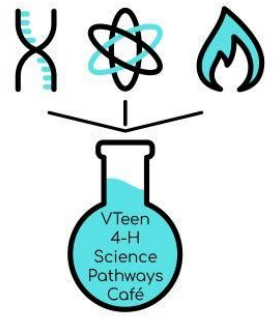




# VTeen 4-H Science Pathways Café



## Summer of Science—Save the Dates!

Open to all youth in grades 7-12; **most programs are FREE but registration will be required.**  
Registration will be available at [www.uvm.edu/extension/youth/announcements](http://www.uvm.edu/extension/youth/announcements)  
“Like” us @[www.facebook.com/VTeen4HScienceCafe](https://www.facebook.com/VTeen4HScienceCafe)

### Exciting Summer of Science Opportunities

#### **GIS Camp** (June 24-28, 9:30—3:30 daily); 15 youth

Have you ever used Google Maps to get directions to an unfamiliar place? Or have you ever looked at the weather radar to see if it might rain later? If so, you already know the power of GIS! Geographic Information Systems, or GIS, helps us to explore the fundamental principle of geography: location is important to our everyday lives. With GIS, we can combine the powers of geography and mapping to comprehend, visualize, and interpret data to study the world around us. These data help us to discover patterns, allowing us to better understand our world and make smarter decisions for our communities and our planet. At this week-long day camp at UVM you will explore spatial analysis and map-making in ArcGIS software. You will learn how to use the software and apply your learning to real-world decision-making. We will also have a career panel discussion so you can learn all of the different ways GIS is used by professionals. This program may have a registration fee.

*\*Basic Computer Skills required; participants will be asked to complete a short tutorial before camp begins.*

#### **Farming, Climate Change & Water Quality** (July 11, 9am—12 noon); 20 youth

Wetter springs, longer summer dry spells and droughts, warmer winters and a longer growing season - climate change in the Northeast means that agriculture has been, and will be, facing multiple changes and challenges. Resilient systems will be critical to maintaining economic and environmental sustainability in the face of increased precipitation, more extreme storms and warming temperatures. The UVM Extension Farming and Climate Change Program exists to investigate the practices that lead to these benefits and how they can be integrated into Northeastern agriculture. Join Professor Joshua Faulkner at the UVM Miller Research Farm to explore his research and conduct your own experiments (e.g., soil and vegetation sampling of runoff treatment cells, water quality analysis, ground water sampling and more). Participants will learn how nutrients and water move through an agricultural environment, how ecological processes can be used to treat contaminated water around a farm, and the proper methods for taking soil, water and vegetation samples.

**- MORE ON THE OTHER SIDE -**

#### **Questions?**

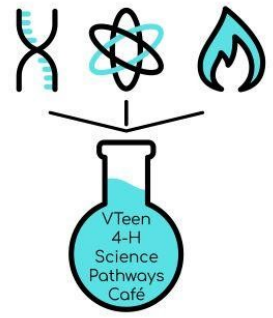
Lauren Traister,  
4-H Teen & Leadership Program Coordinator  
[lauren.traister@uvm.edu](mailto:lauren.traister@uvm.edu)  
802-888-4972 x 402



[www.uvm.edu/extension/youth](http://www.uvm.edu/extension/youth)



## VTeen 4-H Science Pathways Café



### Summer of Science—Opportunities (continued)

#### **Natural Resources Management Academy** (July 19-21; overnight camp); 30 youth

In collaboration with Vermont Fish and Wildlife, this is a program for teens in grades 7-10 who are passionate about the environment and ready to explore Vermont's natural resources in-depth. Experts from around Vermont lead workshops and skill-building activities. This program has a registration fee and takes place at the Green Mountain Conservation Camp in Woodbury, VT.

#### **Science on Lake Champlain** (July 25, full day or half day 9 am—12 noon or 1:00 pm—4 pm); 21-30 youth

Learn about watershed science while out on Lake Champlain with staff from the Watershed Alliance. The morning will be spent out on the UVM Research Vessel *Melosira* learning about and conducting various tests and data collection. After returning to shore participants will go to the Fish Dissection Lab for more hands-on activities. In the afternoon session participants will paddle with staff from the Community Sailing Center and learn about citizen science efforts that help the lake ecosystem. You might even learn a thing or two about underwater archeology and geology!

#### **The Science of Maple** (July 31, 9:00-11:30 am); 20 youth

Maple syrup production integrates many different scientific disciplines (food chemistry, engineering and microbiology). By law pure maple syrup must meet strict standards in four critical areas: color, clarity, flavor and density. Maple producers must be able to accurately measure these elements and correctly place each batch of syrup into one of four grades: Golden/Delicate, Amber Rich, Dark/Robust and Very Dark/Strong. From hydrometers or refractometers to measure syrup density to color comparators or spectrophotometers to analyze syrup color, maple producers use a variety of measurement tools in the process of grading maple syrup. Participants will be given a chance learn about the various tools and methods used in grading syrup as well as a practical opportunity to try grading syrup. This café will take place at the Proctor Maple Research Center in Underhill, VT; additional activities may include learning how to measure tree diameters, tree identification using leaves and bark and more.

- MORE ON THE OTHER SIDE -

#### Questions?

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lauren.traister@uvm.edu  
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