PROMOTION RECOMMENDATION
The University of Michigan
College of Engineering

Approved by the Regents
May 14, 2009

Jinsang Kim, assistant professor of materials science and engineering, Department of Materials Science and Engineering, assistant professor chemical engineering, Department of Chemical Engineering, assistant professor of biomedical engineering, Department of Biomedical Engineering, and assistant professor of macromolecular science and engineering, Department of Macromolecular Science and Engineering, College of Engineering, is recommended for promotion to 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 biomedical engineering, without tenure, Department of Biomedical Engineering, and associate professor of macromolecular science and engineering, without tenure, Department of Macromolecular Science and Engineering, College of Engineering.

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, Korea
B.S.	1991	Seoul National University, Fiber and Polymer Science (Magna Cum Laude), Korea

Professional Record:

2003-present	Assistant Professor, Department of Materials Science and Engineering, University of Michigan
2003-present	Assistant Professor of Chemical Engineering, Macromolecular Science and Engineering and Biomedical Engineering, University of Michigan
2001-2003	Postdoctoral Scholar, Division of Chemistry and Chemical Engineering, California Institute of Technology
1997-2001	Research Assistant, Materials Science and Engineering, Massachusetts Institute of Technology
1994-1996	Research Scientist, Polymer Division, Korea Institute of Science and Technology

Summary of Evaluation:

Teaching: Professor Kim has established an excellent teaching record. This is evident from his performance and dedication to teaching laboratory and lecture courses, and his mentoring of student researchers. One of his first assignments was to teach MSE635, Materials Laboratory (an MSE undergraduate requirement). He took the initiative to improve the course by introducing new laboratories in the areas of biomaterials and nanomaterials. His dedication to this course and to the students earned him among the highest teaching scores ever earned by a member of the MSE faculty for this course. Professor Kim also taught MSE 410, a course cross-listed with BME, in which the enrollments have increased significantly each year. His teaching evaluations have been outstanding, with Q1 and Q2 scores ranging from 4.04 - 4.08 and 4.09 - 4.92, respectively. This year he developed an important graduate course in the area of chemistry of materials; which will be of interest to students in MSE, BME, ChE and chemistry departments. Professor Kim is an excellent mentor to students through research. He has chaired eight Ph.D. committees, and is the co-chair of another. He has had seven undergraduate students pursue major projects that have led to publications or scholarships. Also, he has had 41 different students working in his lab from programs such as the Undergraduate Research Opportunity Program (UROP), alongside seven high school students working on summer research projects. He has had a strong

interdisciplinary impact on campus which is visible in the diverse academic backgrounds of students both in his courses and research laboratory (Materials Science and Engineering, Chemical Engineering, Biomedical Engineering, and Macromolecular Science and Engineering). His efforts earned him the Jon R. and Beverly S. Holt Awards for Excellence in Teaching in 2006.

Research: As a researcher, Professor Kim has established an independent, well funded, and highly visible research program. His work is creative; his research combines a deep knowledge of the materials science of opto-electronic heterostructures with an equally profound appreciation of their engineering applications. This powerful cross-cutting approach is increasingly essential for progress in electronic materials research and it is the basis for all of Professor Kim's achievements to date. He combines very innovative skills of a chemist to design and to synthesize new functional molecules. In addition he uses his skills as a materials scientist to fabricate new materials by exploiting cutting-edge strategies such as self-assembly and nano-imprinting techniques. In particular his major successes have come in the bioorganic area in efforts that range from organic synthesis of complex molecules to the design, assembly and characterization of novel sensors for DNA detection. The intellectual content of his contributions is high and his papers appear in the very best journals in the world. His trajectory is such that he is expected to become one of the leaders in his field. He has received a NSF CAREER award; in addition was named an Emerging Investigator by the *Journal of Materials Chemistry* in 2007.

Recent and Significant Publications:

Kangwon Lee, Hyong-Jun Kim, Jae Cheol Cho and Jinsang Kim, "Chemically and Photochemically Stable Conjugated Poly(oxadiazole) Derivatives: A Comparison with Polythiophenes and Poly(*p*-phenylene ethynylenes)," *Macromolecules*, 2007, *40*, 6457.

