



Kentucky Academy of Science

NEWSLETTER

*The Voice of Science
in Kentucky*

<http://www.kyscience.org>

Susan Templeton, Editor

January 2008

Affiliates

- Patron - \$5,000 level*
Lumins Associates
- Fellow - \$1,000 level*
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KBRIN (Kentucky
Biomedical Research
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Morehead State University
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University of Louisville
Western Kentucky
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- Sustaining Member - \$500 level*
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available at www.kyscience.org.
You may contact the editor via e-
mail at susan.templeton@kysu.edu.**

From the President...

I consider it both an honor and a privilege to have the opportunity to serve as President of the Kentucky Academy of Science (KAS) for 2008. I look forward to working with all those who have made and are making the Kentucky Academy of Science one of the most active and productive state science academies in the country.

The accomplishments of the Academy are many. As in past years, participation in this year's annual conference was very strong with over 650 faculty and students attending the University of Louisville and Bellarmine University hosted event. The Academy's Journal is now in its 68th year of publication. How many science academies can make such an important claim? Finally, the Newsletter continues to play an important role in keeping members up-to-date with Academy activities and in recognizing the outstanding scientific and educational accomplishments of its members.

Despite a storied history and an impressive level of activity, one always needs to look at ways in which an organization like KAS might even better serve its members and the state. At our February 2006 Board retreat, we identified a new motto for the Academy "KAS - THE VOICE OF SCIENCE IN KENTUCKY." Over the course of the coming year, I hope to work with the KAS Board and the KAS membership to better identify and define this voice.

I see many needs that must be served if we are to strengthen science, technology, engineering and mathematics research and education in the Commonwealth. First and foremost, we need better communication among the scientists of Kentucky. If you are at Morehead State University or Berea College, how familiar are you with the heart research going on at the University of Louisville? If you are teaching at the University of Kentucky, are you familiar with the instructional innovations being developed at Northern Kentucky University or Centre College? I can see where KAS can play an important role in enhancing information exchange and communication among all of our campuses.

It is not only with our academic institutions that better information exchange needs to happen. Are you familiar with the Council on Postsecondary Education's (CPE) Science, Technology, Engineering and Mathematics (STEM) initiative that is being put before the Legislature this year? Do you know what programs the Kentucky Science and Technology Corporation (KSTC) sponsors? Do you know what funding opportunities are available through the Experimental Program to Stimulate Competitive Research (EPSCoR)? Are you familiar with what corporate research is going on in the state? As everyone knows, the name-of-the-game in science today is collaboration and collaborations will not develop if we are unaware of what our colleagues are doing. Equally important, we need to know where we can find funding and what direction the state is heading.

While information exchange is an important part of our annual conference, the KAS Newsletter can also play an important role in helping facilitate information exchange across the state. The Newsletter editor, Susan Templeton, is initiating a new feature in the Newsletter entitled, "Science News Across the Commonwealth" that will enable our academic institutions to share information

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KAS Governing Board Updates

The Nominations and Elections Committee congratulates those who were elected to office and expresses sincere appreciation to all those willing to serve the Academy by allowing their names to be placed into nomination.

Newly elected Board members:

Vice-President Nancy Martin (U of L)
Secretary Robert Kingsolver (Bellarmine)
Treasurer Ken Crawford (Western)
At-Large Representative Cheryl Davis (Western)
Biological Sciences Rep. Richard Durtsche (Northern)

Continuing Board members:

President John Mateja (Murray)
President-Elect Robin Cooper (UK)
Past President Nigel Cooper (U of L)
At-Large Rep. George Antonious (Kentucky State)
Biological Sciences Rep. Sean O'Keefe (Morehead)
Physical Sciences Rep. Scott Nutter (Northern)
Physical Sciences Rep. Eric Jerde (Morehead)
Social & Behav. Sci. Rep. David Olson (Morehead)
Social & Behav. Sci. Rep. Kenneth Tankersley (Northern)

Ex-officio Board members:

Executive Director Jeanne Harris
Junior Academy of Science Director Ruth Beattie (UK)
Program Coordinator Robert Creek (Eastern)
Journal Editor David White (Murray)
Webpage Editor Claire Rinehart (Western)
Newsletter Editor Susan Templeton (Kentucky State)

Board members retiring:

Past President Miriam Kannan (Northern)
Biological Sciences Rep. Philip Lienesch (Western)
At-Large Representative Chris Lorentz (Northern)

Executive Director Updates

KAS is pleased to announce Brescia University and Lindsey Wilson College have become new KAS affiliates. Brescia University is a new Sustaining Member and Lindsay Wilson College is a new Member. Welcome!! Additionally, Eastern Kentucky University has upgraded its affiliation to Fellow status. Thank you! KAS is grateful to all of the KAS affiliates for their support.

