



# NEWSLETTER

Volume 63, No.1

January, 2005

## *Pennsylvania Academy of Science*

**NOW PLAN TO ATTEND!**

### **81<sup>st</sup> ANNUAL MEETING**

Pennsylvania Academy of Science

**April 8-10, 2005**

**Radisson Inn**

**Camp Hill, Pennsylvania**

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#### ***The Pennsylvania Academy of Science Newsletter***

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## FROM THE DESK OF THE PRESIDENT



On behalf of the Pennsylvania Academy of Sciences, I would like to extend my best wishes and regards to you and your families as we welcome the arrival of the new year.

I would like to express my gratitude to all the members who have responded to the Annual Fund Campaign. The goal of the development fund is to generate sufficient money to cover the cost of publishing our journal and provide for undergraduate and graduate student research grants. We still have a way to go but with your help we will be able to achieve our goal.

The abstracts are in for the upcoming annual meeting at Camp Hill on April 8-10. Approximately 180 abstracts have been submitted. Plans are underway for a Friday evening presentation by the PA Secretary of Agriculture, and on Sunday morning an open session will be held on *Science Education and Workforce Development*.

As faculty members we sometimes ask *what motivates students?* To become absorbed in a subject and fascinated by it opens the door of creativity. Fascination generally drives people in positive directions and deserves to be encouraged. The tremendous number of abstracts for this year's meeting demonstrates the dedication that PAS members have to their craft. You have elevated the intensity with which individual students engage in science, and are to be commended for creating the excitement that has enticed them.

William Butler Yeats' once wrote *Education is not the filling of a pail, it is the lighting of a fire.*

Jane E. Huffman, PhD

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Pennsylvania Academy of Science  
Professor  
Department of Biological Sciences  
Fish & Wildlife Microbiology Laboratory  
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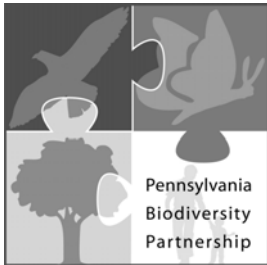
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**Director (2004-2006): Dana Harriger**  
**Director (2004-2006): Robert Coxe**

### Address Change and Membership Applications:

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## PENNSYLVANIA BIODIVERSITY PARTNERSHIP SOLICITS INPUT ON PENNSYLVANIA BIODIVERSITY CONSERVATION PLAN



The Pennsylvania Biodiversity Partnership (PBP) is a broad-based public-private partnership formed in 2000 to promote the conservation of native species and their habitats. PBP members include conservation and environmental organizations; government agencies; business and industry; scientists and academic organizations; sportsmen and women; and private landowners.

A consensus quickly emerged with the Partnership that a statewide plan, focusing on strategies and opportunities for protecting Pennsylvania's natural resources, while at the same time maintaining economic vigor and quality of life for all Pennsylvanians, must be developed and implemented.

The development of this comprehensive plan for biodiversity is a multi-year process with a projected completion date of 2005. *Biodiversity in Pennsylvania: Snapshot 2002*, released in December 2002, marked the end of the first phase. This 48-page document is a concise literature-based report that synthesizes the present status of Pennsylvania's biodiversity.

Building on *Biodiversity in Pennsylvania*, PBP is actively soliciting input from all stakeholders, including biologists and other scientists, in developing the first draft of the Pennsylvania Biodiversity Conservation Plan. Please tell us what issues are important to you and what you would like the plan to contain by visiting the PBP website ([www.pabiodiversity.org](http://www.pabiodiversity.org)) and completing a short comment form online.

Additional information about PBP and copies of *Biodiversity in Pennsylvania* and the executive summary, may be found on the PBP website. Free copies of the report or executive summary may be obtained by contacting PBP, 16 Terminal Way, Pittsburgh, PA 15219, telephone (412) 481-4100, [pbpinfo@pabiodiversity.org](mailto:pbpinfo@pabiodiversity.org)



## UPCOMING MEETINGS

The **81<sup>st</sup> Annual PAS Meeting** will be held at the **Radisson Inn, Camp Hill, PA, April 8-10, 2005.**

The joint meeting of **PAS and PJAS** will be held at the **Innovation Center, Sept. 23-24, 2005.**

The **82<sup>nd</sup> Annual PAS Meeting** will be held at the **Holiday Inn, Grantsville, PA, March 31-April 2, 2006.**

The **NCUR 18<sup>th</sup> Annual Meeting** will take place on **April 21-23, 2005, Lexington, VA.** The Mission of the National Conferences on Undergraduate Research is to promote undergraduate research, scholarship, and creative activity done in partnership with faculty or other mentors as a vital component of higher education. NCUR® 2005 will bring together undergraduates involved in scholarly and artistic activities representing a range of disciplines including creative arts, mathematics, business, social science, humanities, physical and life sciences, natural resources, and engineering, among others. Participants are expected to come from over 300 colleges and universities representing almost every state in the nation. Please visit the website for more information <http://www.ncur.org/>

The **American Society for Microbiology 105<sup>th</sup> General Meeting** will take place **June 5-9, 2005, Atlanta, GA.**

Plan to attend five days of spectacular scientific programs, all while enjoying the scenery in this great city.

