



# Virginia Scientists

Volume XIX, Issue 2

April-May, 2010

## 2010 Meetings at JMU



The 88<sup>th</sup> Annual Meeting of the Academy will be held at James Madison University, Harrisonburg, beginning Thursday, May 20-22, 2010. The 69<sup>th</sup> Annual Meeting of the Virginia Junior Academy of Science will be held May 19-21, 2010. We are one of the few academies in the nation to meet concurrently with our Junior Academy. Our purpose is to provide unique opportunities for mentoring young scientists and recruiting them to Virginia colleges and universities. **Your support is needed on Thursday, May 20! Lend a hand in judging student paper presentations or scholarship awards in excess of \$120,000 and "Dinner With The Scientists."** Contact Susan Booth today!...[susanscience@msn.com](mailto:susanscience@msn.com)

### 2010 Special Meeting Events!

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Information on judging, lodging, tours, speakers, registration, etc. is at [www.vacadsci.org](http://www.vacadsci.org) ...click "MEETINGS" then "Registration and Information" to get to the official JMU meeting site.

## \$2500 in Grants Awarded at Fall VAS Undergraduate Research Conference

The Annual Academy Fall Undergraduate Research Conference was held on October 24, 2009 in Richmond at the Science Museum of Virginia with 39 undergraduate researchers and their sponsors attending. Our special thanks to guest speaker, Dr. Frank Kozusko, Associate Professor of Mathematics at Hampton University, offered a presentation titled "Mathematical Biology – A Discussion."

Each year the conference is held for students at Virginia's four-year colleges and community colleges. Our purpose is to encourage undergraduates early in their careers to focus on research as an essential component of both their current educational experience and career objectives when they enter the work force.

There were 17 presentations submitted by students from ten Virginia institutions of higher education. Represented were Ferrum College, Hampton University, Virginia Commonwealth University, Virginia Tech, University of Virginia-Wise, Radford University, George Mason University, University of Mary Washington, J. Sargeant Reynolds Community College, and Virginia Wesleyan College. The re-



Dr. Kozusko's invited address on mathematics and biology.

search proposals were evaluated by nine judges and five projects were recommended for grant support.

This year's winners, their topics, awards, and their

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## VAS Grant Winners

(Continued from page 1)

faculty sponsors are:

**Brandon Newmyer (\$500):**  
 “Elucidating Central Mechanisms of NPAF May Contribute to More Efficient Yields in Both Divisions of Poultry Production.” Faculty Sponsor: Dr. Mark A. Cline, Biology, Radford University.



**Jonathan S. Williams (\$500):**  
 “Role of Oxygen in the Photolysis of Polycyclic Aromatic Hydrocarbons in Non-Polar Solvents.” Faculty Sponsor: Dr. Charles M. Sharpless, Chemistry, University of Mary Washington.



**Andrew Buckner (\$500):**  
 “Identification and Amplification of the Human RAI1 Gene Promoter.” Faculty Sponsor: Dr. Deborah Zies, Biological Sciences, University of Mary Washington.



**Brittany Pizzano (\$500):**  
 “The Influence of Highly Emotional Faces on the Attentional Blink.” Faculty Sponsor: Dr. Hillary Stebbins, Psychology, Virginia Wesleyan College.



**Elizabeth J. Ferree (\$500):**  
 “Towards a Comprehensive Model of H1N1 Spread.” Faculty Sponsor: Dr. Tarynn M. Witten, Center for the Study of Biological Complexity, Virginia Commonwealth University.



## Nominations and Elections Committee Report

By Donald Whitney, Chair

**Dr. Arun Verma** is President-Elect of the Academy and will become President at the May Academy Conference. He has also served as Vice President, Secretary, and Treasurer. He has taught mathematics at the undergraduate and graduate level for twenty-four years. In 2001, Hampton University appointed him Endowed University Professor of Mathematics.