Just a reminder, if you have not already done so please update your KAS Membership for 2008. The annual membership dues remain \$15 for students, \$35 for individuals, \$50 for families, and \$400 for lifetime memberships. Active KAS members receive discounted registrations to the 2008 KAS Annual Meeting and complimentary subscriptions to the Journal of the Kentucky Academy of Science. These benefits more than pay for the price of your membership! You can renew your membership online at www.kyscience.org or utilize the membership form in this newsletter. If you have any questions, please contact me.

Best wishes,

Jeanne Harris, KAS Executive Director
executivedirector@kyscience.org
859-227-2837

From the President... *continued*

on research and instructional programs. For this initiative to be successful, it is critical that we identify "campus representatives" who will work with Susan to develop two or three articles each year on campus-related research or education activities. These articles might be specifically written for the Newsletter or be articles developed for another audience. Help is also needed to develop or solicit articles related to the activities of CPE, KSTC and EPSCoR. Help us make this initiative a success by volunteering to serve as a Newsletter Campus Representative or as our representative to the CPE, KSTC and EPSCoR. If you are interested, please contact Susan at susan.templeton@kysu.edu.

I also see a need to increase the membership in KAS. If we truly are to be a voice for science in Kentucky, then it is important that greater numbers of Kentucky's professional and student scientists play a role in helping us create that voice. The KAS Board will, over the coming year, look to implement new strategies to increase membership in KAS.

Nigel Cooper, KAS President for 2007, wrote in his 2007 president's letter, "Just as the boundaries of science are continually adapting and growing, we too need to continue to adapt and grow." I hope you will do everything you can to enable KAS to adapt and grow to help us meet the needs of science in Kentucky.

As I close this letter, I want to extend to you an opportunity to become more involved with KAS. Science has an important role to play in the economy and welfare of Kentucky and the Academy has an important role to play in support of science in the Commonwealth. For many years I have worked through organizations like the Council on Undergraduate Research and EPSCoR to improve both research and education in the sciences. During my term as president, I look forward to working with the many dedicated members of the Kentucky Academy of Science in all of our efforts to strengthen scientific research and education throughout the Commonwealth.

John Mateja



2008 KAS President John Mateja (right) accepted the gavel from 2007 President Nigel Cooper during the KAS Annual Business Meeting held Saturday, November 10, 2007.

2007 Annual Meeting Report

The 93rd meeting of the Kentucky Academy of Science held at the University of Louisville on November 8-10, 2007, was very well attended. A total of 647 people registered, including 397 students, up 60 from last year.

The Thursday evening Symposium featured presentations by U of L scientists Dr. Harrell Hurst and Dr. Steven Myers on human exposure to air pollution and environmental contaminants. Dr. Joel Shulman, University of Cincinnati, led the Friday panel discussion on "Newly Proposed American Chemical Society Guidelines for Undergraduate Education in Chemistry." Dr. Karl Dawson, Director of Worldwide Wide Research at Alltech, spoke on "Nutrigenomics: The Marriage between Molecular Biology and Nutrition" at the Plenary Session. The Awards Banquet was held at co-host Bellarmine University, Dr. Nila Dharan, Center for Disease Control and Prevention, spoke on "Influenza – Seasonal, Avian and Pandemic: Local Implications for a Global Disease."

Saturday morning's panel discussion on "EPSCoR's Impact in Kentucky and How EPSCoR Helps University Faculty" was led by Dr. Wimberly Royster (UK), Dr. John Mateja (Murray), and Dr. Benjamin Malphrus (Morehead). A grant writing workshop was presented Saturday by Ms. Barbara Martin Daley; Dr. Jeff Falcone from the University of Louisville presented a Physiology of Fitness Workshop. **Note: If you missed one of these outstanding presentations, audio podcasts and PDF slideshows are available at www.kyscience.org.**

There were 215 oral presentations; 83 were entered in the URC and 46 were in the GRC. There were 146 poster presentations with 86 entered in the URC.

<u>Presentations by Section</u>	<u>Total</u>	<u>URC</u>	<u>GRC</u>
Agricultural Science	34	9	5
Anthropology & Sociology	2	1	0
Botany	15	7	2
Cellular & Molecular Biology	28	25	3
Chemistry	28	23	1
Computer & Info. Science	10	1	5
Ecology & Environ. Science	35	14	14
Engineering	4	0	0
Geography	17	3	2
Geology	7	2	2
Health Sciences	19	16	0
Mathematics	7	2	0
Microbiology	13	13	0
Physics & Astronomy	16	6	3
Physiology & Biochemistry	22	19	2
Psychology	15	3	2
Science Education	8	1	1
Zoology	22	12	5

