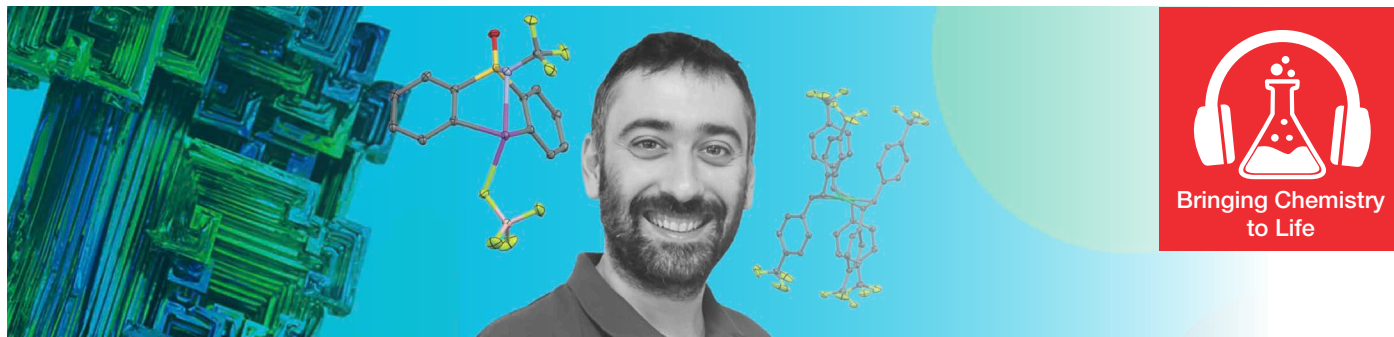


# Bringing Chemistry to Life podcast series

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## Season 2: The 2020 C&EN's Talented 12 Episode 3: Rethinking catalysis



### Episode abstract

Modern synthetic chemistry relies on a rich toolbox of chemical transformations, among which catalytic reactions play a prominent role. Yet, despite all the many successes, innovation in the field has seemingly slowed down, the focus moving to exploring variations and application scope of well-established catalysts based on a limited number of reliable transition metals.

Josep Cornella, from the Max Planck Institute in Mülheim an der Ruhr, is an innovator. He is not loyal to a specific element or a specific catalysed reaction. He has a non-discriminatory approach to catalysis, where the key is choosing the catalytic approach to do what he wants/needs rather than figuring out what he can do with his catalyst of choice.

This episode is a declaration of love for catalysis as a driver for innovation in organic synthesis. Paolo and Josep discuss using the elements the Earth has given us in creative new ways, from making air-stable nickel zero (Ni(0)) complexes to the unexpected use of bismuth as a completely novel catalyst, opening the box of possibilities by removing the biases from overreliance on well established – and old – concepts.

### About our guest

#### Josep Cornella, PhD

Max Planck Research Group Leader, Department of Organometallic Chemistry, Max Plank Institute for Kohlenforschung

Josep's group site: <https://www.cornellab.com/>

C&EN Talented 12 profile of Josep:

<https://cen.acs.org/synthesis/Josep-Cornella/98/i31>

This podcast series is available via the following links



### Recent Publications from Josep:

- [Fluorination of arylboronic esters enabled by bismuth redox catalysis](#)
- [Catalytic Activation of N<sub>2</sub>O at a Low-Valent Bismuth Redox Platform](#)
- [Dialkyl Ether Formation at High-Valent Nickel](#)
- [Ni<sup>\(4-\*t\*Bu<sub>3</sub>stb\)<sub>2</sub></sup>: A Robust 16-Electron Ni\(0\) Olefin Complex for Catalysis](#)
- [An air-stable binary Ni\(0\)–olefin catalyst](#)

### Josep's Content Recommendations:

- [A Brief History of Time](#) (a book by Stephen Hawking)
- [The Fabric of the Cosmos: Space, Time, and the Texture of Reality](#) (a book by Brian Greene)
- [Indiana Jones & Jurassic Park](#) (movie series' appreciated by Josep)
- [Any classical or Catalan Rock](#) (music genres appreciated by Josep)
- [Date un Vlog](#) (Spanish language YouTube channel on physical science)

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