

Virginia Scientists

Volume XXIV, Issue 2

Fall 2018

"Virginia Scientists" is the official newsletter of the Virginia Academy of Science (VAS). This publication offers information for VAS members such as upcoming events, past events, scholarships/ awards information, accomplishments of VAS members and other timely information.

Editors:

Sujan Henkanaththegedara Deborah Neely-Fisher

Inside this issue:

2018 Fall	Under-	2
graduate	Meeting	

2018 VAS/VJAS **2** Meeting

- Virginia Scientist in 3 the Spotlight
- Virginia Journal of **4** Science
- VJAS 2018 Update 4
- 2018 Ivey F. Lewis 6 Service Awards
- Longwood BioBlitz **6** 2018

New Council Members Take Office



2018-19 New VAS Officers (From left to right): Gary Isaacs (President-Elect;), Christopher Osgood (Secretary), Woodward Bousquet (President), Michael Wolyniak (Vice resident), and Amorette Barber (Treasurer).

At the VAS's Annual Meeting each May, members of the Academy Council hold one of their three scheduled yearly meetings. New Academy officers and Council members take office at this time. As detailed in Article VII of the VAS Constitution, the Academy Council consists of the Academy's elected officers, an elected representative from each section, the three most recent presidents, standing committee chairs, directors of the VJAS and Visiting Scientist Program, and representatives to the Science Museum of Virginia, AAAS, and National Association of Academies of Science.

President's Message

As the academic year gets underway, we note the migrating birds, sense the cooler temperatures, and admire the colorful leaves that mark nature's annual transition from summer to autumn here in Virginia. Through science we attempt to observe, measure, predict, and sometimes alter the world in which we live.

This year, many parts of our state experienced record summer rainfall. The autumnal equinox's inevitability and the weather's yearly variations remind us that – try as we might – we do not fully control

and cannot completely predict the planet's natural phenomena. We find that human actions can produce unexpected, unintended, uncontrollable consequences. As scientists, we combine our adventurous curiosity and our irrepressible energy with healthy doses of humility and caution regarding our ability to understand the world and shape it to our desired ends.

In support of science, scientific research, and science education in Virginia, the Academy and Junior Academy sponsor ... contd. P.5



Woodward S. Bousquet President, VAS

Page 2 Virginia Scientists



2018 Fall Undergraduate Meeting at Ferrum College

The Fall Undergraduate Research Meeting will be held at Ferrum College on Saturday, November 3rd. Although this venue has been held annually since the Fall of 2001, this is the first time it will be at Ferrum College. This year features a panel discussion entitled "Advice from Science Professionals about Careers and Graduate School" where students can conversationally engage science experts in preparation for life after college. Carolyn Thomas, Director of Smith Mountain Lake Water Quality Monitoring Program, will also give our keynote address sharing her work and vision within the region.

A draft of the meeting program is available on the VAS website: http://vacadsci.org/vas-meetings/fall-undergraduate-research-meeting/schedule-of-events/

The fall meeting was established to feature research proposals submitted by undergraduate students along with their research mentors and provide a competitive venue for students to win research grant awards. Nine Undergraduate Research Grant Awards of \$750 each will be awarded to selected participants at the end of this meeting. Both the Undergraduate Research Grant Applications and the Poster Presentations at the meeting will be evaluated to determine the recipients of these research grants.

Grant applications were due by October 1st according to the format provided on the VAS website: http://vacadsci.org/vas-meetings/fall-undergraduate-research-meeting/grant-application-forms/.



Submitted by **Gary D. Isaacs**VAS President-Elect
Program Chair for the 2018 Fall Undergraduate Research Meeting

The 96th VAS/VJAS Annual Meeting Held at Longwood University



The 96th Annual Meeting of the Virginia Academy of Science (VAS) and the Virginia Junior Academy of Science (VJAS) was held on May 22-24, 2018 at Longwood University in Farmville, Virginia. Over 700 high school and middle school students arrived in Farmville on May 22, eager to share their research projects with judges from all over the state. Students and their teachers were welcomed on Tuesday night by Longwood's Provost, Dr. Lara Fergeson, who shared the strong ties between Longwood and some founding members of the Virginia Academy of Science. Despite Longwood's rich history with VAS and the late George Jeffer's part in the founding of VJAS, Dr. Fergeson reiterated the excitement that Longwood would be hosting the event for the first time in the organization's history.



