

The Doctoral Program **ION CHANNELS AND TRANSPORTERS AS MOLECULAR DRUG TARGETS** („MolTag“)
is pleased to invite you to the following **ONLINE** lecture

"Chemical discovery in the microbial world"

by **Emily Balskus**

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Harvard University, Cambridge, MA, USA

[Emily Balskus | Department of Chemistry and Chemical Biology \(harvard.edu\)](#),
[Understanding the Human Microbiome — Balskus Lab \(microbialchemist.com\)](#)



on: **Thursday, July 1st, 2021, 16:00/4:00 PM (CEST)**

Host: **Univ.Prof.Dr. Nuno Maulide**

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ABSTRACT: Microbes have amazing chemical capabilities, performing reactions unprecedented in organic synthesis and producing complex, biologically active molecules not easily accessed via other approaches. Recent advances in DNA sequencing technologies have delivered a wealth of microbial genomes that encode novel enzymes. The availability of this genomic data thus represents an unprecedented opportunity for the discovery of enzymes that have the potential to reveal new principles of catalysis and inspire the development of synthetic methodology. **This talk will discuss our recent progress deciphering the chemistry of enzymes that mediate unusual C–X, C–C, and N–N bond forming reactions in microbial biosynthetic pathways.** Functional and mechanistic characterization of these enzymes is expanding our fundamental understanding of enzymes and uncovering reactivity with potential applications in biocatalysis and metabolic engineering

Biosketch: Emily pursued graduate studies in the Department of Chemistry and Chemical Biology (CCB) at Harvard University, receiving her PhD in 2008. Her graduate work with Prof. Eric Jacobsen focused on the development of asymmetric catalytic transformations and their application in the total synthesis of complex molecules. From 2008–2011 she was an NIH postdoc fellow at Harvard Med School in the lab of Prof. Christopher T. Walsh. Her research in the Walsh lab involved elucidating and characterizing biosynthetic pathways for the production of small molecule sunscreens by photosynthetic bacteria. She also received training in microbial ecology and environmental microbiology as a member of the Microbial Diversity Summer Course at the Marine Biology Lab at Woods Hole during the summer of 2009. Emily joined the CCB faculty in 2011 and is currently a Professor of Chemistry and Chemical Biology. She is also an Associate Member of the Broad Institute of Harvard and MIT, a Faculty Associate of the Microbial Sciences Initiative at Harvard, a member of the Harvard Digestive Diseases Center, and a member of the MIT Center for Microbiome Informatics and Therapeutics. Her independent research has been recognized with multiple awards. **For publications see: [here](#).**

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