Workshops precede the meeting and will be held both Saturday and Sunday, June 4 and 5. The scientific program will feature nearly 300 individual colloquia, symposia, roundtable discussions, award lectures, and poster sessions. The 27 division chairs and the General Meeting Program Committee have devoted their energies to creating a well-rounded program. Please visit the website for more information <http://www.asmtusa.org/>

## RECENT MEMBER PUBLICATIONS AND ACCOMPLISHMENTS

Fried, Bernard and Graczyk, Thaddeus K. 2004. Recent advances in the biology of *Echinostoma* species in the "revolutum" group. *Advances in Parasitology* 58: 139-195.

## CALL FOR NOMINATIONS

Call for nominations for the election to be held at the 2005 Spring PAS meeting.

Nominations are solicited for the following officers whose terms expire in April 2005. Their major duties are described below:

**Recording Secretary (2-year term)** Takes minutes, keeps a record of all official business, and collects all information of interest to the Academy and submits it to the PA State Archives.

**Book Treasurer (2-year term)** is responsible for all financial matters relating to book publication, including the book fund.

**Editor of the Journal:** Decides on suitability of manuscripts for publication in the Journal after examination by referees; sees that the Journal issues are published on time; sends the Journal to the members and libraries; selects the Editorial Committee members.

In addition, two (2) Directors-at-large positions (staggered 2 year terms) as defined in Article III, Section 1 of the PAS Constitution are to be filled and selected from chairs and standing committees as defined in Article VI, Section 4 of the PAS Constitution.

**Director-at-large #1 (2 year term, 2005-2007)**

**Director-at-large #2 (2 year term, 2005-2007)**

Submit all nominations to:  
Dr. Clarence J. Murphy, Chair  
PAS Nominating Committee  
312 Albert Road  
Stroudsburg, PA 18360-9122

## NEWS AND COMMENTS SOLICITED

Please do not hesitate to submit to the editors of this newsletter, items that you feel may be of interest to PAS members. These can include publications, honors and awards (by you or colleagues), upcoming events, jobs, grants, and scholarship information.

In addition, please feel free to send your comments and suggestions to the editor regarding the content of the Newsletter. Submission by e-mail is preferred, but submissions through the regular mail are also welcomed.

## PHOTOGRAPHY CONTEST

A photography contest promises to be a highlight of the annual conference. Categories for this year's contest are: **Landscape, Botanical, Mammals, Birds, Other Wildlife, Digital Camera, and Microscopy – TEM, SEM and light.** A panel of judges will select 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> place winners in each category, and best of show. Conference attendees also will select the *people's choice* winners in each category. Prizes will be awarded to first through third place winners in each category, including people's choice, and best of show as selected by the panel of judges and conference attendees. Photographs for the contest will be accepted until 10am Saturday. Photographs will be displayed all day Saturday and attendees will have until 4pm on Saturday to vote for their people's choice selections. On Saturday evening, after dinner, winners will be announced and prizes awarded during a judge's critique.

### Photography Contest Rules

1. You must be registered for the conference to enter.
2. Photographs entered must have been taken by the entrant.

Entry fee is \$3.00 per photograph or \$2.00 per photograph if 5 or more are submitted.

Submit black and white or color prints. Actual print size must be from 5"x7" to 16"x20". Each photo must be mounted on a stiff backing or matted. The backing or matting must not exceed 20"x24". No glass or prints framed in wood, plastic, or metal will be accepted. Signatures, titles, captions, and other text not part of the original photo must be completely covered. Please provide a name, address, and phone number on the back of each photo.

By submitting your photos, you agree to allow us to affix Velcro tabs to the back of your photo and a small identifying sticker to the front, and allow us to publish your photo in a future issue of the PAS Newsletter. The photography contest booth will be staffed by volunteers during daytime hours. However, we cannot guarantee total security of your photographs.

Judges will evaluate photographs on the basis of technical quality, composition, overall impression, and originality. Photographs in the Digital category must have been taken with a digital camera and must be submitted in a digital format that can be imported into PowerPoint (jpeg preferred).

