

PROMOTION RECOMMENDATION
The University of Michigan
College of Engineering

Joerg Lahann, associate professor of chemical engineering, with tenure, Department of Chemical Engineering, associate professor of materials science and engineering, without tenure, Department of Materials Science and Engineering, associate professor of biomedical engineering, without tenure, Department of Biomedical Engineering, and associate professor of macromolecular science and engineering, without tenure, Macromolecular Science and Engineering Program, College of Engineering, is recommended for promotion to professor of chemical engineering, with tenure, Department of Chemical Engineering, professor of materials science and engineering, without tenure, Department of Materials Science and Engineering, professor of biomedical engineering, without tenure, Department of Biomedical Engineering, and professor of macromolecular science and engineering, without tenure, Macromolecular Science and Engineering Program, College of Engineering.

Academic Degrees:

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| Ph.D. | 1998 | RWTH Aachen, Germany, Macromolecular Chemistry, Aachen, Germany |
| M.S. | 1995 | RWTH Aachen, Germany, Chemistry, Aachen, Germany |
| B.S. | 1993 | University of Saarland, Chemistry, Saarbrücken, Germany |

Professional Record:

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| 2009-present | Co-Director, Institute of Functional Interfaces, Karlsruhe Institute of Technology, Karlsruhe, Germany |
| 2008-present | Associate Professor of Chemical Engineering (with tenure), Materials Science and Engineering, Biomedical Engineering, and Macromolecular Science and Engineering |
| 2005-2009 | Dow Corning Assistant Professor of Chemical Engineering (Endowed Professorship) |
| 2003-2008 | Assistant Professor, Chemical Engineering, Materials Science and Engineering, Biomedical Engineering, and Macromolecular Science and Engineering |

Summary of Evaluation:

Teaching: Professor Lahann has excelled in graduate level teaching and performs well in undergraduate teaching. He has chaired 13 Ph.D. dissertations, co-chaired two Ph.D. dissertation, and supervised one visiting Ph.D. student. He has directed nine master's students and six visiting master's students, as well as directing 41 undergraduate research projects in his lab. Students admire and appreciate Professor Lahann's role as advisor and mentor, and describe him in that capacity as encouraging, caring, open and accessible, enthusiastic, inspiring, and dedicated.

Professor Lahann teaches one course per term, combining both core undergraduate courses and graduate elective courses in one year. At the undergraduate level he has taught ChE 342 (Heat and Mass Transfer) and ChE 343 (Separation Processes). His Q1 and Q2 scores for those classes average to 3.56 and 3.65, respectively, with high scores of 4.13 (Q1) and 4.30 (Q2) for an enrollment of 122 students. At the graduate level, Professor Lahann created a new elective course, *Biomolecular Engineering*, which is very popular among students of different engineering specializations and different education levels. He also should receive considerable credit for completely revamping with entirely new material an existing elective course, *Colloids and Interfaces*. Q1 and Q2 scores for graduate electives average 4.33 and 4.65, respectively, with high scores of 4.80 (Q1) and 4.80 (Q2). Student evaluations from undergraduate students also provide the impression of a great teacher who engage students in the classroom.

Research: During his independent research career, which started in 2003 at the University of Michigan, Professor Lahann has made fundamental advances in the fields of polymer micro/nano structures produced by electrojetting; chemical vapor deposition and polymerization, switchable surfaces, and supramolecular hydrogels. In all these areas he has achieved the position of an internationally recognized academic leader as evidenced by evaluation letters received from highly respected members of chemical engineering community.

Professor Lahann has gathered a long list of awards. They include university, national, and international honors that impress even the most accomplished scientists. To highlight some of them, in 2004, Professor Lahann received the most prestigious TR35 Award which is given to the most creative individuals under the age of 35 by MIT *Technology Review*. He also received the NSF CAREER Award in 2004, Top 20 Midwest Researcher Award in 2006, the American Institute of Chemical Engineers (AIChE) Nanoscale Science and Technology Forum Young Investigator Award in 2007, the College of Engineering Research Excellence Award in 2010, and IDEA Team Award in 2011. As a sign of very special recognition by the most elite researchers in the field, Professor Lahann was elected as a 2013 co-chair and 2015 chair of the Gordon Research Conference of *Chemistry of Supramolecules and Self-Assembly*.

