

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

Matthew D. Collette, 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 Newcastle-upon-Tyne, Marine Technology, Newcastle, UK
B.S.E. 1999 Webb Institute, Naval Architecture and Marine Engineering, Glen Cove, NY

Professional Record:

2009-present Assistant Professor, Department of Naval Architecture and Marine Engineering,
University of Michigan
2005-2009 Research Scientist & Senior Naval Architect, Division 184, SAIC, Bowie, MD
USA
1999-2001 Small Commercial Vessel Naval Architect, John W. Gilbert Associates, Inc.,
Boston, MA

Summary of Evaluation:

Teaching: Professor Collette has made significant contributions to the instruction of undergraduate senior design (NA475) and to graduate education in marine product development, nonlinear programming, multi-criteria optimization and genetic algorithms, as applied to complex marine design (NA570). Professor Collette's undergraduate and graduate student course evaluations are among the department's highest with Q1/Q2/Q4 scores consistently above 4.8/4.9/4.7, respectively. Professor Collette is well-known and appreciated for his student career-counseling and mentorship. Under his supervision, NAME students won first place in the two Society of Naval Architects and Marine Engineers (SNAME) MARAD ship design challenges in 2008-2010 and 2010-2012 with projects from NA475, the NAME capstone design course. In 2011, a Michigan team won the prestigious SNAME Lisnyk International Student Design Competition, becoming the first non-European university to win that highly regarded award since 2003. Teams from Professor Collette's senior design class again won Lisnyk competitions in 2014 and 2015. He has graduated seven Ph.D. students with another three in progress.

Research: Professor Collette's research activities are extensive, varied and substantial. Since joining Michigan in 2009, his Marine Structures Design Laboratory (MSDL) has become well-known nationally and internationally in the naval and offshore structures communities for its work in the areas of design approaches and through-life structural model updating. Professor Collette's funding is strong, having received approximately \$2M in past grants and contracts and

about \$1.4M in current grants and contracts. His research funding comes from a blend of projects where he is the sole PI or a contributing co-PI. Professor Collette has published 20 articles in refereed journals (including two accepted) and over 30 refereed conference and symposium proceeding papers in addition to authoring or co-authoring five book chapters.

Recent and Significant Publications:

- Y. Liu, H. Jeong, M. Collette, (2016) "Efficient optimization of reliability-constrained structural design problems including interval uncertainty," *Computers and Structures*, pp 1-11.
- J. Zhu & M. Collette, (2016) "A Bayesian approach for shipboard lifetime wave load spectrum updating," *Structure and Infrastructure Engineering*, pp 1-15.
- D. Temple, M. Collette, (2015) "Minimizing lifetime structural costs: Optimizing for production and maintenance under service life uncertainty," *Marine Structures*, pp 60-72.
- J. Zhu, M. Collette, (2015) "A dynamic discretization method for reliability inference in Dynamic Bayesian Networks," *Reliability Engineering and System Safety*, pp 242-252.
- Y. Liu, M. Collette, (2014) "Improving surrogate-assisted variable fidelity multi-objective optimization using a clustering algorithm," *Applied Soft Computing*, pp – 482-493.

Service: Professor Collette's service record is outstanding and much more than expected at his current rank. Not only has Professor Collette served on numerous college and department committees, he is also a co-editor-in-chief of a major journal (*Ocean Engineering*), a previous associate editor of the *Journal of Ship Production and Design*, and chair of various international technical committees.

External Reviewers:

Reviewer A: "I would fully expect his professional growth in the field of marine structural design methods to go from strength to strength and for him to have clear potential to achieve full Professorial status in in a few years from now."

Reviewer B: "Matthew Collette is held in the highest regard by the international community of researchers working in this area. His list of contributions to professional organisations [sic] and review boards demonstrates this, as many of these positions are prestigious appointments."

Reviewer C: "Professor Collette has already contributed very significantly to our field. The quality and quantity of his research and its scholarly impact is quite remarkable for a professor [in his cohort]. ...The best comparisons for characterizing Professor Collette's professional standing in his field are already associate and full professors."

Reviewer D: "It is also important to point out the [Professor Collette] is not simply devising new techniques, and then letting them languish on the pages of journal articles. Rather, he is taking his research findings out into the world, through his substantial, high profile committee work, and his important collaborations with the U.S. Navy."

Reviewer E: "...Matthew Collette has clearly proven to be promoted to the rank of Associate Professor with Tenure."

Reviewer F: “Dr. Collette’s [sic] has made excellent contributions in his research, is mentoring both graduate and undergraduate students, and is providing excellent service to the profession.”

Reviewer G: “I’m particularly impressed with his work on aluminum structures as they combine experimental and theoretical development and clearly take a lot of effort. The results are used in current ship construction and have improved productivity and reduced problems.”

Reviewer H: “Dr. Collette has gained international recognition in Naval Architecture especially through his: scientific efforts relating to the development of methods for design and decision making in structural integrity management in general...; his chairmanship of ISSC design committees; his editorial role of the journal of Ocean Engineering.”

Reviewer I: “Based on his publication record, I would rate [Professor Collette] to be an excellent thought leader, producing very good research papers and outputs.”

Summary of Recommendation: Professor Collette is a dedicated and effective teacher. He has succeeded in establishing a vibrant research group that is broadly impacting the international field through the dissemination of their research results. He has undertaken significant service responsibilities and performed them in exemplarily fashion. It is with the support of the College of Engineering Executive Committee that I recommend Matthew D. Collette for promotion to associate professor of naval architecture and marine engineering, with tenure, Department of Naval Architecture and Marine Engineering, College of Engineering.



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

May 2017