

PROMOTION RECOMMENDATION  
The University of Michigan  
College of Engineering  
Department of Materials Science and Engineering  
Department of Chemical Engineering  
Department of Biomedical Engineering  
Macromolecular Science and Engineering Program  
College of Literature, Science, and the Arts  
Department of Chemistry

Approved by the  
Regents  
May 21, 2015

Jinsang Kim, associate professor of materials science and engineering, with tenure, Department of Materials Science and Engineering, associate professor of chemical engineering, without tenure, Department of Chemical Engineering, associate professor of macromolecular science and engineering, without tenure, Macromolecular Science and Engineering Program, College of Engineering, associate professor of biomedical engineering, without tenure, Department of Biomedical Engineering, College of Engineering and Medical School, and associate professor of chemistry, without tenure, Department of Chemistry, College of Literature, Science, and the Arts, is recommended for promotion to professor of materials science and engineering, with tenure, Department of Materials Science and Engineering, professor of chemical engineering, without tenure, Department of Chemical Engineering, professor of macromolecular science and engineering, without tenure, Macromolecular Science and Engineering Program, College of Engineering, professor of biomedical engineering, without tenure, Department of Biomedical Engineering, College of Engineering and Medical School, and professor of chemistry, without tenure, Department of Chemistry, College of Literature, Science, and the Arts.

Academic Degrees:

- Ph.D. 2001 Massachusetts Institute of Technology, Materials Science and Engineering, Cambridge, MA  
M.S. 1993 Seoul National University, Fiber and Polymer Science, Seoul, S. Korea  
B.S. 1991 Seoul National University, Fiber and Polymer Science, Seoul, S. Korea, *Magna Cum Laude*

Professional Record:

- 2013 – present Associate Professor (without tenure), Department of Chemistry, University of Michigan  
2009 – present Associate Professor (with tenure), Department Materials Science and Engineering, University of Michigan  
2009 – present Associate Professor (without tenure), Department of Chemical Engineering, Macromolecular Science and Engineering Program, Department of Biomedical Engineering, University of Michigan  
2003 - 2009 Assistant Professor, Department of Materials Science and Engineering, Department of Chemical Engineering, Macromolecular Science and Engineering Program, Department of Biomedical Engineering, University of Michigan  
2001 - 2003 Post-doctoral Scholar, Division of Chemistry and Chemical Engineering, California Institute of Technology, Pasadena, CA

Summary of Evaluation:

Teaching: Professor Kim is an excellent educator, both in the classroom and in mentoring research students. Professor Kim has taught a number of courses to a wide range of students, to sophomores (MSE 250, Introduction to Materials Science & Engineering), to juniors (MSE 365, a lab course), to seniors (MSE/BME 410, Biomaterials), and to graduate students (MSE 517, Functional Polymers). He has gained high Q1 and Q2 scores averaging above 4.0, since his time in rank.

Letters from undergraduate students in his classes were uniformly complimentary and stressed Professor Kim's concern for students. Many even claimed that Professor Kim was among the best teachers they had had at the university. Letters from graduate students commented favorably on his research mentoring, and each described a different approach taken by Professor Kim that especially furthered their research and professional development.

Research: Professor Kim is nationally and internationally recognized in three areas: (i) high sensitive, selective, and self-signaling optical chemical and biosensors applicable to the selective and sensitive detection of various chemicals and biological molecules; (ii) designer conjugated organics and polymers for high-performance organic electronics; and (iii) metal-free purely organic phosphorescent materials for light emission devices and sensors, which consists of developing an entirely new class of material with improved performance characteristics, better reliability, and increased environmental sustainability.

In terms of scholarly stature and impact, Professor Kim has clearly met the expectation for promotion to professor. Professor Kim has directed 15 Ph.D. students, two of whom are now professors elsewhere, seven M.S.E. students, 11 undergraduate students, and nine post-doctoral research fellows. To support these students and research fellows, he has raised over \$5.7M in research funds. He has published 70 archival journal articles, 21 refereed conference proceeding papers, and he publishes his work in prestigious journals, including *Nature*, *Nature Chemistry*, *Nature Materials*, *Advanced Materials*, and the *Journal of American Chemical Society*.

Recent and Significant Publications:

Gun-Ho Kim et al "High thermal conductivity in amorphous polymer blends by engineered interchain interactions" *Nature Materials* 2014 Accepted.

Min Sang Kwon et al "Engineering Intermolecular Interactions for Efficient Room Temperature Phosphorescence from Purely Organic Materials in Amorphous Polymer Matrices" *Angew. Chem. Int. Ed.* 2014, 53, 11177.

