



NEWSLETTER

Volume 63, No.5

October, 2005

Pennsylvania Academy of Science

PLAN TO ATTEND THE Pennsylvania Academy of Science 82nd ANNUAL MEETING

Holiday Inn
Grantville, PA

March 31-April 2, 2006

**DEADLINE FOR RECEIPT OF ABSTRACTS:
15 DECEMBER 2005**

In this Issue...

- | | |
|--|---|
| page 2 ...PAS Officers | page 8.... Schedule of Activities at a Glance |
| page 2 ...From the Desk of the President | page 9.... PA Geographer Manuscripts Solicited |
| page 3 ...From the Desk of the President | page 9.... Scholarship and Award Opportunities |
| page 3 ...Upcoming Meetings | page 9.... Learned Discourses Advertisement |
| page 3 ...Call for Nominations | page 10...PA Society for Biomedical Research |
| page 4 ...Treehoppers: Matthew S. Wallace | page 11...Advertisements |
| page 5 ...Obituary: Dr. Robert Ogren | page 12...PA Biodiversity Partnership |
| page 5 ...Recent Member Accomplishments | page 12...PAS Fundraiser |
| page 6 ...Recent Member Accomplishments | page 13...Darbaker Prize |
| page 6 ...PAS 2006 Meetings Call for Abstracts | page 13...PAS HS School Student Research Grants |
| page 6 ...Reminder: Abstracts Submitted Electronically | page 14...College Student Research Funds |
| page 7 ...Rules for Acceptance of Abstracts | page 15...PAS Membership Application |
| page 7 ...Preparation of Abstracts | page 16...Advertisement |

The Pennsylvania Academy of Science Newsletter

Richard L. Stewart Jr. and Pablo R. Delis, Editors
Shippensburg University, Shippensburg, PA 17257

Published five times annually – January, February, May, August, October by
THE PENNSYLVANIA ACADEMY OF SCIENCE
c/o Dept. of Biological Sciences, York College of Pennsylvania,
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Affiliated with the American Association for the Advancement of Science

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FROM THE DESK OF THE PRESIDENT



Autumn has its critics and its fans. Some say there's little use for a day that begins with frost, becomes hot by noon, and has you shivering by sunset. Wiser heads believe autumn is the best season of all. We are entering the beautiful season of autumn

here in Pennsylvania. As the leaves turn and the learning intensifies—we have settled into our new classes, learning new names and faces, and beginning to work with new and returning students and colleagues. I have always enjoyed the beginning of the new school year for the reflection on the past year, reinvigoration from the summer, and enthusiasm about fully re-engaging in our common work ahead.

On September 23rd and 24th the PAS fall board meeting was held at Penn State. Planning has begun for our spring meeting at the Holiday Inn, Grantville, PA on March 31-April 2, 2006. We are anticipating an after dinner speaker on Saturday night. Photo contest awards will be presented on Saturday night, and we will again hold a raffle during dinner on Saturday.

(Continued on page 3)

DIRECTORS AT LARGE

(2005-2007) Fred Brenner

(2005-2007) Sherman Hendrix

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Director (2004-2006): Dana Harriger

Director (2004-2006): Robert Coxe

Director (2004-2006): Robert Cole
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From the desk of the President (Continued)

We choose careers in science, because we have special skills, enjoy the pleasures of analysis and discovery, and respect certain precepts, such as the rational evaluation of evidence. The 19th century French scientist Louis Pasteur said that *science is the highest personification of a nation, because that nation will remain first which carries furthest the works of thought and intelligence.*

As you and your students prepare for next years meeting remember that without a doubt, that the research experience is an important and helpful tool in preparing our students for careers in science. As teachers and mentors we, have the opportunity to work with students and assist them in the transition from classroom learning to real world applications. We can expose them to research processes, methodologies, and higher levels of learning.

