
Virginia Scientists

Volume XXI, Issue 1

May, 2012

Dr. Thomas Lovejoy is the Sidney S. Negus Memorial Lecturer at the 90th Annual Virginia Academy of Science Meeting at Norfolk State University



Welcome back to Hampton Roads! Norfolk State University will host The 90th Annual Meeting of the Virginia Academy of Science, from May 23-25, 2012. The 71st Annual Meeting of the Virginia Junior Academy of Science will be held concurrently, May 22-24, 2012.

2012 Negus Lecturer Honoree

Thomas Lovejoy is an innovative and accomplished conservation biologist who coined the term “biological diversity.” He currently holds the Biodiversity Chair at the Heinz Center for Science, Economics, and the Environment based in Washington, DC. Before assuming this position, Lovejoy was the World Bank’s Chief Biodiversity Advisor and Lead Specialist for Environment for Latin America and the Caribbean as well as Senior Advisor to the President of the United Nations Foundation. In 2010 he was named University Professor in the Department of Environmental Science and Policy at George Mason University. Lovejoy has served on science and environmental councils under the Reagan, Bush, and Clinton administrations. In the 1980s, he brought international attention to the world’s tropical rainforests, in particular, the Brazilian Amazon. Lovejoy also developed the now ubiquitous “debt-for-nature” swap programs and led the Minimum Critical Size of Ecosystems project. He also founded the popular long-term series, *Nature*, on public television.

VAS ... Going on 90!

Before we realize it, the Virginia Academy of Science will mark its 90th Anniversary of leadership in fostering scientific research and science education for the benefit of all Virginians. It’s been a remarkable journey of personal commitment, hard work, and sacrifice by countless members who constantly inspired one another to action. It is a good time to take satisfaction in what our Academy has achieved over the decades. It is the perfect time to re-dedicate ourselves to all that must still be accomplished.

How many of us have invited colleagues to join us in our mission? It is time to retell our story and our vision, and ask again.

How many of us have offered to be a section officer, serve on a committee, or lead the Academy? It is our time to stand up and step forward.

Remember

How many of us have established a scholarship in memory of a colleague, become a sustaining member, or named the Academy in our wills?

It is our time to include the Virginia Academy of Science in our charitable giving.

Life is short and full of activity; but life is full when activity becomes action. When we act with kindred spirits, life is good. “Full and Good” are what we enjoy when we give the Academy a portion of our time, treasure, effort, leadership, and expertise. As scientists we know we are fortunate to stand on the shoulders of giants and see horizons they could only imagine. Giants, indeed, have written the history of the Virginia Academy of Science. Now, it is our time ... It is our horizon ... It’s our turn!

A Message from your VAS President, 2011-2012



Greetings to all members of the Virginia Academy of Science. This past year has been a year marked by change.

We have seen the retirement of several individuals who have provided many years of service to the academy and have provided a sense of stability and continuity. With the retirement of Jim and Lisa Martin and

Jerry Bass, we have had a complete turnover of Central Office staff, a change in the journal editor and the loss of our webmaster.

We have seen the emergence of new leadership with Art and Carolyn Conway taking on the job of running the Central Office. The *Virginia Journal of Science* is in very capable hands with Werner Weiland as the new editor. We are still looking for someone to take over as our webmaster. I am pleased to report that exciting changes have been happening with a restructuring of the sections of Junior Academy of Science and the re-activation of their newsletter. We can feel quite secure with regard to their continued success. Susan Booth, as Director of the Junior Academy of Science has done an outstanding job of shepherding the Junior Academy through significant changes and economic challenges. We all owe her a tremendous debt for her time and efforts.

We are looking forward to our May meeting at Norfolk State University. The Academy continues to support initiatives and efforts outside the Academy. I wish to especially thank the Academy for their overwhelming support of the *Flora of Virginia* Project. The *Flora of Virginia* is in its final stages of editing and will shortly be in print. We want to thank our own Marion Lobstein for all the time and hard work that she has put forth on behalf of the *Flora of Virginia* Project. I invite and challenge all academy members to encourage colleagues and students to join the Academy.