This year meeting attendees were given the wonderful opportunity of touring the 10,000 sq. ft. Cleanroom and the Nanotechnology Core Facility at the University of Louisville--- what a great option for current and future scientists!! Attendees also viewed exhibits of many organizations and KAS is thankful for their support. Exhibitors present at the meeting included:

B & B Microscopes, Ltd
 CEM Corporation
 Integrated Biomedical Science, University of Kentucky College of Medicine
 Kentucky Biomedical Research Infrastructure Network (KBRIN)
 Kentucky State University Division of Aquaculture
 Marshall University/STEM Graduate Programs
 Morehead State University Graduate Programs
 Murray State University Graduate Programs
 The Space Science Center/Morehead State University
 University of Louisville Graduate School
 WKU-Ogden College of Science and Engineering

The Academy would like to thank the following 2007 Annual Meeting sponsors for their support and generosity.

American Synthetic Rubber	Gold Level
Sud-Chemie Inc.	Gold Level
Peptides International, Inc.	Silver Level
CEM Corporation	Bronze Level
Fisher Scientific	Bronze Level
Morehead State University Graduate Programs	Bronze Level
Cardinal Office Products	Friend
Alltech	Honorary Sponsor
Bellarmine University	Honorary Sponsor
University of Louisville College of Arts & Sciences	Honorary Sponsor

KAS would like to acknowledge Dr. Robert Creek, Program Chair, the Local Arrangement Committee (Robert Buchanan, Nigel Cooper, Cynthia Corbitt, Stephanie Dearing, Craig Grapperhaus, Robert Kingsolver, Eric Rouchka, and Steve Wilt), and Kathie and Lindsay Sauer from Lumins Associates for all of their hard work which made this meeting possible.

2008 Annual Meeting Announcements

Host: University of Kentucky
Dates: Friday, October 31 - Saturday, November 1, 2008
Location: University of Kentucky, Lexington, Kentucky

Changes in the meeting dates and format have been made to accommodate meeting room and parking availability on the UK campus. The tentative schedule will be to hold both the Governing Board and Annual Business meetings on Friday, along with the Symposium and Sectional Officers meeting. All paper and poster sessions will be held on Saturday between 8 AM and 5 PM. The Annual Awards Banquet will be held Saturday evening.

2007 Student Research Competition Winners

Congratulations to the following students who won awards. Congratulations also to their mentors and a special thanks to those who devoted their time to judge the presentations. Oral presentation winners are listed by place; only first place was awarded for posters.

Undergraduate Winners

AGRICULTURAL SCIENCES

- 1st: Latrice Faulkner - Ky State
- 2nd: Amanda Gray - Western
- 3rd: Brian Bennett - Asbury College
- Poster: John Rodgers - Ky State

ANTHROPOLOGY AND SO2CIOLOGY

- 1st: Cynthia Lu - Ky State

BOTANY

- 1st: Kathryn Blair - Bellarmine
- 2nd: Catherine Brumm - Bellarmine
- 3rd: Annesia Lamb - Western
- 4th: Jeffrey Davis - Western
- Poster: Sanda Zolj - Bellarmine

CELLULAR AND MOLECULAR BIOLOGY

- 1st: Joseph Chauarria-Smith - Western
- 2nd: Karen Burwinkel - Northern
- 3rd: Katharina Hopp - Brescia
- 4th: Damien Wilburn - U of L
- Poster: David Foster - Berea College

CHEMISTRY

- 1st: Chris Miller - Northern
- 2nd: Jessica Price - Berea College
- 3rd: Evan Roberts - Murray
- 4th: Thaddeus Salmon - Asbury College
- Poster: Kayla Meadows - Berea College

COMPUTER AND INFORMATION SCIENCES

- Poster: Alexis Mavroides - Midway College

ECOLOGY AND ENVIRONMENTAL SCIENCE

- 1st: Elizabeth Fleming - Berea College
- 2nd: Cabrina Hamilton - Western
- 3rd: Meredith Bartley - Western
- Poster (tie): Tsering Dolma - Berea College
- Robert Twiggs - Berea College
- Brea Uiragh - Berea College

GEOGRAPHY

- 1st: Jill Hunter - Eastern
- Poster: Brittany Moody - Morehead

GEOLOGY

- 1st: Wesley Smith - Morehead
- Poster: Megan Ennis - Morehead

HEALTH SCIENCES

- 1st: Charles Barrett, Jr. - Bellarmine
- 2nd: Josh Sparks - Berea College
- 3rd: Santhi Chilukuri - Ky State
- 4th: Jennifer Shoulders - Ky State
- Poster: M. Hester, H. Bullen, C. Cason, B. Rossow, C. Hargrove, and K. H. Martines- Northern