Our lives are increasingly affected by scientific discovery and the application of science has undoubtedly brought huge benefit to society. An old saying in real estate is that the three most important aspects of a property are location, location, and location. In any field where innovation is at a premium, at the top of the list of desirables are talent, talent, and talent. In science, as in opera or baseball, there is indeed such a thing as talent; and in science, as in opera or baseball, there is no substitute. The health of science depends above all on drawing into it people with the talent to bring about the innovation.

Our students are the key to the future and we must strive to provide them with the research experience and appropriate education so that we will ameliorate our life, as well obtain immense opportunities in the innovative, technological and fast paced work force. Science is fun and important and our future depends on it.

Jane E. Huffman, PhD
President of the Pennsylvania Academy of Science
Professor, Department of Biology
East Stroudsburg University of Pennsylvania
East Stroudsburg, PA 18301

UPCOMING MEETINGS

The **82nd Annual PAS Meeting** will be held at the **Holiday Inn, Grantville, PA, March 31-April 2, 2006.**

The **Entomological Society of America (ESA) Annual Meeting** will take place on **November 6-9, Fort Lauderdale, FL.** Please visit the website for more information <http://www.entsoc.org/>

The **National Conference on Undergraduate Research (NCUR)[®] 20th Annual Meeting** will take place on **April 6-9, 2006, UNC Asheville, NC.** Please visit the website for more information <http://www.ncur.org/>

The **American Society for Microbiology 106th General Meeting** will take place **May 21 - 25, 2006, Orlando, FL.** Please visit the website for more information <http://www.asmtusa.org/>

The **Ecological Society of America 91st Annual Meeting** will take place Aug. 6-11 2006, Memphis, TN. Please visit the website for more information <http://www.esa.org/memphis/>

CALL FOR NOMINATIONS

The members of the Pennsylvania Academy of Science are requested to submit nominations for the following offices of the Academy to be elected at the 2006 annual meeting:

President-elect (2006-8)
Corresponding Secretary (2006-8)
Treasurer-elect (2006-8)
Director-at-large (2006-8) 2 positions (Nominated from among the committee chairs)

Nominations should be sent to:

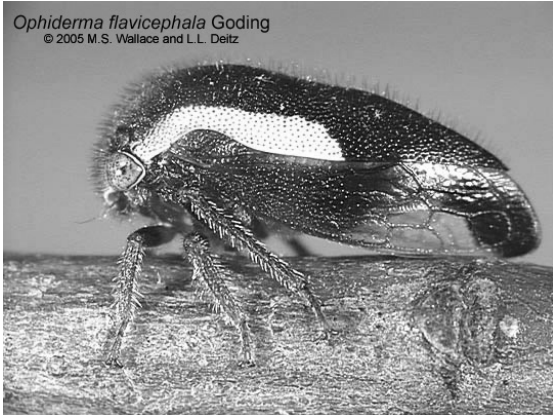
Dr. Clarence J. Murphy, Chair
PAS Nominating Committee
312 Albert Road
Stroudsburg, PA 18360

Or send emails to cjmurphy@ptd.net

Treehoppers: Mysterious Masters of Disguise

Matthew S. Wallace
East Stroudsburg University

The next time you walk by an oak or black locust tree, take a closer look. What appears at first glance to be a bud or thorn may actually be one of the more mystifying and secretive insects known to science. Be careful, however, for by the time you get close enough to see, the insect may have already hopped away!



Ophiderma flavicephala Goding
© 2005 M.S. Wallace and L.L. Deitz

The creature described above is a treehopper. Treehoppers, or membracids (Insecta: Hemiptera: Membracidae), are small herbivorous insects (about the size of a pencil eraser) common in our eastern forests. They use piercing-sucking mouthparts (like a straw) to extract plant sap (phloem) from both herbaceous and hardwood plants. There are roughly 3,000 species described worldwide with the highest concentration in the Old and New World tropics. Checklists for some eastern states report as many as 100 species in New York, 93 in Ohio, and 90 in North Carolina, but Pennsylvania's treehopper fauna is not well documented.