The students were treated to three invited lectures by Andrew Yeagley and Kenneth Pestka, both members of the faculty in Longwood's Department of Chemistry and Physics, and Katie Register of Clean Virginia Waterways. Dr. Petska's presentation included a discussion on the interface between physical acoustics, astrophysics, and materials science, and the physics of everyday materials. Dr. Yeagley, the George W. Jeffers Memorial Lecture speaker, entertained the audience with a discussion that linked bottled water with deodorant. Ms. Register spoke to the VJAS audience about the positive differences that scientists of all ages can make on the world around us. The VJAS attendees also enjoyed campus tours, tours of the Chichester Science Center at Longwood, a College and Career Fair hosted by the Longwood University Office of Admissions, and finally a fun and relaxing evening of dancing and games after the presentations were completed. The event came to a close as awards were given out on Thursday morning.



With VJAS winding down the VAS meeting also began on Thursday morning with talks and a poster session in Blackwell Hall. Nearly 120 undergraduate students presented at the poster session, which was attended by members of the Academy and visitors. A luncheon reception accompanied the morning and afternoon poster sessions, and talks continued into the afternoon. Amorette Barber was the speaker for the Sidney S. Negus Lecture, and she talked to attendees about her research in the field of immunology and cancer biology. Dr. Barber's research focuses on enhancing immune responses as therapy for cancer. The evening concluded with the VAS Banquet and the installation of 2018-2019 VAS officers. VAS Council members and the VAS Trust committee met on Friday morning to conclude the meeting.

Submitted by **Sarah E.G. Porter** Associate Professor, Department of Chemistry & Physics Longwood University

Virginia Scientist in the Spotlight

Marion B. Lobstein

Affiliation: I retired from Northern Virginia Community College (NVCC) in 2010 after teaching there from 1974 and in 2012 became a Professor Emerita Northern Virginia Community College. From 1992-2006, I also taught as an Adjunct Professor for the UVA's field station Blandy Experimental Farm where I am continuing to teach workshops on plant identification and lead fieldtrips. I am a life member of Friends of the State Arboretum and the Virginia Native Plant Society. I maintain memberships in VAS, Nature Conservancy, the Botanical Society of Washington, and the Southern Appalachian Botanical Society, as well as the American Chestnut Society, National Parks Conservation Association, the Chesapeake Bay Foundation, and other organizations involved with conservation

Education: In 1968 I earned BS in Ed (Biology) from Western Carolina University (WCU), in 1972 a MAT (Master of Arts in Teaching) from the University of North Carolina-Chapel Hill, and in 1986 George Mason University a MS in Biology and later completed additional graduate level work.

Your teaching/classes? My teaching credit courses at NVCC ranged from-General Biology, Botany, Microbiology, Human Anatomy and Physiology, Ecology; and Regional Flora. At Blandy Experimental Farm I taught Field Botany for graduate and undergraduate credit and in retirement have taught non-credit workshops on Plant Identification, focusing on use of the Flora of Virginia and the Flora App. In addition, for a number of years I taught a variety of teacher education courses focusing on botany and wetland and Chesapeake Bay ecology for the UVA Northern Virginia Center. I have taught many non-credit courses relating to teacher training, plant identification and ecology for the Virginia Native Plant Society, Master Gardeners, Master Naturalist, Fairfax Audubon Society, and other groups. For twenty-six years I also led fieldtrips and taught plant

identification courses and for the Smithsonian Associates Program.

Your research? Past and current projects? Past and current projects? Much of my research has related to spring wildflower life cycles including seed dispersal by ants. In the 1980's I compiled and published checklists of vascular plants in Northern Virginia area. Since the late 1990's, my primary project has been involved with the Foundation of the Flora of Virginia Project (FFVP). With Chris Ludwig and others I helped to establish this foundation and I served on the first Board of Directors and am currently the vice-president of the second Board of Directions. With the development of the Flora of Virginia I did taxonomic and other research as well as editing for the Flora of Virginia and more recently for the Flora App. Currently I am chairing a committee educational modules development for FFVP. I am also offering workshops on plant ID and write articles for VNPS Chapter newsletter on native plants and taxonomic change.

