

Title | Driving Synthesis by Oxidation

Abstract | Even though oxidation reactions are required for the synthesis of almost any functional molecule or material, they remain a class of reactions that suffer from poor efficiency and selectivity. This lecture will discuss our efforts to develop mild, efficient, and selective oxidation reactions in the areas of organic and metal-organic synthesis. Topics will be chosen from our programs in aerobic copper catalysis, natural products total synthesis, and a quinone-catechol redox couple that enables the aerobic oxidation of metals and main-group elements.

Bio | Professor Jean-Philip Lumb obtained his B.A. from Cornell University in 2002, graduating Magna Cum Laude with degrees in Chemistry and French Literature. In 2003, he moved to the University of California, Berkeley, where he was an ACS Organic Division Fellow in the lab of Professor Dirk Trauner. From 2008 to 2011 he was an NIH Ruth L. Kirschstein Postdoctoral Fellow at Stanford University, working under the supervision of Prof. Barry M. Trost. In 2011, he began his independent career at McGill University in Montreal, Quebec, and was promoted to Associate Professor in 2017. He is the recipient of a Young Investigator Research Grant from the FQRNT (2012), a Thieme Journal Award for Young Investigators (2014) and a Young Investigator Award from the Global Green Chemistry Centers (2016). His group blends synthetic organic and bio-inorganic chemistry to solve challenges of small-molecule and materials synthesis.