MATHEMATICS

- 1st (tie): Chris Hatfield - Asbury College
- Kim Reiland - Morehead

MICROBIOLOGY

- 1st: Eric Banks - Northern
- 2nd: Alicia Lewellen - Asbury College
- 3rd: Sarah Rose - Asbury College
- Poster (tie): Brandon Iker - Northern
- Shannah Reynolds - Eastern

PHYSICS AND ASTRONOMY

- 1st: Kannatassen Appavoo - Berea College
- 2nd: James Atwood - Morehead
- 3rd: Megan Ennis - Morehead
- 4th: Shabee Ratan Barua - Berea College
- Poster: Jason Carson - Western

PHYSIOLOGY AND BIOCHEMISTRY

- 1st: Reagan Gilley - Western
- 2nd: Brittany Freeman - Asbury College
- 3rd: Samantha Wang - Ky State
- 4th: Rachel Hayden - Ky State
- Poster: Katherine Luking - U of Ky

PSYCHOLOGY

- 1st: Marcus Hundley - Morehead
- 2nd: Jared Dillow - Morehead
- 3rd (tie): Jeremy Bowen - Morehead
- Kiersten Sandfoss - Morehead
- Cassie Watkins - Morehead
- Poster: Carey Sharner - Centre College

SCIENCE EDUCATION

- 1st: Jeremiah R. Alexander - Eastern

ZOOLOGY

- 1st: Amanda Webb - Western
- 2nd: Elizabeth Foster - U of L
- 3rd: Amanda Hensley - Berea College
- Poster: Katherine Johnson - Berea

Graduate Winners

AGRICULTURAL SCIENCES

- 1st: David Wood - Ky State
- 2nd: Russell Neal - Ky State
- 3rd: Kimberly Trosvick - Ky State

BOTANY

- 1st: Oliver Starks - U of Louisville
- 2nd: Troy Evans - Eastern

CELLULAR AND MOLECULAR BIOLOGY

- 1st: Charu Agarwal - U of Louisville
- 2nd: Jinny Paul - U of Louisville
- 3rd: Christa Gaskill - Western

CHEMISTRY

- 1st: Jivan Yewle - U of Ky
- 2nd: Nalini Sathyanarayan - Murray
- 3rd: Elsayed Zahran - U of Ky

COMPUTER AND INFORMATION SCIENCES

- 1st: Zachary Ware - U of Ky
- 2nd: Timothy Meyers - U of Ky
- 3rd: Christy Bogard - U of Louisville
- 4th: Joseph Morris - U of Louisville

ECOLOGY AND ENVIRONMENTAL SCIENCE

- 1st: Allison Smith - U of Louisville
- 2nd: Christine Lattin - Eastern
- 3rd: Jonathan Bowers - Western

GEOGRAPHY

- 1st: John Walker - Western
- 2nd: Ronnie Leeper - Western
- 3rd: Crystal Bergman - Western

GEOLOGY

- 1st: Theresa A. Aguiar - Eastern
- 2nd: Devi B. P. Udgate - U of Ky

PHYSICS AND ASTRONOMY

- 1st: Jennifer Carter - Morehead
- 2nd: Marc Beck - Morehead
- 3rd: Prabhakara Rao Eluru - Morehead

PHYSIOLOGY AND BIOCHEMISTRY

- 1st: Julie Schuck - Western
- 2nd: Monica Unseld - U of L

PSYCHOLOGY

- 1st: Ashley Kirk - Morehead
- 2nd: Holly Griffith - Morehead
- 3rd: Jason Byer - Morehead
- 4th: Julie Cash - Morehead

SCIENCE EDUCATION

- 1st: Emily Jean Hicks - Eastern

ZOOLOGY

- 1st: Maria Clara Figueirinhas - Western
- 2nd: Michelle Carder - Eastern

2007

Superlative Awards

DISTINGUISHED COLLEGE/UNIVERSITY SCIENTIST



KAS President Nigel Cooper (right) presents this award to Dr. Ellen Hahn, University of Kentucky.

Dr. Ellen Hahn holds a Professorship as a “UK Alumni Professor, 2007-2012” at the University of Kentucky College of Nursing and is a Professor in the College of Public Health at the University of Kentucky.

She currently is the Principal Investigator of a grant entitled “An Intervention for Promoting Smoke-free Policy in Rural Kentucky” which was funded by the National Heart, Lung, and Blood Institute (\$3.17 million total cost). She has been Principal Investigator on 30 other grants as well on related health issues.

Dr Hahn has made outstanding contributions to the state of Kentucky in research, scholarship and service. She has numerous peer reviewed publications.

Through her hard work ethic and her efforts in educating policy makers and the public about the adverse effects of smoking as well as secondary smoke, she was able to have legislation passed and enforced. This was the “Lexington Smoke -free” ordinance which many other communities across the state quickly followed.