Notable work/publications? I am a co-author of the book Finding Wildflowers in the Washington-Baltimore Area as well as a video/DVD "Spring Wildflowers of the Mid-Atlantic Region" (Video and DVD. With my NVCC students, I developed a CD "Welcome to the Chesapeake Bay: Introduction to an Ecosystem." Before the Flora of Virginia was published, I compiled and published three checklist of local flora in the Northern Virginia area. I have co-authored two papers on spring wildflower life cycles published in the Virginia Journal of Science and Castanea. I was in research, and editing for development of Flora of Virginia 1st and 2nd printings as well as research and editing for development of Flora App. I also served on a Biological Sciences Curriculum Studies design team for development of a college-level textbook Biological Perspectives. I have also served as a review of a number of college-level general biology and botany textbooks. As a private consultant, I worked with PDR Consultants to develop displays,



Marion with Saguaro in Tucson, AZ

"Follow your interests and passions; search out those mentors who can inspire and nurture you; maintain broad interests and be open to opportunities."

-Marion B. Lobstein

Sciences Curriculum Studies design team for development of a college -level textbook *Biological Perspectives*. I have also served as a review of a number of college-level general biology and botany textbooks. As a private consultant, I worked with PDR Consultants to develop displays, text, and photographs for a U.S. Botanic Garden exhibit "How Plants Work: A Guide to Being Green. As Botany Chair for the Prince William Wildflower Society, I have been writing articles on local native plants and more recently taxonomic changes at the family, genus, and species levels reflecting in the Flora of Virginia.

Hobbies? Travel, watercolor painting history of plant use and taxonomy, natural history, geology, photography. I have always enjoyed art and the beauty of the natural world, part of my passion for biology and the natural world. In retirement, I am actively seeking out...contd. P.5



Marion with Blandy Field Botany students at Big Meadows, Shenandoah National Park (Lobstein second from left)

Page 4 Virginia Scientists

Published since
1950, the Virginia
Journal of Science
is an academic,
peer-reviewed
publication
focused on all
areas of science
affecting the state
of Virginia.

An Invitation to Submit Articles to Virginia Journal of Science (eVJS)

Virginia Journal of Science (eVJS) is ONLINE and OPEN ACCESS now!

Published since 1950, the Virginia Journal of Science is an academic, peer-reviewed publication focused on all areas of science affecting the state of Virginia. As the official publication of the Virginia Academy of Science, it also includes meeting minutes, notes, and reports of the Academy, as well as proceedings from annual meetings.

We are pleased to announce that the Virginia Journal of Science has transitioned to an electronic format in the Summer 2016, making the submission, review and publishing more streamlined and efficient.

You can explore eVJS at http://digitalcommons.odu.edu/vjs/.

We are currently accepting original articles and short notes in the various disciplines of engineering and science. Cross-disciplinary manuscripts dealing with advancements in science and technology and the impact of these on man and society are particularly welcome. We also welcome manuscripts dealing with natural history; Virginia's flora and fauna; and the impact of environmental change on species diversity.

Please find instructions to authors at http://digitalcommons.odu.edu/vjs/policies.html

We are looking forward to review-

We are looking forward to review your manuscript!

Editor-in-chief: Christopher Osgood, Old Dominion University

Associate editors:
Sujan Henkanaththegedara,
Longwood University
Amorette Barber,
Longwood University
Irving Coy Allen,
Virginia Tech
Yen-Hung Hu,
Norfolk State University
Galen Bradley

VIRGINIA JOURNAL OF SCIENCE OFFICIAL PUBLICATION OF THE VIRGINIA ACADEMY OF SCHENCE

Changing the World, One Idea at a Time – VJAS 2018 Update







The Virginia Junior Academy of Science (VJAS) held it's 77th Annual Meeting and Research Symposium concurrently with the Virginia Academy of Science (VAS) Annual Meeting on May 22-24, 2018 at Longwood University in Farmville, Virginia. This year's theme was "Changing the World, One Idea at a Time" and featured over 700 students representing middle and high schools all across the Commonwealth of Virginia in the three day conference.

