



Volume 63, No.1

February, 2005

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Pennsylvania Academy of Science

NOW PLAN TO ATTEND!

81st ANNUAL MEETING

Pennsylvania Academy of Science

April 8-10, 2005

**Radisson Inn
Camp Hill, Pennsylvania**

In this Issue...

- | | |
|--|---|
| page 2 Academy Officers | page 8 81 st Annual Meeting Registration Form |
| page 2 From the Desk of the President | page 9 Wild Resource Conservation P. Grants |
| page 3 PA Biodiversity Partnership | page 9 The PAS Fund Raising |
| page 3 Upcoming Meetings | Page 10.... College Student Research Fund |
| page 4 Call for Nominations | page 11.... Darbaker Prize |
| page 4 Photography Contest | page 11.... PAS High School Research Grants |
| page 5 81 st Annual Meeting Housing Reservation Form | page 12.... Manuscripts for PA Geographer |
| page 6 Dennis C. Wolff, PA Secretary of Agriculture | page 12.... Scholarship & Award Opportunities |
| page 6 Directions to Radisson Hotel, Camp Hill, PA | page 12.... Learned Discourses |
| page 7 Schedule of Activities (Annual Meeting) | page 13.... PA Society for Biomedical Research |
| page 8 Wild Resource Festivals | page 14.... PAS Application for Membership |
| | page 15.... Bluegill (<i>Lepomis microchirus</i>) |

The Pennsylvania Academy of Science Newsletter

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

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Erie, PA 16546

FROM THE DESK OF THE PRESIDENT



Part of the mission of The Pennsylvania Academy of Sciences is to promote excellence in research. The 81st annual meeting in Camp Hill, April 8-10 will bring together faculty, students and professionals from across the Commonwealth in this endeavor. We look forward to two days of research presentations, posters, guest speaker and symposium.

Benjamin Franklin believed that education should go beyond the classroom lecture and into the realm of discovery. Today's students will spend their careers in a 21st century workplace that presents complex and open-ended challenges requiring considerable skills with technology and communications. The students who will thrive in this environment are those who have been educated in an inquiry and discovery rich climate. Benjamin Franklin also noted that an investment in knowledge pays the best interest. It is you, teachers, and mentors that provide the leadership and initiative to ensure that the students receive the greatest return on their investment.

I am looking forward to learning from all of you at this year's annual meeting. I applaud you all for your efforts.

Jane E. Huffman, PhD
President PAS

Professor
Department of Biological Sciences
Fish & Wildlife Microbiology Laboratory
East Stroudsburg University of Pennsylvania
East Stroudsburg, PA 18301

OFFICERS AT LARGE

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



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,
[pbpinf@pabiodiversity.org](mailto:pbpinfo@pabiodiversity.org)



UPCOMING MEETINGS

The **81st 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 **82nd Annual PAS Meeting** will be held at the ***Holiday Inn, Grantsville, PA, March 31-April 2, 2006***.

The **NCUR 18th 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 105th 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.asmusa.org/>

The **Ecological Society of America 90th Annual Meeting** will take place ***Aug. 7-12, 2005, Montréal, Canada*** and will be held jointly with IX International Congress of Ecology (INTECOL). This joint meeting of national and international ecological societies offers a perfect venue to present and evaluate ecological information at multiple scales, and especially to focus on and incubate cross-scale linkages. Please visit the website for more information <http://www.esa.org/montreal/>

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 1st, 2nd, and 3rd 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>

81st Annual Meeting, Pennsylvania Academy of Science

HOUSING RESERVATION FORM

The 81st 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.

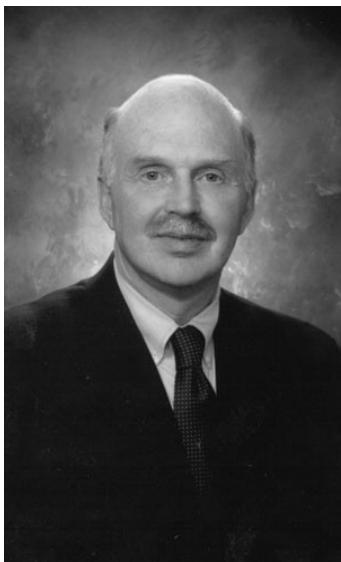
HOUSING RESERVATION REQUEST

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.