Dr. Han has received many awards from such groups as American Public Health Association. She mentors doctoral students and is active in publishing with them. Her broad impact across the state has improved the quality of life for all of us.

DISTINGUISHED PROFESSIONAL SCIENTIST

Mr. Dillard Griffin has well served Kentucky for many years by using his expertise to help provide high quality drinking water. He has been with the Kentucky American Water Company for 37 years and since 1993 has been Operations Superintendent for Production & Maintenance. He oversees surface water treatment plants that pump 30-40 million gallons per day.

He has served on the Certification Board for Water Treatment Plant & Water Distribution System Operators at the Kentucky Natural Resources Cabinet, Division of Water for eleven years and has been Chairman of this board for the past eight years. He is licensed by the state to oversee and certify other people who are responsible for water quality within Kentucky. This is a teaching role with real consequences for the citizens of the Commonwealth. He insures that people are trained and knowledgeable in water chemistry and quality issues to make our water safe statewide.

In addition, for the past 10 years, Mr. Griffin has donated his time and expertise to the Bluegrass Community & Technical College's Environmental Science Technology Program.

Not only is Mr. Griffin active in water quality control, he is also an active environmentalist and takes a strong role in the Kentucky Audubon Society.



KAS President Nigel Cooper (right) presents this award to Mr. Dillard Griffin at Kentucky American Water.

OUTSTANDING SECONDARY SCHOOL SCIENCE TEACHER

Students at Warren Central High School refer to Mr. Kenny Lee as the “cool” teacher with the neat toys. The students have noted that they have a great time in his class and learn more than they ever expected to learn. He has taught AP Physics and Physics I at Warren Central since 1994 to the present.

Mr. Lee's AP Physics class has one of the largest participation rates in taking the AP exam of any other AP class at Warren Central with also one of the largest pass rates. Due to his influence, many students major in physics and engineering at the college level. Mr. Lee also sponsors the Physics Club. He takes his students to many competitions throughout the year. Examples include the University of Kentucky's engineering TEAMS contest, Physics Olympics, Western Kentucky University's Robot competition, and the Barren River Imaginative Museum of Science's Bridge-Building challenge. He is also referred to as the “24/7” teacher because of his continual efforts to work with students.



KAS President Nigel Cooper (right) presents this award to Mr. Kenny Lee, Warren Central High School.

OUTSTANDING COLLEGE/UNIVERSITY TEACHER



KAS President Nigel Cooper (right) presents this award to Dr. Ricky Cox, Murray State University

Dr. Ricky Cox, Associate Professor of Chemistry at Murray State University, is noted as a highly motivational teacher. His students actively participate in science and engineering competitions at the state level. He has been selected to present in six of the past seven years at the statewide Kentucky Conference on the Scholarship of Teaching and Learning.

Dr. Cox has also been recognized outside the University for teaching excellence. He serves on the Advisory Board of The Teaching Professor Conference. This is a national cross-disciplinary conference dedicated to teaching excellence that invites only three faculty each year to serve in this capacity. His publications on biochemistry teaching methods have had notable impact at the University of Massachusetts at Amherst. Dr. Cox's publications on innovative methods for teaching biochemistry have inspired five junior faculty in the Department of Biochemistry and Molecular Biology to start teaching initiative projects such as the ones Dr. Cox uses to enhance their teaching.

His publications span both the traditional research and pedagogical areas with many having students as co-authors. He actively mentors graduate and undergraduate students.

OUTSTANDING ACADEMY SERVICE

Dr. Bruce Mattingly, currently the Associate Provost for Research at Morehead State University, has served in various roles for the Kentucky Academy of Science. He has a long standing association with the Academy. One of his first presentations as an undergraduate student was at the Academy's annual meeting in 1973. Since then he has presented numerous times at the KAS meetings. He has served twice as chair of the Academy's Psychology Section and twice as secretary to that section. He has served on the Academy's Governing Board multiple times and he has chaired many of its sub-committees. He became Vice-President in 2003, President-Elect in 2004, President in 2005 and Past President in 2006.

He is known for renewing the spirit and mission of the Academy. In addition, he organized a wonderful KAS meeting in 2006 at Morehead State University. He has also been involved in many other activities for the state of Kentucky such as with the Kentucky Biomedical Research Infrastructure Network (KBRIN).



KAS President Nigel Cooper (right) presents this award to Dr. Bruce Mattingly, Morehead State University

KySat Aims High

KentuckySat (KySat) is an ambitious joint-enterprise involving public organizations, colleges and universities and private companies in a student led initiative involving the design, build, launch and ground operation of small satellites and other spacecraft to promote science, technology and engineering, innovation and education.