Tuesday night's opening General Session was kicked off by our student officers, followed by words from the VJAS Committee Chair, VAS President, and representatives from the host institution. The two main speakers for the evening included Kenneth Pestka of Longwood University with a presentation titled "Acoustics in Action: Modelling everything in the cosmos using only springs" and Katie Register of Clean Virginia Waterways with her lecture about "Scientists from five to 105: How the scientist in you will make a positive difference". The students' response to both lectures were enthusiastic and invoked curiosity in many minds.

Wednesday saw a flurry of activity

with students buzzing across the beautiful campus of Longwood University as 32 sessions of presentations were held concurrently throughout the day. More than 500 presentations were given by over 700 students, which were listened to by their fellow peers and judged by experts in respective fields of study. After it was all set and done, the students gathered for another General Session, featuring Andrew Yeagley of Longwood University and his profoundly thought provoking lecture of "Why does everyone think my deodorant causes cancer?"

The 77th Annual Meeting and Research Symposium concluded Thursday morning with the Awards Ceremony, handing out section awards, scholarships from various organizations and collegiate institutions, as well as the prestigious award for top winners of VJAS attending the 2019 American Junior Academy of Science (AJAS) conference. The all-expense paid AAAS/AJAS trip award winners were Hunter Hall of Southwest Virginia Governor's School and Sabrina Ye of Mills E. Godwin High School. The two alternates were Unmesha Vullikanti of Blacksburg High School and James Licato of Washington-Lee High

School.

As a closing note, the primary mission of the Junior Academy is to bring the best young minds of Virginia together to share research with their peers and to exchange ideas. Although there are competitive aspects, the Research Symposium shines as a conference where students from all backgrounds across the state gather to brainstorm about how best to solve the next set of challenges we face as a collective society.

Please join us next year at Old Dominion University in Norfolk, from May 21-23, 2019. There are many ways to be involved with the Junior Academy of Science. Please reach out to anyone below or visit us at www.vjas.org.

Se Jeong, VJAS Committee Chair, swj3af@virginia.edu

Susan Booth, VJAS Director, susan.science@gmail.com

Virginia Scientist in the Spotlight Contd from P 3.

opportunities to express and develop techniques in watercolor painting.

Advise for students? Follow your interests and passions, make a difference in your world, search out those mentors who can inspire and nurture you; maintain broad interests and be open to opportunities; keep current with your subject and with technology but learn about and respect the rich history of your subject. Volunteer in your community. Seek out professional opportunities for part-time work or internships to gain experience in your academic and future career choices.

Advise for peers? VAS membership to work with colleagues at the state level, maintain your passion for your subject and pass that on to your students and communities. VAS provides opportunities for your students at the undergraduate and graduate levels. Inspire and nurture your students and mentor other faculty; develop your interests outside of your subject area, be involved in professional and community activities; remain current and enthusiastic in your subject areas. Volunteer with JVAS (Virginia Junior Academy of Science) and VAST (Virginia Association of Science Teachers to better understand and encourage the next generation of your students and those middle and high school teachers who are preparing them for higher educa-

When did you join VAS? 1977

Your Role in VAS? I joined VAS in 1977 and attended my first Botany Section meeting. Since then, at most Annual Meetings I have presented a paper at the Annual Meetings. Also, I have been active in that section since that time serving as in various sections offices including serving as Councilor from 1992-2016. Also, I have served on the Virginia Flora Committee since 1996. At the Academy level I have served as Treasurer from 1998 to 2001 and as Vice-President for two terms in 2001-2003. In 2003, I was elected as a Fellow of VAS and have actively participated with that group. Since the 1980's, I have been actively involved with VJAS, serving for 6 years on the VJAS Committee and have judged VJAS student presentation most years from the 1980's to present. In 2017, I had the great honor of having an endowed scholarship established in my name by an anonymous VAS member. At the 2018 VAS Annual Meeting, I had the pleasure to present the first Marion Lobstein scholarship to Graham Matulis, a rising senior in the Biology Department at George Mason University.

