

# THE BLUE RIDGE CHEMIST

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Virginia Blue Ridge Section, American Chemical Society

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## Hollins University Hosts the February Meeting



a representative wetland ghost forest

### Meeting Information

- 714<sup>th</sup> Meeting of the Virginia Blue Ridge Section, American Chemical Society.
- Mary Jane Carmichael (Hollins University) will speak on the role of ghost forests in the annual flux of methane to the atmosphere.

### Agenda for Wednesday, February 07, 2024

- 5:30 PM Meet and greet, Private Dining Room, Moody Center
- 6:00 PM Dinner, Private Dining Room, Moody Center
  - **Those coming for dinner please RSVP before noon on Monday Feb 05** by sending email to Dan Derringer ([dderringer@hollins.edu](mailto:dderringer@hollins.edu)). Dinner is \$10 for members and \$5 for students.
- 6:45 PM to 7:30 PM Presentation by Dr. Carmichael, Moody Center

## Keynote Speaker: Mary Jane Carmichael

Mary Jane began her career as a high school science teacher in the Winston-Salem/Forsyth County Public Schools. After six years in the secondary classroom, she returned to school to pursue an advanced degree, with the goal of becoming a faculty member at a small, liberal arts institution. Mary Jane received her M.S. in biology from Appalachian State University in 2012, where she studied the microbial ecology of cave ferromanganese deposits. She then returned to her alma mater, Wake Forest University, where she received her Ph.D. in biology in 2017. Mary Jane's dissertation focused on the biogeochemical control of carbon fluxes in a restored coastal freshwater forested wetland. In 2017, she joined the faculty at Hollins University as Assistant Professor of Biology and Environmental Science.



Mary Jane is broadly interested in questions at the interface between microbial ecology and biogeochemistry. While at Hollins she has continued to pursue unanswered questions from her dissertation work and has supported student research on a variety of topics, from the human microbiome, to bioprospecting in caves, to the physiological ecology of high-elevation spruce-fir forests of the Appalachian Mountains. She was the 2022 recipient of the Herta T. Freitag Faculty Legacy Award at Hollins University and of the H. Hiter Harris III Rising Star Award from the Virginia Foundation for Independent Colleges.

### Presentation Abstract: Ghost Forests and Atmospheric Methane

Methane (CH<sub>4</sub>) is a powerful greenhouse gas with a global warming potential ca. thirty times that of CO<sub>2</sub> over a 100-year interval. Wetlands are the largest single source of methane emissions, representing up to 20% of the total annual flux to the atmosphere. Methane dynamics (Fig. 1) in wetlands are controlled by microbial communities and the transformations that happen both within a wetland and across the soil-atmosphere, water-atmosphere, and plant-atmosphere interfaces. Among these, the plant-atmosphere interface is arguably the least well studied. In her lecture, Mary Jane will summarize several years of her study of wetland vegetation in the annual flux of methane, with a particular focus on deadwood carbon dynamics in lowland ghost forest systems. A better understanding of the role of deadwood in lowland carbon cycling is necessary to the refinement of climate models and to predict more accurately the response of methane dynamics in forested wetland ecosystems to shifting coastal landscapes.