## PAYPAL

Dr. Ricker has established an account for the Academy with PayPal, an on-line payment service. Using this service, members can now pay membership dues, meeting expenses, and publication costs on line using a credit card. In addition, books and other academy publications can also be purchased on-line. This service is available at <http://pennsci.org>

## 81<sup>st</sup> Annual Meeting, Pennsylvania Academy of Science

### HOUSING RESERVATION FORM

The 81<sup>st</sup> Annual Meeting of the Pennsylvania Academy of Science will take place April 8-10, 2005 at the Radisson Hotel, Camp Hill, PA. Total cost of the housing and meal package: \$167/person, double, and \$249 for a limited number of single rooms. Package price includes: 2 nights lodging, 2 breakfasts, 1 lunch, 2 dinners, taxes and gratuities, beginning with dinner on Friday, April 8, 2005. The package is only available to those staying two nights. **Reservations are to be made directly to the hotel before March 8, 2005, using the reservation form below.** Colleges and universities making reservations for blocks of students must include a separate reservation form for each **two** students sharing a room (this will necessitate making copies of the form). Reservation forms sent in one package must include the total amount on one check to cover those reservations. Those not staying at the hotel may purchase individual meal tickets at the registration desk.

Breakfast: \$12.00                      Lunch: \$15.00                      Dinner: \$23.00

Two day meal package cost for children in parent's room: 5 years and under: No Cost. 6-12 years: \$40. 13+ years: \$75.

### **HOUSING RESERVATION REQUEST**

RADISSON HOTEL CAMP HILL                      Check-in time: 4:00 PM / Check-out time: 12:00 noon  
1150 Camp Hill Bypass  
Camp Hill, PA 17011  
Ph: 717-763-7117

Name \_\_\_\_\_ Affiliation: PA Academy of Science  
Address \_\_\_\_\_ Phone: \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_  
Single \_\_\_\_\_ Double \_\_\_\_\_ Smoking \_\_\_\_\_ Non-smoking \_\_\_\_\_ Handicapped\* \_\_\_\_\_  
Roommate \_\_\_\_\_  
Address \_\_\_\_\_  
Children (age) \_\_\_\_\_  
Check or Money Order amount \$ \_\_\_\_\_  
AMEX \_\_\_\_\_ MasterCard \_\_\_\_\_ Visa \_\_\_\_\_ Discover \_\_\_\_\_ Diners Card \_\_\_\_\_  
Credit Card # \_\_\_\_\_ Expiration Date \_\_\_\_\_

Signature \_\_\_\_\_

- These special accommodations and rates will be available up to two weeks prior to your gathering, after which time these rooms will return to the hotel for their normal sale.
- Guaranteed reservations not cancelled by Friday, March 26, 2005 will be charged one night (\$85).
- The hotel is not responsible for assigning roommates. If sharing rooms, place name and address of roommate on reservation form.
- \*Handicapped room requests must be made early since there are only a limited number of specially equipped rooms available.

# Directions to the Radisson Hotel, Camp Hill, PA

## From Philadelphia, Pennsylvania: (PA Turnpike Westbound)

Merge onto US-30 W toward I-76/INT'L AIRPORT/VALLEY FORGE. After about 2 miles you will need to merge onto I-76 W (Pennsylvania turnpike). Stay on this road for about 96 miles, and then merge onto I-283 N via exit #247 toward HARRISBURG/HERSHEY (3 miles). Then merge onto I-83 S via exit #3A (on left) toward HARRISBURG. Take exit #42 toward LEMOYNE then turn *slight right* onto LOWTHER ST. followed by a *right* turn onto S 3<sup>RD</sup> ST. Turn *right* onto MARKET ST. then *left* onto FRONT ST. and finally, *left* onto WALNUT STREET. Continue for about 1 mile until you see the hotel.

## From Pittsburgh, Pennsylvania: (PA Turnpike Eastbound)

Merge onto I-376 E/US-22 E toward MONROEVILLE and stay on this road about 14 miles. Then, merge onto I-76 E via exit #15 and stay on this highway for 181 miles. Finally, merge onto US-15 N via exit #236 toward HARRISBURG for about 6 miles until you see the hotel.

## From Harrisburg International Airport:

Start out going Northwest on ramp toward AIRPORT CONNECTOR and merge onto AIRPORT CONNECTOR. Stay straight to go onto PA-283 W and merge onto I-283 N toward HARRISBURG. From here, merge onto I-83 S via exit #3A (on left) toward HARRISBURG. Take exit #42 toward LEMOYNE and turn a *slight right* onto LOWTHER ST. Turn *right* onto S 3<sup>RD</sup> ST and then *right* onto MARKET ST. From here, make a *left* onto S FRONT ST. for about one mile and then turn *left* onto WALNUT ST/US-11/US-15 and continue until you see the hotel.

