Airborne Disease and Aerosol: An Intimate Connection
Wednesday, September 22
Due to COVID-19, we have all become very familiar with airborne disease and its implication for global health. To mitigate the impact of the COVID-19 pandemic, public health officials have used a variety of tools, including masking, social distancing, and, of course, vaccination. The effectiveness behind these mitigation tools has been widely debated in the popular press, but the science behind these measures is still poorly understood. Professor Suresh Dhaniyala (Mechanical & Aeronautical Engineering, Clarkson University) will discuss his research on bioaerosols, aerosol transport modeling and indoor air sensing and describe the intimate connection between aerosol science and airborne diseases.

NOTE: These events will be offered online via Zoom. Zoom can be accessed with any computer, tablet or smartphone with an internet connection. Use the link below to access the Zoom Help Center, which offers information, instructions and assistance to new Zoom users. A zoom meeting link which can be used for all of the fall 2021 talks will be sent to all past Science Cafe participants who shared their email addresses and will be posted at clarkson.edu/sciencecafe.

The Power of Storytelling
Wednesday, October 6
Stories are powerful tools when it comes to social change. A direct line between two individuals, stories break down barriers and build empathy. Professor Bethany Garretson (Environment & Society, Paul Smith’s College) has been listening to, collecting and writing stories since she was a young child. In 2016, she raised funds to begin a storytelling fellowship at Paul Smith’s College. Garretson will talk about her writing and storytelling projects, which have spanned the globe – from villages in Nepal to the rural countryside of central New York.

Addressing Health Disparities in the 21st Century: Thinking Further Upstream
Wednesday, October 27
The traditional framework for improving the health of a community by promoting physical activity, healthy eating and tobacco regulations is not yielding the results hoped for by public health professionals. A significant reason for this is that health outcomes are not determined purely by individual behavior but rather by social, political and economic structures. A “life-course” perspective is required to understand health. Professor Ernesto Moralez (Public Health, St. Lawrence University) will discuss how factors such as poverty, housing, food insecurity and a lack of educational opportunity – the social determinants of health – are crucial drivers of health (and health disparities) in the U.S. and how they contribute to the development and treatment of chronic illness, as well as health inequities. Moralez will also discuss the heavy burden the COVID-19 pandemic has placed on complex patients (individuals dealing with more than one health condition) and give a summary of the potential community-level “aftershocks” of COVID-19. In addition, he will share preliminary results of his findings on how community health workers can be the change agents in community healthcare efforts, particularly in low-income, low-access areas.

Crisis Intervention in the North Country
Wednesday, November 10
Exactly 50 years ago this year, three friends started a crisis outreach program in the North Country. Today, Reachout continues to provide essential services to countless individuals and families in crisis situations, including suicide, psychosis, substance abuse, domestic violence and hunger. The work of this dedicated cadre of (mostly) volunteers diverts more than 80% of such incidents away from hospital and police emergency services. Join us as Karen Easter, founder and executive director of Reachout of St. Lawrence County, discusses the past, present and future of crisis intervention in the North County.

Unravelling the Mysteries of Frog Metamorphosis
Wednesday, December 1
Frog metamorphosis is a spectacular example of animal development with which most people have some familiarity. The process is mediated by three categories of “developmental programs”: 1) programmed cell death, such as the resorption of the tail and gills; 2) cell proliferation, including the growth of limbs and lungs; and 3) organ remodeling, such as the transformation of the herbivorous tadpole intestine into a carnivorous frog gut. Remarkably, all of these developmental programs are regulated primarily by the actions of one thyroid hormone. In this talk, Professor Alexander Schreiber (Biology, St. Lawrence University) will review the physiology of frog metamorphosis and discuss his lab’s ongoing research on immune system remodeling during metamorphosis.

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