94th Annual Meeting
The Ohio Academy of Science
April 19-21, 1985

Hosted by
The University of Cincinnati
and
The Cincinnati Museum of Natural History

Theme: The Legacy of Daniel Drake, M.D. (1785-1852)

Please bring this Program to the meeting.
Single issues for Academy members and subscribers: $5; others: $7.
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 Submission of an article is understood to mean that the article is original and unpublished and is not being considered for publication elsewhere.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. Tim M. Berra, Editor, THE OHIO JOURNAL OF SCIENCE, Department of Zoology, Ohio State University at Mansfield, 1680 University Drive, Mansfield, OH 44906.

Publication in THE OHIO JOURNAL OF SCIENCE requires consideration of editorial costs. These will be assessed at $40 per page for members and $60 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: $22. Domestic institutional subscription: $25. Foreign institutional subscription: $28. Single issues for Academy members and subscribers: $5; others: $7.

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

FUTURE MEETINGS

19-21 April 1985 University of Cincinnati and The Cincinnati Museum of Natural History
25-27 April 1986 The University of Toledo
April 1987 Malone College, Canton

Date of issue - March 28, 1985
Copyright © 1985 by The Ohio Academy of Science

*Editor of APRIL PROGRAM ABSTRACTS ISSUE: Lynn Edward Elfner
**ADVANCE REGISTRATION FORM**

94th Annual Meeting  
The Ohio Academy of Science  
April 19-20-21, 1985  

Hosted by  
The University of Cincinnati  
and  
The Cincinnati Museum of Natural History  

Complete schedule will be published in the April 1985  
Program Abstracts issue of  
The Ohio Journal of Science.  

*Meal reservations and payments must be postmarked  
by Monday, April 15, 1985.*  

*Make checks payable to the UNIVERSITY OF CINCINNATI  
and mail to:*  

94th OAS Annual Meeting Registration  
ATTN: Billie Broaddus, Director  
History of Health Sciences Library and Museum  
UNIVERSITY OF CINCINNATI  
Cincinnati, OH 45267-0574  

Phone (513) 872-5120  

Registration Required. Access to sessions by name tag only.  
Pick up name tag at registration desk on day of meeting.  

---

**NAME**

**ADDRESS**

**CITY/STATE/ZIP**

**EMPLOYER OR SCHOOL**

**ACADEMY MEMBER?**  
Yes  
No  

+++ PLEASE USE A SEPARATE FORM FOR EACH PERSON ++++

**REGISTRATION**

I will attend sessions on  

<table>
<thead>
<tr>
<th></th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member</td>
<td>Non-member</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student</td>
<td>$6.00</td>
<td>$9.00</td>
<td>$</td>
</tr>
<tr>
<td>Professional</td>
<td>$12.00</td>
<td>$18.00</td>
<td>$</td>
</tr>
</tbody>
</table>

**MEALS AND FIELD TRIPS**

<table>
<thead>
<tr>
<th>Event</th>
<th>Description</th>
<th>Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luncheon, Friday, April 19</td>
<td>-</td>
<td>$7.00</td>
<td>$</td>
</tr>
<tr>
<td>Luncheon, Saturday, April 20</td>
<td>-</td>
<td>$7.00</td>
<td>$</td>
</tr>
<tr>
<td>Banquet, Saturday, April 20</td>
<td>-</td>
<td>$15.00</td>
<td>$</td>
</tr>
<tr>
<td>Geology Field Trip, April 21</td>
<td>-</td>
<td>Box Lunch $7.00</td>
<td>$</td>
</tr>
<tr>
<td>Spring Grove Cemetery Field Trip, April 21</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

***TOTAL ENCLOSED:*** $
TABLE OF CONTENTS

94th Annual Meeting
The Ohio Academy of Science
Hosted by
The University of Cincinnati
and
The Cincinnati Museum of Natural History
Theme: The Legacy of Daniel Drake, M.D.
(1785-1852)

Registration Form.....................................Inside Front Cover
Maps..................................................................Last pages
General Schedule..........................................2
Parking..................................................................3
Registration...................................................3
Meals..................................................................4
Housing..........................................................4
Field Trips.......................................................5
Local Arrangements.........................................6
Our Hosts.........................................................8
All-Academy Lecture.......................................10