Dennis C. Wolff Pennsylvania Secretary of Agriculture

Invited Speaker, Friday April 8, 2005, 8:15 PM, Ballroom North

Dennis C. Wolff of Millville, Columbia County, Pennsylvania, was appointed Secretary of Agriculture by Governor Edward G. Rendell and confirmed on May 5, 2003. Wolff, a dairy farmer, owns Pen-Col Farms, a 600-acre, 400-head dairy cattle operation specializing in purebred Holstein genetics. He currently serves as a member of the Agriculture Technical Committee of the World Trade Organization, Pennsylvania Dairy Stakeholders, and Penn State University Board of Trustees. Wolff was recognized as a Master Farmer in 1994 for his outstanding management skills, land stewardship and role in the agricultural community. Wolff is the President of the Nicholas Wolff Foundation, Inc. and Camp Victory, a non-profit summer camp for handicapped and chronically ill children.

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 3RD 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.

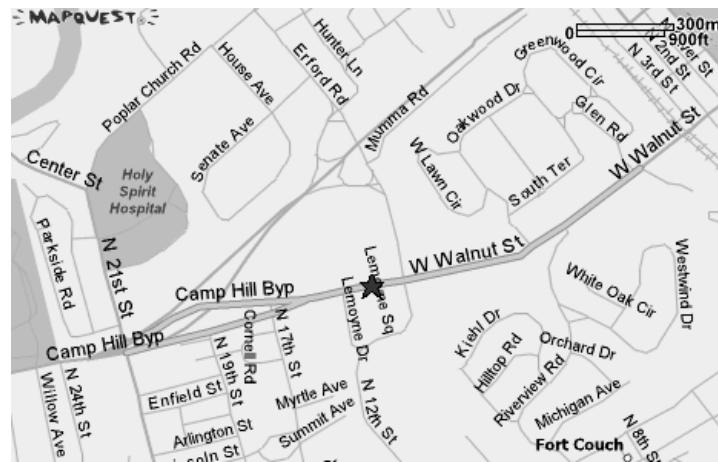
From Pittsburgh, Pennsylvania: (PA Turnpike Eastbound)

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 3RD 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



SCHEDULE OF ACTIVITIES AT A GLANCE

81st 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	Registration	Hotel Lobby
6:30-8:00 PM	<i>Dinner</i>	Ballroom North
8:15 PM	<i>Invited Speaker</i> , (Dennis Wolff PA Secretary of Agriculture) “Current Issues in Agriculture”	Ballroom North

SATURDAY, APRIL 9

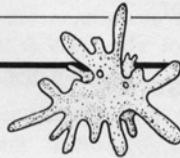
7:30-9:00 AM	<i>Breakfast</i>	Ballroom North
8:30-11:00 AM	Registration	Convention Center Lobby
9:00-5:00 PM	Exhibits	Center Lobby Ballroom South
9:00-12 Noon	Paper Presentations I (Medicine) II (Genomics/Development) III (Geology/Meteorology/Physics)	Keystone A (Dr. K. Joy Karnas) Keystone B (Dr. William Patrie) Keystone C (Dr. Lucinda Elliott)
9:00 AM-12 Noon	Poster Session I (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	Paper Presentations IV (Immunology/Microbiology) V (Parasitology/Botany/Organismal) VI (Ecology/Aquatic Biology)	Keystone A (Dr. Marcie Baer-Lehman) Keystone B (Dr. Jane Huffman) Keystone C (Dr. Mel Zimmerman)
11:30 AM-3:00 PM	Advisory Council Meeting	Governor A
1:30-4:00 PM	Poster Session II (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	Business Meeting	Keystone A
5:00-6:30 PM	<i>Social Hour (Cash Bar)</i>	
6:30-7:30 PM	<i>Dinner</i>)	Ballroom North
7:30-8:15 PM	Photography Contest Winners	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	Registration	Convention Center Lobby
8:30-11:00 AM	Paper Presentations VII (Cell and Molecular) VIII (Ecology/Environmental Science)	Keystone A (Dr. Jonathon Coren) Keystone B (Dr. Pablo Delis)
8:30-11:30 AM	Poster Session III (Cell and Molecular) (Microbiology/Immunology)	Ballroom South (Dr. JR Stewart)
9:00-11:00 AM	IX Science Education and Workforce Development Symposium	Keystone C
11:00 AM	Board of Director's Meeting	Keystone A