**Radisson Penn Harris Hotel**  
1150 Camp Hill Bypass  
Camp Hill, PA 17011



## 81<sup>st</sup> Annual Meeting, Pennsylvania Academy of Science

### MEETING REGISTRATION FORM

Name: \_\_\_\_\_ Phone: \_\_\_\_\_  
Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Employer/Affiliation (for badge): \_\_\_\_\_

### Full Meeting Registration:

No. of members or affiliates \_\_\_\_\_ @ \$45 = \_\_\_\_\_  
No. of non-members \_\_\_\_\_ @ \$55 = \_\_\_\_\_  
No. of students \_\_\_\_\_ @ \$25 = \_\_\_\_\_

### One-Day Meeting Registration:

No. of members or affiliates \_\_\_\_\_ @ \$30 = \_\_\_\_\_  
No. of non-members \_\_\_\_\_ @ \$50 = \_\_\_\_\_  
No. of students \_\_\_\_\_ @ \$20 = \_\_\_\_\_

### For Registration:

Make checks payable to: *Pennsylvania Academy of Science*  
Send completed forms and payment to: Debbie Ricker, Dept.  
of Biological Sciences, York College of PA, York, PA 17405-7199  
Ph: (717) 846-7788 ext. 1510

**TOTAL DUE** (registration): \_\_\_\_\_  
Amount Enclosed: \_\_\_\_\_  
Balance Due: \_\_\_\_\_

# SCHEDULE OF ACTIVITIES AT A GLANCE

81<sup>st</sup> Annual Meeting of the Pennsylvania Academy of Science

April 8-10, 2005 – Radisson Hotel, Camp Hill, PA

## FRIDAY, APRIL 8

1:00 pm	Board of Director's Meeting	Governor A
3:00-8:00 PM	<b>Registration</b>	Hotel Lobby
6:30-8:00 PM	<i>Dinner</i>	Ballroom North
8:15 PM	<b>Friday night</b>	Ballroom North

## SATURDAY, APRIL 9

7:30-9:00 AM	<i>Breakfast</i>	Ballroom North
8:30-11:00 AM	<b>Registration</b>	Convention Center Lobby
9:00-5:00 PM	<b>Exhibits</b>	Center Lobby Ballroom South
9:00-12 Noon	<b>Paper Presentations</b>	
	<b>I</b> (Medicine)	Keystone A (Dr. K. Joy Karnas)
	<b>II</b> (Genomics/Development)	Keystone B (Dr. William Patrie)
	<b>III</b> (Geology/Meteorology/Physics)	Keystone C (Dr. Lucinda Elliott)
9:00 AM-12 Noon	<b>Poster Session I</b> (Ecology/Environmental Science/Organismal)	Ballroom South (Dr. Bruce Smith)
10:00-10:30 AM	<i>Coffee Break</i>	Ballroom South
12 Noon-1:15 PM	<i>Lunch</i>	Ballroom North
1:15-5:00 PM	<b>Paper Presentations</b>	
	<b>IV</b> (Immunology/Microbiology)	Keystone A (Dr. Marcie Baer-Lehman)
	<b>V</b> (Parasitology/Botany/Organismal)	Keystone B (Dr. Jane Huffman)
	<b>VI</b> (Ecology/Aquatic Biology)	Keystone C (Dr. Mel Zimmerman)
11:30 AM-3:00 PM	<b>Advisory Council Meeting</b>	Governor A
1:30-4:00 PM	<b>Poster Session II</b> (Cell and Molecular) (Anatomy/Physiology/Medical)	Ballroom South (Dr. Frank Martin)
2:30-3:00 PM	<i>Coffee Break</i>	Ballroom South
5:00 PM	<b>Business Meeting</b>	Keystone A
5:00-6:30 PM	<i>Social Hour (Cash Bar)</i>	
6:30-8:00 PM	<i>Dinner</i>	Ballroom North
8:15 PM	<i>Mixer</i>	

## Sunday, April 10

7:30-9:00 AM	<i>Breakfast</i>	Ballroom North
8:30-11:00 AM	<b>Registration</b>	Convention Center Lobby
8:30-11:00 AM	<b>Paper Presentations</b>	
	<b>VII</b> (Cell and Molecular)	Keystone A (Dr. Jonathon Coren)
	<b>VIII</b> (Ecology/Environmental Science)	Keystone B (Dr. Pablo Delis)
8:30-11:30 AM	<b>Poster Session III</b> (Cell and Molecular) (Microbiology/Immunology)	Ballroom South (Dr. JR Stewart)
11:00 AM	<b>Board of Director's Meeting</b>	Keystone A



## THE PENNSYLVANIA ACADEMY OF SCIENCE

Dear Colleague:

At the Executive Board Meeting of the Pennsylvania Academy of Science held at the Pennsylvania State University on 2 October 2004, the board voted to establish an Annual Fund Campaign to endow the Journal of the Pennsylvania Academy of Science and increase the endowment for Undergraduate Research Grant. At the present time approximately 50 percent of the cost of publishing the journal is covered by page charges and the remainder of the publication cost must be covered from the operating fund of the academy. It would be the objective of The Pennsylvania Journal of Science Development Fund to generate sufficient funds to completely cover the cost of publishing the journal. Likewise, the current undergraduate/Charles Reif research endowment only generates sufficient funds for two research grants and any other student grants must be supported by the operating fund. We realize that this will take time to generate sufficient income to support these programs that are vital to the success of the Pennsylvania Academy of Science, but with your help, we will begin this journey together.

