

Bringing Chemistry to Life podcast series

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Season 3: The 2021 C&EN's Talented 12

Episode 1: Fuel the world with light – the wonders of nano-magnesium



Episode abstract

One of the most difficult scientific concepts to grasp is how things behave differently in the macro- vs. the nano-scale. For example, everyone knows that gold is shiny and yellow, but gold nanoparticles suspended in a liquid (colloidal gold) are red. Dr. Emilie Ringe, a Canadian-born Assistant Professor at the University of Cambridge, travelled the world investing the best part of her still young career in studying one of these intriguing phenomena. She is an expert of the so-called plasmonic nano-materials, focusing specifically on magnesium. These materials can collect specific wavelengths of light and emit energy, behaving like nano antennas.

The potential applications are incredible, from an efficient way to apply localized energy to chemical reactions, to an innovative and benign cancer treatment. And in perfect Bringing Chemistry to Life style, the discovery of the science and the person go hand in hand, making for a great start of Season 3!

About our guest

Emilie Ringe, PhD

Assistant Professor, Department of Materials Science & Metallurgy, University of Cambridge

Emilie's group site: <https://www.on.msm.cam.ac.uk>

C&EN Talented 12 profile of Emilie:

<https://cen.acs.org/materials/nanomaterials/Emilie-Ringe/99/i30>

Recent publications from Emilie

- [Magnesium Nanoparticle Plasmonics](#)
- [Wulff-Based Approach to Modeling the Plasmonic Response of Single Crystal, Twinned, and Core-Shell Nanoparticles](#)
- [Decoration of plasmonic Mg nanoparticles by partial galvanic replacement](#)
- [Tents, Chairs, Tacos, Kites, and Rods: Shapes and Plasmonic Properties of Singly Twinned Magnesium Nanoparticles](#)
- [Shapes, Plasmonic Properties, and Reactivity of Magnesium Nanoparticles](#)
- [Transition-Metal Decorated Aluminum Nanocrystals](#)

Emilie's content recommendations

- [Mistress Barbara](#) (A DJ whose music has been powering Emilie's workouts for decades)
- [Good Omens](#) (A British-American production full of humor from both countries)
- [More or Less](#) (A Tim Harford podcast with statistical commentary on various topics)
- [V&A Museum](#) (Emilie's favorite London museum with lots of online content)

This podcast series is available via the following links



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