

THE ALEXANDER M. CRUICKSHANK LECTURESHIP

Re-Imagining the Periodic Table: The Elements and You

Monday, October 5, 2026 – 5:30 pm – Avedisian 170

Join us at 5 pm in Avedisian's lobby for a reception and light refreshments

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Likely not a day goes by where you do not think about how you can change your lifestyle to become more sustainable. Should I drive an electric car? Stop using plastic? Can I live my life without interacting with products from the fossil fuel industry? Will wind and solar address all of our energy needs and is it really carbon neutral? Chemistry and molecular science are at the core of the answers to these important questions. Much is made about our “carbon footprint” but what my lecture will show is that we need to be more broadly focused on our “elemental footprint” – meaning that many of the products that enable our quality of life rely on some of the most exotic and scarce elements on earth. In addition to carbon, our plastics footprint has gained increased attention as accumulation of these materials in the environment has become both undeniable and problem. Are plastics a net positive or negative in society? Should we ban their use? My lecture will explore the chemistry behind plastics and more generally hydrocarbons, the opportunities and challenges presented by recycling and what, if any, alternatives are available.



Paul J. Chirik is the Edwards S. Sanford Professor of Chemistry and Chair of the Princeton Chemistry Department. Chirik is a synthetic chemist with broad interests in catalysis and sustainability. His research is focused on understanding the catalytic and fundamental organometallic chemistry of earth abundant, first-row transition metals such as iron, manganese, cobalt and nickel. Catalysts developed in Chirik's laboratory have found application in the synthesis of commercial silicones, active pharmaceutical ingredients, and carbon-neutral fuels. A native of Philadelphia, Pennsylvania, he obtained his B. S. in chemistry at Virginia Tech where in the laboratory of Joseph Merola, his interest in the chemistry of the transition metals began. Chirik earned his Ph. D. at Caltech under the supervision of John Bercaw and following a brief postdoctoral appointment at MIT, began

his independent career at Cornell in 2001. In 2006, he was promoted to Associate Professor and in 2009 was named the *Peter J. W. Debye Professor of Chemistry*. In 2011, Chirik and his research group moved to Princeton University where he was named the *Edwards S. Sanford Professor of Chemistry*. His teaching and research have been recognized with an Arthur C. Cope Scholar Award, the Blavatnik Award for Young Scientists, a Packard Fellowship in science and engineering, the 2016 Presidential Green Chemistry Challenge Award, the 2017 the 2019 Eni Environmental Solutions Prize, the Gabor Samorjai Award for Creative Research in Catalysis, the Linus Pauling Medal and the 2027 ACS Award in Organometallic Chemistry. Chirik is the author of over 300 peer-reviewed publications, inventor on more than 20 patent applications and current Editor-in-Chief of *Organometallics*.