Dongwook Lee et al "Room Temperature Phosphorescence of Metal-free Organic Materials in Amorphous Polymer Matrices" *J. of Am. Chem. Soc.* 2013, 135, 6325.

Bong-Gi Kim et al "A Molecular Design Principle of Lyotropic Liquid-Crystalline Conjugated Polymers with Directed Alignment Capability for Plastic Electronics" *Nature Materials* 2013, 12, 659.

Kangwon Lee et al "Conjugated Polyelectrolyte-Antibody Hybrid Molecules for Live Cell Imaging" *Adv. Mater.* 2012, 24, 2479.

Onas Bolton et al "Activating Efficient Phosphorescence from Metal-free Organics by Crystal Design" *Nature Chemistry* 2011, 3, 205.

Service: Since becoming an Associate Professor, Professor Kim has served on most committees within the Department of Materials Science and Engineering, ranging from the graduate committee (of which he is currently the chair) to numerous reappointment and tenure committees. He has served on a Rackham committee as well as several College of Engineering, and one university committee (Launch Committee for Junior Faculty). His contributions to increasing opportunities for underrepresented minorities and women are exemplary. Outside the university, Professor Kim has made many contributions to his profession by way of journal reviews and grant review panels, and organizing and chairing technical sessions in professional meetings and symposia.

External Reviewers:

Reviewer A: "He is a very creative and productive material chemist/polymer scientist who has shown great promise in the field of interdisciplinary materials science. Especially, I am impressed by his excellent work in crafting designer organic semiconductors for plastic electronics."

Reviewer B: "He is considered as one of the pioneers and makes significant contribution to conjugated polyelectrolyte-based polymers for biosensors and sensor arrays...He was also the first to design organic phosphorescent materials for solid-state lighting and organic LEDs."

Reviewer C: "He has clearly made a mark in the area of organic and polymer materials chemistry, and he has developed a strong interdisciplinary research team that is well-supported."

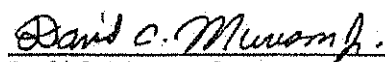
Reviewer D: "Dr. Kim's achievements certainly place him close to the top echelon of scientists currently working on functional polymers, and even in the broader areas of advanced optical and energy-related materials..."

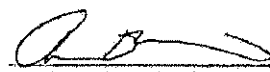
Reviewer E: "He has made substantial creative contributions throughout his career in research... His performance is exceptional and certainly surpasses the requirements for someone being considered for promotion to Professor at a major research university."

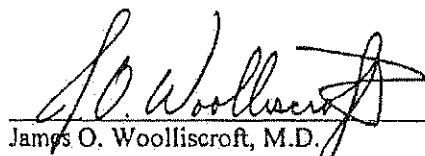
Reviewer F: "His future research directions look extremely promising and attractive. Jinsang will have a major impact in the field of organic thermoelectric materials and effects."

Reviewer G: "I have provided evaluations for tenure/full professor promotion cases at many U.S. research universities in recent years (MIT, UCLA, Princeton, UCSB, U-Penn, Columbia U., John Hopkins University, University of Toronto, University of Florida, etc)...I regard Professor Kim's case to be comparable or stronger because his record of scholarly research is very clear on excellent quality and trajectory of overall high productivity."

Summary of Recommendation: Professor Kim is a highly-regarded and productive materials scientist in the field of functional polymers. He is also excellent in classroom teaching and research mentoring, and he has served his department, college, university, and profession well with his continuous service activity. It is with the support of the College of Engineering and the College of Literature, Science, and the Arts Executive Committees that we recommend Jinsang Kim for promotion to professor of materials science and engineering, with tenure, Department of Materials Science and Engineering, professor of chemical engineering, without tenure, Department of Chemical Engineering, professor of macromolecular and science engineering, without tenure, Macromolecular Science and Engineering Program, College of Engineering, professor of biomedical engineering, without tenure, Department of Biomedical Engineering, College of Engineering and Medical School, and professor of chemistry, without tenure, Department of Chemistry, College of Literature, Science, and the Arts.

  
David C. Munson, Jr.  
Robert J. Vlasic Dean of Engineering  
College of Engineering

  
Andrew D. Martin  
Dean, and Professor of Political Science,  
College of Literatures, Science, and the Arts

  
James O. Woolliscroft, M.D.  
Dean, Medical School  
Lyle C. Roll Professor of Medicine

May 2015