*Annual Fund 2004-2005*

*Amount of Gift*

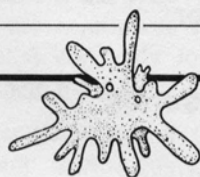
Journal of Pennsylvania Academy of Science Development Fund: \_\_\_\_\_

Undergraduate Research/Charles Reif Endowment: \_\_\_\_\_

May I count on your generous gift to our 2004-2005 Annual Fund Campaign?

Sincerely,

Fred J. Brenner  
Past President and Fund Raising Chairman



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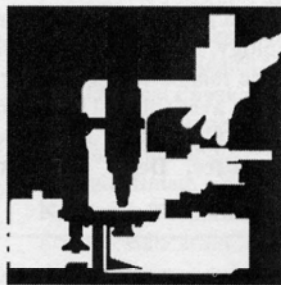
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Please submit original digital photographs of science related items in Pennsylvania to the editors at [prdeli@wharf.ship.edu](mailto:prdeli@wharf.ship.edu)

\*\*\*



White-footed mouse (*Peromyscus leucopus*) on striped maple (*Acer pennsylvanicum*) Franklin Co. PA  
By Richard L. Stewart, Jr.



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## **DEPARTMENT OF BIOLOGY, GRADUATE PROGRAM, SHIPPENSBURG UNIVERSITY**

The Department of Biology at Shippensburg University is accepting applications for enrollment in our graduate (M.S.) program. Shippensburg University is a member of the Pennsylvania State System of Higher Education and is located in south-central Pennsylvania. The graduate program has an emphasis in ecology and environmental biology. Several graduate assistantships will be available annually. Possible areas of interest include, but are not limited to:

- Population Ecology – Demography and conservation of key species of amphibians and reptiles with emphasis on morphology and life history traits in relation to population trends.
- Community Ecology – Conservation biology and evolution of amphibian assemblages, ecology of vernal pools, roles of competition and predation in regulating populations.
- Ecosystem Ecology – Nitrogen fixation studies of local plant species, biogeochemistry and hydrology of riparian wetlands, plant community and ecosystem effects of elemental and acid deposition, sources of effects of nutrient loading in area streams.
- Behavioral Ecology/Applied Ecology – Behavioral interactions of ants, integrated pest management of insect pests of tree fruits.
- Disease Ecology – Enzootic maintenance of tick and flea borne bacterial and viral pathogens, evaluation of helminth communities in local fauna, ectoparasite load on vertebrates.
- Microbial Ecology – Formation, composition and structure of biofilm communities, environmental microbiology, freshwater/marine molecular microbial ecology.

The Master of Science in Biology is directed primarily to those who seek advancement in their positions in post-secondary education, health service institutions, government agencies, and certain industries. For others, this degree may be an important step toward a program of doctoral studies.

The growing need to understand the natural world and manage our impact on it has resulted in a growth in demand and job opportunities for people with ecological/environmental backgrounds. Numerous job opportunities now exist in research, resource management, and education. Shippensburg University graduates have been successful at finding employment with state and federal agencies, non-profit organizations, private consulting firms, and secondary schools. Many go on to graduate schools to receive advanced degrees. Potential opportunities for students with an interest in ecology Naturalist, Outdoor Educator, Wildlife Biologist, Forester, Environmental Consultant, College Professor, Entomologist, Water Quality Control Technician, Environmental Planner, Researcher, Environmental Impact Analyst, Toxicologist, Museum or Zoo Curators, Conservation Biologist, Fisheries Biologist etc.

For more information on our graduate program, visit <http://www.ship.edu/~biology/GradPage/>

Application information and an on-line application are available at <http://www.ship.edu/admiss/grad.html>. Drs. Greg Paulson, [gspaul@wharf.ship.edu](mailto:gspaul@wharf.ship.edu), Tim Maret, [tjmaret@ship.edu](mailto:tjmaret@ship.edu), and Ruthanne Pitkin, [rbpitk@ship.edu](mailto:rbpitk@ship.edu), would be glad to answer any questions.

Department of Biology  
Shippensburg University  
1871 Old Main Drive  
Shippensburg, PA 17257-2299  
Ph: (717) 477-1401  
Fax: (717) 477-4064

## COLLEGE STUDENT RESEARCH FUNDS AVAILABLE

The Pennsylvania Academy of Science has funds available to support UNDERGRADUATE AND GRADUATE COLLEGE STUDENT research in the natural, physical, or social sciences. Proposals should be written and submitted by the student under faculty guidance. Proposals will be accepted until May 1 at which time they will undergo review by professional referees, and evaluation by the PAS Research Grant Committee. Authors of proposals selected for funding will be notified by October 15. Unsuccessful applicants will be notified by November 15. Grants are normally made in the amount of \$500 or less, as requested in the proposal and, therefore, proposal budgets should take this limit into consideration.

