Front Matter
89th ANNUAL MEETING
APRIL 18, 19, 20, 1980

The University of Toledo
and
The Medical College of Ohio

PLEASE BRING THIS PROGRAM TO THE MEETING

Additional copies $3.00 for members
and $3.50 for non-members

Advance Registration Deadline is April 16
* Editor ........................................Milton A. Lessler
Associate Editor ..............................Emanuel D. Rudolph
Business Manager .........................Joseph D. Laufersweiler
Editorial Assistant ...........................Ann T. Bertagnolli

DIVISION EDITORS

Administrative Science and Planning ..................Frank J. Costa, Akron
Agronomy and Soils .............................Berle L. Schmidt, Columbus
Animal Sciences and Zoology .....................Charles Vaughn, Oxford
Chemistry, Physics and Astronomy .....................Gilbert Gordon, Oxford
Ecology .......................................Lazarus W. Macior, Akron
Engineering and Bioengineering .....................R. Fred Rolsten, Dayton
Entomology ....................................Roy W. Rings, Wooster
Environment and Conservation ......................John F. Disinger Columbus
Genetics and Molecular Biology ....................C. William Birky, Jr., Columbus
Geology, Earth and Geography ......................Robert J. Malcuit, Granville
Medical Sciences ..............................Liberato J.A. DiDio, Toledo
Microbiology and Immunology ....................Frank Chorpenning, Columbus
Plant Sciences and Botany ........................Warren A. Wiestendahl, Athens
Psychology .....................................Isadore Newman, Akron
Science Education and History of Science ............Joy Lindbeck, Akron
Sociology and Anthropology .........................T. Neal Garland, Akron

The OHIO JOURNAL OF SCIENCE considers original contributions from members and non-members of the Academy. Special consideration will be given to short papers and to Ohioana. All manuscripts will be critically reviewed and are subject to the approval of the Editorial Committee. 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 OHIO JOURNAL OF SCIENCE. Manuscripts and illustrations should be prepared in triplicate and submitted to the Editor, OHIO JOURNAL OF SCIENCE, Department of Physiology, Ohio State University, 1645 Neil Avenue, Columbus, Ohio 43210.

EDITORIAL CHARGES: Publication in the OHIO JOURNAL OF SCIENCE requires consideration of editorial costs. These will be assessed at $35 per page for the first 12 printed pages and $95 per page (full production costs) for each page in excess of 12. Members of the OHIO ACADEMY OF SCIENCE, however, will have a non-accumulative credit of 3 free pages per volume. In multi-authored papers, each author must be a member of the OHIO ACADEMY OF SCIENCE at the time of publication to be eligible for page credit. Brief Notes that include illustrations are subject to the cost of preparing the figures for publication.

SUBSCRIPTIONS: Annual dues of active members of the OHIO ACADEMY OF SCIENCE include a subscription to the OHIO JOURNAL OF SCIENCE. Regular annual subscription to the OHIO JOURNAL OF SCIENCE is $18 (outside the continental United States—$19.50). Single issues for Academy members are $3 each, for non-members, $3.50. Discounts are available for bulk subscriptions. The OHIO JOURNAL OF SCIENCE is issued in Jan., Mar., Apr., May, July, Sept. and Nov.

BUSINESS OFFICE: Payments should be made to the OHIO ACADEMY OF SCIENCE, 445 King Avenue, Columbus, Ohio 43201; Telephone: (614) 424-6045. 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. Correspondence dealing with matters of business policy should be addressed to the Business Manager, Joseph D. Laufersweiler, Department of Biology, University of Dayton, Dayton, Ohio 45409.

*April Program Abstracts edited by Lynn Edward Elfner
Second Class Postage Paid at Columbus, Ohio
Date of Issue - March 21, 1980
Copyright © 1980 by The Ohio Academy of Science
ISSN 0030-0950