Known best for their bizarre shapes and striking coloration, membracids are often inconspicuous and well hidden. For this reason, they are often difficult to find unless you have a well trained eye. Thus, they are infrequently encountered by the general public. Their exaggerated shape is due mostly to a structure called the pronotum, the first dorsal plate behind the head. The pronotum is greatly expanded in most treehoppers and exhibits a diversity of shapes ranging from a simple hood (see photos) to elaborate forms resembling the antlers of a deer. One or two sharp horns often decorate the hood dorsally. What is the function of this intricate body part? Some researchers believe it serves a cryptic function, others a defensive function, and still others believe it may serve as a grand sensory mechanism.

Their peculiar behaviors, including maternal care and ant-attendance, have long fascinated biologists. Certain species of treehoppers around the world are considered subsocial--although they don't form cooperating colonies of 1000's of individuals like termites, bees, and wasps--there are instances where females, or groups of females, will tend to eggs and newly hatched nymphs for a period of time. Furthermore, like many other species in the order Hemiptera, treehoppers excrete copious amounts of honeydew while feeding. Ants are attracted to the tasty honeydew of many treehopper species and in return defend the treehoppers from potential predators.

Treehoppers are not considered major agricultural or forest pests in the United States. Their egg-laying activities, however, occasionally cause mechanical damage to plant stems. Moreover, treehoppers, along with the closely-related leafhoppers, are potential vectors of pathogens causing disease in plants. The three cornered alfalfa hopper is probably the most notorious North American treehopper "pest". It is part of the large guild of insects that exploit soybean and alfalfa crops throughout the United States. Nevertheless, membracids serve an important role in nature as prey for birds and other insectivorous animals.

Recent scientific research on treehoppers has focused on their taxonomy and systematics with little work being done on basic life history or ecology. With the exception of a few states, little is known about the species diversity of treehoppers on the east coast. At East Stroudsburg University, I am currently studying the seasonal distribution of treehoppers on oak in Delaware Water Gap National Recreation Area. This research will add to our knowledge of the biology and life history of these fascinating insects and has already revealed new species records for Pennsylvania.

OBITUARY

Dr. Robert Ogren
Biologist, Wilkes University

The Wilkes University community marks with sadness the passing of Dr. Robert Ogren, Professor Emeritus of Biology. Bob joined the Wilkes Biology Department in 1963, where he offered a diverse array of courses in general biology, histology, invertebrate biology, and botany over a 23-year period. He influenced the lives of hundreds of students with his caring, good-natured approach to teaching and advising. Many of his students became established scientists, physicians, allied health professionals, and nurses.

Bob was an active scholar and researcher, specializing in microscopic analyses of invertebrate animals. Supported by funding from National Science Foundation Grants in the early and mid 1960s, Bob studied the development of tapeworm embryos. He enjoyed worldwide recognition for his studies on the biology of land-dwelling planarians conducted during the 1980s and 1990s. The fruits of Bob's research are evident through 77 published articles. Working with Dr. Masaharu Kawakatsu, an internationally known flatworm specialist, Bob authored a 15-volume "Index for Land Planarians of the World" which has become a standard international reference.

Bob actively belonged to numerous professional societies, including the American Microscopical Society, American Society of Zoologists, American Society of Parasitologists, Electron Microscopy Society of America, Helminthological Society of Washington, Sigma Xi, and the New York Academy of Sciences. He was an especially active member of the Pennsylvania Academy of Science, where he served as the Editor of their *Proceedings*, and was a three-time recipient of their prestigious Darbaker Award for Microscopical Biology.

Bob gave selflessly to the university and the community. During his tenure at Wilkes, he spearheaded the institution's United Way fundraising effort. For seventeen years, he served on the Board of

Directors for the Northeastern Pennsylvania Chapter of the American Heart Association, chairing that group between 1973 and 1976. He was elected to the Wyoming Valley West School Board between 1973 and 1979, and was its President in 1979. More recently, he served as a member of the Board for Ecumenical Enterprises Inc. of Dallas.

Bob retired from Wilkes in 1986, at which time he received an Emeritus appointment. His colleagues and students will undoubtedly recall Bob's gentle nature, intelligence, scrupulous honesty and ethical treatment of others, and devotion to his science.