### General Guidelines for proposal:

- (1) Projects should be of such nature that they can be initiated and completed within one year.
- (2) The PAS funds are to be used primarily for expendable supplies, small pieces of equipment, travel, living, and/or housing expenses, if essential for the project.
- (3) Funds are not to be used for major pieces of equipment.
- (4) Results of the project are normally communicated at the next meeting of the PAS following completion of the research. The student is encouraged to submit a manuscript for consideration of publication in the *Journal of the Pennsylvania Academy of Science*.

### Proposal Format should include the following Sections:

- (1) A titled INTRODUCTION section, describing the nature of the project and discussing the novelty or significance of the research. A general summary of the pertinent literature must be provided to demonstrate to the reviewers that the author has adequate knowledge of the research area.
- (2) A titled METHODS & MATERIALS section, describing how the research will be carried out; the kinds of materials and equipment used; the procedures to be employed regarding the care, use and disposition of research animals; the approximate starting and finishing dates of the research for which PAS funding is requested.
- (3) A titled STUDY PARTICIPANTS section, identifying the student(s) and supervising PAS member, their affiliation (e.g., academic institution or employer), and position or section status. The role of the student(s) must be CLEARLY identified. The previous relevant experience of the PAS member in supervising research must be discussed. A statement is required that the research supervisor is a current PAS member. A statement should be made regarding primary responsibility for writing the proposal, if not the author(s) given.
- (4) A titled BUDGET section will include an ITEMIZED budget showing how PAS funds are to be used, and identifying the piece of equipment and facilities currently available to do the research. If funding is to be supplied by other sources, this should be identified. Additional guidance regarding format can be found in "Guidelines for Authors" in the *Journal of the Pennsylvania Academy of Science*.

Submit an original, plus FIVE (5) additional copies of the proposal and clearly list on the cover page, the area to which the grant most closely applies: Biochemistry, Chemistry, Cell Biology, Ecology, Environmental Science, Genetics, Geology, Microbiology or other. All proposal reviews will be evaluated by the PAS Research Grant Committee, and the proposals will be ranked for preference for funding. Only those proposals judged worthy of funding will receive funding to the extent funding is available. Unsuccessful proposals may be reconsidered after revision in accordance with suggestions by the PAS Research Grant Committee and proposal referees.

### Send all materials to:

**Dr. Jane Cavender,  
Chairman PAS Research Grant Committee  
Department of Biology  
Elizabethtown College  
Elizabethtown, PA 17022**

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## DARBAKER PRIZE - \$1,000

The Darbaker Prize is a Pennsylvania Academy of Science (PAS) award given for outstanding scholarly contributions which use microscopic techniques and present microscopic illustrations in the reporting of biological research. The award is competitive amongst qualified papers submitted in association with the Academy's annual meeting.

The Pennsylvania Academy of Science established the Darbaker Prize in 1952. Funds for the award are made available through a bequest of the late L.K. Darbaker, 1939 PAS President. Referring to the award, Dr. Darbaker stated: "Any sum applicable to the Pennsylvania Academy of Science shall be for grant or grants in Microscopical Biology."

To qualify for the Darbaker Prize, a scientist or scientists must: (1) have used microscopy (light, SEM, TEM or other technologies) in the research they report, (2) submit in proper format a manuscript reporting the results of the completed study for consideration to be published in the *Journal*, (3) specifically state a request to the Editor of the *Journal* to have their manuscript considered for the Darbaker Prize for the current calendar year, and (4) be a member of the Pennsylvania Academy of Science. Darbaker Prize competition manuscripts are expected to be presented and submitted at the PAS annual meeting, but if not, manuscripts will be accepted for consideration within four weeks (28 calendar days) following the last day of the annual meeting. Only manuscripts that have successfully completed the review process and have been accepted for publication in the *Journal* will be eligible for the award.

The Editor of the *Journal* will examine all manuscripts submitted for award consideration to determine the fulfillment of requirements. The editor will then forward the eligible manuscripts with his/her and reviewers' recommendations to the PAS President for final decision. The Darbaker Prize will be made in the *Journal* at an appropriate time.

For further information contact:

Shyamal K. Majumdar, Ph.D,  
Editor of the Journal  
Professor of Biology  
Lafayette College  
Easton PA 18042  
Ph: (610) 330 5464; Fax: (610) 330 5705  
E-Mail: [majumdas@lafayette.edu](mailto:majumdas@lafayette.edu)

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## PAS HIGH SCHOOL STUDENT RESEARCH GRANTS

The PAS has funds to provide modest financial support, not in excess of \$100, for student research projects. Students working on projects in the Natural or Physical Sciences under the direction of PAS member scientists at high schools, colleges, or in industry may submit an application for support.

### Proposal Guidelines:

1. Funds are to be used primarily for supplies; secondarily, for small pieces of equipment if essential.
2. Funds are not to be used for major pieces of equipment, student stipends, travel, etc.
3. Proposals are encouraged that involve groups of students working together on a project.
4. Students are encouraged to present their findings at the next meeting of the Pennsylvania Junior Academy of Science (PJAS).