KySat trains and supports students in the dynamics of spacecraft design, payload development, launch and the operation of small satellites and related spacecraft (including near-space) as a means of extending science, technology, engineering, education, innovation and entrepreneurship in Kentucky.

Science and technology with a particular focus on miniaturization are the key drivers of the KySat Enterprise.

Once achieving orbit (or sub-orbit) KySat will be made available at no cost to Kentucky schools, students, parents, etc., for educational purposes and applications.

KySat will involve an ongoing series of satellite design, build and launch missions -- each with varying scope and complexity.

KySat emerged through the work of the Kentucky Science and Technology Corporation's (KSTC) Advanced Concepts Office at NASA Ames Research Center in Mountain View, California. Created in 2004 the Office facilitates and extends KSTC's and Kentucky's work in areas related to space R&D and planetary sub-surface exploration.

For additional information about the KySat program, visit www.kysat.com or contact Mission Management Contact Kris Kimel at kkimel@kstc.com or 859-233-3502 ext. 221.

KAS Journal Call For Papers

The *Journal of the Kentucky Academy of Science*, now in its 69th year, is published through Allen Press each spring and fall and is abstracted through BioOne. The *Journal* publishes peer reviewed articles from all disciplines within the Academy. Turnaround time usually is six months or less, and page charges (\$35/page) are very reasonable. The *Journal* accepts regular articles (12-20 manuscript pages), scientific notes (2-5 pages), and will accept Letters to the Editor. The *Journal* also seeks series of manuscripts that result from special workshops or conferences. In these cases, a special editor may be appointed. All manuscripts should be sent to:

David White, Editor J-KAS
Hancock Biological Station
561 Emma Drive
Murray KY 42072

Instructions for authors can be found at www.kyscience.org. Please call 270-474-2272 or e-mail the editor at david.white@murraystate.edu for more information.

Science Café Debuts in Lexington

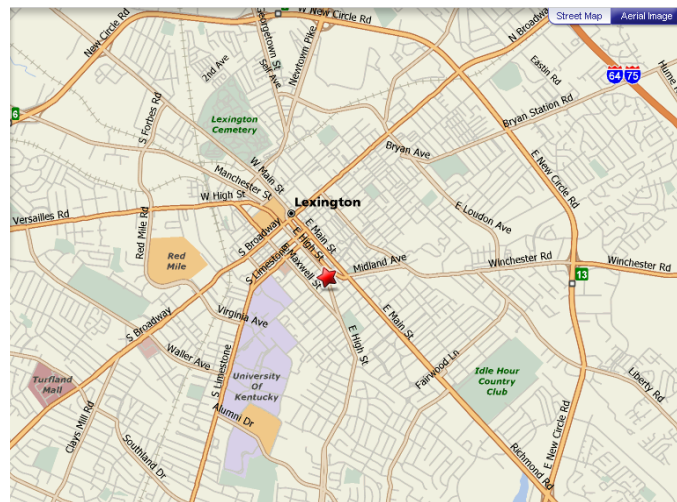
Date/time: Wednesday, March 26, at 7 PM

Location: Common Grounds Coffee House and Café
343 East High Street Lexington, KY

Topic: KentuckySat (KySat)

Speakers: *KySat Mission/Faculty Advisors: Dr. James E. Lumpp, Jr (KySat Engineering Lead) and Dr. Janet K. Lumpp.* Both are Associate Professors in the Department of Electrical and Computer Engineering at the University of Kentucky College of Engineering.

Your table is waiting. Please share a cup of coffee with fellow scientists and learn more about KySat. This event is free and open to the public. For questions contact Jeanne Harris, KAS Exec. Dir., at 859-227-2837.



The NAS on Creationism

Written by the National Academy of Sciences Committee on Revising Science and Creationism, *Science, Evolution, and Creationism* will be an essential resource for educators, students, teachers, community leaders, legislators, policy makers, and parents who seek to understand the basis of evolutionary science. It is available from the National Academies Press in paperback for \$12.95 (list) or \$11.65 (web); it can be read online or a free PDF downloaded at www.nap.edu/catalog/11876.html.

Research Funds Awards

The following grants were approved at the January 2008 KAS Board meeting:

Special Research Program: Michael Stokes, Western Kentucky University, will receive \$9,891 for a project entitled "5-Termitaria: Engineering Biodiversity in Semiarid Lands."

Undergraduate Research Program: Jauan Burbage/Jeffrey Marcus, Western Kentucky University, will receive \$3,000 for a project entitled "The Effects of Alcohol on Mate Choice Decisions in Limenitis Butterflies" and Andy Smith/Laurie Rincker, Eastern Kentucky University, will receive \$500 for a project entitled "Comparison of Circulating Progesterone and Metabolic Profiles in Holstein Heifers and Lactating Cows."