The Academy is still the best way to network with scientists from across the state, to provide a training ground to students for making professional presentations, and for developing life-long friendships with wonderful people across the science disciplines. With your help we can keep the Academy strong and continue to grow through this next century. It has been a pleasure to serve this year as your President.

Sincerely,
Michael H. Renfroe

Academy Undergraduate Research Conference Awards \$2500

The 2011 Annual Undergraduate Research Conference was held on Saturday, October 15, at J. Sargeant Reynolds Community College. Each of the undergraduates presented posters on their proposed research to a team of judges. Recipients of the research awards must present the results of their research at the VAS Annual Meeting in May. Each year the conference is held for students at Virginia's four-year and community colleges. Our purpose is to encourage and support undergraduates to focus on research as an essential component of both their current educational experience and their career objectives when they enter the work force.

GRANT RECIPIENTS, 2011



Undergraduate Winners pictured with Ralph Eckerlin,
President-Elect, 2011-2012.

Collette Dougherty, *The appetite-related effects of gastrin-releasing peptide in chicks divergently selected for low and high body weight.*

Faculty mentor: Mark Cline, Department of Biology, Radford University.

Rebecca Garrett, Courtney McKenzie, and Noor Taher, *Epigenetics and Alzheimer's Disease: The role of DNA methylation in response to Beta amyloid treatment.*

Faculty mentor: Gary D. Isaacs, Biology and Chemistry Department, Liberty University.

Continued next page

Fall Undergraduate Research Conference Awardees Continued.

Raiha Tahir, *Role of RAI1 in cranial neural crest development and differentiation during *Xenopus tropicalis* embryogenesis.*

Faculty mentors: Amanda Dickinson, Dept. of Biology, and Sarah Elsea, Departments of Pediatrics and Human and Molecular Genetics, Virginia Commonwealth University.

Matthew van Til, Nonye Ikeakanam, Priscilla Duncan, Marissa L. Estep, and Malcolm Shealer, *Synthesis of organic semiconductors based on 3,4,3',4'-bibenzo[b] thiophene.*

Faculty mentor: Michael Korn, Biology and Chemistry Department, Liberty University.

Allison Yaguchi, *Expression of the 1-propanol metabolic pathway from *Thermobifida fusca* in *E. coli*.*

Faculty mentor: Stephen Fong, Department of Chemical and Life Science Engineering, Virginia Commonwealth University.

Publication Date for *The Flora of Virginia*

The publication date of *The Flora of Virginia* by the Foundation for the *Flora of Virginia* Project (FFVP) is November 2012! This will be a 1,500 page manual aiding in the identification of the 3,200 species of vascular plants that are native or naturalized in Virginia. It has been 250 years since the publication of the last edition of the *Flora Virginica*.

Future plans of FFVP include a digital *Flora of Virginia*, as well as learning and teaching modules. The following families were sponsored through donations made by the VAS and the Fellows of the Academy:

VAS: Annonaceae, Convolvulaceae, Myricaceae, Euphorbiaceae, Hamamelidaceae, and Pinaceae

VAS Fellows: Polypodiaceae



www.floraofvirginia.org



Carolyn Conway, Bobbie Whittier, Susan Booth processing VJAS Papers

For the Love of Science, Processing the Annual Junior Academy of Science Papers

Spring is here! That can only mean one thing. The Annual Meeting is just around the corner. The Virginia Academy of Science is one of the few academies in the United States that meets concurrently with their Junior Academy. This year alone, over 900 papers were received from middle and high schools, across the Commonwealth. The manpower required to process these papers is astounding. Over 220 individuals will review and grade these papers and student presentations, before the annual winners are selected.

The Academy Always Needs Volunteers !

