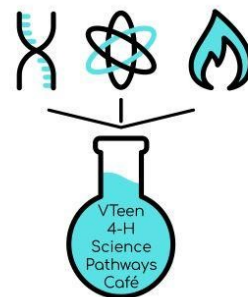




# VTeen Science Explorations



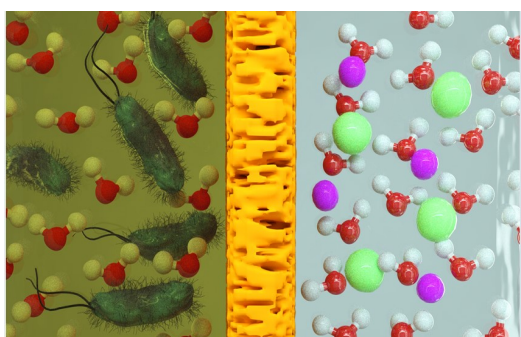
## Biomimetic Membranes and Nanotechnology

Wednesday, December 16, 2020, 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)



"Water, water, everywhere, Nor any drop to drink" says Samuel Taylor Coleridge in *The Ancient Mariner* (1834). Freshwater is undoubtedly a limited resource in the 21<sup>st</sup> century. Novel materials and membrane technologies have become a popular choice for developing new and safe water sources, utilizing marginal quality water sources and enabling wastewater reuse. However, fouling challenges (blockage of membrane pore channels by water constituents) increase the energy consumption and operating costs and they are therefore an Achilles' heel for membrane processes. To

address this challenge, we are developing novel membranes using biology and nanotechnology principles that can enable increased access to clean water from diverse water sources. Come to this café to learn about how biomimetic membranes and nanotechnology can be used to increase water security and protect public health.

### ABOUT OUR SPEAKER

**Dr. Appala Raju Badireddy** is an assistant professor of Civil and Environmental Engineering at the University of Vermont. He holds a PhD in Environmental engineering, on sustainable membrane processes and applications of nanotechnology from the University of Houston, TX. Prior to joining UVM, he was a post-doctoral associate at the Center for the Environmental Implications of NanoTechnology (CEINT) and Department of Civil and Environmental Engineering at Duke University. His expertise is in the study of novel membrane processes for water and wastewater treatment, wastewater reuse, COVID-19 wastewater-based epidemiology, and environmental nanotechnology.

**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 December 2, 2020 so we may assist you.*



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

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