Something "cool" about you? My husband and I are avid RV'ers (motorhome enthusiasts). We have been traveling by RV since 1990. Since we retired in 2010, travel for 5 plus months a year with Inky, our black cat. We have traveled in almost all of the lower 48 states and most of southern Canada. We seek out natural and historical areas and enjoy the beauty of the natural world.

Professional Honors

1993: Recipient of the State Council of Higher Education for Virginia (SCHEV) Outstanding Faculty Award

1993: Recipient of the NVCC Educational Foundation Excellence in Teaching Award 1990: NVCC Alumni Association Teacher of the Year, Manassas Campus

Personal Background and Influences: I grew up in Stanley, NC, a small town near Charlotte, NC. My dad was the town pharmacist. I was actively involved in Girl Scouts, and developed a love of nature. Stanley is the site where Andre Micheax in 1789 discovered *Magnolia macrophylla*, the big leaf magnolia. This magnolia we called "elephant ears" grew in the woods in my family's neighborhood. In 1964, I graduated from Stanley High School and attended WCU (then Western Carolina College) that fall. When I took my first biology course with Dr. Jim Horton, I knew I was a biologist. I still consider Horton my most influential professor along with Dir., Ritchie Bell at UNC-Chapel Hill and Dr. Larry Rockwood at GMU.

As an undergraduate at WCU, I took my first regional flora class at WCU with Dr. Jim Horton using the *Guide to the Vascular Flora of the Carolinas* and later at UNC-CH had a Plant Taxonomy course with Dr. C. Ritchie Bell and

used the Manual of the Vascular Flora of the Carolinas. When I moved to Northern Virginia and began teaching at NVCC, one of my first questions was "is there a Flora of Virginia"? I soon learned there was none. When I joined VAS in 1977, I began to learn of efforts to develop a modern Flora of Virginia and it was a goal of the Botany section of VAS dating back to the 1920's. When I began teaching plant ID courses at NVCC and later at Blandy Experimental Farm, I used the Manual of the Flora of the Carolinas and the Flora of West Virginia as well as popular wildflower guides. When the Atlas of the Virginia Flora began available. I also used that information and in the 1980's also published checklists of plants documented for Northern Virginia. In the late 1990's, it seemed a good time to see if the Academy would support new efforts to begin development of a modern flora. After much hard work by Chris Ludwig, Alan Weakley, and Johnny Townsend and later editor Bland Crowder and many volunteers, the first modern Flora of Virginia was published, 250 years after the last edition of the Flora Virginica by John Clayton and Johann Gronovius. VAS and the Fellows became an active partner and supporter of the FFVP. A Flora App for mobile devices, both iOS and Android, became available in 2017. I continue to be active with FFVP and contribution to our goal of "Keeping the Science Current!"

Submitted By Marion B. Lobstein



President's Message Contd from P 1.

several events each year. We look forward to meeting for our first time at Ferrum College on November 3 for the 2018 Fall Undergraduate Research Meeting. Hosted by Timothy Durham and his Ferrum colleagues, undergraduates supervised by faculty mentors will present research proposals and compete for grants to support their investigations during the coming year. Winners will present their results at the Academy's Annual Meeting at Old Dominion University (ODU) in May 2019. The Virginia Junior Academy of Science (VJAS) will also meet at ODU this coming May.

This past spring, the VAS Fellows decided to support the Fall Undergraduate Research Meeting with a generous \$4,000 gift for the second year in a row. That gift will allow the Academy to maintain the recently increased number and size of research grants it awards at the fall meeting. However, the Fellows have issued a challenge to the VAS with their gift: to find and sustain additional funding for the Fall Meeting.

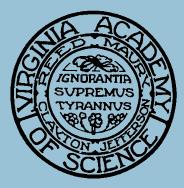
The charge to our Council, officers, staff, and Fundraising Committee is clear. I invite all Academy members to help us meet this chal-

lenge, and to identify sources of support for additional Academy programs as well.

Submitted by **Woodward S. Bousquet** Professor of Environmental Studies and Biology, Shenandoah University President, Virginia Academy of Science



Know your VAS logo



- 1. What is the flower depicted in the inner circle of the VAS 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.

