

**Industrial Affiliates**

Associate Patron - \$2,000 level  
Touchstone Energy

Associate Member - \$100 level  
Hoffman Environmental  
Research Institute  
Third Rock Consultants  
Wood Hudson Cancer  
Research Laboratory

**Institutional Affiliates**

Fellow - \$1,000 level  
University of Kentucky  
University of Louisville

Sustaining Member - \$500 level  
Campbellsville University  
Kentucky State University  
Morehead State University  
Murray State University  
Northern Kentucky University  
Western Kentucky University

Member - \$250 level  
Asbury College  
Berea College  
Centre College  
Cumberland College  
Eastern Kentucky University  
Kentucky Wesleyan College  
Madisonville Community  
College  
West Kentucky Community &  
Technical College

Associate Member - \$100 level  
Bellarmine University  
Pikeville College  
Transylvania University

## KENTUCKY ACADEMY OF SCIENCE

### 90<sup>TH</sup> Annual Meeting

**Murray State University  
Murray, Kentucky  
November 4-6, 2004**

The 90<sup>th</sup> Annual Meeting of the Kentucky Academy of Science will be NOVEMBER 4-6, 2004 and will be hosted by West Kentucky Community and Technical College and Murray State University. To get to Murray, take I-24 West (at the end of the West Kentucky Parkway) to the Purchase Parkway – also called the Julian M. Carroll Parkway (exit 25A); then take 641 South (exit 41 off the Purchase Parkway) to Murray. All hotels are located on 641 (12<sup>th</sup> Street) in Murray. The Best Western University Inn (formerly Shoney’s Inn) will be the headquarters hotel. The hotel has blocked in a number of rooms at the rate of \$50.00 per room for a single or double, which includes a continental breakfast. This rate is good until October 20, 2004, so make your reservations early by calling (270) 753-5353. When making reservations be sure to identify yourself as a member of the Kentucky Academy of Science. Additional information about Murray may be found at <http://www.murraylink.com>.

A preregistration form is enclosed in the Newsletter, and everyone is encouraged to preregister for the meeting. **For your information**, on-site registration must be paid by check or cash. The Academy cannot accept credit cards nor bill the participant for the registration fees. Programs **will not** be sent out prior to the meeting, but will be provided to those attending the meeting. Upon completion, the program will be put on the KAS website. If you have any questions regarding the meeting, please call Robert Creek at (859) 623-6646 or [rcreek@chpl.net](mailto:rcreek@chpl.net).

Registration for the 90<sup>th</sup> Annual Meeting will be on the third floor of the Curris – University Center on the campus of Murray State University. Reserved KAS parking will be adjacent to the North entrance to the Curris Center. The Curris Center is located on Chestnut Street, approximately two blocks west of 641 on the north side of Murray. The Chestnut Street/641 Intersection is marked by a stop-light, with Hardee’s on the northwest corner, Pizza Hut on the southeast corner, and a Pocket’s Shell Gas Station on the southwest corner.

**Additional Motels:**

- Amerihost Inn (270) 759-5910 \$65 single or double, includes continental breakfast
- Holiday Inn Express (270) 759-4449 \$78.50 single or double, \$88.50 studio suite, \$98.50 deluxe suite (mention Murray State rate when calling), includes continental breakfast
- Days Inn (270) 753- 6706 \$53 single, \$58 double, includes continental breakfast
- Murray Plaza Court (270) 753-2682 \$33 single, \$36 double

### Inside this issue

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# Calendar



## Due Dates

September 24, 2004  
Paper Abstracts for  
KAS Annual Meeting

September 29, 2004  
Nominations for  
KAS Superlative Awards

October 1, 2004  
Proposals for  
KAS Special Research Program

October 15, 2004  
Preregistration deadline for Annual Meeting

November 15, 2004  
Proposals for  
Undergrad. Research Supply Grants  
Summer Undergrad. Research Grants

December 1, 2004  
Paper Abstracts for Publication  
in the KAS Journal

## Need information?

To inquire about membership status, lost Newsletter or Journal issues, please contact:

The Kentucky Academy of Science  
Science Outreach Center  
University Drive  
University of Kentucky  
Lexington, KY 40536-0078  
Phone: (859) 257-7364  
e-mail: [dfrazie@pop.uky.edu](mailto:dfrazie@pop.uky.edu)

To submit an item for publication in the KAS Newsletter, contact:

Susan B. Templeton,  
Kentucky State University  
400 East Main Street  
Frankfort, KY 40601  
Phone: (502) 597-6030  
FAX: (502) 597-6381  
e-mail: [stempleton@gvmail.kysu.edu](mailto:stempleton@gvmail.kysu.edu)  
Submission deadlines for the Newsletter are  
December 1, March 15, and July 15.

