

PROMOTION RECOMMENDATION  
The University of Michigan  
College of Engineering  
Department of Naval Architecture and Marine Engineering

Kevin J. Maki, assistant professor of naval architecture and marine engineering, Department of Naval Architecture and Marine Engineering, College of Engineering, is recommended for promotion to associate professor of naval architecture and marine engineering, with tenure, Department of Naval Architecture and Marine Engineering, College of Engineering.

Academic Degrees:

Ph.D.	2005	University of Michigan, Naval Architecture and Marine Engineering, Ann Arbor
M.S.	2004	University of Michigan, Aerospace Engineering, Ann Arbor
M.S.	2002	University of Michigan, Naval Architecture and Marine Engineering, Ann Arbor
B.S.	2001	University of Michigan, Naval Architecture and Marine Engineering, Ann Arbor

Professional Record:

2011 – present	Assistant Professor, Naval Architecture and Marine Engineering, University of Michigan
2007 – 2011	Assistant Research Scientist and Adjunct Lecturer, Naval Architecture and Marine Engineering, University of Michigan
2006 – 2007	Research Fellow and Adjunct Lecturer, Naval Architecture and Marine Engineering, University of Michigan

Summary of Evaluation:

Teaching: Professor Maki's teaching record is outstanding. His average course evaluations over the 20 courses he has taught since 2006 are 4.57 and 4.67 for Q1 and Q2, respectively. In 2011, he developed a two-semester sequence of courses (NA423 and NA523) to teach numerical marine hydrodynamics. Both have been highly successful. This past academic year his Q1/Q2 scores for NA423 and NA523 have been 4.83/4.83 and 5.00/5.00, respectively. He has chaired or co-chaired eight Ph.D. students to graduation and has another eight in progress. A consistent theme in student letters is Professor Maki's ability to teach complex subject matter and his willingness to work with the students. His Ph.D. students write of their appreciation of him as a mentor. In 2008, the students recognized Professor Maki with the Quarterdeck Honorary Society's Outstanding Faculty Award.

Research: Professor Maki's research portfolio is excellent. His chosen research area is numerical marine hydrodynamics for developing theory and tools that enable robust computations within a design environment. As an extension of the research, he is also working on numerical fluid-structural mechanics for assessing the structural response of a ship or offshore

structure operating in a harsh seaway. This area of research is critical to the NAME department and the design community in general. Professor Maki has received the Landrini Award, an international award to junior researchers in the area of computational fluid dynamics, and an ONR Young Investigator Award. He lists over \$6 million as his share of research contracts. For the majority of contracts, he is the principal investigator. He has published over 20 full articles in refereed journals and over 45 refereed conference/symposium papers. His work has been cited 444 times with an h-index of 11. He has published in journals with high impact factors for his field of research.

#### Recent and Significant Publications:

- W. J. Rosemurgy, R. F. Beck and K. J. Maki, (2016), “A velocity decomposition formulation for 2D steady incompressible lifting problems,” *European Journal of Mechanics- B/Fluids*, vol. 58, pp. 70-84.
- M.O. Woolliscroft and K.J. Maki, (2016), “A fast-running CFD formulation for unsteady ship maneuvering performance prediction,” *Ocean Engineering*, vol. 117, pp 154-162.
- G. Filip, D. Kim, S. Sahu, J. de Kat and K. Maki, (2014), “Bulbous Bow Retrofit of a Container Ship Using an Open-Source Computational Fluid Dynamics (CFD) Toolbox,” *Transactions of the Society of Naval Architects and Marine Engineers*, vol. 122, pp 224-262.
- D. O. Edmund, K. J. Maki and R. F. Beck, (2013), “A velocity-decomposition formulation for the incompressible Navier–Stokes equations,” *Computational Mechanics*, vol. 52, pp. 669-680.
- D. J. Piro and K. J. Maki, (2013), “Hydroelastic analysis of bodies that enter and exit water,” *Journal of Fluids and Structures*, vol. 37, pp 134-150.

Service: Professor Maki’s service includes his role as a co-chair for the 1st American Society of Mechanical Engineers (ASME) Symposium on Marine Hydrodynamics and the 31st International Workshop on Water Waves and Floating Bodies in Plymouth, Michigan with 64 participants. In addition, he was the lead organizer for the 10th OpenFOAM Workshop in Ann Arbor with 140 participants. He is the guest editor for a special issue on applications of marine computational fluid dynamics for *Ocean Engineering* to be published next year. He also has served on several technical committees and been session chair at conferences. In his service to the university, Professor Maki has served on 13 committees at the department, college, and university level. He has promoted diversity issues through his work with Summer Research Opportunity Program (SROP) students and the NextProf Workshop. Two of his graduated Ph.D.’s have been women and two of his present Ph.D. students are under-represented minorities.

#### External Reviewers:

Reviewer A: “I consider his research activities and papers on the development of CFD tools for Naval Hydrodynamics and Fluid Structure interaction of great interest and impact; I consider his works on these topics to be outstanding, and the quality of his research works is surely of high level, ...”

Reviewer B: “He belongs to the top international group amongst people of similar age working on CFD and ship hydrodynamics.”

Reviewer C: “I think that Prof. Kevin Maki will continue a big contribution to NAME of your university. His strong academic background and capability will make him stronger in the future.”

Reviewer D: “I estimate the quality, quantity, focus and scholar impact of Kevin Maki’s works very high. His papers, presentations and results are of high quality, ...I think [Professor Maki] is a world-wide leading researcher in the field of ship hydrodynamics.”

Reviewer E: “...in comparison to these national and international peers, Dr. Kevin Maki is at the top of the list. ..., I can say that Dr. Maki would most definitely meet the requirements for promotion and tenure at [my institution], and at all of the universities for which I have reviewed dossiers.”

Reviewer F: “[Professor Maki] ranks among the very best researchers in the field of computational marine hydrodynamics. His accomplishments would qualify him for a tenured faculty position [at my institution] in the field of marine hydrodynamics where we lack Kevin’s expertise.”

Reviewer G: “Based on the information documented, I believe that he has made substantial contributions to NAME’s overall mission. In addition, he has won an ONR Recipient of the Office of Naval Research... Young Investigator Program (YIP) award, and was a winner of the Landrini Award. He is active in various professional forums and endeavors and has shown a strong record of professional services.”

Summary of Recommendation: Professor Maki has made significant contributions in teaching, research, and service. He has devoted his effort to significant service responsibilities and performed them in exemplary fashion. He has a demonstrated national and international reputation based on his research and service contributions. It is with the support of the College of Engineering Executive Committee that I recommend Kevin J. Maki for promotion to associate professor of naval architecture and marine engineering, with tenure, Department of Naval Architecture and Marine Engineering, College of Engineering.



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Alec D. Gallimore, Ph.D.  
Robert J. Vlasic Dean of Engineering  
College of Engineering

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