Next month, Bob would have celebrated the 57th anniversary to his wife Jean. He is also survived by two sons, Paul and Philip, and their spouses.

Additional biographical information can be found at <http://www.ogren.org/roberte.htm>. His obituary was published in Sunday's *Times-Leader* and *Citizens' Voice*. A memorial service took place at 11:00 A.M., Friday, 29 July at the First Presbyterian Church, Franklin St., Wilkes-Barre. The family will receive friends at 10:00 A.M. in the church parlor. Donations may be made to Wilkes University, The American Heart Association, or the church.

RECENT MEMBER PUBLICATIONS AND ACCOMPLISHMENTS

Ben-Ami, F., Gold, D., and Fried, B. (2005).

Differential infectivity of *Transversotrema patialense* for naive fish. *Journal of Parasitology* 91 (4): 949 - 950.

Jarusiewicz, Jamie; Sherma, Joseph, and Fried, Bernard (2005).

Separation of sterols by reversed phase and argentation thin layer chromatography: their identification in snail bodies. *Journal of Liquid Chromatography & Related Technologies* 28: 2607 - 2617.

(Continued on page 6)

RECENT MEMBER PUBLICATIONS AND ACCOMPLISHMENTS (Continued)

Martin, Danielle L.; Fried, Bernard; and Sherma, Joseph (2005). The absence of beta-carotene and the presence of biliverdin in the medicinal leech *Hirudo medicinalis* as determined by TLC. *Journal of Planar Chromatography-Modern TLC* 18: 400 - 402.

Martin, Danielle L., Sherma, Joseph, and Fried, Bernard (2005). High performance thin layer chromatographic analysis of neutral lipids and phospholipids in the medicinal leech *Hirudo medicinalis* and in leech conditioned water. *Journal of Liquid Chromatography & Related Technologies* 28: 2597 - 2606.

Noland, G.S., Graczyk, T.K., Fried, B., Fitzgerald, E.J. and Kumar, N. (2005). Exacerbation of *Plasmodium yoelii* malaria in *Echinostoma caproni* infected mice and abatement through anthelmintic treatment. *Journal of Parasitology* 91 (4): 944 - 948.

Pisciotta, John, M.; Ponder, Elizabeth, L.; Fried, Bernard; and Sullivan, David (2005). Hemozoin formation in *Echinostoma trivolvis* rediae. *International Journal for Parasitology* 35: 1037 - 1042.

Toledo, R., Espert, A., Munoz-Antoli, C., Marcilla, A., Fried, B. and Esteban, J.G. (2005). Kinetics of antibodies and antigens in serum of mice experimentally infected with *Echinostoma caproni* (Trematoda: Echinostomatidae). *Journal of Parasitology* 91 (4): 978 - 980.

CALL FOR ABSTRACTS

82nd Annual Meeting of the Pennsylvania Academy of Science

March 31- April 2, 2006

Holiday Inn
Grantville, PA

DEADLINE FOR RECEIPT OF ABSTRACTS: 15 December 2005

INSTRUCTIONS FOR PREPARING AND SUBMITTING ABSTRACTS

**

Read All Instructions Before Writing Abstract

PLEASE NOTE: ALL ABSTRACTS MUST BE SUBMITTED

****ELECTRONICALLY****

RULES GOVERNING SUBMISSION AND ACCEPTANCE OF ABSTRACTS

1. The corresponding author must be a member of PAS in order to submit an abstract
2. One person cannot be listed as the presenter on more than three abstracts.
3. Once the Program Committee has accepted an abstract, it cannot be withdrawn.
4. The Abstracts will be published in a supplemental issue of the Journal of the Pennsylvania Academy of Science to be distributed at the annual meeting.
5. Any abstracts received after December 15, 2005 will not be published.
6. Authors will be notified when the abstract is received and if the abstract is accepted the time and place of the presentation will be printed in the February PAS newsletter and posted on the PAS website <http://pennsci.org/>.

