

Tkach, Colleen

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Subject: EM: 5C Chemistry Seminar Announcement - Tues 2/10

From: Lauran Soto

5C Chemistry Seminar Announcement:

The Promise and Peril of a Maverick Element, Fluorine: Impact on Human Health and the Environment

William Pomerantz
University of Minnesota Twin Cities

Tuesday, February 10, 2026
11:00am - 12:00pm
Nucleus East, Room E208

Abstract:

Fluorine-containing molecules have potential for impacting many diverse sectors of industry including their prevalence in human medicine, anesthetics, blood substitutes, agrochemicals, clothing, food packaging, and fire repellents. However, despite the large upside of fluorine, as fluorine forms the strongest of all chemical bonds to the carbon atom, we also encounter highly fluorinated molecules that are persisting in our environment long after their intended use. This persistence has led to their moniker “forever chemicals” or more officially termed poly and perfluorinated alkyl substances (PFAS). This persistence has raised concern about the long-term consequences on human health and the environment.

In this talk, I will discuss some of our unique approaches studying PFAS in the environment and how we are developing new strategies to understand how particular fluorine bonds can be degraded, and new safer alternatives designed. Additionally, I will also show how we harnessed a unique property of fluorine to improve our ability to create new imaging tools, such as alternatives to traditional MRI which you may have encountered in hospital settings, as well as how we are using it to discover new drugs to treat liver disease and childhood cancer. I hope to conclude the talk convincing you of the importance of the organofluorine bond and its promise for impacting society, while highlighting new areas for innovation when dealing with forever chemicals.

DNS and Chemistry Seminars can be found here: <https://natsci.claremont.edu/student-resources/seminars/>

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Fluorine: Impact on Human Health and the Environment**



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Nucleus NS E208

William Pomerantz

University of Minnesota Twin Cities

Best.

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