Schedule of Symposia and Technical Section Meetings

Daniel Drake Symposium..............................1
A. Zoology....................................................4
B. Plant Sciences..........................................9
C. Geology..................................................19
D. Medical Sciences......................................31
F. Geography................................................44
G. Chemistry...............................................46
H. Science Education.................................52
I. Anthropology & Sociology.........................56
J. Conservation............................................58
K. Genetics & Cell Biology............................81
L. Math and Computer Sciences.....................86
M. Psychology..............................................88
N. Junior Academy.......................................70
O. Engineering..............................................80
P. Admin. Sci., & Planning.............................84
Q. Economics...............................................86
R. Ecology..................................................88
S. Information & Library Sci..........................97

Index to senior authors of abstracts...............99
NOTE: The Daniel Drake Symposium is on Friday, April 19, 1985 at the University of Cincinnati Medical Sciences Building. Academy Executive Committee and Council meetings will be on Friday, April 19, 1985 at the Cincinnati Museum of Natural History.

All meetings on Saturday, April 20, 1985 will be on the Clifton Campus of the University of Cincinnati.

FRIDAY, April 19, 1985
9:00 a.m. Registration - UC Medical Sciences Building
             Kresge Auditorium Lobby
10:00 a.m. Daniel Drake Symposium - UC Medical Sciences Building
             Kresge Auditorium
12:30 p.m. Lunch (reservations required)
             UC Hospital Cafeteria
1:30 p.m. Daniel Drake Symposium continued
2:00 p.m. OAS Executive Committee Meeting
             Cincinnati Museum of Natural History, Lecture Hall
             OBS Executive Committee
             Cincinnati Museum of Natural History, Classroom
4:00 p.m. Daniel Drake Symposium Reception
             UC Medical Sciences Library
8:00 p.m. OAS Council Meeting
             Cincinnati Museum of Natural History, Lecture Hall
             OBS Advisory Board
             Cincinnati Museum of Natural History, Classroom

SATURDAY, April 20, 1985
NOTE: Saturday meetings will be on the Clifton Campus of The University of Cincinnati. Buildings include: Tangeman University Center (TUC), Baldwin, and Zimmer
7:30 a.m. - Parking - Central Library Garage
8:00 a.m. - Registration - Great Hall Lobby, Tangeman University Center
3:00 p.m. - Hospitality - Room 414
9:00 a.m. - General Poster Session - Tangeman University Center, 402
5:00 p.m.
9:00 a.m. - Morning Technical Sessions - see specific section
11:00 a.m.
11:00 a.m. - All-Academy Lecture - Tangeman University Center, Great Hall
           Welcome - Jerry Snider, Cochairperson of Local Arrangements
           Joseph A. Steger, President, University of Cincinnati
           DeVere Burt, Director, Cincinnati Museum of Natural History
           Robert E. Madaffer, President, The Ohio Academy of Science
"Daniel Drake and the Taxonomic Crisis of the Midcentury: Problems of Medicine as Science in the 19th Century"

12:00 noon - Lunch TUC Strader Room and President's Dining Room
1:30 p.m.

1:30 p.m. - Section business meetings - see specific sections
2:00 p.m.

2:00 p.m. - Afternoon technical sessions - see specific sections
5:00 p.m.

5:30 p.m. - Hospitality Hour - TUC Grand Market Place
6:30 p.m.

6:30 p.m. - Banquet and Awards Ceremony

Greetings - DeVere Burt, Director
Cincinnati Museum of Natural History

Response - Jane Decker, Past President
The Ohio Academy of Science and
Professor of Botany, Ohio Wesleyan University

Awards and Recognition

8:00 p.m. - President's Address
Robert W. Madaffer, President
The Ohio Academy of Science

9:00 p.m. - Annual Business Meeting and Election of Officers

SUNDAY, April 21, 1985

9:00 a.m. - Plant Sciences Section Field Trip - see description on page____
9:15 a.m. - Geology Section Field Trip - see description on page____

P A R K I N G

There is no charge for parking; identify yourself as an Ohio Academy of Science meeting participant.

