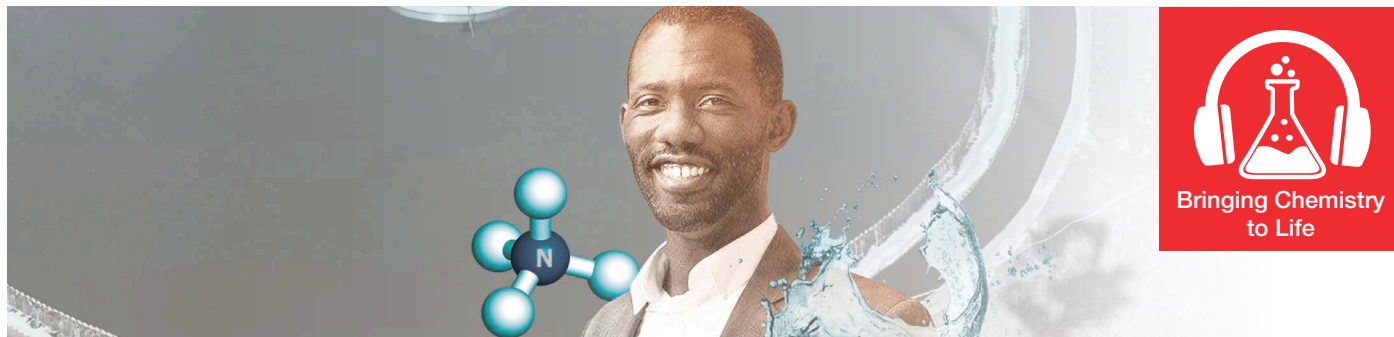


# Bringing Chemistry to Life podcast series

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## Season 1: The 2019 C&EN's Talented 12 Episode 6: One person's waste is another's treasure



### Episode abstract

80% of wastewater gets discharged untreated, which causes some of the most urgent environmental issues facing our planet. However, Dr. William Tarpeh, nominated as one of The Root's 100 most influential African Americans, views wastewater as an incredible resource that contains many valuable components and represents an untapped economic opportunity in our world of finite resources. This episode is an intriguing discovery of how chemical engineering can transform our energy-intense linear economy, where materials are made, used and eventually discarded, into a new circular economy based on recovery value and a vision of eliminating waste altogether. William and Paolo speak about how selective adsorbent resins and electrochemical processes can completely change the chemical landscape and profoundly impact the global economy. This episode is a treasure trove of examples of how chemical innovation can change the world and how great science can translate into practical applications with immediate tangible benefits for human life and the environment.

### About our guest

#### William A. Tarpeh, PhD

Assistant Professor, Department of Chemical Engineering, Stanford University

Will's group site:

<https://tarpehgroup.stanford.edu/about/dr-william-tarpeh>

C&EN's Talented 12 profile of Will:

<https://cen.acs.org/environment/water/William-Tarpeh/97/i33>

### Recent Publications from Will:

- [Electro-assisted regeneration of pH-sensitive ion exchangers for sustainable phosphate removal and recovery](#)
- [Selective Recovery of Ammonia Nitrogen from Wastewaters with Transition Metal-Loaded Polymeric Cation Exchange Adsorbents](#)
- [Validation and Mechanism of a Low-Cost Graphite Carbon Electrode for Electrochemical Brine Valorization](#)
- [Novel two-chamber tubular microbial desalination cell for bioelectricity production, wastewater treatment and desalination with a focus on self-generated pH control](#)
- [Selective Hydrogenation of Furfural in a Proton Exchange Membrane Reactor Using Hybrid Pd/Pd Black on Alumina](#)

### Will's Content Recommendations:

- [Waste](#) (a book by Catherine Coleman Flowers)
- [How Your Pee Could Help Billions of People](#) (a YouTube video about Will's work)
- [Rich Earth Institute](#) (a nonprofit in Vermont that turns human urine into fertilizer)

This podcast series is available via the following links



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