### Proposal Requirements:

1. A title page with project title, name and grade of the student; sponsor name (PAS member); school name, address and phone number; characterization of school location (urban, suburban, or rural). The title page should also include the total amount requested (not to exceed \$100) and the signatures of student and sponsor.
2. A short summary of the project, including pertinent background information, a statement of the hypothesis, a description of the planned experiments, and a statement of the expected results.
3. Budget, including a statement of how the money will be used and a statement of the time frame during which the project will be performed.

### Proposal Deadlines:

March 30 and November 15. Proposals received after a deadline will be reviewed during the following period. Send completed proposals or requests for further information to:

Dr. Jane F. Cavender  
Chairperson, PAS Research Grant Committee  
Department of Biology  
Elizabethtown College  
Elizabethtown, PA 17022-2298.

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Information on various research grants can be found on the PAS web site at [www.pennsci.org](http://www.pennsci.org)

## MANUSCRIPTS SOLICITED FOR *THE PENNSYLVANIA GEOGRAPHER*

The editors of *The Pennsylvania Geographer*, a peer reviewed, semi-annual journal of the Pennsylvania Geographical Society, are soliciting manuscripts for the Spring/Summer 2005 edition. The journal is in its 43rd consecutive year of publication. The general topic for this edition of the journal is: **CLIMATE IN ARID LANDS**. Papers dealing with the above theme will be considered for publication. The deadline for submitting materials for the Spring/Summer 2005 issue is Feb. 15 2005. Please send manuscripts and/or inquiries to Dr. William B. Kory, Editor, or Dr. Gregory Faiers, Associate Editor, *The Pennsylvania Geographer*, Geography Department, University of Pittsburgh at Johnstown, Johnstown, PA 15904. Phone: (814) 269-2994; 2993 or 2990. E-mail: [koryupj@pitt.edu](mailto:koryupj@pitt.edu)

<u>Issue Deadline</u>	<u>Featured Topic</u>	<u>Submission</u>
Spring/ Summer 2005	Climate in Arid Lands	15 Feb. 2005
Fall/ Winter 2005	Environmental Hazards	15 Aug. 2005
Spring/ Summer 2006	Ecotourism	15 Feb. 2006
Fall/ Winter 2006	Geography and Terrorism	15 Aug. 2006

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## SCHOLARSHIP & AWARD OPPORTUNITIES

### *Spencer Foundation Major Research Grants Program*

The grants program is intended for research projects requiring more than \$35,000 in grant support. Awards of up to \$35,000 are made. Inquiries and preliminary proposals are accepted at any time. The principal investigator must have an earned doctorate in an academic discipline or a professional field and must be affiliated with a college, university, research facility, or cultural institution. The foundation supports research that promises to contribute new knowledge to the improvement of education, broadly conceived, in the U.S. and abroad. A variety of disciplinary and interdisciplinary approaches are favored, though emphasis is given by charter to the behavioral sciences. The foundation is interested as well in the related research areas of cultural knowledge, socialization, and the production and distribution of knowledge. Research may range from medium-sized studies that can be completed in a year by an individual researcher to more extensive collaborative studies that last several years. Grants are not made to maintain organizations or infrastructures of educational research. Additional information can be found on the Web at <http://www.spencer.org/proginform.htm> For further information, contact: John B. Williams, Vice-President, Spencer Foundation, 900 North Michigan Avenue, Suite 2800, Chicago, IL 60611-1542.

## LEARNED DISCOURSES

### *Timely Scientific Opinions*

**Intent.** **Learned Discourses** provide a forum for open discussion by and for PAS members. These articles will reflect the professional opinions of the authors regarding scientific issues. They will not represent PAS positions or policies. And, although they are subject to editorial review for clarity, consistency, and brevity, these articles will not be peer reviewed. The success of the **Learned Discourses** depends on our contributors. We encourage submissions that are timely and will inform and stimulate discussion. If you disagree with an opinion expressed here, **submit a reply**.

**Rules.** All submissions must be succinct: no longer than 1,000 words, no more than 6 references, and at most one table or figure. Reference format must follow that of the Journal of the Pennsylvania Academy of Science. Topics may fall within any area of science.

**Submissions.** Send submissions as e-mail attachments (Word), to Richard Stewart ([rlstew@ship.edu](mailto:rlstew@ship.edu)). Submissions will be printed on a first-received basis when space limitations apply.

### **Learned Discourses Editors**

Richard L. Stewart, Jr. and Pablo R. Delis

Department of Biology

Shippensburg University, Shippensburg, PA 17257



## PENNSYLVANIA SOCIETY FOR BIOMEDICAL RESEARCH

The Pennsylvania Society for Biomedical Research (PSBR) is a 501(c)(3) non-profit science education organization which was founded in 1990 and became operational in 1991.

The society was formed by universities, medical schools, pharmaceutical firms and professional societies in Pennsylvania. Current members and supporters include many of the Commonwealth's leading biomedical research and educational institutions, professional societies, and hospitals.