FRIDAY, April 19, 1985 - UC Medical Center Lot #11

SATURDAY, April 20, 1985 - UC Clifton Campus, Central Library Garage

R E G I S T R A T I O N

Registration is required for all meeting participants. See registration form inside front cover.

***** Access to meeting rooms by name tag only *****

*** Pick up name tag at registration desk before attending sessions. ***
Meal reservations and payments must be postmarked by Monday, April 15, 1985.

Make checks payable to the University of Cincinnati and mail to:

94th OAS Annual Meeting Registration
ATTN: Billie Broaddus, Director
History of Health Sciences Library and Museum
UNIVERSITY OF CINCINNATI
Cincinnati, OH 45267-0574

Phone (513) 872-5120

MEALS

Registrants without meal reservations may eat at local restaurants listed below. A more comprehensive restaurant list and map may be consulted at the registration desk.

The Friday, April 19, 1985 Daniel Drake Symposium luncheon will be at the University Hospital Cafeteria. The cost is $7.00. This includes the reception at the History of the Health Sciences Library and Museum following the Symposium.

The Academy Luncheon on Saturday, April 20, 1985 will be held at the Tangeman University Center, Strader Room and President’s Dining Room from 12:00 noon - 1:00 p.m. The cost is $7.00.

The Academy Banquet on Saturday, April 20, 1985 will be held at the Tangeman University Center Grand Market Place, Saturday, April 20, 1985 at 6:30 p.m. The cost is $15.00 and includes the Hospitality Hour at 5:30.

The Sunday, April 21, 1985 Geology Field-Trip includes a box lunch. The cost is $7.00.

Meal reservations must be postmarked by April 15, 1985. Use registration form inside front cover.

Arby’s
263 Calhoun

Zantigo’s
150 W. McMillan

Hardee’s
267 Calhoun

Frisch’s Big Boy
2910 Vine

McDonald’s
Tangeman Center,
University Campus
(open 12 noon - 5:00 p.m.
on Saturday)

Gold Star Child
2713 Vine

LaRosa’s
2717 Vine

Skyline Chili
290 Ludlow

Taco Casa
2723 Vine

White Castle
Reading and Wm. Howard Taft

HOUSING

Registrants wishing to remain in Cincinnati over the weekend are expected to make their own reservations. Use the following choices or consult your travel agent.

MOTELS

Rates subject to change--also mention that you are attending the University of Cincinnati event--some hotels will offer a lower rate.
University Area:
Best Western Town Center 513-559-1600
3356 Central Parkway Cincinnati, OH
Room Rates: Double $30-35.00
Single $25.00
All major credit cards accepted
Free coffee/Bar-lounge

Cincinnati Travelodge Motel 513-559-1800
3244 Central Parkway 1-800-255-3050
Cincinnati, OH
Room Rates: Double $32-36
Single $28.00
Extra person $16.00
All major credit cards accepted
Coffee shop

Treadway Inn 513-599-0400
2880 Central Parkway
Cincinnati, OH
Room Rates: Double $34-40 (University rates)
Single $32.00
Extra person $7.00
All major credit cards accepted
24 hour dining room/outdoor pool—but open in June

Vernon-Manor Hotel 513-281-3300
400 Oak
Cincinnati, OH
Room Rates: Double $56.00 (University rates)
Single $46.00
Extra person $10.00
All major credit cards accepted
2 Restaurants/barber shop/florist shop/agreement with local health spa—swimming pool, weight rm, etc.

FIELD TRIPS

Both field trips are on Sunday, April 21, 1985.

PLANT SCIENCES SECTION FIELD TRIP
SPRING GROVE CEMETERY AND ARBORETUM FIELD-TRIP
9:00 a.m. to 12:00 noon

Spring Grove, chartered in 1845, is the nation's largest non-profit cemetery. Found within its 733 acres are historic buildings, magnificent mausoleums, sculpture and monuments. A treasure trove for the student of history and architecture, it is listed in the National Registry of Historic Sites. Spring Grove also has acquired a national reputation as an arboretum because of its large and unusual variety of woody plants. Over 330 varieties are to be found distributed around the fourteen lakes in Spring Grove. Nineteen of the 24 Ohio State Champion trees found in Hamilton County are located here. Sun and shade flower borders, rose gardens, flowering trees and seasonal floral displays add to the natural beauty of the area. The arboretum provides a natural sanctuary for small wildlife, and birdwatchers, over the years, have identified a total of 208 species of birds.

