

PROMOTION RECOMMENDATION
University of Michigan – Dearborn
College of Engineering and Computer Science

Chunhui (Carole) Mei, associate professor of mechanical engineering, with tenure, Department of Mechanical Engineering, College of Engineering and Computer Science, is recommended for promotion to professor of mechanical engineering, with tenure, Department of Mechanical Engineering, College of Engineering and Computer Science.

Academic Degrees:

Ph.D.	1999	Mechanical Engineering, University of Auckland, New Zealand
M.S.	1990	Mechanical Engineering, Beijing University of Posts & Telecommunications, China
B. S.	1987	Mechanical Engineering, Beijing University of Posts & Telecommunications, China

Professional Record:

2006 – present	Associate Professor, Department of Mechanical Engineering, University of Michigan – Dearborn (UM-Dearborn), Dearborn, Michigan
1999 – 2006	Assistant Professor, Department of Mechanical Engineering, University of Michigan – Dearborn (UM-Dearborn), Dearborn, Michigan

Summary of Evaluation:

Teaching: Professor Mei is rated significantly capable in teaching. She taught both undergraduate and graduate courses in ME. Professor Mei is an effective teacher, as evidenced by the teaching evaluations from both her students and her peers. Her average effectiveness from the student evaluation over the past five years was above 3.8 out of 5.0. Professor Mei has taught four different courses, including one graduate course. She has supervised three undergraduate students for guided studies and has one graduate student currently in progress for M.S. thesis.

Research: Professor Mei is rated excellent in research. Professor Mei's research focuses on the subject areas of vibration analysis, wave and modal vibration control, non-destructive structural health monitoring, and chatter suppression. She has published 14 journal papers in refereed journals and six conference papers, since her last promotion. All of them were single-authored. Since her last promotion, she obtained four external grants/contracts totaling \$256,000 including a major NSF grant. Her work has been judged by external reviewers of very high quality.

Recent and Significant Publications:

Mei C., "Comparison of the Four Rod Theories of Longitudinally Vibrating Rods," *Journal of Vibration and Control*, available online on August 15, 2013.

- Mei C., "Wave Vibration Control of L-shaped and Portal Planar Frames," *ASME Journal of Vibration and Acoustics*, Vol. 135, pp. 051022-1 to 16, 2013.
- Mei C., "Effects of Rotary Inertia, Shear Deformation, and Joint Model on Vibration Characteristics of Single-Story Multi-Bay Planar Frame Structures," *Journal of Vibration and Control*, available online on March 29, 2013.
- Mei C., "Wave Vibration Control of Planar Frame Structures based on the Advanced Timoshenko Bending Theory," *Journal of Vibration and Control*, available online on July 01, 2013.
- Mei C., "Free Vibration Analysis of Classical Single-Story Multi-Bay Planar Frames," *Journal of Vibration and Control*, Vol. 19(13), pp. 2022 – 2035, 2013.
- Mei C., "Wave Analysis of In-Plane Vibrations of L-shaped and Portal Planar Frame Structures," *ASME Journal of Vibration and Acoustics*, Vol. 134, pp. 021011-1 to 12, 2012.
- Mei C., "Studying the Effects of Lumped End Mass on Vibrations of a Timoshenko Beam Using a Wave-based Approach," *Journal of Vibration and Control*, Vol. 18(5), pp. 733-742, 2012.
- Mei C., "Wave Control of Vibrations in Multi-Story Planar Frame Structures Based on Classical Vibration Theories," *Journal of Sound and Vibration*, Vol. 330, pp. 5530-5544, 2011.
- Mei C., "Free Vibration Studies of Classical Beams/Rods with Lumped Masses at Boundaries Using a Wave Vibration based Approach," *International Journal of Mechanical Engineering Education*, Vol. 39(3), pp. 256-268, 2011.

Service: Professor Mei is rated significantly capable in service. Professor Mei has served on a several department and college committees and on the university committees including faculty council, faculty senate and faculty mentoring/development. She has been actively involved in professional societies at the national level. She served as a referee for six different journals and organized and chaired sessions for several conferences. She also served as NSF panelist for four different divisions. She also now serves as an associate editor for *ASME Journal of Vibrations and Acoustics*.

External Reviewers:

Reviewer A: "I do not know Dr. Mei personally, but I have followed with great admiration her extremely innovative and high quality papers particularly on the analysis and control of longitudinal vibrations from wave viewpoint that appeared in the *ASME Journal of Vibrations and Acoustics* in 2002. I was intrigued also by her recent work, since she joined University of Michigan at Dearborn, on 'wave vibration control of l-shaped and portal planar frames' that was published in the *ASME Journal of Vibrations and Acoustics* in 2013. It is simply fascinating and thorough."

Reviewer B: "While her papers are of very high quality, I found her recent paper on 'Comparison of the four rod theories of longitudinally vibrating rods' which will soon be published in the *Journal of Vibrations and Control* to be particularly good and worthy of the outstanding level. An examination of the citation data for her work reveals that it is being read

by a reasonable number of researchers. I am confident that the vibration community, particularly those who study the traveling wave approach, are noticing her work.”

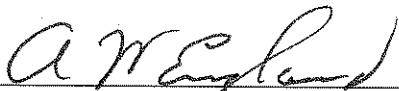
Reviewer C: “Her approach is unique and very useful in a variety of structural dynamics applications, especially those involving frames/beams. Her most impactful papers in terms of citations are dealing precisely with these types of issues. Noteworthy is her recent appointment as an Associate Editor of ASME Journal of Vibrations and Acoustics.”

Reviewer D: “Particularly excellent works of hers include the paper Comparison of the four rod theories of longitudinally vibrating rods and Wave analysis of in-plane vibrations of L-shaped and portal frame structures based on Euler-Bernoulli and Timoshenko models. Both are representative of her ability to produce meaningful fundamental scholarly work. ... The TCVS membership, which was elected, and the associate editorship, are indicative of a high level of respect from the peer community.”

Reviewer E: “Dr. Mei is an extraordinary talented scholar. She has conducted research in an important area and published her results in reputable journals and well-respected conference venues. ... One article that I found to be particularly impactful was published in 2008 in the Journal of Sound and Vibration and is entitled Hybrid wave/mode active control of bending vibration in beams based upon the advanced Timoshenko theory.”

Reviewer F: “Dr. Mei has produced many high quality publications during her career. She has published in top vibration journals in the world and her work has been well cited by her peers. I am especially impressed by the publications in ASME and IEEE journals. ... Her work on the vibration analysis of frames, for example, is a fundamental contribution to the art.”

Summary of Recommendation: Professor Mei’s teaching effectiveness ranks in the top 20% among the ME faculty. She has contributed her time and effort to a variety of committee services in the department, in the university and the national professional societies. We are very pleased to recommend, with strong support of the College of Engineering and Computer Science Executive Committee, for promotion to professor of mechanical engineering, Department of Mechanical Engineering, College of Engineering and Computer Science.



Anthony England, Interim Dean
College of Engineering and Computer Science



Daniel Little, Chancellor
University of Michigan-Dearborn

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