Dr. Verma earned his Ph.D. from the Indian Institute of Technology, Kharagpur, India. Arun is a member of Sigma Xi.

### The Nominations and Election Committee has recommended the following Slate of Officers for 2010–2011 ....

**PRESIDENT ELECT – Dr. Michael H. Renfroe** is Professor of Biology at James Madison University. He received his Ph.D. from Yale University and, following a post-doctoral position at Texas A&M University, he has been teaching undergraduate and graduate courses at JMU since 1986. In addition to teaching biology majors, Dr. Renfroe also teaches non-science majors, students studying to become public school teachers with an emphasis in science and mathematics, and students in a regional Governor’s School program.



Dr. Renfroe conducts research on tissue culture propagation of rare and endangered plant species, and on antioxidant content in foods and beverages of plant origin. He has involved many undergraduate and graduate students in his research and has mentored numerous high school students in research. Dr. Renfroe has been active in the Virginia Academy of Science since arriving in the state and has served as Academy Vice President, Secretary, and Treasurer; Mike is a member of the Flora

(Continued, see “VAS Nominees” page 3)



## VAS Nominees *(Continued from page 2)*

### Dr. Renfroe *(continued)*

Committee and the Advisory Board for the *Flora of Virginia* and has also served as Chair and Vice Chair of the Botany Section.

### VICE PRESIDENT – Dr. Ralph P. Eckerlin

is Professor of Biology at Northern Virginia Community College. He received his Ph.D. degree from the University of Connecticut. Since 1971 he has been teaching undergraduate courses in general biology, invertebrate zoology, and human anatomy and physiology at NVCC. He has also taught a parasitology course at George Washington University for 25 years. Dr. Eckerlin has won a number of teaching awards at NVCC and was the recipient of the 2009 SCHEV Outstanding Faculty Award. His research interests are in the distribution, biogeography, and taxonomy of parasites, particularly fleas. He has published more than 35 peer reviewed papers and book chapters and is a member of 14 scientific societies; he is a Research Associate of the Carnegie Museum of Natural History and the Virginia Museum of Natural History.

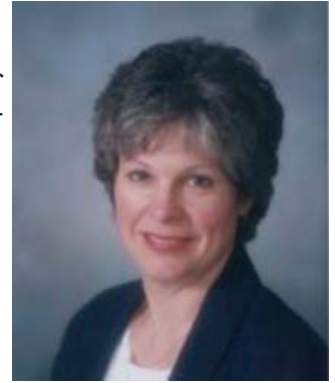
Dr. Eckerlin has been a member of the Virginia Academy of Science for more than 30 years and has served as Academy Treasurer and Membership Committee Chair. He has been Chair, Vice Chair, and Secretary of the Biology Section. Dr. Eckerlin has given 25 presentations of his research at VAS annual meetings. Ralph organized the symposium on "Land Use and Effects on Biota" and edited the manuscripts which were published as a special issue of the *Virginia Journal of Science*.



### SECRETARY – Dr. Deborah A. O'Dell

received her Ph.D. in Cellular and Developmental Biology from SUNY Stony Brook, and completed a post-doc in Neurophysiology from Cambridge University, UK. She is currently Associate Professor in the Department of Biological Sciences at the University of Mary Washington. Her research examines the cellular basis of behavior, as well as growth and function in the nervous system. In particular Dr. O'Dell is interested in the neural basis of magnetic navigation, and dimorphism in the nervous systems of honey bees. Deborah mentors undergraduate research students in topics ranging from neurochemis-

try, neuronal development, and neurodegeneration to the cellular basis of learning and behavior. Her students have presented their findings at meetings of the Society for Neuroscience, (including the Faculty for Undergraduate Neuroscience session), Virginia Academy of Science and SYNAPSE (Society of Young Neuroscientists and Professors in the Southeast). She is currently Chair for the Biology with Microbiology Section of the Academy having served previously as Vice Chair and Secretary. A member of VAS since 1993, she is currently Treasurer; her students have participated in the VAS Fall Undergraduate Research Conference and Deborah has served as session moderator and judge for VAS meetings.



