

PROMOTION RECOMMENDATION
The University of Michigan
College of Engineering

Zhan Chen, associate professor of macromolecular science and engineering, without tenure, Macromolecular Science and Engineering Program, College of Engineering is recommended for promotion to professor of macromolecular science and engineering, without tenure, Macromolecular Science and Engineering Program, College of Engineering [also professor of chemistry, with tenure, College of Literature, Science, and the Arts].

Academic Degrees:

Ph.D.	1998	Chemistry	University of California at Berkeley
M.S.	1991	Chemistry	Chinese Academy of Sciences
B.S.	1988	Chemistry	Peking University

Professional Record:

2009-present	Professor, Department of Chemistry, University of Michigan
2007	Visiting Professor, Department of Chemistry, Princeton University
2005-present	Associate Professor, Macromolecular Science and Engineering Program, University of Michigan
2005-2009	Associate Professor, Department of Chemistry, University of Michigan
2003-2006	Dow Corning Professor, Department of Chemistry, University of Michigan
2000-2005	Assistant Professor, Department of Chemistry and Macromolecular Science and Engineering Program, University of Michigan
1998-2000	Postdoctoral Research Fellow, Department of Chemistry, University of California at Berkeley and Materials Science Division, Lawrence Berkeley National Laboratory
1998-2000	Guest Research Scientist, The Polymer Technology Group, Incorporated

Summary of Evaluation:

Teaching: Professor Chen is an effective and dedicated classroom teacher and a successful research mentor. His student evaluations are strong. He has a down-to-earth and enthusiastic teaching style that connects well with students. Additionally, he has revised the chemistry curriculum by implementing problem-based learning strategies and adding a research proposal component. Within the Macromolecular Science and Engineering Program (MACRO), he has advised two doctoral students. One of these students won both our Overberger excellence in research award and the Barbour Scholar's Fellowship under his mentorship.

Research: Professor Chen has garnered national and international recognition as a leader in nonlinear spectroscopy and biophysical characterization of proteins. Professor Chen's current research interests contribute to the strength of the MACRO program. They include nonlinear spectroscopy and biophysical characterization of proteins. His research is at the interface of analytical chemistry, physical chemistry, and biophysics, and his goal is to develop and apply new methods to investigate the molecular structure of materials, including polymers and proteins.

Recent and Significant Publications:

“Solventless adhesive bonding using reactive polymer coatings,” with H. Chen, *Analytical Chemistry*, 80, 2008, pp. 4119-4124.

“In situ investigation of heterotrimeric G protein beta gamma subunit binding and orientation on membrane bilayers,” with X. Chen, et al., *Journal of the American Chemical Society*, 129, 2007, pp.12658-12659.

“Observing a molecular knife at work,” with X. Chen, et al., *Journal of the American Chemical Society*, 128, 2006, pp. 2711-2714.

“Detection of chiral SFG vibrational spectra of proteins and peptides at interfaces,” with J. Wang, et al., *Proceedings of the National Academy of Sciences, USA*, 102, 2005, pp. 4978-4983.

Service: Professor Chen has contributed to several committees in the Department of Chemistry, including graduate student admissions, faculty recruitment, and leadership of the materials cluster. For the national community he has served as a member on several National Institutes of Health and National Science Foundation grant review panels, among others. He has organized multiple research symposia. Within MACRO, Professor Chen assists in the advising of new MACRO graduate students, including evaluating applicants from China. Professor Chen’s efforts contribute to advancing the goals of the program.

External Reviews:

Reviewer A: “... Dr. Chen is certainly one of the major players today. ... Dr. Chen has received a high level of funding and his funding record continues to be strong as evidenced by both a CAREER grant and the most recent grant from NIH out of the Emerging Biotechnology Techniques (EBT) study section. ...I would place Dr. Chen in the top 10% of promotional candidates with respect to quality and quantity of research funding.”

Reviewer B: “I think that the combined use of SFG [sum frequency generation] and ATR-FTIR is an excellent spectroscopic analysis methodology, and Prof. Chen’s work on membrane bound proteins and small molecules is a first rate example of this type of work. A second area in which Prof. Chen is at the forefront is the use of SFG to study buried interfaces. He has a good grasp of selecting surface chemistry problems that can only be analyzed with the SFG method.”

Reviewer C: “Prof. Chen’s area of expertise is truly multidisciplinary. ... He has papers from all three fields [of his research] which would be placed in the top of the discipline. In fact, his most cited papers are a well-rounded combination of all three efforts. ... If Zhan Chen were on our faculty, I wouldn’t hesitate to vote to promote him to the rank of professor. His national and international reputation easily warrants such an action.”

Reviewer D: “The work establishing chiral sensitivity of SFG in peptides and proteins is excellent. His demonstrations of orientation effects in melittin, G protein and coagulation factor XII are all important and essential steps in demonstrating how the non-linear laser methods can be used effectively in membrane studies. ... He has demonstrated great accomplishments and has great potential to make a major impact in a variety of scientific fields...”

Reviewer E: "It is clear that Professor Chen is a remarkably active faculty member. In his time at Michigan, he has created a robust research program, he has become a creative and effective instructor, and he has made valuable contributions to your Department. ... The result is a very strong record of publication, both in numbers and diversity. ... I am also impressed by the teaching of Professor Chen. ... It is clear that he takes his teaching seriously and that he has been successful in making creative innovations."

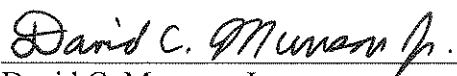
Reviewer F: "His work has greatly advanced a fundamental understanding of the molecular structures of interfaces involving polymers and biological molecules. ...he is an outstanding speaker. He consistently gives among the best presentations... His ability to explain his research clearly to the audience, organization, and passion are amazing."

Reviewer G: "Professor Chen is one of the world's leading figure in VSFG. ... His science is excellent, with strong developments since promotion to Associate Professor. He is viewed as one of the primary leaders in his field, which also happens to be a highly competitive one."

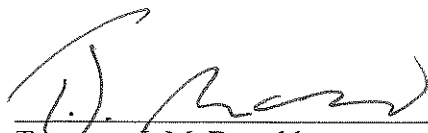
Reviewer H: "Dr. Chen has been very productive since receiving tenure, he is working on problems that are interesting and important, and the recent focus on membrane interfaces promises to be especially relevant to biomedical research."

Summary of Recommendation:

Professor Chen has excelled in research, teaching, and service, gaining national and international recognition in his research area. It is with the support of the College of Engineering Executive Committee that I recommend Zhan Chen for promotion to 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



Terrence J. McDonald
Arthur F. Thurnau Professor
Professor of History and Dean
College of Literature, Science, and the Arts

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