Our mission is to foster a better understanding of the benefits of biomedical research and the vital role it plays in improving the quality of human and animal health and expanding our economy.

The society is governed by a board of directors elected from its membership. The board meets three times a year, usually at a member organization. PSBR's annual meeting provides an opportunity for participants to be briefed of the status and activities of PSBR and to discuss important issues.

The PSBR strongly supports the continued role of animals in research when no reliable alternative exists.

***Our goals include:***

1. Develop PSBR as a resource for pertinent facts about the indispensable use of animals in biomedical research.
2. Serve as a credible resource for the general public, educators, students, legislators and member organizations.
3. Responsibly manage our resources to enhance an environment which supports biomedical endeavors to improve human and animal health.

PSBR seeks to meet its goals through the following programs in cooperation with our member organizations:

1. **PSBR Information**

Publish PSBR Bulletin, a newsletter which documents items of interest to the biomedical research community  
 Maintain a PSBR home page and web site on the Internet (<http://www.psbr.org>)  
 Maintain a database and resource library of biomedical research information.

2. **Educational Programs**

Conduct contests for students on topics related to animals in research  
 Provide information for teachers through workshops and training programs  
 Provide educational materials and speakers to elementary, secondary and college classrooms  
 Provide reference materials on biomedical research to school and public libraries  
 Exhibit materials at scientific and educational conferences  
 Develop and maintain a hands-on exhibit about animals in research  
 Coordinate all PSBR programs with the Pennsylvania Department of Education

3. **Membership support – Public Relations/media**

Media/speaker training  
 Assistance in crisis management planning  
 Provide resources and information to members dealing with requests from the media and animal rights organizations  
 Contribute editorials and press releases on items of interest to biomedical research  
 Enlist the governor to proclaim October 21 as Biomedical Research Day, Pennsylvania

4. **Staff Orientation and Information**

Assist animal care staff in explaining their contribution to biomedical research  
 Enlist member personnel to participate in PSBR educational programs

5. **National Cooperation**

Network with other state biomedical research organizations, and with national organizations in order to maximize effectiveness through information exchange and development of cooperative projects and programs

6. **Animal Rights Movement**

Maintain a current knowledge of the animal rights movement by review of animal activist publications, web sites and information hotlines  
 Cooperate with national and other state biomedical research organizations  
 Seek opportunities to counter negative representations about biomedical research

7. **Legislation and Government Relations**

Monitor and review newly introduced legislation for impact on biomedical research  
 Provide information on key issues to legislators  
 Keep members informed of the status of important legislation

*For further information  
 contact:*

PSBR  
 Post Office Box 1163  
 Camp Hill, PA 17001-1163  
 Ph: (717) 731-3557  
 Fax: (717) 731-3506  
 E-mail: [psbr@psbr.org](mailto:psbr@psbr.org)

# PENNSYLVANIA ACADEMY OF SCIENCE-APPLICATION FOR MEMBERSHIP

Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Last Name: \_\_\_\_\_ First Name: \_\_\_\_\_ Middle Name or Initial: \_\_\_\_\_

Complete Mailing Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Institution: \_\_\_\_\_ E-mail: \_\_\_\_\_

Office Phone: (\_\_\_\_) \_\_\_\_\_ Home Phone: (\_\_\_\_) \_\_\_\_\_ Fax: (\_\_\_\_) \_\_\_\_\_

Branch of Science Main Interest: \_\_\_\_\_

(Biology, Zoology, Botany, Physiology, Chemistry, Physics, Engineering, Spectroscopy, Biochemistry, Psychology, Medicine, Mathematics, Geology, Geography, etc.)

Degrees: \_\_\_\_\_ Title: \_\_\_\_\_

Where did you learn about PAS? \_\_\_\_\_

Member of AAAS? ☐ Yes PSTA ☐ Yes PASA ☐ Yes PA Chapter Wildlife Society ☐ YesSociety of College Science Teachers ☐ Yes PA Biological Survey ☐ Yes PA Assoc of Environmental Professionals ☐ YesComm of PA Univ Biologists ☐ Yes MidAtlantic Assoc College Biologists ☐ Yes☐ Active Member - \$ 35.00 per year ☐ Student Member - \$17.50 per year ☐ Sustaining Member - \$35.00 or more per year☐ Life Member - \$525.00 (*can pay in installments*) ☐ Non-profit Institution/Library Member - \$45.00 per year☐ For-profit Institution/Library Member - \$150.00 per year☐ Back Issue of *Journal* - \$15.00 each (List desired issue) \_\_\_\_\_ ☐ Contribution to PAS \_\_\_\_\_Please return this application and first year's membership dues, made payable to the **Pennsylvania Academy of Science**, to:**Dr. Valerie G. Kalter, Membership Chairperson, Biology Department, Wilkes University, Wilkes-Barre, PA 18766.****(570) 408-4752 or e-mail: [vkalter@wilkes.edu](mailto:vkalter@wilkes.edu)**

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