### TREASURER – Dr. David Martin Crosby

received his Ph.D. in Fisheries Biology from Auburn University in 1987. Since 1993, Dr. Crosby has been the Fish Health Specialist with the Virginia Cooperative Extension at Virginia State University. He also worked for the Mississippi Cooperative Extension service, MSU in Stoneville, Mississippi as an Area Fisheries Specialist. Since 1998, Dr. Crosby has served as Secretary, Editor and Chair for the VAS Agriculture, Forestry and Aquaculture section. Dr. Crosby is currently serving as councilor for the section. For many years, Dr. Crosby has participated in the judging of student papers in the JVAS.

He has published numerous extension publications in aquaculture, water quality and fish health. As an Extension Specialist, he is interested in the ecology and taxonomy of fish parasites; high Intensive catfish production methods; and microbial ecology of fish ponds. David organized a Symposium for the 5th International Conference on Recirculating Aquaculture on "Streptococcus, An Emerging Pathogen of Recirculating Aquaculture Systems."

Dr. Crosby is a member of the American Fisheries Society (Fish Health Section & Fish Culture Section), American Society of Parasitologists, American Microscopical Society, and Helminthological Society of Washington.



## 2010 Annual Meeting Special Events

### Wednesday, May 19 Tours (VJAS-sponsored, register on-line)

- Architecture & Design: U.S. Green Building Council Eligibility Certification & the 700-seat East Campus Dining Hall. (45 min.)
- Science on a Sphere: JMU is the first to acquire SOS for research purposes. The NOAA tool provides an observer the illusion of seeing Earth systems (and those of other planets) from an astronaut's perspective in space. Examples of SOS projections are available at <http://sos.noaa.gov/datasets>. (30 min. workshop)
- The Mineral Museum features over 550 crystal and gemstone specimens from around the world. The collection began in 1976 under the curation of Dr. Lance E. Kearns. Located in Memorial Hall and available for open admission, registration for the SOS tour and the Mineral Museum will be together; please allow yourself enough time to explore the exhibit, following the scheduled SOS time slots.
- Edith J. Carrier Arboretum and Botanical Gardens: an ideal combination of botanical gardens and natural forest, each complementing the other and serving the purpose of research, teaching, and demonstration. The complex serves as an outdoor biology laboratory as well as an environmental center for this region. This tour will be led by Jan Sievers Mahon, the Arboretum Director. (45 min. tour)

### *Dinner With the Scientists, Thursday, May 20, 4:30-6:30 PM*

Contact Susan Booth: [susanscience@msn.com](mailto:susanscience@msn.com)

### *George W. Jeffers Memorial Lecture, Thursday, May 20, 7-8:30 PM*

#### **Plants You've Met But Never Knew**



**Michael H. Renfroe, Ph.D.**, the Vice President of the Academy, is professor of biology at James Madison University where he has taught for twenty-four years. His academic degrees include a B.S. from North Carolina State University, an M.S. from The Ohio State University, a M.Phil. from Yale University, and a Ph.D. from Yale University.

Dr. Renfroe will explore some of the plants that are used in many commercial products, but of which most of us are unaware. He will reveal plants used in food products, medicines, cosmetics, clothing, and other every day products of our lives. You've already met many of these plants – you just didn't know it.!

### *Sidney S. Negus Memorial Lecture, Friday, May 21, 6-7 PM*

#### **Safer Waterways for People and the Planet**

**Dr. Jason R. W. Merrick** received his Ph.D. from George Washington University in 1998. His career has been focused on assessing maritime oil transportation and ferry system safety as well as the environmental health of watersheds and optimal replacement policies for rail tracks and machine tools. He teaches courses in decision analysis, risk assessment, and Bayesian statistics. Dr. Merrick has received grants from the National Science Foundation, the Federal Aviation Administration, the Department of Homeland Security, the US Coast Guard, the American Bureau of Shipping, British Petroleum, and Booz Allen Hamilton, among others.