**Check out the KAS website at <http://kas.wku.edu>!**

## Request for Nominations for Superlative Awards

The Board of Directors encourages all members of the Academy to submit nominations for the following awards presented annually to outstanding and distinguished members of the Academy.

Outstanding Academy Service Award

Distinguished College/University  
Scientist Award

Outstanding College/University  
Teacher Award

Outstanding Secondary School  
Science Teacher Award

Industrial Scientist Award

Qualifications and nomination packet requirement details are listed in the May 2004 KAS Newsletter and available at [kas.wku.edu](http://kas.wku.edu) on the Grants and Awards page. The deadline for nominations is September 29, 2004. All nominations and supporting materials should be sent in electronic format; e-mail attachments may be either in MS Word or text files. Send to:

Miriam Kanan  
Biological Sciences  
Northern Kentucky University  
Highland Heights, KY 41099  
(606)572-5522  
[kannan@nku.edu](mailto:kannan@nku.edu)

## Additional KAS Board Vacancy

Dr. Barbara Rafail has announced she will be leaving Georgetown College and relocating to Albion College in Michigan. She has resigned her seat on the KAS Governing Board as the Biological Sciences Division Representative, therefore, nominations are now open for this seat. The nominator must identify with the Biological Sciences Division. Please send nominations by September 15, 2004 to:

Jerry Warner  
BIOLOGICAL SCIENCES  
Northern Kentucky University  
Highland Heights, KY 41099  
(859)572-6571  
[warner@nku.edu](mailto:warner@nku.edu)

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# 90<sup>th</sup> ANNUAL MEETING OF THE KENTUCKY ACADEMY OF SCIENCE (Tentative Program)

## THURSDAY, NOVEMBER 4, 2004

2:00 p.m. - 5:00 p.m.	KAS Governing Board Meeting
5:30 p.m. - 7:00 p.m.	Registration
6:30 p.m. - 8:00 p.m.	<b>KBRIN-INBRE SYMPOSIUM - "Genomics &amp; Bioinformatics in Kentucky"</b>
8:00 p.m. - 8:30 p.m.	KAS Sectional Officers Meeting
8:00 p.m. - 10:00 p.m.	Reception

## FRIDAY, NOVEMBER 5, 2004

7:30 a.m. - 8:30 a.m.	KAS Past President's Breakfast
7:30 a.m. - 5:00 p.m.	Registration
8:00 a.m. - 5:00 p.m.	Vendor's Exhibits
8:00 a.m. - 11:30 a.m.	Paper Sessions
9:00 a.m. - 5:00 p.m.	Scientific Posters on Display
10:00 a.m. - 11:30 a.m.	Kentucky Community Colleges Faculty Meeting
11:30 a.m. - 12:45 p.m.	Lunch (on your own)
1:00 p.m. - 3:45 p.m.	Paper Sessions
1:00 p.m. - 2:00 p.m.	KBRIN-INBRE NIH Grant Proposal Workshop
1:30 p.m. - 3:30 p.m.	Judging of Posters for Undergraduate Research Competition
4:00 p.m. - 5:00 p.m.	<b>PLENARY SESSION</b> <i>"Brain responses as a predictor of emerging dyslexia: The basis for eliminating learning disabilities in the next generation."</i> Dr. Dennis L. Molfese - University of Louisville
6:00 p.m. - 7:00 p.m.	Presidential Reception
7:00 p.m. - 9:00 p.m.	<b>ANNUAL AWARDS BANQUET</b> <i>"The Evolution of the Human Brain"</i> Dr. Jon H. Kaas - Vanderbilt University

## SATURDAY, NOVEMBER 6, 2004

7:30 a.m. - 11:30 a.m.	Registration
8:00 a.m. - 11:00 a.m.	Vendor's Exhibits
8:00 a.m. - 10:00 a.m.	Scientific Posters on Display
8:00 a.m. - 9:45 a.m.	Paper Sessions
10:00 a.m. - 11:00 a.m.	<b>KAS ANNUAL BUSINESS MEETING</b>
11:15 a.m. - 12:00 p.m.	Paper Sessions
12:00 p.m. - ?	Field Trips - Sign up at Registration Desk

## ATTENTION POWER POINT & POSTER PRESENTERS!

Each session room will have a computer and proxima type projector. Each computer will have the latest version of PowerPoint viewer which is compatible with Office 97, Office 2000 and Office 2002 versions of PowerPoint. Presenters should prepare their presentations with one of these versions and save it to a CD or floppy (not zip). Presenters should arrive at least 15 minutes before the beginning of the session to transfer their file to the computer's desktop. This will ensure that each speaker will have the full time allotted for their presentation.