Recent and Significant Publications:

- H. Nandivada, L.G. Villa-Diaz, K.S. O'Shea, G.D. Smith, P.H. Krebsbach, and J. Lahann, "Fabrication of synthetic polymer coatings and their use in feeder-free culture of human embryonic stem cells," *Nature Protocols*, 2011, 6, pp. 1037-1043.
- X. Deng, C. Friedmann, and J. Lahann, "Bio-orthogonal "Double-Click Chemistry Based on Multifunctional Coatings," *Angewandte Chemie International Edition*, 2011, 50, pp. 6522-6526.
- L. Villa, H. Nandivada, J. Ding, N. Nogueira-de-Souza, P. Krebsbach, K. S. O'Shea, and J. Lahann, "Synthetic Polymer Coating for Long-term Growth of Human Embryonic Stem Cells," *Nature Biotechnology*, Vol. 28, No. 6, June 2010, pp. 581-583.
- S. Mitragotri and J. Lahann, "Physical Approaches to Biomaterial Design," *Nature Materials*, Vol. 8, 2009, pp. 15-23.
- S. Bhaskar, J. Hitt, S.-W. Laura Chang, and J. Lahann, "Multicompartmental Microcylinders," *Angewandte Chemie International Edition*, 2009, 48, pp. 4589-4593.
- K.-H. Roh, D. C. Martin, and J. Lahann, "Biphasic Janus Particles with Nanoscale Anisotropy," *Nature Materials*, Vol. 4, 2005, pp. 759-763.

Service: Professor Lahann's service contributions span a wide range of activities at different levels of the academic community. He is a good citizen of the Department, College, and University, contributing extensively to a variety of faculty duties and activities. At the Department level, he has been on several search committees, the graduate recruiting committee, and internal review committee. More recently, he was elected to the Chemical Engineering Executive Committee that advises the chair. This is a clear sign of respect from all the members of the Department. At the College level, Professor Lahann was also an active faculty member. He has been a member of the faculty committee for discipline, the COE strategic planning committee, and the Dean's Seminar Organizing committee. At the University level, he served as chair of the Biointerfaces Institute Committee and he now will be serving as director of the new Biointerfaces Institute at NCRC. Nationally, he is a well-known person in several professional societies. Specifically for the chemical engineering community, this point can be exemplified by his holding an executive position in one of the sections of AIChE. He also chaired and co-chaired several AIChE sessions on "Nanoscale Manufacturing and Processing" at their annual meetings every year from 2004 to 2011. In the materials engineering community, Professor Lahann contributed his time and expertise to the organization of several meetings including the symposia at the National Materials Research Society Meetings in 2008 and 2011.

External Reviewers:

Reviewer A: "His work on surface chemistry and polymer modification represent excellent examples of his superb experimental 'touch.'"

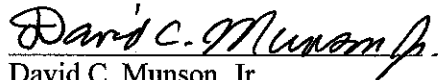
Reviewer B: "It is quite clear that Prof. Lahann has an extraordinary positive trajectory...papers that are both widely read, and often copied."

Reviewer C: "Dr. Lahann is internationally recognized for achieving physical and chemical control of interfaces and utility of these interfaces for biomedical and biotechnological applications."

Reviewer D: "...Prof. Lahann has created ...research direction which gives novel impulses to others."

Reviewer E: "Dr. Lahann's service efforts have ... been commendable."

Summary of Recommendation: Professor Lahann has excelled in the fields of polymer micro/nano structures produced by electrojetting, chemical vapor deposition and polymerization. He is a well-respected and effective teacher and is a great advisor to students. He has been a very active member in his department and has played an important role in a variety of professional organizations. It is with the support of the College of Engineering Executive Committee that I recommend Joerg Lahann for promotion to professor of chemical engineering, with tenure, Department of Chemical Engineering, professor of materials science and engineering, without tenure, Department of Materials Science and Engineering, professor of biomedical engineering, without tenure, Department of Biomedical Engineering, and professor of macromolecular science and engineering, without tenure, Macromolecular Science and Engineering Program, College of Engineering.



David C. Munson, Jr.

Robert J. Vlasic Dean of Engineering
College of Engineering

May 2012