Once the papers are placed into categories, the Director of the Junior Academy and several volunteers review each paper, making sure it meets the Junior Academy criteria for submission. The paper must be written in the appropriate scientific style, with citations, and must include a literature cited section. Certification forms must be signed, assuring that the research conducted met the guidelines for working with vertebrates, humans, pathogens, and toxins. Papers that do not meet these criteria are disqualified. Each teacher receives an email detailing the

problems associated with the disqualified paper.

Volunteer to be a Reader or a Judge !

The papers are then shipped to 90 Readers who review the papers for scientific content. Approximately 60% of the papers pass these hurdles only to be handed off to 120 Junior Academy Judges who grade the papers and presentations, using a rubric, for scientific merit, overall understanding of the problem, and grammatical correctness. Finally, 7 Special Judges review the winners from each section and pick the overall winners for the entire year. These students are invited to present at the Academy. **To become a volunteer this year, contact VJAS Director, Susan Booth, at Susan.science@gmail.com.** I guarantee you will enjoy the company, and you will leave with a smile on your face when you get a chance to review papers presented by the most innovative, young scientists in Virginia.

Nominations & Elections Committee Report

FROM PRESIDENT-ELECT TO PRESIDENT 2012-13:

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 and parasitology courses at George Washington University. 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 led several field trips to the cloud forests of South America. Dr. Eckerlin is a Research Associate of the Carnegie Museum of Natural History and the Virginia Museum of Natural History. He has been a member of the Virginia Academy of Science for more than 30 years.



The Slate of Officers for 2012–2013 follows.

PRESIDENT-ELECT: Dr. Deborah 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. She has been a member of the VAS since 1993.



VICE-PRESIDENT: 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 a member of the American Fisheries Society, American Society of Parasitologists, American Microscopical Society, and Helminthological Society of Washington.



SECRETARY: Dr. Conley K. McMullen is Professor of Biology at James Madison University. He received his B.S. (Biology) from Eastern Mennonite College, his M.S. (Biology) from JMU, and his Ph.D. (Botany) from the University of Maryland at College Park. He is director of the JMU herbarium and serves on the Edith J. Carrier Arboretum Board. His research interests are focused on the eastern U.S. and the Galápagos Islands (floristics, systematics, pollination biology). He is on the Flora Advisory Board for the *Flora of Virginia* Project, a member of the Virginia Flora Committee, and for many years has been a group leader at the West Virginia Wildflower Pilgrimage.



TREASURER: Richard S. Groover serves as Assistant Dean of Mathematics and Science at J. Sargeant Reynolds Community College where he is also an Associate Professor of Biology. His research focuses on dragonfly dispersal, colonization, and re-colonization of lentic habitats. Richard has served as Chair of the Academy's Membership Committee and mentors undergraduate research students; among his accomplishments are listings in *Who's Who Among American Teachers*, a Virginia Academy of Science Small Project Grant, and the Virginia Community College System's 2008-10 Chancellor's Commonwealth Professorship.



Call for Nominations Fellow(s) & Honorary Life Member(s)

Deadline: October 1, 2012

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

Go To:

www.vacadsci.org/constitution2.htm#bylaws

Celebrate 90! Remember

During 2012-13, it is fitting for us to recall the people who built the Academy and all those who made a difference in our own lives. Perhaps a researcher who mentored you? A teacher who inspired you? A benefactor who supported your education or research? A VAS leader who built our Academy? A person who molded your values?

On the occasion of our 90th Anniversary Year, the Academy offers you the opportunity to recognize those whose commitment, work, and passion changed our lives, often in ways we may never have anticipated at the time.

In the next few months, you'll receive a special VAS mailing that will allow you to participate in a "Roll of Remembrance" -- a truly unique way to say "Thank You" and to remember the Academy in your charitable giving. We'll send you an invitation and a response form.