Marcia Athey Fund: Margaret Mahan and Michael Stokes, Western Kentucky University, will receive \$750 for a project entitled "Ecological Investigation of Vertebrate Use of Epigeal Termitaria in the Tasavo Region of Kenya" and Maria Figueirinhas, Western Kentucky University, will receive \$1,130 for a project entitled "A phylogenetic study of the endangered species *Podarcis carbonelli* on a micro-geographic scale."

Congratulations to these individuals. If you are interested in applying for future awards, the application deadline is November 15, 2008. Descriptions of the various types for funds available and application forms are available online at www.kyscience.org/members/grants.php.

2008 Sectional Officers

<u>SECTION</u>	<u>CHAIRPERSON</u>	<u>SECRETARY</u>
Agricultural Sciences	Norm Strobel Norman.strobel@kctcs.edu	Martin Stone martin.stone@wku.edu
Anthropology & Sociology	Changzheng Wang changzheng.wang@kysu.edu	Donald Ball dball39539@aol.com
Botany	Maggie Whitson whitsonma@nku.edu	Allen Risk a.risk@morehead-st.edu
Cellular & Molecular Biol.	Sigrid Jacobshagen sigrid.jacobshagen@wku.edu	Dawn Anderson dawn_anderson@bera.edu
Chemistry	Matthew Saderholm matthew_saderholm@bera.edu	Kevin Revell kevin.revell@murraystate.edu
Computer & Information Sciences	Jerzy W. Jaromczyk jurek@cs.uky.edu	Eric Rouchka eric.rouchka@louisville.edu
Ecology & Environmental Science	Scott A. Grubbs scott.grubbs@wku.edu	Sarah Emery sarah.emery@louisville.edu
Engineering*	Jennifer Birriel j.birriel@moreheadstate.edu	Ignacio Birriel i.birriel@moreheadstate.edu
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Geology	Frank R. Etensohn fettens@uky.edu	John Rockaway rockawayj@nku.edu
Health Sciences	Avinash Tope avinash.tope@kysu.edu	Phyllis Rogers phyllis.rogers@kysu.edu
Mathematics	Russell J. May r.may@moreheadstate.edu	Mark Robinson mark.robinson@wku.edu
Microbiology	Marcia Pierce marcia.pierce@eku.edu	Hazel Barton bartonh@nku.edu
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*If anyone is interested in serving as a sectional officer for this discipline, they should contact Robert Creek at robertcreek@bellsouth.net.

Science News Across the Commonwealth

Editor's note: This new section of the KAS Newsletter will focus on what is happening in the field of science in Kentucky. We encourage all readers to submit articles on science education programs, scientific research, or science-related news on your campus, in your community, or within your organization. Please send your submissions to Susan Templeton, the KAS Newsletter Editor, via e-mail at susan.templeton@kysu.edu.

MURRAY, Ky., - Entering into the second year of a nationally funded program, students and faculty in mathematics and biology at Murray State University continue to break new ground in the training of undergraduate researchers. In 2005, the National Science Foundation awarded Murray State University an Undergraduate Training in the Biological and Mathematical Sciences grant (UBM) of over one-half million dollars. From this grant, Murray State established the Biology and Mathematics in Population Studies program (BioMaPS), which creates a research environment for mathematics and biology undergraduates to study the designs and patterns that exist in populations at organismal and cellular levels.

According to Dr. Renee Fister, professor of math and statistics, the beauty of the MSU biomathematics program is that students and faculty learn to explain their thoughts in unique ways to accomplish the tasks that lie at the intersection of biology and mathematics. Five students were selected as undergraduate research participants in 2006 and six were chosen for the 2007 cycle. To date, these students have made eight regional and two national presentations, have attended five national meetings and workshops, and are authors or co-authors on four scientific publications. Graduates from the program have competed successfully for graduate fellowships, such as the doctoral program at Texas Tech University. At least 25 students will be equipped with the skills to understand population-level patterns and to develop accurate models of biomedical and ecological phenomena over the five-year duration of the project. In addition to Fister, principal investigators for the project include the following mathematics and biology faculty: Maeve McCarthy, Chris Mecklin, David Roach, Terry Derting, Nicole Gerlanc and Howard Whiteman.

The goals of the project are motivated by the increased need for professionals who understand the mathematics behind biological phenomena and the biological implications of mathematical models. Participating undergraduates work on projects co-mentored by mathematics and biology faculty. Within these projects, the students are committed to 10 hours per week during the semester and full time in June and July. Students and faculty have the opportunity to travel and to present their research at local, regional, and national venues. Student projects have included studies on Lyme disease risk in Kentucky, bacterial growth in a closed system, microsatellite analysis of a polymorphic population of Tiger Salamanders, and patch studies of fitness for white-footed mice.

