

# Bringing Chemistry to Life podcast series

ThermoFisher  
SCIENTIFIC

Season 1: The 2019 C&EN's Talented 12

Episode 5: What happens in the microscale doesn't stay in the microscale



## Episode abstract

Common phenomena, observed by most in their daily experience, can be surprisingly misunderstood and even mysterious! Genuine curiosity, an open mind, and good dose of creativity are the necessary ingredients for the most exciting scientific discoveries. This is the take-home message of our fascinating discussion with Dr. Lauren Zarzar, who studies microscale systems and their macroscopic effects. We find out what is behind the iridescence at the air-water interface, how this can be reproduced and controlled with many different types of emulsions, and how it could be used in novel paints and display technologies. We also discuss 3D printing at the nanoscale using lasers and how this can revolutionize materials science. The work of Dr. Zarzar is yet another great demonstration of how great science happens at the interface between different disciplines, with chemistry usually being one of them.

## About our guest

### Lauren D. Zarzar, PhD

Assistant Professor, Department of Chemistry at Penn State University

Lauren's group site:  
<https://www.zarzarlab.com/>

C&EN's Talented 12 profile of Lauren:  
<https://cen.acs.org/materials/Lauren-Zarzar/97/i33>

## Recent Publications from Lauren:

- [Predator-prey interactions between droplets driven by non-reciprocal oil exchange](#)
- [Tunable and Responsive Structural Color from Polymeric Microstructured Surfaces Enabled by Interference of Totally Internally Reflected Light](#)
- [Particle Stabilization of Oil-Fluorocarbon Interfaces and Effects on Multiphase Oil-in-Water Complex Emulsion Morphology and Reconfigurability](#)
- [Polyelectrolyte hydrogel capsules as stabilizers for reconfigurable complex emulsions](#)
- [Direct Laser Writing from Aqueous Precursors for Nano to Microscale Topographical Control, Integration, and Synthesis of Nanocrystalline Mixed Metal Oxides](#)

## Lauren's Content Recommendations:

- [Make it Stick: The Science of Successful Learning](#) – This book made me think about my own thinking and learning in a new light
- [Destination Imagination](#) – I participated in this team based creative problem-solving program for many years when I was younger, and it shaped my approach to creative thinking in scientific research
- [Nanoscribe's 3D printing of a spaceship](#) – Multiphoton lithography 3D printing video
- [Structural color from droplets](#) – A video from engineers at MIT and Penn State

This podcast series is available via the following links



Products are processed under ISO 9001:2015 quality management systems and samples are tested for conformance to the noted specifications. Certain data may have been supplied by third parties. We disclaim the implied warranties of merchantability and fitness for a particular purpose, and the accuracy of third party data or information associated with the product. Products are for research and development use only. Products are not for direct administration to humans or animals. It is the responsibility of the final formulator or end user to determine suitability, and to qualify and/or validate each product for its intended use. © 2022 Thermo Fisher Scientific Inc. All trademarks are the property of Thermo Fisher Scientific and its subsidiaries unless otherwise specified. 01\_2022

thermo scientific