# Call for Nominations ... Fellow(s) and Honorary Life Member(s)

**Deadline: October 1, 2010**

For requirements and procedures, see Bylaws, Articles V and VI.

Go To: [www.vacadsci.org/constitution2.htm#bylaws](http://www.vacadsci.org/constitution2.htm#bylaws)

## *James Madison University President's Reception, Friday, May 21, 4:45 PM*



Hosted by Dr. Linwood H. Rose. Dr. Rose began his professional career with JMU in 1975 with assignments since then in every university division. He is JMU's fifth president since its founding in 1908.

**Academy Conference, Friday, May 21, prior to Negus Memorial Lecture, 6:00 PM.** Official Academy business as may be required.

**Academy Banquet, Friday, May 21, 7:30-9 PM.** New officers and honorees presented.

## Note to Archivists and Librarians

This is the second of two issues published in Volume XIX.

A third issue was not published in 2009-2010.

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## VIRGINIA ACADEMY OF SCIENCE APPLICATION FOR MEMBERSHIP

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

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

Institution or Business \_\_\_\_\_

Position -- Title \_\_\_\_\_

Interest -- Section No.(s) \_\_\_\_\_ First no. indicates major interest

Contacted by: \_\_\_\_\_

Make check payable to **Virginia Academy of Science** and send to:  
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Membership in the Academy is organized into sections representing various scientific disciplines as follows:

- |  |                                       |
|--|---------------------------------------|
| 1. Agriculture, Forestry & Aquaculture | 10. Psychology                        |
| 2. Astronomy, Mathematics & Physics    | 11. Education                         |
| 3. Microbiology & Molecular Biology    | 12. Statistics                        |
| 4. Biology                             | 13. Aeronautical & Aerospace Sciences |
| 5. Chemistry                           | 14. Botany                            |
| 6. Materials Sciences                  | 15. Environmental Science             |
| 7. Biomedical & General Engineering    | 16. Archaeology                       |
| 8. Geology                             | 17. Computer Science                  |
| 9. Medical Sciences                    | 18. Geography                         |
|  | 19. Natural History & Biodiversity    |

Annual Membership Dues - Please check one. Includes subscription to *Virginia Journal of Science*

Check Your Membership Choice:

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| <input type="checkbox"/> Life - Individual ..... 500.00      | <input type="checkbox"/> Patron ..... 1000.00                  |



## ***James Madison University Memorial Museum***

In December of 2005, the Department of Geology & Environmental Science moved from its long standing location in [Miller Hall](#), to a new location Room 6139 in [Memorial Hall](#) (formerly the Harrisonburg High School). In 2007, under the initiative of Dr. David Brakke (Dean, [College of Science & Mathematics](#)) and Dr. Douglas Brown (Vice President of Academic Affairs & University Provost), a room was designated and funds directed toward the construction of a secure museum display facility.

The ***James Madison University Mineral Museum*** is located in Memorial Hall, near entrance E. (Grace St. side of building). The museum is open to the public Monday through Friday from 8:00 am to 4:30 pm. The museum features over 550 crystal and gemstone specimens from around the world; they are arranged in the following displays:

*Systematic Collection* - arranged by chemistry and structure

*Locality Collections* - Elmwood, TN., Virginia Minerals

*Fluorescent Mineral Display* - Franklin & Sterling Hill, New Jersey - minerals glow under ultra-violet light



Virginia Academy of Science  
Science Museum of Virginia  
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**2010 ANNUAL MEETING**  
88<sup>th</sup> VAS - May 20-22 / 69<sup>th</sup> VJAS May 19-21  
**James Madison University**  
**Register @ [www.vacadsci.org](http://www.vacadsci.org)**