Approved by the Regents May 15, 2014

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

Ghassan T. Kridli, associate professor of industrial and manufacturing systems engineering, with tenure, Department of Industrial and Manufacturing Systems Engineering, College of Engineering and Computer Science, is recommended for promotion to professor of industrial and manufacturing systems engineering, with tenure, Department of Industrial and Manufacturing Systems Engineering, College of Engineering and Computer Science.

Academic Degrees:

Ph.D.	1997	Mechanical and Aerospace Engineering, University of Missouri-Columbia, Columbia, Missouri
M.S.	1988	Mechanical Engineering, University of Miami, Coral Gables, Florida
B.S.	1986	Mechanical Engineering University of Miami, Coral Gables, Florida

Professional Record:

2003 – present	Associate Professor of Industrial and Manufacturing Systems Engineering, Department of Industrial and Manufacturing Systems Engineering University of Michigan-Dearborn, Dearborn, MI
2009 – 2012	Visiting Associate Professor, Mechanical Engineering Program, Texas A&M University at Qatar, Education City, Qatar
1997 – 2003	Assistant Professor of Industrial and Manufacturing Systems Engineering, Department of Industrial and Manufacturing Systems Engineering University of Michigan-Dearborn, Dearborn, MI

Teaching: Professor Kridli is rated excellent in teaching. He is an outstanding educator who established excellent record in all aspects of teaching including classroom instruction, curriculum and laboratory development and student mentorship. He has taught a wide range of undergraduate and graduate courses in design and manufacturing, two of which (IMSE 488 Metal Forming Processes and AENG 584 Lightweight Automotive Alloys) he developed and several others he updated significantly. Students consider Professor Kridli to be effective and knowledgeable instructor who is always prepared for the class. Students had many positive comments about his concern on student learning and willingness to help. His Q1 and Q2 scores are consistently among the top few in the department. Since his last promotion his Q1/Q2 scores have been excellent, averaging 4.7 and 4.28, respectively.

Beyond his excellent contributions in the classroom, Professor Kridli has distinguished himself as very highly sought after a graduate thesis advisor. He has been external examiner on five doctorial committees and advisor of four and co-advisor of eight MS Thesis students. His mentorship is also demonstrated through his publications with his graduate students.

Research: Professor Kridli is rated excellent in his research. Professor Kridli's research builds on the application of fundamental engineering knowledge, in the modeling, design and manufacture of sheet metal products of lightweight alloys. Despite the numerical modeling aspect of his research, the majority of his work involves laboratory experimentation on physical process models and on materials characterization. He has continued to produce excellent research works in these areas and secured a significant amount of funding to support his work.

Professor Kridli's research is not only academically rigorous, but it also has significant industrial applicability. The tools and techniques developed in his research build a knowledge that may enable

economic introduction of lightweight alloys into the automotive industry to reduce the weight and fuel consumption of vehicles. This is an area of great importance to the automotive companies and his contributions to this field are numerous and significant. Professor Kridli's work in this area is well recognized by the industry and his peers which are evident by the grants he received from industry and research collaborations he established with the key researchers in academia.

Professor Kridli has been a prolific collaborator. He has been an active participant in several research efforts with UM Dearborn faculty and with the other key researchers in his field from the Washington State University and Ford Motor Company.

Recent and Significant Publications:

Kheireddine, A.H., Ammouri, A.H., Hamade, R.F., and Kridli, G.T., "FEM Analysis of the Effects of Processing Parameters and Cooling Techniques on the Microstructure of Friction Stir Welded Joints," Proceedings of the ASME 2012 International Mechanical Engineering Congress & Exposition, Vol.3 Part B, paper number 88943, pp. 913-918, Nov. 2012.

Ammouri, A.H., Kheireddine, A.H., Kridli, G.T., and Hamade, R.F., 2012, "Model-Based Optimization of Process Parameters in the Friction Stir Processing of Magnesium Alloy AZ31b with Active Cooling," CIRP 10th Global Conf. on Sustainable Manufacturing, Istanbul, Turkey, Oct. 2012.

