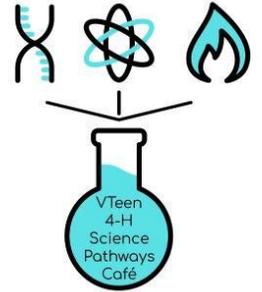




# VTeen Science Explorations



## Harnessing Microbes to Protect the Environment

Wednesday, January 27, 2021, 3:30-4:45 pm

Open to all youth entering grades 7-12 in VT and across the country!

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

“Like” us @[www.facebook.com/VTeen4HScienceCafe](https://www.facebook.com/VTeen4HScienceCafe)



If you looked inside one of the red tanks shown in the photo, you would see what can appropriately be described as “muck.” Contained within the muck are millions and millions of microorganisms eating wastes and excreting a valuable product. Specifically, bacteria and archaea work together to convert cow manure and food waste into methane and carbon dioxide. The gas is collected, cleaned, compressed, and used to augment natural gas supplies. This process, called “anaerobic digestion” is one of many ways that microorganisms are harnessed to treat wastes and produce renewable energy. Come to this café to learn multiple ways that environmental engineers put microbes to work to protect public health and the environment.

### ABOUT OUR SPEAKER

**Dr. Matthew Scarborough** is an assistant professor in the Department of Civil and Environmental Engineering at the University of Vermont. His research focuses on the application of microbiomes (aka, microbial communities) to protect the natural environment and public health. He currently focuses on management of wastes from agricultural processes with the goal of harnessing microbiomes to convert renewable feedstocks to valuable products. This work aims to provide additional revenue for farmers while reducing water and air pollution. Dr. Scarborough's work encapsulates many scales, from studying the function of individual enzymes to implementing full-scale microbiome-based conversion platforms.

**What is a Virtual Teen Science Café?** It is a free, fun way for teens to explore science, engineering and technology with local scientists, engineers and technology experts. Teens will “meet a scientist”, learn about their work, and be able to participate in informal discussions.

**Questions?** Contact [lauren.traister@uvm.edu](mailto:lauren.traister@uvm.edu)

*To request a disability-related accommodation to participate in this program, please contact the 4-H Office at 802-888-4972 or [lauren.traister@uvm.edu](mailto:lauren.traister@uvm.edu) by January 11, 2021 so we may assist you.*



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