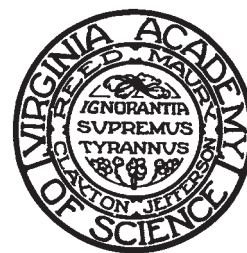
To honor more than one person, couple or family, just enter common information, duplicate the master, and enter honoree(s) information in each copy.

Your fully tax-deductible donation, in an amount of your choosing, will support the Academy's mission of advancing scientific research and science education for the benefit of all Virginians.

If you know of someone who would like to participate, email their contact information to Executive Officer Art Conway – aconway@vcu.org -- and he will send or email them a form.

Watch Your Mail! Remember

Pop Quiz! Know your VAS Seal



1. What is the flower depicted in the inner circle of the VAS Seal or Logo?
2. Who are the four famous Virginia Scientists listed in the middle ring of the Seal or Logo?
3. What is the Academy's Maxim?

Answers: 1. The flower is the Dogwood. It is in full bloom at the top of the seal and as a bud at the bottom of the seal. 2. The four famous scientists are Walter Reed, a physician, Matthew Fontaine Maury, an explorer and cartographer, John Clayton, a botanist, and Thomas Jefferson, an agriculturist and educator. 3. Of course everyone should get the last question correct, the maxim is "Ignorantia Supremus Tyrannus" Ignorance is the greatest tyrant.

VIRGINIA SCIENTISTS is the newsletter of the Virginia Academy of Science and is published two times a year. In addition to members, it is also mailed to government officials, members of the General Assembly, and Virginia college and university presidents. Correspondence should be addressed to the Editor, Deborah Neely-Fisher (804-523-5741) at dneely-fisher@verizon.net.

Editor.....Deborah L. Neely-Fisher
Associate Editor.....James O'Brien
Managing Editor.....James H. Martin
Circulation Manager.....Art Conway

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VIRGINIA ACADEMY OF SCIENCE APPLICATION FOR MEMBERSHIP

Name (Please Print) _____

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Position -- Title _____

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

Contacted by: _____

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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 | 17. Computer Science |
| 9. Medical Sciences | 19. Natural History & Biodiversity |
| | 20. Structural Biology, Biochemistry and Biophysics |

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

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Who's Been Who in VAS History ...

William Allison Kepner

11th President of the Virginia Academy of Science, 1933-34.

William Allison Kepner [1875-1971] was born in Franklin County, Pennsylvania. He graduated from Gettysburg Academy in 1894 and earned his B.A. in 1898 and his M.A. in 1900 from Franklin and Marshall College. Kepner served as a fellow at the University of Gottingen in the summer of 1903 and at Princeton University during the academic year of 1903-1904. In 1908 he was awarded his Ph.D. in biology at the University of Virginia.

Dr. Kepner's teaching career in the Biology Department at the University of Virginia spanned the years 1904 until his retirement in 1946. A gifted lecturer and perennially one of the University's most popular professors, Kepner was also a prodigious scholar. A member of leading scientific societies and organizations, he published over 60 articles in scholarly journals and co-authored, with Uric Dahlgren, *The Principles of Animal Histology*, a leading textbook in that field (Ref.: Papers of William Allison Kepner, Accession #4538-f, Special Collections Dept., University of Virginia Library, Charlottesville, Va., <http://ead.lib.virginia.edu/vivaxtf/view?docId=uva-sc/viu03351.xml>).

As a professor of biology at the University of Virginia, Dr. Kepner had been invited by the defense to appear as an expert witness at the 1925 Scopes anti-evolution trial. Kepner was not allowed to testify on the stand but his statement appeared in the court record (Ref.: Acc. 90-105 - Science Service, Records, 1920s-1970s, Smithsonian Institution Archives).



Photograph by Frank Thone.

Courtesy: <http://www.flickr.com/photos/smithsonian/5857269045/#>

Register @ vacadsci.org

Norfolk State University

90th VAS - May 23-25 / 71st VJAS - May 22-24

2012 ANNUAL MEETING

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