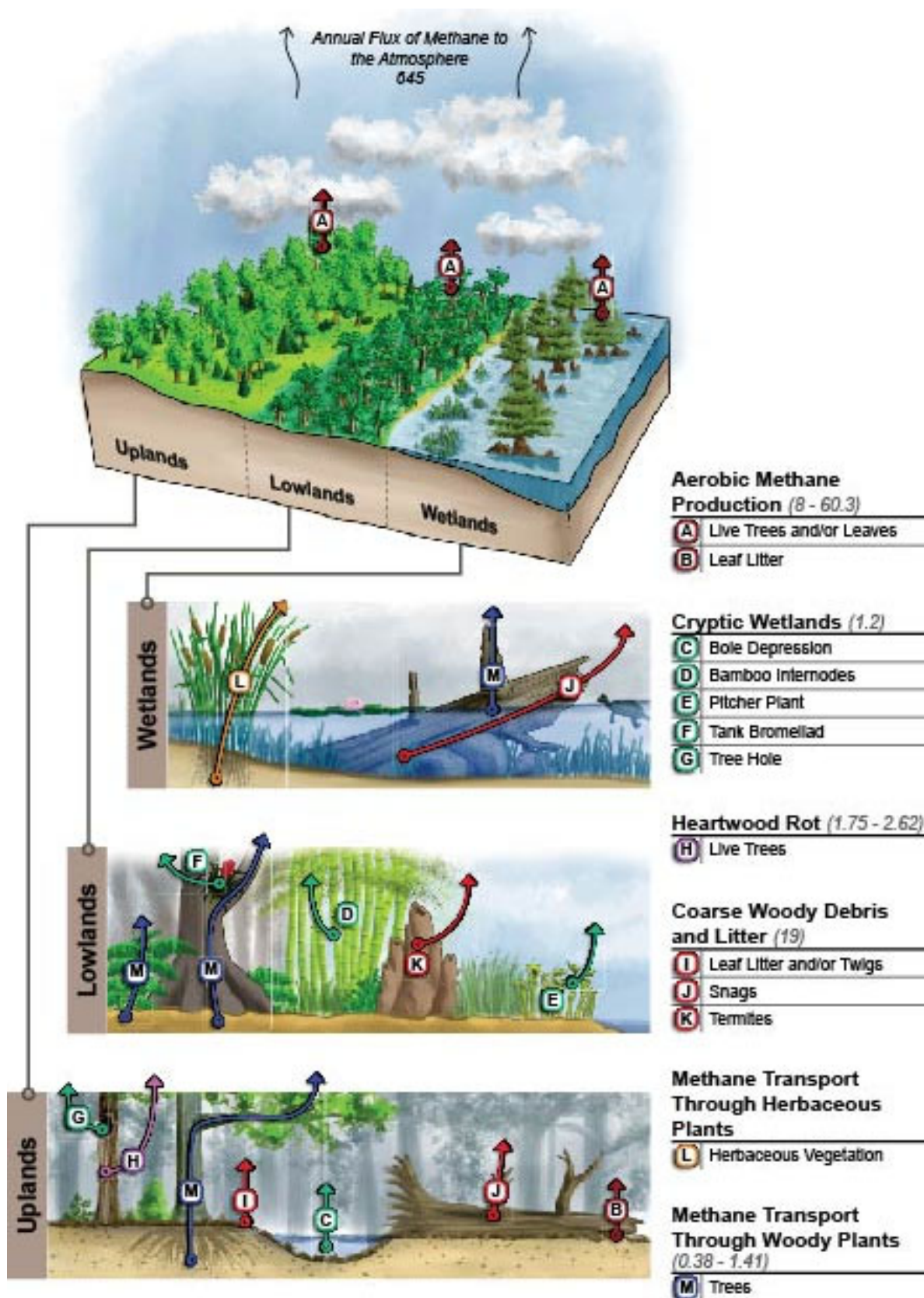


Figure 1. Environmental methane dynamics. Values are in teragram per year ( $Tg\ yr^{-1}$ )