This walking tour of a portion of Spring Grove Cemetery will concentrate on visiting the burial site of Daniel Drake, and the plant life abundant in the area.
No fee is required for the trip, however, preregistration is requested. All participants will meet at the University of Cincinnati Library Garage.

Field-trip leader: Len Thomas, Spring Grove Cemetery

GEOLOGY SECTION FIELD TRIP

9:00 a.m. to 2:00 p.m.

The annual Geology Section Field-trip will examine spectacular exposures of Upper Ordovician rocks along scenic Backbone Creek in Clermont County, just east of Cincinnati. Ordovician stratigraphy, sedimentology, paleoecology, bedrock geomorphology, and paleontology are well illustrated here, as is the Ordovician/Quaternary unconformity.

Participants are to meet at Backbone Creek. Outcrops will be examined along a 3 km (2 mi) stretch of the stream. Waterproof footwear is recommended. Maps directing participants to the field-trip site will be available at the OAS meeting.

The field-trip is co-sponsored by the Ohio Geological Survey and the Department of Geology, University of Cincinnati. Leaders of the trip: Gregory Schumacher, Mac Swinford, and David Meyer.

NOTE: Pre-registration is required. The $7.00 fee will cover a box-lunch.

LOCAL ARRANGEMENTS

Co-chairmen of Local Arrangements
Billie Broaddus, M.S.L.S.
Director
History of the Health Sciences Library and Museum
University of Cincinnati Medical Center

Jerry A. Snider, Ph.D.
Associate Professor of Biological Sciences
and
Curator of the Herbarium
University of Cincinnati

R. A. Davis, Ph.D.
Paleontologist and Curator of Collections
Cincinnati Museum of Natural History

Local Section Hosts

<table>
<thead>
<tr>
<th>Section</th>
<th>Local Host</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Zoology</td>
<td>Jack L. Gottschang, Professor of Biological Sciences, University of Cincinnati</td>
</tr>
<tr>
<td>B. Plant Sciences</td>
<td>Jerry A. Snider, Associate Professor of Biological Sciences, University of Cincinnati</td>
</tr>
<tr>
<td>C. Geology</td>
<td>R. A. Davis, Paleontologist and Curator of Collections, Cincinnati Museum of Natural History</td>
</tr>
<tr>
<td>Department</td>
<td>Name</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>D. Medical Sciences</td>
<td>William J. Scott, Jr.</td>
</tr>
<tr>
<td>E. Physics and Astronomy</td>
<td>(none--no papers)</td>
</tr>
<tr>
<td>F. Geography</td>
<td>Kenneth Bruce Ryan</td>
</tr>
<tr>
<td>G. Chemistry</td>
<td>Robert G. Johnson</td>
</tr>
<tr>
<td>H. Science Education</td>
<td>David Imbrogno</td>
</tr>
<tr>
<td>I. Anthropology and Sociology</td>
<td>C. Wesley Cowan</td>
</tr>
<tr>
<td>J. Conservation</td>
<td>Kevina Vulinec</td>
</tr>
<tr>
<td>K. Genetics and Cell Biology</td>
<td>Carl A. Huether</td>
</tr>
<tr>
<td>L. Mathematics and Computer Sciences</td>
<td>Jerome A. Paul</td>
</tr>
<tr>
<td>M. Psychology</td>
<td>Harold D. Fishbein</td>
</tr>
<tr>
<td>N. Junior Academy</td>
<td>Norma Lewis</td>
</tr>
<tr>
<td>O. Engineering</td>
<td>Andrew Bodocsi</td>
</tr>
<tr>
<td>P. Administrative Science</td>
<td>Daniel J. Ransohoff</td>
</tr>
<tr>
<td>Q. Economics</td>
<td>Joseph L. Craycraft</td>
</tr>
<tr>
<td>R. Ecology</td>
<td>Michael C. Miller</td>
</tr>
<tr>
<td>S. Information and Library Sciences</td>
<td>Billie Broaddus</td>
</tr>
</tbody>
</table>
The University of Cincinnati

Since its founding in 1819, the University of Cincinnati has established a continuing reputation for academic accomplishment and innovation. Among the list of contributions UC has made to society are the first oral polio vaccine, the first program of cooperative education, the first electronic organ, the first safe anti-knock gasoline, and the development of the first antihistamine. In recent months, UC has gained international attention for its structural dynamics research laboratory, a breakthrough in lipid research, and the first brain surgery using the YAG laser.