Dharap, A., Kridli, G.T., and Abovyan, T., "The Effect of Blankholding Force Trajectory on Springback Prediction in Dual Phase 590 Steel," *International Journal of Mechanical and Materials Engineering*, 6(3), pp. 307-316, 2011.

Ng, J., Luckey, S.G., Kridli, G., and Friedman, P.A., "Validation of a Modified Material Model for use with Shell Elements to Accurately Predict the Thickness Distribution in Superplastic Forming of Sheet Metal," *Journal of Materials Processing Technology*, 211(8), pp. 1386-1394, 2011.

Garware, M., Kridli, G.T., and Mallick, P.K., "Tensile and Fatigue Behavior of Friction-stir Welded Tailor-Welded Blank (TWB) of Aluminum Alloy 5754," *Journal of Materials Engineering and Performance,* 19 (8), pp. 1161-1171, 2010.

Le, Q., Kang, H.T., Kridli, G., Khosrovaneh, A.K., and Benda, Y., "Modified Strain-Life Equation to Consider the Effect of Different Pre-strain Paths for Dual Phase Sheet Steel," *Journal of Materials Processing Technology*, 209 (7), pp. 3525–3531, 2009.

Le, Q., Kang, H.T., Kridli, G., Khosrovaneh, A.K., and Benda, Y., "Effect of Pre-strain Paths on Mechanical Behavior of Dual Phase Sheet Steel," *International Journal of Fatigue*, 31 (4), p 607-615, 2009.

Service: Professor Kridli is rated excellent in his service. He has made excellent service contributions to the university and his profession. He either served or is serving on numerous on-campus committees, including the Faculty Senate, Campus Benefits Committee, University Budget Committee and Campus Scholarship Committee. Within the college, he is currently serving as faculty co-director of the Institute of Advanced Vehicle Systems and he is the faculty advisor to the Society of Women Engineers Student Chapter. Within his department, he has helped to improve BSE curriculum in his role on the IMSE Undergraduate Program Review and Update Committee and as IMSE Assessment Coordinator for ABET. In addition to his interval service, Professor Kridli has also made good contributions to the professional community. He is an active reviewer of proposals and journals in the manufacturing field. He has also served as session chair and member of conference organizing committees for SAE and American Society for Composites.

External Reviewers:

Reviewer A: "His research has both academic rigor as well as industrial applicability. I like his combination of analytical (simulation) modeling tied to careful experimental validation. Moreover, he is able to combine detailed materials descriptions with models that involve process design and execution.

He does an excellent job of interpreting results to validate his models and to more easily allow other researchers and practitioners to use his work. … His research is published in well-respected archival journals that are appropriate for his work … in journals with high impact factors in the area …"

Reviewer B: "Dr. Kridli has been an external examiner on five doctorial committees and advisor of four and co-advisor of eight MS Thesis students. Dr. Kridli has attracted $1,689,283 educational grants as a PI or Co-PI … Research grants total $2,100,954 since joining UM-Dearborn."

Reviewer C: "There are challenges facing widespread use of lightweight alloys in the production line and the research done by Dr. Kridli provides important information and tools to advance its utilization. His work on developing accurate models and simulation tools taking into account materials properties, process conditions and tooling features are extremely valuable and important. … Dr. Kridli should be applauded for his efforts to integrate research with the education and use it as a platform for educating students."

Reviewer D: "Dr. Kridli has continued to produce good research work in the areas of material modeling and computations. He has secured a significant amount of funding to support his research."

Reviewer E: "Dr. Kridli has an impressive research record. … It is noteworthy that the industry has consistently supported his work through the grants. He received multiple grants from Ford Motor Company. He has published in good archival journals… His research publications are making important contributions to the metal forming literature. "

Summary of Recommendation: Professor Kridli has established an outstanding record of teaching, scholarly research and service at the University of Michigan-Dearborn. We are very pleased to recommend, with strong support of the College of Engineering and Computer Science Executive Committee, Ghassan T. Kridli for promotion to professor of industrial and manufacturing systems engineering, with tenure, Department of Industrial and Manufacturing Systems Engineering, College of Engineering and Computer Science.

Anthony England, Interim Dean
College of Engineering and Computer Science

Daniel Little, Chancellor
University of Michigan-Dearborn

May 2014