Please visit campus.murraystate.edu/biomaps for complete information about the program. *From Ava Watkins, MSU News Bureau, (270) 809-3271.*

Engagement Conference: A Summit for the Higher Education Community

Murray State University will host an Engagement Conference on February 28-29, 2008. The conference goal is to help faculty and administrators prepare college graduates to face some of the most daunting local, regional, national and global challenges the world has ever known. This event will be organized and hosted by MSU's Office of Undergraduate Research and Scholarly Activity and the MSU Center for Service Learning and Civic Engagement. Through plenary sessions and workshops, faculty and administrators will have the opportunity to exchange ideas and discuss models that engage students in critical thinking and problem solving activities emphasizing involvement in research, service learning and stewardship activities. The program includes a panel of higher education leaders discussing institutional engagement, three plenary sessions, and twenty-nine concurrent workshops in five sessions over the two days. Scheduled workshop topics include regional stewardship, institutionalizing undergraduate engagement, service learning, community partnerships, academic experiences outside the classroom, and research in traditional and nontraditional disciplines as well as cross-disciplinary programs. Discipline-specific workshops include Biology, Mathematics, Biomathematics, Nursing, Arts & Humanities, Psychology & Social Sciences, Teacher Education, and Business.

Thursday evening's presidential lecture will be "Crimes Against Nature"; the speaker will be Robert Kennedy, Jr., Chief Prosecuting Attorney for the Hudson Riverkeeper and President of Waterkeeper Alliance. The luncheon speaker Friday will be George Mehaffy, Vice President for Academic Leadership and Change, American Association of State Colleges and Universities. His topic will be "Developing Informed and Engaged Citizens - The Imperative for Higher Education."

The registration fee is \$175 for both days and \$125 for one day (Thursday or Friday). This fee includes dinner on Thursday, breakfast and lunch on Friday, and materials associated with the conference. The registration deadline is February 14, 2008; however, registrations may be accepted after deadline, pending availability.

Detailed program and registration information is available at <http://www.murraystate.edu/engagementConference/index.htm>.



BioMaPS participants and faculty for 2006: In the front row are Dr. Maeve McCarthy (mathematics), Dr. Terry Derting (biology), Sarah Thomason (biology), Dr. K. Renee Fister (mathematics), and Dr. Chris Mecklin (mathematics). The second row members are Courtney Thomason (biology), Michael Whitby (mathematics), Jake Elliott (mathematics), Todd Schoborg (biology), and Dr. Howard Whiteman (biology).

KJAS Kentucky Junior Academy of Science News

The Junior Academy was begun over fifty years ago to foster an interest in science for middle school and high school students in Kentucky. Members of the Kentucky Junior Academy have the opportunity to:

- interact with other high school students across the state who are interested in science and technology,
- apply for money to design and complete science projects,
- present projects at the annual KJAS meeting, and
- publish an abstract in the Journal of the Ky Academy of Science.

The KJAS 2008 Spring Symposium will be held Saturday, April 19, 2008 at the University of Kentucky. The paper and abstract deadline is April 1, 2008. To learn more about the Kentucky Junior Academy of Science visit the website at www.kyjas.org or contact the KJAS director:

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KENTUCKY SCIENCE AND ENGINEERING FAIR (KY-SEF)

The Academy has always been a strong advocate of science education as evident by the KJAS and the URC. Another opportunity for the members of the Academy to support our young student scientists is to be a judge at the Kentucky Science and Engineering Fair. The sixth annual state-wide Kentucky Science and Engineering Fair will be hosted by Eastern Kentucky University in Richmond, KY on March 28 – 29, 2008. KY-SEF will provide the opportunity for more than 160 young student scientists from throughout the Commonwealth of Kentucky to compete for scholarship and prizes. Best of Fair winners from KY-SEF and the regional science fairs to go to the Intel International Science and Engineering Fair this spring at Atlanta, Georgia to compete for additional scholarships and prize money. In 2007, 31 talented young student scientists representing Team Kentucky attended the International Science and Engineering Fair at Albuquerque, New Mexico. Team Kentucky represented the Commonwealth extremely well in winning 22 Grand Awards or Special Awards. In order for KY-SEF to be successful, we will need judges to evaluate the research projects of these young scientists. We would strongly encourage the members of the Academy to volunteer to be a judge at KY-SEF on Saturday, March 29, 2008. You may register to be a judge at our web site at www.kysef.eku.edu or by contacting one of us.

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Attention KAS Members: Judges are needed for the KJAS Spring Symposium. Please contact rebeat1@email.uky.edu to volunteer. Thanks.

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