The quality of UC's academic programs was recognized by the Ohio Board of Regents, when, after intense competition and review by a national panel, four Program Excellence awards and three Eminent Scholars awards were conferred upon the University—more total awards than any other institution in the state of Ohio. The University has been cited by the federal Department of Education for recruiting and graduating an exceptional number of minority graduate students compared to other predominantly white institutions. The University has received a major technology incentive grant under the Thomas Alva Edison program of the Ohio Development Office to support the activities of the UC-based Institute for Advanced Manufacturing Sciences. In addition, sponsored research awards have increased dramatically in recent years, solidifying UC's standing as one of the few U.S. urban universities that can also be called a comprehensive research institution.

An increase of $17.2 million or 62 percent in total research sponsorship from 1977 to 1983 propelled UC from 75th to 52nd in the nation among all universities receiving federal awards. And, during the first six months of this fiscal year, external awards have increased 15 percent over the same period last year.

For example, external sponsorship of the chemistry department grew from $560,000 in 1977 to $1.02 million in 1983. The College of Medicine has received more grants since 1978 than any other single college of any public university in the state, doubling its external research support during the period. The College of Engineering was awarded $2 million in being selected as the site of a SOHIO Center of Scientific Excellence.

This research support has led to voluminous scholarly publication. For example, faculty in the College of Engineering publish approximately 350 papers each year, and medical faculty publish more than 500 papers annually.

**

A key word in any description of UC is diversity. The word is accurate in describing UC's students—representing all 50 United States as well as 70 foreign countries. And it describes the academic possibilities to be found at UC among more than 200 degree programs offered by UC's 18 colleges and divisions.

Diversity is also integral to UC's research program. Among the various research projects undertaken recently at UC have been:

- the activities of a world-renowned Structural Dynamic Research Laboratory;
- excavation of a Bronze Age site at Maroni, Cyprus;
- investigation of the metabolic activity of gold-based anti-arthritis drugs;
- physical and chemical investigations of conducting polymers;
- development of holographic techniques to make visible the mixing of transparent liquids;
- investigation of lichens living inside the rocks of Antarctica's Dry Valley regions;
- recording the courtship songs of woodland spiders, and noting how recent song changes relate to speciation;
creation of a classification system of human genetic relationships based on dental measurements;
development of computer models of industrial chemical reactions;
filming the diurnal cycle of crinoids off the coast of Australia;
investigation of sedimentary processes in action in South American delta regions;
a three-year investigation of the natural gas content of Devonian shale in areas stretching from New York to Tennessee;
development of a new family of microelectronic devices based on using gold to create "deep" impurities;
utilization of in vitro fertilization to aid in the preservation of rare endangered species.

The University of Cincinnati also provides a wealth of cultural opportunities for its visitors.

The College-Conservatory of Music presents more than 700 performances annually, ranging from individual recitals to peras and musicals, and including the internationally renowned LaSalle Quartet.

A number of art galleries are to be found on campus, including the Tangeman University Center Fine Arts Gallery, the Brodie Gallery on the sixth floor of Brodie A-1 and the Wolfson Gallery in the DAAP Building.

The UC Film Society presents recent and classic films on Fridays and Saturdays in Tangeman University Center.

Operated by UC's opera/musical theater department, the historic Showboat Majestic, docked at the foot of Broadway, offers drama, comedy and musical entertainment.

A selection of Cincinnati fossils is on display in the Old Tech (Geology) Building, and the History of Health Sciences Library and Museum in the Health Professions Building displays incunabula as well as artifacts associated with medicine in old Cincinnati.

Cincinnati Museum of Natural History
1720 Gilbert Avenue
Cincinnati, OH 45202
(513) 621-3889

The Cincinnati Museum of Natural History is the oldest natural science institution west of the Allegheny Mountains. It was organized in 1818 by Dr. Daniel Drake. The Museum's first salaried employee was John James Audubon, who worked as a taxidermist for the Museum from 1819 - 1820.

