

THE OHIO JOURNAL OF

# SCIENCE

*Centennial Year*

Volume 100

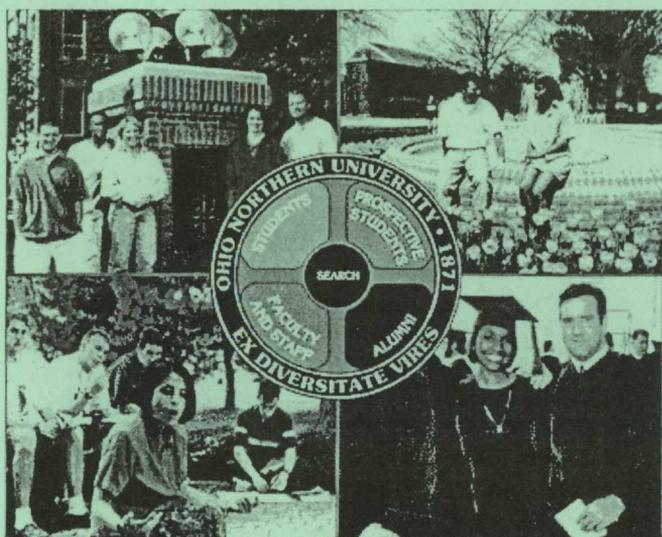
Annual Meeting Program Abstracts

Number 1

## *The Nature of Science: EVOLUTION*

**109<sup>th</sup> Annual Meeting of The Ohio Academy of Science**

Hosted by Ohio Northern University, Ada • March 31; April 1-2, 2000



### **All-Academy Lecturer--April 1, 2000**

DR. EUGENIE C. SCOTT, Executive Director  
National Center for Science Education, Inc.

#### **Highlights**

- Contributed papers
- Field Trips
- Symposia
- Workshops
- Annual Business Session

#### **For further information:**

The Ohio Academy of Science  
Phone or FAX (614) 488-2228

Email: [oas@iwaynet.net](mailto:oas@iwaynet.net)

Website <http://www.OHIOSCI.org>

### *The Ohio Academy of Science*

1500 W. Third Ave. Ste. 223

Columbus OH 43212-2817

Phone or FAX (614) 488-2228

Outside 614, call toll-free, if needed, 1-800-OHIOSCI

Email [oas@iwaynet.net](mailto:oas@iwaynet.net) • <http://www.OHIOSCI.org>

**Address Service Requested**

---

*Fostering Curiosity,  
Discovery & Innovation  
for the Benefit of Society*

---

NON-PROFIT  
ORGANIZATION  
U.S. POSTAGE  
PAID  
PERMIT NO. 2609  
COLUMBUS OH

A RESOLUTION  
BY THE OHIO ACADEMY OF SCIENCE

**ADVOCACY FOR TEACHING *COSMIC, GEOLOGICAL AND BIOLOGICAL EVOLUTION*  
AND OPPOSITION TO FORCED TEACHING OF CREATIONIST BELIEFS  
IN PUBLIC SCHOOL SCIENCE EDUCATION**

WHEREAS, it is a responsibility of the Ohio Academy of Science to preserve the integrity of science; and

WHEREAS, science is a systematic method of continuing investigation, based on observation, hypothesis testing, measurement, experimentation, and theory building, which leads to more adequate explanations of natural phenomena, explanations that are open to further testing, revision, and falsification, and while not "believed in" through faith may be accepted or rejected on the basis of evidence; and

WHEREAS, the theory of evolution, as presently defined, fully satisfies these criteria, especially when its teaching considers the remaining debates concerning its detailed mechanisms; and

WHEREAS, the Academy respects the right of people to hold diverse beliefs about creation that do not come within the definitions of science; and

WHEREAS, some Creationist groups are intent on imposing religious beliefs disguised as science upon teachers and students to the detriment and distortion of public education in the United States;

THEREFORE, BE IT RESOLVED that because "Creation Science" and "Intelligent Design" have no scientific validity, they should not be taught as science, and further that the OAS views legislation requiring such religious views to be taught in public schools, as though these were legitimate arguments against evolution that should be included as part of a so-called balanced treatment approach, to be a real and present threat to the integrity of education and the teaching of science; and

BE IT FURTHER RESOLVED that the OAS urges citizens, educational authorities, and legislators to oppose the compulsory inclusion in the curricula, the state competencies or proficiency tests for science education of religious beliefs that are not amenable to the process of scrutiny, testing, and revision that is indispensable to science.

