities; NCAA, Division III intercollegiate athletics, intramural and club sports; music and theatrical events.

Ohio Northern University maintained its No. 2 ranking among Midwest baccalaureate colleges in "America's Best Colleges 2010," which is published annually by U.S. News & World Report and has been ranked in the region's top 10 for the past 18 years and in the top five for the past seven years. This year ONU was recognized in the "Great Schools, Great Prices" category of institutions that offer the best value as it relates to their academic quality.

Annual Meeting sessions will be held in The Mathile Center for the Natural Sciences, a new student-centered academic research and learning facility that blends trademark hands-on teaching excellence with advanced technology in a functional modern environment. The building includes 21 classrooms, five seminars/conference rooms, 21 laboratories, 34 offices and four storage spaces. The 95,145-square-foot structure connects the Meyer Hall of Science with the Robertson-Evans Pharmacy building.

**Please complete and return the Submission form and your abstract POSTMARKED by Friday, November 6, 2009.**

## 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, 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.

**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, 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](mailto: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.

119TH ANNUAL MEETING OF THE OHIO ACADEMY OF SCIENCE

Submission and Membership Form

DEADLINE
Nov. 6th

\*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.

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)
\_\_\_ \$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.

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Email address of CARDHOLDER: \_\_\_\_\_

\*ONLINE PAYMENT: http://www.ohiosci.org/store/annual\_meeting.html

MAIL FIRST CLASS (postmarked) by Nov. 6, 2009

- 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.