The Museum's collection, educational programs and exhibits concentrate on this area's unique geology, paleontology, and archaeology. Inside the museum is a cavern, complete with a 30 foot waterfall, stalactites, and other cave formations. The "Cavern" exhibit is based on the limestone caves found in north central Kentucky. Two other walk-through exhibits focus on this area's archaeology and natural history. The Museum's Indian Path traces the development of southwestern Ohio Indian culture from the end of the Ice Age in Cincinnati to the arrival of European man. The Wilderness Trail not only follows the change of seasons but also demonstrates plant succession. Other exhibits include: "In Search of the Primitive; the Explorations of Lewis Cotlow," which focuses on primitive cultures around the globe. "Living Small: Insect Form and Function" is designed to take a closer look at the world of insects. Last winter the Museum opened a new Fossil Hall, concentrating on the region's Ordovician and Pleistocene fossils. Also within the Museum you'll find a life-size model of an Allosaurus; the Planetarium is housed inside the Museum. The Museum also sponsors traveling exhibits from the Smithsonian, NASA, and other museums.

In addition, the Museum owns and manages one of the largest systems of nature preserves in North America. The preserves are located on the rugged beautiful edge of the Appalachian Plateau and provide sanctuary for some of Ohio's most endangered plants and animals. Outside of the Museum's entrance is a mammoth family, representing a common scene found during the Ice Age in Cinc approximately 10,000 - 20,000 years ago.
"Daniel Drake and the Taxonomic Crisis of the Midcentury: Problems of Medicine as Science in the 19th Century"

By

Henry D. Shapiro, Ph.D.
Professor of History
University of Cincinnati

Saturday, April 20, 1985, 11:00 a.m.
Great Hall
Tangeman University Center
University of Cincinnati

Dr. Henry D. Shapiro, Professor of History, University of Cincinnati, will give the All-Academy Lecture in the Great Hall, Tangeman University Center, Saturday, April 20, 1985. Dr. Shapiro will address the general theme, "The Legacy of Daniel Drake, M.D. (1785-1852)," with the following presentation: "Daniel Drake and the Taxonomic Crisis of the Midcentury: Problems of Medicine as Science in the 19th Century."

A native of New York City, Henry Shapiro was born on May 7, 1937. He received his A.B. in 1958 from Columbia University, his M.A. in 1960 from Cornell University, and his Ph.D. (history) in 1966 from Rutgers.

Dr. Shapiro became an instructor in the Department of History at The Ohio State University in 1963. He accepted a position as assistant professor at the University of Cincinnati in 1966 and became Professor of History in 1979. In addition to his teaching responsibilities, he is Co-director of the Center for Neighborhood and Community Studies, University of Cincinnati Institute for Policy Research; Curator of Archives of Medical History, University of Cincinnati Libraries; and chairperson of the Historic Preservation Certificate Advisory Committee, University of Cincinnati, College of Arts and Sciences, and Design, Architecture, Art, and Planning.

Dr. Shapiro has written and lectured extensively in American studies, specifically on Appalachia, regionalism, and the development and definition of American culture. Dr. Shapiro is the author of some eighty publications including the following on Daniel Drake: "Physician to the West: Selected Writings of Daniel Drake on Science in Society" edited with Zane L. Miller; "Daniel Drake's 'Sensorium Commune' and the Organization of the Second American Enlightenment," "Daniel Drake and the Search for an American Science."

Dr. Shapiro has been awarded the following prizes, awards, and fellowships: The Moses Colt Tyler Prize, Cornell University, 1961, for MS. of "Confiscation of Confederate Property in the North."; Robert M. Low Award, University of Cincinnati, 1975, for establishing the Laboratory in American Civilization, jointly with Zane L. Miller; W. D. Weatherford Prize, Berea College, 1979, for Appalachia on Our Mind: The Southern Mountains and Mountaineers in the American Consciousness; Visiting Research Fellowship, Harvard University, 1971-72, to the Charles Warren Center for Studies in American History; Charles Phelps Taft Research Fellowship, University of Cincinnati, 1983-84.