## Election Results: VBRS 2024 Officers

**Chair-Elect** – Gary Hollis, Roanoke College

**Secretary** – Paul Deck, Virginia Tech

**Treasurer** – Jeremy Stegall, Eastman Chemical Company

**Councilor** – Gary Hollis, Roanoke College

**Alternate Councilor** – Jason Crumpton, University of Lynchburg

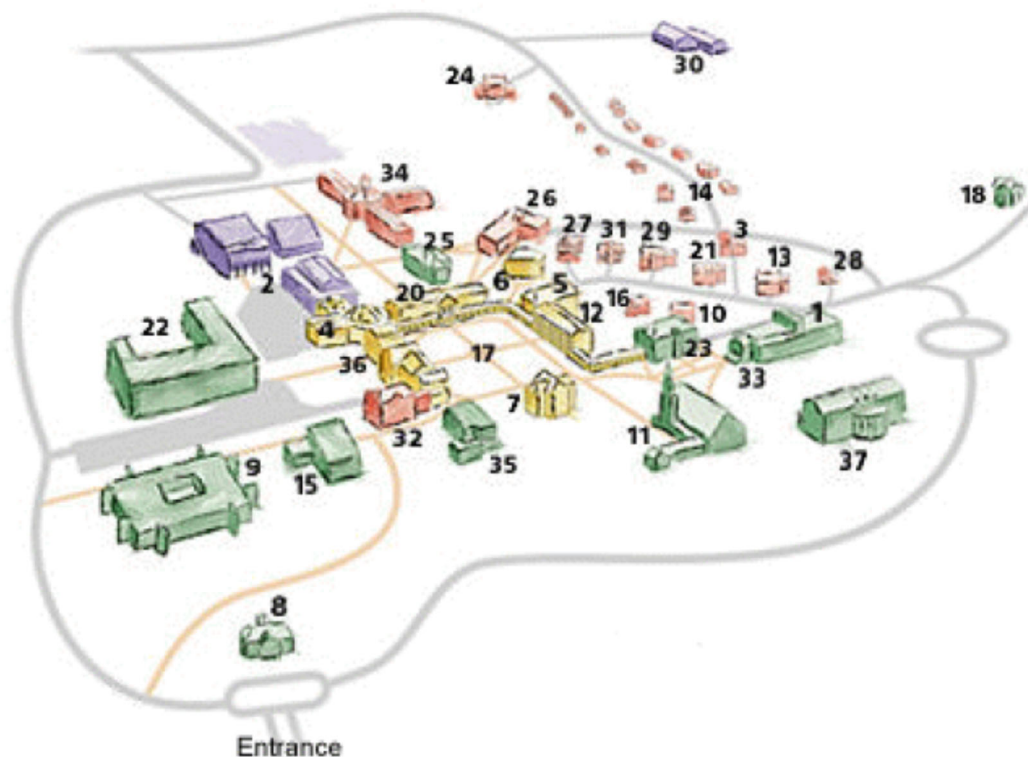
David Hobart (University of Lynchburg) was elected Chair-Elect for 2023 and will assume the position of Chair in 2024. Owen Lofthus (Virginia Western Community College) was elected Chair-Elect for 2022, served as Chair in 2023, and will assume the position of Past Chair in 2024.

Visit our web page for more information and archives: <http://www.acs-vbrs.org>

Connect with us on Facebook: <https://www.facebook.com/vbrsacs>

### Directions to Hollins University

From I-81, take the Hollins exit (146) south to Peters Creek Road and turn left. The entrance to Hollins University is a little more than half a mile and is on the left. The meeting is in the Ballator Gallery of the Moody Center (Building #22)



## Virginia Blue Ridge Section of the American Chemical Society

### Undergraduate and High School Poster Submission Form

As part of the April 12, 2024, meeting at Radford University, the Virginia Blue Ridge Section of the American Chemical Society is sponsoring the 30<sup>th</sup> Annual Undergraduate/High School Poster Session. Note that poster boards will be provided.

If you have a student or students who will be participating, please submit the following information by email to Dr. Christine Hermann (chermann@radford.edu) by April 02, 2024. This is a firm deadline. No submissions will be accepted after this date. All students and faculty will receive email confirmation. If you did not get an email reply, then your submission was not received and you cannot present.

Name of Project \_\_\_\_\_

\_\_\_\_\_

Name(s) of Student(s): \_\_\_\_\_

Mark each student above with his or her class: Freshman (1), Sophomore (2), Junior (3), Senior (4)

Affiliation (name of school or institution): \_\_\_\_\_

Student(s) email address: \_\_\_\_\_

Advisor's Name: \_\_\_\_\_

Advisor's Mailing Address: \_\_\_\_\_

\_\_\_\_\_

Advisor's Telephone Number: \_\_\_\_\_

Advisor's Email Address: \_\_\_\_\_

**48" by 36" poster board on a tripod or on a table will be provided.** Please specify what you need.

\_\_\_\_\_ poster board with tripod      \_\_\_\_\_ table needed

All poster presenters will be included in the list for the meal (heavy hors d'oeuvres will be served during the Social Hour, see below). Please list any other faculty, parents, friends, or other students that will be coming to the poster session as your guest(s). We need to get an accurate count for catering.

\_\_\_\_\_

\_\_\_\_\_

Meeting Schedule:    5:00 – 5:30 pm: Poster setup                      5:30 – 6:45 pm: Social hour/poster session  
                                 7:00 – 7:15 pm: Awards                                      7:15 – 8:15 pm: Keynote presentation

The poster session will take place in the Main Street Lobby of Center for the Sciences. The awards ceremony and keynote presentation will take place in adjacent Room M73, Center for the Sciences.

**If you are scanning this form, please make sure the scan is legible.**