The size limit of posters has been changed since last year. The boards available will measure 4' by 4' and stand on easels.

**PREREGISTRATION FORM**  
**KENTUCKY ACADEMY OF SCIENCE ANNUAL MEETING**  
**CO-HOSTED BY MURRAY STATE UNIVERSITY AND**  
**WEST KENTUCKY COMMUNITY AND TECHNICAL COLLEGE**  
**MURRAY, KY**  
**NOVEMBER 4-6, 2004**

Please type or print. Duplicate as needed, but use a separate form for each person.

Name Badge to Read \_\_\_\_\_

Address \_\_\_\_\_

City, State, Zip \_\_\_\_\_

School/Employer \_\_\_\_\_

Telephone Number \_\_\_\_\_ E-mail \_\_\_\_\_

(Your e-mail will be used to notify you of receipt of preregistration fees.)

**REGISTRATION FEE SCHEDULE**

**Category**                      **Pre-Registration**

**Current 2004 Dues Paid**

Regular Member              \$20.00 \_\_\_\_\_

Student Member              \$ 5.00 \_\_\_\_\_

**Non-Members**

Regular                      \$35.00 \_\_\_\_\_

Student                      \$ 5.00 \_\_\_\_\_

**MEMBERSHIP DUES SCHEDULE**

	<b>2004</b>	<b>2005</b>
Regular Member	\$25.00 _____	\$25.00 _____
Family Member	\$35.00 _____	\$35.00 _____
Student Member	\$15.00 _____	\$15.00 _____

**TOTAL FEES (Check each item)**    \$ \_\_\_\_\_

**KAS AWARDS BANQUET**, Friday, November 5    \$ 25.00 x \_\_\_\_ Tickets                      \$ \_\_\_\_\_

Banquet is free to students entering URC; if you are going to the banquet, indicate after tickets that you are an URC student.

**GRAND TOTAL ENCLOSED**    \$ \_\_\_\_\_

Thursday Evening Social at Best Western University Inn (no charge)    Attending    Yes    No

**THIS FORM MUST BE POSTMARKED NO LATER THAN OCTOBER 15, 2004**

**MAIL TO:**

**PREREGISTRATION**  
**KENTUCKY ACADEMY OF SCIENCE**  
**SCIENCE OUTREACH CENTER**  
**UNIVERSITY DRIVE**  
**LEXINGTON, KY 40536-0078**

# PAPER SUBMISSION FORM

KENTUCKY ACADEMY OF SCIENCE

90th ANNUAL MEETING

November 4-6, 2004

Murray State University and West Kentucky Community and Technical College  
Murray, Kentucky

Title of Paper (Please type or print) \_\_\_\_\_  
\_\_\_\_\_

(An abstract must be submitted with this form. See reverse side for guidelines for preparation of abstract.)

Author(s) (check presenter) (one author must be a KAS member)	KAS Member		Institutional Affiliation	Position (circle)			
	Yes	No		High School	Ugrad	Grad	Professional
_____	Yes	No	_____	H	U	G	P
_____	Yes	No	_____	H	U	G	P
_____	Yes	No	_____	H	U	G	P
_____	Yes	No	_____	H	U	G	P

\*Sponsor \_\_\_\_\_

\*All undergraduate or high school students who are not members of KAS must be sponsored by a member of the Academy. There is not a limit on the number of papers a member may sponsor.

\_\_\_ Check if entering the Undergraduate Research Competition. The URC presentations will be given ONLY on Friday.