PREPARATION OF ABSTRACTS

1. The abstract should contain a statement of the problem being investigated, the methods used, the important results and a conclusion.
2. Follow the electronic submission at <http://pennsci.org/> but please note that symbols and italicized words are lost or altered during submission. Thus do not use Greek symbols in the abstract and underline Latin scientific names rather than use italics.
3. Copy and paste the abstract into the indicated box using the following format: Authors **in bold** (Last name first of the first author only and asterisk after the presenting author), addresses, title (underlined) and abstract (single spaced)—See sample below.

Luce-Fedrow, Alison, Joshua Johnson, Elke Nelson, Janet Sei*, Marcie L. Lehman, Richard S. Stewart, and Lucinda H. Elliott. Shippensburg University, Shippensburg, PA 17257. Prevalence of Lyme Disease, Human Granulocytic Ehrlichiosis, and Human Monocytic Ehrlichiosis Ticks and Blood Collected From Hunter Killed Deer from Southcentral Pennsylvania. -- The results of this study are part of a continuing surveillance to determine the prevalence of the causative agents of Lyme disease, human granulocytic ehrlichiosis (HGE), and human monocytic ehrlichiosis (HME) in ticks and blood collected from hunter killed deer in South Central Pennsylvania. Two tick species, Ixodes scapularis, and Dermacentor albipictus and blood from Odocoileus virginianus (white tailed deer) were screened using polymerase chain reaction assays for DNA from Borrelia burgdorferi (Lyme disease), Anaplasma phagocytophilum (HGE) and Ehrlichia chaffeensis (HMG). Anaplasma phagocytophilum was detected in a significant percentage of both tick species as well as blood collected from deer, while Borrelia burgdorferi was detected in a low percentage of I. scapularis ticks and E. chaffeensis was not detected in any samples. Co-infections of B. burgdorferi and A. phagocytophilum were also detected in a low percentage of I. scapularis. G-tests of independence were run comparing tick species, the sex and stage of development of ticks as well as the sexes of the deer. The G-tests of independence showed a dependent relationship only between sex of the deer and infection with female deer affected by A. phagocytophilum demonstrating significantly higher levels of infection.

4. Improperly prepared abstracts will be rejected.

Questions should be addressed to the Abstract Editor: Cindy Elliott, lhelli@ship.edu

SCHEDULE OF ACTIVITIES AT A GLANCE

82st Annual Meeting of the Pennsylvania Academy of Science

March 31 – April 2, 2006 – Holiday Inn, Grantville PA

FRIDAY, March 31

1:00 pm	Board of Director's Meeting	Congressional Suite
3:00-8:00 PM	Registration	Lobby
6:30-8:00 PM	<i>Dinner</i>	Majestic I & II
8:15 PM	Speaker	Majestic I & II

SATURDAY, April 1

7:30-9:00 AM	<i>Breakfast</i>	Majestic I & II
8:30-11:00 AM	Registration	Lobby
9:00-5:00 PM	Exhibits	Royale 1,2,3
9:00-12 Noon	Paper Presentations	
	I	Congressional Suite
	II	Regency Suite
	III	Pennsylvania Suite
9:00 AM-12 Noon	Poster Session I	Royale 1,2,3
10:00-10:30 AM	<i>Coffee Break</i>	Foyer
10:00AM-2:30PM	Advisory Council Meeting	Winners' Circle Saloon
12 Noon-1:15 PM	<i>Lunch</i>	Majestic I & II
1:00-5:00 PM	Paper Presentations	
	IV	Congressional Suite
	V	Regency Suite
	VI	Pennsylvania Suite
1:00-4:00 PM	Poster Session II	Royale 1,2,3
2:30-3:00 PM	<i>Coffee Break</i>	Foyer
5:00 PM	Business Meeting	Congressional Suite
5:00-6:30 PM	<i>Social Hour (Cash Bar)</i>	Winners' Circle Saloon
6:30-8:00 PM	<i>Dinner</i>	Grande Ball Room
8:15 PM	<i>Mixer</i>	Winners' Circle Saloon