BE IT FURTHER RESOLVED that the OAS urges citizens, educational authorities, and legislators to include, explicitly, *cosmic, geological and biological evolution* in the curricula, state competencies and proficiency tests for science education.

THE OHIO JOURNAL OF

# SCIENCE

*Centennial Year*

Volume 100

Annual Meeting Program Abstracts

Number 1

## *The Nature of Science: EVOLUTION*

**109<sup>th</sup> Annual Meeting of The Ohio Academy of Science**

Hosted by Ohio Northern University, Ada • March 31; April 1-2, 2000



### **All-Academy Lecturer**

**April 1, 2000**

DR. EUGENIE C. SCOTT, Executive Director  
National Center for Science Education, Inc.

### **Highlights**

- Contributed papers
- Field Trips
- Symposia
- Workshops
- Annual Business Session

### **For further information:**

The Ohio Academy of Science  
Phone or FAX (614) 488-2228

Email: [oas@iwaynet.net](mailto:oas@iwaynet.net)  
Website <http://www.OHIOSCI.org>

*The Ohio Academy of Science  
fosters curiosity, discovery, and innovation  
for the benefit of society*



# The Ohio Journal of Science

AN INTERNATIONAL MULTIDISCIPLINARY JOURNAL CELEBRATING ITS CENTENNIAL YEAR

Volume 100 No. 1

March 2000

Program Abstracts



## *The Ohio Journal of Science*

Department of Geography  
Kent State University  
Kent OH 44242-0001

Phone: 330/672-4632 Fax: 330/672-4304

Email: [tschmidl@kent.edu](mailto:tschmidl@kent.edu)

Editor-THOMAS W. SCHMIDLIN

Assistant Editor-JEANNE SCHMIDLIN

Program Abstracts Editor-LYNN E. ELFNER

assisted by DORIE L. GRUBER and

SHERITA N. SHURELDS

## Editorial Board

SCOTT BROCKMAN GENE KRITSKY

SUSAN CARTY KAREN MANCL

## *The Ohio Academy of Science*

1500 W. Third Ave. Ste. 223

Columbus OH 43212-2817

Phone or FAX (614) 488-2228

Email [oas@iwaynet.net](mailto:oas@iwaynet.net)

Website <http://www.ohiosci.org>

## OFFICERS

President-SPENCER E. REAMES

Chief Executive Officer-LYNN E. ELFNER

President-Elect-WILLIAM HUMMON

Past President-LEE A. MESERVE

Secretary-DON GRUBBS

Treasurer-MICHAEL S. HERSCHLER

Development Council Director-

RICHARD W. JANSON

Junior Academy Council Director-

DAVID M. WIENER

Senior Academy Council Director-

ISADORE NEWMAN

Parent Advisory Council Director-

KATHERINE WATKINS

Student Advisory Council Director-

MICHAEL BARKER

*The Ohio Journal of Science* (ISSN 0030-0950) is published in March, April, June, September, and December by The Ohio Academy of Science, 1500 W Third Avenue Suite 223, Columbus OH 43212-2817. Individual membership and subscription: \$65. Domestic institutional subscription: \$50; Foreign institutional subscription: \$55. Single issues for Academy members: \$10; others \$12. © 2000 by The Ohio Academy of Science. ALL RIGHTS RESERVED. Printed in The United States of America.

## POSTMASTER:

Send address changes to:

The Ohio Journal of Science

1500 W Third Ave Ste 223

Columbus OH 43212-2817 USA

## CONTENTS

109<sup>th</sup> Annual Meeting

## *The Ohio Academy of Science*

Hosted by

Ohio Northern University

Ada, Ohio

March 31; April 1-2, 2000

### THEME: *THE NATURE OF SCIENCE: EVOLUTION*

Registration .....	2
Registration Form .....	47
Parking .....	2
Meals .....	2
Housing .....	2, 5
Local Arrangements .....	2
About Our Host .....	5
Map .....	46
General Schedule .....	2
Friday Dinner Speaker .....	3
All-Academy Lecture .....	3
Official Notice of Business Meeting .....	4, 44
Workshops	
Microbial Discovery .....	2
Teaching Science Process Skills .....	3
Writing Theses & Dissertations .....	4
Field Trips	
Plant Science .....	4
Geology .....	5
Recognition of Fellows .....	4
Peer-Reviewed Abstracts & Undergraduate Research Summaries	
Posters .....	7
Podium Sessions .....	25
Indices	
Session Abstracts .....	6
First Authors of Abstracts .....	45