\_\_\_ Check if entering the Graduate Research Competition. (Oral presentations only)

### Check Section in Which Paper will be Presented

___ Agricultural Sciences	___ Geology
___ Anthropology and Sociology	___ Health Sciences
___ Botany and Microbiology	___ Mathematics
___ Cellular and Molecular Biology	___ Physics and Astronomy
___ Chemistry	___ Physiology and Biochemistry
___ Computer & Information Science	___ Psychology
___ Ecology & Environmental Science	___ Science Education
___ Engineering	___ Zoology
___ Geography	

### Type of Presentation (Check one)

\_\_\_ Oral Presentation (15 minutes max.) - each room will have an overhead projector and a 2x2 slide projector.  
\_\_\_ Oral Presentation using Power Point - load presentation prior to beginning of session  
\_\_\_ Poster Presentation - a 4' x 4' poster board with easel will be provided. (*Ignore previous form regarding 4x6 poster board.*)

**Session Time Preference for Oral Presentation** ( 1 = first preference; program requirements may restrict honoring preferences)

\_\_\_ Friday a.m.    \_\_\_ Friday p.m.    \_\_\_ Saturday a.m.    \_\_\_ Saturday p.m.

**Name and Mailing Address of Contact Person** (undergraduate student use mentor as contact person)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Phone \_\_\_\_\_  
Fax \_\_\_\_\_  
E-mail \_\_\_\_\_

Return this form and a single spaced abstract by **September 24, 2004** to: Robert Creek, KAS Program Coordinator, Department of Biology, Eastern Kentucky University, Richmond, KY 40475. Phone (859)623-6646; Fax (859)622-1399; e-mail: rcreek@chpl.net

## GUIDELINES FOR PREPARATION OF ABSTRACTS FOR PAPER AND POSTER PRESENTATIONS

1. Text of abstracts must be 250 words or less.
2. Abstracts must be on white, good quality paper (8.5 x 11 in.). They must be single spaced throughout and have a margin of 1 inch all around.
3. Use a type size of 12 point (10 cpi) and the same font throughout: do not use bold. Italics should be used only for the scientific names of the organisms and other expressions that conventionally appear in italic type.
4. Do not justify the right-hand margin.
5. The address should contain the capitalized name(s) of the author(s), department, university or company, name of the city, name of the state (use two-letter abbreviation, e.g. KY, IN, OH) and the zip code.
6. In multi-authored abstracts, the name of the presenter of the paper will be indicated by an asterisk.
7. Use standard, well-known abbreviations when the use of abbreviations is necessary.
8. When using abbreviations for chemical compounds, spell out the name in full at the first mention and follow with the abbreviation in parentheses; use the abbreviation thereafter. Do not abbreviate chemical compounds in the title of the abstracts.
9. Any special symbols not on your word processor must be carefully drawn in by hand with fine pen and black ink.
10. Scientific names of organisms should be in italics (not underlined). Spell out generic names the first time they are used; afterwards these names should be abbreviated to first letter (plus a period) when followed by a specific epithet unless confusion may result with another abbreviated generic name in the abstract.
11. In the upper right hand corner of the abstract, type in CAPITALS the name of the section in which your paper or poster is being presented.
12. The following is an example of a portion of a proper abstract.

### BOTANY AND MICROBIOLOGY

Taxonomic status of the varieties of Seneca snakeroot, *Polygala senega* (Polygalaceae). AMY E. TRAUTH\* and ROBERT F. C. NACZI, Department of Biological Sciences, Northern Kentucky University, Highland Heights, KY 41099.

Seneca snakeroot, *Polygala senega* (Polygalaceae), is an uncommon plant ranging throughout most of eastern North America. Two varieties have been described for the species: variety *senega* and variety *latifolia*. The taxonomic.....

13. The abstract must be sent with your Paper Submission Form to the Program Coordinator listed at the bottom of the form.

## PUBLICATION OF ABSTRACTS IN THE *JOURNAL*

If you would like to submit your abstract for publication in the *JOURNAL*, the guidelines are the same as above except you need to send a hard paper copy and a disk or e-mail version in WordPerfect or Word. Please include with your abstract a check for \$15.00 made payable to the Kentucky Academy of Science to cover publication costs (invoices will not be sent). Abstracts for publication must be received by the Abstract Editor by December 1.