VAS Office Mailing Address:

Virginia Academy of Science Science Museum of Virginia 2500 West Broad Street Richmond, Virginia 23220

VAS Office Phones:

804-864-1450 804-864-1451 804-864-1488 (Fax)

VAS Office Email:

vasoffice@vacadsci.org

VAS Office Staff:

Philip Sheridan, Executive Officer psheridan@vacadsci.org

Carolyn Conway, Associate Executive Officer vasoffice@vacadsci.org

Arthur Conway, Executive Officer Emeritus aconway@vaacadsci.org

VAS Office Hours:

Tuesday & Thursday ~11 am to ~1 pm

VAS Ivey F. Lewis Distinguished Service Awards for 2018

The Virginia Academy of Science (VAS) has presented the Ivey F. Lewis Distinguished Service Award to Arthur Conway and to Werner Wieland. Dr. Conway is a retired biology professor from Randolph-Macon College, and Dr. Wieland is a retired biology professor from the University of Mary Washington. Both men have had distinguished and long service to the Virginia Academy of Science.

Arthur Conway served the Academy as Executive Officer for many years, and currently serves an advisory role to the present Executive Officer. Additionally, Arthur is an elected Fellow of VAS, served for many years as Chair of the Research Committee, served as Section Officer for the Biology Section, and for almost 30 years, brought undergraduate students to the VAS annual meeting to expose them to various research and discussions.

Werner Weiland served as Editor of the Virginia Journal of Science for many years, served as President of the Academy, and is an elected VAS Fellow. Werner served in other positions within VAS, which included Chair of the Biology Section, Chair of the Natural History and Biodiversity Section, and most recently Chair of the Local Arrangements Committee when the VAS held its annual meeting at the University of Mary Washington.

The Ivey F. Lewis Distinguished Service Award is presented by the Academy periodically to a VAS member who has made significant contribution to the Virginia Academy of Science. Less than 35 awards have been presented in the Virginia Academy's 95 year history.

Submitted By Richard Groover





Arthur Conway (top right) and Werner Weiland (bottom right) received their awards from the Awards Committee chair Darcy Mays

2018-19 VAS Council Representatives and Committee Chairs

Section Council Representatives

Agriculture, Forestry & Aquaculture- David Crosby Astronomy, Math & Physics- Donald Day

Biology- Michael Price

Biomedical & General Engineering- Thomas Haas

Botany- Woodward Bousquet

Chemistry- George Grant

Data Science, Computing & Statistics- Yen-Hung

(Frank) Yu

Education- Se Jeong

Entomology- Hameeda Sultana & James Wilson Environmental & Conservation Sciences- Richard

Groover

Medical Sciences- (vacant)

Natural History & Biodiversity- Alan Griffith

Psychology- (vacant)

Structural Biology, Biochemistry & Biophysics- (vacant)

Standing Committee Chairs:

Archives- Conley McMullen

Awards- Darcy Mays

Constitution & ByLaws- David Crosby

Environment- Richard Groover

Finance & Endowment- Rosemary Barra

Fund Raising- Deborah Neely-Fisher

Junior Academy of Science- Se Jeong Long Range Planning- David Crosby

Membership- Chris Osgood

Nominations and Elections- Conley McMullen

Research- Chris Labosier

Publications- Christopher Osgood & Sujan Henkanath-

thegedara

Science Advisory- Iona Black

Science Education- Mike Wolyniak

Trust- Elsa Falls

Virginia Flora- Conley McMullen

SMV History Committee- Arthur Conway & Conley

McMullen

Directors

Director, VJAS- Susan Booth Associate Director, VJAS (non-voting)- (vacant) Director, Visiting Scientists Program/VRSN- (vacant)

Editors:

Editor, VA Journal of Science Chris Osgood Co-Editors, VA Scientists Deborah Neely-Fisher & Sujan Henkanaththegedara

Representatives:

AAAS/NAAS Representative- David Torain SMV Trustee Representative (Ex-offico)- Elsa Falls VAS Representative to Jeffress & Gwathmey Allocations Committee- Rosemary Barra

SMV Representative to VAS Council (non-voting)-Eugene Maurakis

Representative(s) from Annual Meeting Local Arrangements Committee- Chris Osgood

NOTE: This list was provided by the VAS Office.