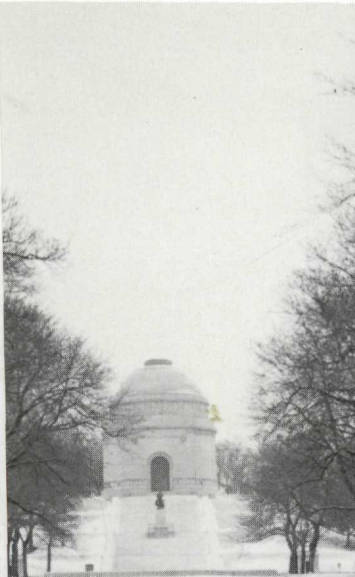


SCIENCE

Volume 87

April Program Abstracts

No. 2



**96th Annual Meeting
The Ohio Academy of Science
April 24-26, 1987**

Hosted by
**Malone College
Canton**

Mr. Daniel William Henr
Muskingum Area Tech College
1555 Newark Road
Zanesville OH 43701

THE OHIO JOURNAL OF SCIENCE

ISSN 0030-0950

*Editor Thomas E. Wissing
Associate Editor Lawrence A. Kapustka
Assistant Editor Lois E. Nelson

Editorial Board — Liberato J. A. DiDio, Rosanne W. Fortner, Lazarus Walter Macior, Robert J. Malcuit, Roy W. Rings, Berlie L. Schmidt

Sections of The Ohio Academy of Science — Zoology, Plant Sciences, Geology, Medical Sciences, Physics and Astronomy, Geography, Chemistry, Science Education, Anthropology and Sociology, Conservation, Genetics and Cell Biology, Math and Computer Sciences, Psychology, Junior Academy, Engineering, Administrative Sciences and Planning, Economics, Ecology, Information and Library Sciences.

EDITORIAL POLICY

THE OHIO JOURNAL OF SCIENCE considers original contributions from members and non-members of the Academy in all fields of science. Special consideration will be given to Ohioana. Submission of an article is understood to mean that the article is original and unpublished and is not being considered for publication elsewhere. All manuscripts will be critically reviewed. It should be understood that the opinions expressed by the reviewers are their own, and do not represent the views of the Ohio Academy of Science or THE OHIO JOURNAL OF SCIENCE. Manuscripts and illustrations should be prepared in triplicate in accord with instructions published in at least one issue each year and submitted to Dr. Thomas E. Wissing, Editor, THE OHIO JOURNAL OF SCIENCE, Department of Zoology, Miami University, Oxford, OH 45056.

Publication in THE OHIO JOURNAL OF SCIENCE requires consideration of editorial costs. These will be assessed at \$70 per page for members and \$105 per page for non-members. Papers in excess of 12 printed pages may be charged full production costs. A page charge bill will be sent by the Ohio Academy of Science at the time of publication.

Unsupported authors may request a waiver of page charges and will be asked to supply statements from their supervisor (department chairman, their adviser in the case of graduate students, and dean) that institutional and grant funds are not available. The Academy can only subsidize a few papers per year.

Failure to receive any number of the JOURNAL must be reported to the Ohio Academy of Science within six months of the date of issue for the claim to be recognized.

THE OHIO JOURNAL OF SCIENCE (ISSN 0030-0950) is published in March, April (Annual Meeting Abstracts Issue), June, September, and December by The Ohio Academy of Science, 445 King Avenue, Columbus, Ohio 43201. Second-class postage paid at Columbus, Ohio. Individual membership and subscription: \$27. Domestic institutional subscription: \$30. Foreign institutional subscription: \$35. Single issues for Academy members and subscribers: \$6; others: \$8.

POSTMASTER: Send address changes to THE OHIO JOURNAL OF SCIENCE, 445 King Avenue, Columbus, OH 43201.

FUTURE MEETINGS

OSU - Newark April 29 - 30; May 1, 1988

Date of issue: March 24, 1987

Typesetting — Beacon Graphics Corp., Ashland, Ohio 44805 Printing — Leshner Printers Inc., Fremont, Ohio 43420

Copyright 1987 by The Ohio Academy of Science

*Editor of April Program Abstracts issue is
Dr. Lee Meserve of Bowling Green State University