Dr. Robert J. Barney  
Abstract Editor  
Community Research Service  
Kentucky State University  
Frankfort, KY 40601  
rbarney@gwmail.kysu.edu

90<sup>th</sup> ANNUAL KENTUCKY ACADEMY OF SCIENCE MEETING  
MURRAY STATE UNIVERSITY  
NOVEMBER 4 – 6, 2004

PRELIMINARY SCHEDULE OF FIELD TRIPS AND WALKING TOURS  
(Sign-Up Reservations available at KAS Registration Desk)

<u>Field Trips</u>	<u>Maximum Participation</u>	<u>Date/Times</u>
1. Hancock Biological Station	10 people	Saturday, November 6 1:00 - 3:30 pm

Hancock Biological Station (HBS), located on Kentucky Lake, is one of the finest facilities of its kind in the Mid-South. Serving as the primary research facility for aquatic biologists and ecosystem scientists at Murray State, HBS provides a unique opportunity for study and research. Tour of research facilities, nature trail, and pontoon ride on lake.

2. Murphy's Pond	10 people	Saturday, November 6 Noon – 4:30 pm
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Murphy's Pond is a 279 acre primitive wildlife habitat located thirty miles west of the Murray State campus. The site is preserved in its natural state and used as both a biological laboratory and a public, outdoor, recreational area. Murphy's Pond is a coastal plain swamp known for cottonmouths and cypress. Canoe trips through open pools surrounded by dense cypress will be conducted.

3. Wickliffe Mounds Research Center	10 people	Saturday, November 6 Noon – 5:00 pm
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Wickliffe Mounds Research Center (WMRC) is an extremely significant archaeological site that is listed on the National Register of Historic Places and the Kentucky Registry of Archaeological Sites. The site is a small prehistoric, Mississippian town, with earthen mounds, plaza and ceremonial center. It was an agricultural community that existed between A.D. 1000-1350. The site serves as a research center for regional archaeologists, MSU students and faculty, and as an educational facility for more than 15, 000 visitors per year. The cost is \$5 for adults (over 12) , and \$4 for children 12 or under.

4. Land Between the Lakes – Elk and Bison Range Self Guided Tours (Maps available at the KAS Registration Desk)	Open	Saturday, November 6 1:00 - 3:30 pm
--	------	--

Located 22 miles east of MSU, the Land Between the Lakes national recreation area (a 170,000 area) is managed by the USDA-Forest Service. Tour the 700 acre elk and bison range for only \$3.00 per car and observe natural habitat and animal life as it was in Kentucky up to the early 1800s, or visit Hematite Lake and the Woodland's Nature Center to get an up close look at the many native animal species found in western Kentucky. The cost for the nature center is \$3.50 for an adult (over 13).

<u>Walking Tours</u>	<u>Maximum Participation</u>	<u>Date/Times</u>
1. NEW Murray State University Biology Building	Open	Schedule will be posted at KAS Registration Desk

Officially opened July, 2004, the Murray State University Biology Building is home of "state-of-the-art" classrooms and laboratories. The facility includes twenty-six modern teaching and research laboratories, twenty-three instructor offices, herbarium and an animal-care configuration.

2. Murray State University – Mid-America Remote Sensing Center (MARC)	Open	Schedule will be posted at KAS Registration Desk
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Established in 1979, the Murray State University Mid-America Remote sensing Center (MARC) is home to "state-of-the-art" teaching and research hardware/software focused on geo-spatial analysis. The Center has established a strong reputation throughout this region for teaching, training, and conducting problem solving research in remote sensing, image processing, global positioning systems (GPS), and geographic information systems (GIS).

# Yes, I Want to Join the Kentucky Academy of Science

Check appropriate boxes

## Individual Membership

(January to December)

- \$25 Active Member
- \$15 Student member (Collegiate)
- \$10 KJAS member
- \$35 Family member
- \$350 Life member

## Educational/Industrial Affiliate Membership

- \$5,000 Patron
- \$2,000 Associate Patron
- \$1,000 Fellow
- \$500 Sustaining Member
- \$250 Member
- \$100 Associate Member

Payment Enclosed \$ \_\_\_\_\_

Name \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

E-mail \_\_\_\_\_

Employer or School \_\_\_\_\_

### Membership Voting Section (check only one)

- Agricultural Sciences
- Anthropology & Sociology
- Botany & Microbiology
- Cellular & Molecular Biology
- Chemistry
- Computer & Information Sciences
- Ecology & Environmental Science
- Engineering
- Geography
- Geology
- Health Sciences
- Mathematics
- Physics & Astronomy
- Physiology & Biochemistry
- Psychology
- Science Education
- Zoology

Please make checks payable and mail to:

The Kentucky Academy of Science  
Science Outreach Center  
University Drive  
University of Kentucky  
Lexington, KY 40536-0078



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Lexington, KY 40536-0078