Kangwon Lee, Laura K. Povlich and Jinsang Kim, "Label-free and Self-signal Amplifying Molecular DNA Sensors Based on Bioconjugated Polyelectrolytes," *Advanced Functional Materials*, 2007, *17*, 2580.

Onas J. Bolton and Jinsang Kim, "Design Principles to Tune the Optical Properties of Alkoxy-Substituted 1,3,4-Oxadiazole-Containing Molecules," *Journal of Materials Chemistry*, 2007, 17, 1981. (Emerging Investigator Special Issue)

Jin Koo Lee, Hyong-Jun Kim, Tae Hyeon Kim, Chi-Han Lee, Won Ho Park, Jinsang Kim and Taek Seung Lee, "A new synthetic approach for polybenzoxazole and light-induced fluorescent patterning on its film," *Macromolecules*, 2005, 38, 9427.

Hyong-Jun Kim, Kangwon Lee, Sameer Kumar and Jinsang Kim, "Dynamic Sequential Layer-by-Layer Deposition Method for Fast and Region-Selective Multilayer Thin Film Fabrication," *Langmuir*, 2005, 21, 8532.

Jinsang Kim, "Assemblies of Conjugated Polymers: Intermoclecular and Intramolecular Effects on the Photophysical Properties of Conjugated Polymers," *Pure and Applied Chemistry*, 2002, 74, 2031.

Service: In addition, to being an active referee for journals in his field, Professor Kim has organized meetings and symposia nationally and internationally. He has served as guest editor for the Materials Research Society Bulletin and was elected chair of the American Vacuum Society Michigan Chapter. Professor Kim is a responsive and dependable member of the MSE faculty. His observations and comments reflect a mature and thoughtful outlook at issues. His leadership on the Graduate Committee is recognized and appreciated by its members. In fact, he was considered seriously to serve as the MSE graduate advisor, but he could not be offered the position because he is untenured. He is a member of the MACRO executive committee, Library advisory committee for the College and faculty search committee for the MSE Department. It is also noteworthy that Professor Kim has been nominated by his colleagues to serve on the department advisory committee.

External Reviewers:
Reviewer A: "…Jinsang Kim has great potential to become one of the leaders in the field of polymer optoelectronics and biomaterials."

Reviewer B: "I would say, with his productivity, he would be on the fast track to promotion to Full Professor, which he would be granted in perhaps two or so more years [at my institution]. … Jinsang is in our crosshairs to be hired by my School."

Reviewer C: "…he explained his scientific achievements very clearly with confidence and I was deeply impressed with his distinguished talents including scholarly one [sic]."

Reviewer D: "I am impressed by Dr. Kim's creative molecular engineering abilities that have allowed him to combine various signal transduction and amplification schemes to achieve high selectivity and/or sensitivity. The papers are of a very fine scholarly character … The productivity is substantial and the papers are being published in journals of high visibility."

Reviewer E: "He has established himself as a good solid researcher and an excellent mentor to his students."

Reviewer F: "…he is able to achieve results which compare well with the … best groups world wide."

Reviewer G: "Jinsang is a highly focused, creative and innovative researcher who has already demonstrated his promise in the fields of conjugated polymers, sensing materials, and chemistry-guided self-assembly of electroactive materials."

Summary Recommendation: Jinsang Kim has developed a productive, well-funded and highly visible research program that spans the areas of biomaterials/polymers, sensing materials, and of electroactive materials. He has been an outstanding teacher and mentor to graduate, undergraduate and high school students. He has been a very dependable and thoughtful member of the College of Engineering faculty. It is with the support of the College of Engineering Executive Committee that I recommend Jinsang Kim for promotion to 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 biomedical engineering, without tenure, Department of Biomedical Engineering, and associate professor of macromolecular science and engineering, without tenure, Department of Macromolecular Science and Engineering, College of Engineering

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

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