

PROMOTION RECOMMENDATION
The University of Michigan
College of Literature, Science, and the Arts

Corinna Schindler, assistant professor of chemistry, College of Literature, Science, and the Arts, is recommended for promotion to associate professor of chemistry, with tenure, College of Literature, Science, and the Arts.

Academic Degrees:

Ph.D.	2010	ETH Zurich, Switzerland
M.S.	2004	Technical University of Munich, Germany

Professional Record:

2014	Visiting Professor, Westfälische-Wilhelms-Universität, Münster
2013 – present	Assistant Professor, Department of Chemistry, University of Michigan
2010 – 2013	Post-doctoral Fellow, Harvard University

Summary of Evaluation:

Teaching – Professor Schindler taught CHEM 210, a large scale introductory class that is required of many of the STEM majors. She also taught three different graduate courses that are part of the organic chemistry Ph.D. curriculum. Student evaluations of CHE 210 were excellent and comparable to or exceeding that of the others who have taught the course. Her efforts in the course included preparing graduate student assistants who have extensive student contact. She has also begun development of a new active learning method for CHEM 210. For a graduate course, she developed ways to combine teaching and outreach, such as “Natural Products in Bloom,” which culminated in students preparing infographics on the natural products found in plants at Matthaei Botanical Gardens. In addition to classroom teaching, Professor Schindler did an excellent job of mentoring eleven undergraduate students and sixteen graduate students as researchers with good outcomes.

Research – Professor Schindler is an organic chemist who studies reactions and synthesis of carbon containing molecules. Her research emphasizes the development of new reactions and catalysts as well as synthesis of complex molecules. She developed the carbonyl-olefin metathesis reaction. This reaction is a long-sought analog to the olefin-olefin metathesis reaction (which earned the 2005 Nobel Prize in Chemistry). Professor Schindler developed an understanding of the reaction mechanism, defined the scope of the reaction, and developed variants that allowed different reaction pathways to be accessed. She also developed new routes to the synthesis of complex molecules that are potential candidates for treating inflammation. Professor Schindler’s early discoveries leave her poised to develop entirely new syntheses and find new methods of modifying molecules. Professor Schindler’s work has appeared in top journals, and been recognized with many awards, including the highly selective Packard Fellowship, the first ever received in the Chemistry department.

Recent and Significant Publications:

“Interrupted Carbonyl-Olefin Metathesis via Oxygen atom transfer,” with J. R. Ludwig, et al., *Science*, 361, 2018, pp. 1363-1369.

“Mechanistic investigations of the Iron(III)-catalyzed Carbonyl-Olefin Metathesis reaction,” with J. R. Ludwig, et al., *Journal of the American Chemical Society*, 139, 2017, pp.10832-10842.

“Polycyclic aromatic hydrocarbons via Iron(III)-catalyzed Carbonyl-Olefin Metathesis,” C. C. McAtee, et al., *Journal of the American Chemical Society*, 139, 2017, pp. 2960-2963.

“Iron(III)-catalyzed carbonyl-olefin metathesis,” with J. R. Ludwig, et al., *Nature*, 533, 2016, pp. 374-379.

Service – Professor Schindler has served on the Graduate Recruiting, Graduate Admissions, and Graduate Committees. For graduate recruiting, she made several visits to the NOBCCChE conference, which focuses on African-American students. She ran student workshops for National Science Fellowship applications, which was a remarkable service for the whole department. She organized the Merck Symposium, which was a notable success that offered students many interactions for collaboration and hiring. Professor Schindler has also been extremely active in several outreach activities, including an excellent FEMMES session, an outreach program designed to interest girls in science, and a strong Michigan Math and Science Scholars course.

External Reviews:

Reviewer (A)

“The carbonyl-olefin metathesis reaction is quite unique and fills a void that renders it one of the more important transformations discovered in the past 3 years. Schindler has done an impressive job in the development of this process and has published a large quantity of papers.”

Reviewer (B)

“She is an outstanding researcher who is globally recognized for her work. From her resume, it is clear that she is also contributing greatly at the University of Michigan, and that she plays an invaluable role there. I am pleased to support Dr. Schindler’s promotion in the strongest terms.”

Reviewer (C)

“This reaction [carbonyl-olefin metathesis] opens new vistas for the construction of complex molecules from simple starting substances. ... Reading the *Nature* article, one is struck by the clarity of writing, the acknowledgement of relevant precedent and the depth of analysis rarely seen in...an investigator [in her cohort].”

Reviewer (D)

“...Schindler’s most significant scientific contribution is her development, mechanistic evaluation, and application of a strategy to effect catalytic carbonyl-olefin metathesis. This is a transformation that has been long sought and the subject of significant effort... Schindler is performing work with impact, depth, and scholarship.”

Reviewer (E)

“I am impressed by the quality of Corinna’s published reports and experimental investigations. Her evident dedication to teaching and outreach is equally laudable. ...the case for promotion appears quite strong. ... The quality of her research and scholarship is at the highest level among her contemporaries, and I expect the visibility of her lab will continue to grow...”

Reviewer (F)

“The initial Schindler report of the carbonyl-ene metathesis reaction is the closest thing to an instant classic as I can remember seeing in a long time. Because of the unique and potentially transformative nature of the reaction, the initial 2013 *Nature* report caught the immediate attention of many across a wide swath of the chemistry community. ...Professor Schindler has established a research program that is surely as one of the premier operations in modern day synthetic organic chemistry.”

Reviewer (G)

“All of these projects combine to present the profile of an extremely exciting...scientist in Prof. Corinna Schindler.”

Reviewer (H)

“Dr. Schindler’s independent publications establish her as one of the most promising synthetic organic chemists of her generation. Her accomplishments in the development/discovery of new transformations are exceptional.”

Summary of Recommendation:

Professor Schindler has discovered new reactions and elucidated their mechanism, which are of fundamental interest for organic chemistry. She has developed new synthetic approaches to complex molecules. Her teaching and mentoring are clearly excellent, and her outreach and service activities are well-received and viewed as important. The Executive Committee of the College of Literature, Science, and the Arts and I recommend that Assistant Professor Corinna Schindler be promoted to the rank of associate professor of chemistry, with tenure, College of Literature, Science, and the Arts.



Elizabeth R. Cole, Interim Dean
Professor of Women’s Studies, Psychology,
and Afroamerican and African Studies
College of Literature, Science, and the Arts

May 2019