WILD RESOURCE FESTIVALS

DCNR's Wild Resource Conservation Program is launching in 2005 a series of "Celebrate Nature" Festivals to help connect citizens with the important work accomplished through the Program's grants. The first festival is planned for Bald Eagle State Park in Centre County on June 4, 2005 from 11 a.m. until 6:30 p.m. Current plans are for a dozen activities mostly appropriate for children, a dozen appropriate for families (including children), and a dozen that are nature walks or more scientific displays. Picnic-type food will be available on-site for purchase, the DCNR Nature Shop will have some of its merchandise available and some nature artists are also expected to have their products for sale. These Festivals are being designed to give the public an opportunity to participate in learning about the non-game animals and plants of Pennsylvania and their essential habitats and the joy of outdoor recreation. They also will provide an opportunity for the public to learn what it can do to support and protect species, and what the Commonwealth is doing, especially with its grants under the Wild Resource Conservation Program. A website will be available in March on the DCNR site giving details. The public is cordially invited to come.



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81st 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:

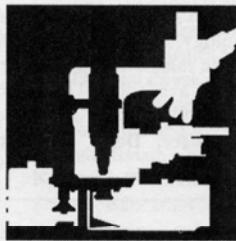
Make checks payable to: *Pennsylvania Academy of Science*
 Send completed forms and payment to: Debbie Ricker, Dept.
 of Biological Sciences, York College of PA, York, PA 17405-7199
 Ph: (717) 846-7788 ext. 1510

TOTAL DUE (registration):	_____
Amount Enclosed:	_____
Balance Due:	_____

Wild Resource Conservation Program

Grants for 2006-07

The deadline for the next round of Wild Resource Conservation grant applications will be June 30, 2005. The application will be available on the WRCP website in March. Emphasis will continue to be on relationships of species to habitat. The theme for the year is the role of fungi in habitat health. Applications will be accepted in categories related to public education and outreach, protection and restoration, and status of species and their habitats.



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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

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**

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 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

Issue Deadline	Featured Topic	Submission
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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<http://faculty.upj.pitt.edu/geography/pageographer>

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 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

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** Yes**Society of College Science Teachers** Yes**PA Biological Survey** Yes**PA Assoc of Environmental Professionals** Yes**Comm 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: ykalter@wilkes.edu**

Book Order Form

I want to order the following books:

- Wildlife Diseases: Landscape Epidemiology, Spatial Distribution and Utilization of Remote sensing Technology (\$60.00)
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- Ethics in Academia (\$50.00)
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- Ecology of the Wetlands and Associated Systems (\$50.00)
- Forests – A Global Perspective (\$45.00)
- Environmental Contaminants, Ecosystems and Human Health (\$45.00)
- Medicine and Health Care into the Twenty-First Century (\$50.00)
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_____**Discounts on orders of 10 or more copies of a single title.***This book order form, together with the appropriate payment made payable to The Pennsylvania Academy of Science, should be sent to: Dr. Shyamal Majumdar, Department of Biology, Lafayette College, Easton, PA 18042.*

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

Complete Mailing Address: _____

Please submit original digital photographs of science related items in Pennsylvania to the editors at
prdelli@wharf.ship.edu



"THE CATCH OF THE DAY"

BLUEGILL (*Lepomis macrochirus*) IN THE BIO POND AT SHIPPENSBURG UNIVERSITY, FRANKLIN COUNTY, PENNSYLVANIA

By Pablo R. Delis

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