SUNDAY, April 2

7:30-9:00 AM	<i>Breakfast</i>	Majestic I & II
8:30-11:00 AM	Registration	Lobby
8:30-11:00 AM	Paper Presentations	
	VII	Congressional Suite
	VIII	Regency Suite
	IX	Pennsylvania Suite
8:30-11:30 AM	Poster Session III	Royale 1,2,3
11:00 AM	Board of Director's Meeting	Congressional Suite

MANUSCRIPTS 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 2006 edition. The journal is in its 44th consecutive year of publication. The general topic for this issue (Volume 44, #1) of the journal is: **ECOTOURISM**. Papers dealing with the above theme, or any other geographical topics, will be considered for publication. The deadline for submitting materials for the spring/summer 2006 issue is **February 15, 2006**. 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

TOPICS FOR FUTURE ISSUES:

Fall/Winter 2006 (Volume 44, #2):

"Geography and Terrorism"

August 15, 2006 deadline for receiving material

Spring/Summer 2007 (Volume 45, #1):

"Cultural Geography"

February 15, 2007 deadline for receiving material

Fall/Winter 2007 (Volume 45, #2):

"Water Resources"

August 15, 2007 deadline for receiving material

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<http://www.pitt.edu/~pageog/>

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/proginfo.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). Submissions will be printed on a first-received basis when space limitations apply.

Learned Discourses Editors

Richard Stewart and Pablo 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:

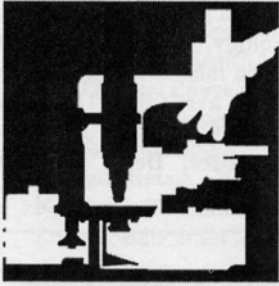
1. Develop PSBR as a resource for pertinent facts about the indispensable use of animals in biomedical research.
2. Serve as a credible resource for the general public, educators, students, legislators and member organizations.
3. Responsibly manage our resources to enhance an environment which supports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

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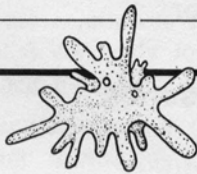
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PENNSYLVANIA BIODIVERSITY PARTNERSHIP SOLICITS INPUT ON PENNSYLVANIA BIODIVERSITY CONSERVATION PLAN



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) 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



PENNSYLVANIA ACADEMY OF SCIENCE ANNUAL FUND CAMPAIGN

Fellow members of the Pennsylvania Academy of Science:

I would like to thank all of those who contributed to our first Annual Fund Campaign and to ask for your continued support. In order to adequately fund our undergraduate research program, we need to increase our Undergraduate Research Endowment. Currently we are funding the Journal by page charges and the operating fund of the Academy, but we would like to be able to create a sufficient endowment so that the interest can be used to support our excellent peer reviewed journal. The executive board of the Academy established the annual fund drive to increase our endowment for undergraduate research and to endow the Journal of the Pennsylvania Academy of Science. It is our desire to have the journal be self-sufficient and to be supported entirely through page charges and interest from our recently established Journal of the Pennsylvania Academy Endowment.

Pennsylvania Academy of Science Annual Fund Campaign

Please apply my contribution of

_____ to the Undergraduate Research Fund

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Signature _____

Thank You.

Fred J. Brenner, Past PAS President

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

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.

Information on various research grants can be found on the PAS web site at <http://pennsci.org/>

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 to 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, and 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 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 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 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 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 the "Guidelines for Authors" in *Journal of the Pennsylvania Academy of Science*.

Submit an original and FIVE (5) 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 proposal 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**

PENNSYLVANIA ACADEMY OF SCIENCE-APPLICATION FOR MEMBERSHIP

Date: ____ / ____ / ____

Last Name: _____ First Name: _____ Middle Initial or Name: _____

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Institution: _____ E-mail: _____

Office Phone: (____) _____ Home Phone: (____) _____ Fax: (____) _____

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(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**

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