PROMOTION RECOMMENDATION
University of Michigan-Dearborn
College of Engineering and Computer Science
Department of Mechanical Engineering

Approved by the Regents
May 20, 2010

Pravansu S. Mohanty, 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.	1994	Materials Science, McGill University, Montreal, Canada
M.S.	1990	Materials Science, Indian Institute of Technology, Kanpur, India
B. S.	1988	Materials Science, University of Rajasthan, Jaipur, India

Professional Record:

2004 – Present	Associate Professor, University of Michigan-Dearborn, Dearborn
1999 – 2004	Assistant Professor, Department of Mechanical Engineering, University of Michigan-Dearborn

Summary of Evaluation:

Teaching: Professor Mohanty's teaching is rated excellent. Both in the meeting on promotion/tenure and in private discussions between the chair and individual faculty members, a majority of the tenure and promotion committee members are very positive about his teaching ability and effectiveness. Professor Mohanty has made continual improvements since he was promoted to the rank of associate professor and has now become one of the excellent teachers in the department. His average effectiveness from the student evaluations over the past three years was above 3.6 out of 4.0. This places him within the top 15% among his colleagues. Responses from students interviewed also support the written evaluations.

Research: Professor Mohanty's research is rated excellent. His research focuses on the subject areas of materials processing and manufacturing processes. He has published 18 papers in refereed journals in his area of expertise since his last promotion in 2004. Out of the 18 papers, six were invited. This averages about four journal papers per year. There are also seven journal papers under review. In addition, he has published 36 conference papers, most of which were peer-reviewed. Professor Mohanty is highly successful in obtaining external research grants from both government funding agencies and industrial companies. Since his last promotion, he has successfully obtained over $8M as single PI or lead PI. He also has five pending proposals in the pipe line. He was granted a US patent in 2009 and has five patents pending. He has supervised 17 graduate student theses, and has published research papers with these students in open literature. Both external reviewers and the mechanical engineering faculty members are highly positive about his scholarly contributions to the field of his expertise area and consider his record of research to be exceptionally strong.

Recent and Significant Publications:

P. Mohanty, A. George, L. Pollard, and D. Snyder, "A Novel Single Cathode Plasma Column Design for Process Stability and Long Component Life," *Int. J. Thermal Spray Technology,* Vol. 18, 2009, (Invited).

P. S. Mohanty, A. D. Roche, R. K. Guduru, and V. Varadaraajan, "Ultrafine Particulate Dispersed High Temperature Coatings by Hybrid Spray Process," *Int. J. Thermal Spray Technology,* Vol. 18, 2009 (Invited).

P. Mohanty, Jovan Stanisic, Jelena Stanisic, A. George, Y. Wang, "A Study on Arc Instability Phenomena of a Hollow Cathode Plasma Torch," *Int. J. Thermal Spray Technology,* Vol. 18, 2009, (Invited).

N.A. Moroz, H. Umapathy, and P. Mohanty, "Synthesis and Microstructure Evolution of Nano-Titania Doped Silicon Coatings," *Int. J. Thermal Spray Technology,* Vol. 18, 2009, (Invited).

A. Vorobev, O Zikanov, and P Mohanty, "Modelling of the in-flight synthesis of TaC nanoparticles from liquid precursor in thermal plasma jet," *J. Phys. D: Appl. Phys.* 41, 2008, 085302 (15 pages).

A. Vorobev, O. Zikanov, and P. Mohanty, "A Co-Condensation Model for In-Flight Synthesis of Metal-Carbide Nanoparticles in Thermal Plasma Jet," *Int. J. Thermal Spray Technology,* Vol. 17(5-6), 2008, pp. 956-965 (Invited).

Y. Siradeghyan, A. Zakarian, and P. Mohanty, "Entropy Based Associative Classification Algorithm for Mining Manufacturing Data," *Int. J. of Computer Integrated Manufacturing*, vol. 21, no. 7, 2008, pp 825 – 838.

T. Shamim, C. Xia, and P. Mohanty, "Modeling and analysis of combustion assisted thermal spray processes," *Int. J. Thermal Sciences*, Vol. 46, 2007, pp. 755–767.

V. Avaygan, A. Zakarian, and P. S. Mohanty, "Scanned 3D Model Matching and Comparison Algorithms for Manufacturing Applications," *ASME J. Manufacturing Science and Engineering,* Vol. 129, 2007, pp. 190-201.

Service: Professor Mohanty's service is rated excellent. He has served on several department and college committees, including the College Executive Committee. He served as a referee for several journals and conference proceedings and also chaired sessions in conferences. He also served several times as the NSF panelist for several NSF proposal reviews. Since 2008, he has been the chair of Training & Education Committee, Thermal Spray Society (TSS).

External Reviewers:

Reviewer A: "He has developed a state-of-the-art manufacturing laboratory .... He has been very successful in attracting research funding (>$10M) from a number of sources including the NSF, DoD organizations and industry."

Reviewer B: "The list of the publications is impressive not only in terms of the number of papers but also the diverse topic. The quality of the research by Dr. Mohanty is excellent."

Reviewer C: "Clearly, Dr. Mohanty is at the forefront of his fields and has gained eminence as a leading researcher in materials community."

Reviewer D: "Dr. Mohanty has exceptionally strong research funding from Army, Navy, NSF and industry. He is very active and highly successful in attacking problems of industrial relevance."

Reviewer E: "Overall the case for Pravansu Mohanty's promotion looks very strong and it is easy to see that he is a leader at the University of Michigan, Dearborn. Overall, his qualifications compare well with faculty considered for promotion to full professor at [my institution]."

Reviewer F: "His publications on nanostructured materials are of high quality and the progress in this area is very timely. Also, his innovative abilities, which are key to build an interdependent program, are evident through the allowed patent applications."

Summary of Recommendation:
Professor Mohanty is a highly successful researcher. His research work is judged to be of high quality by his peers both in the Department and outside the University. Since his last promotion to associate professor in 2004, he has obtained over $8M in research funds and has published over 56 technical papers (20 journal papers and 36 conference papers). He was granted one patent and has five patents pending. He has supervised 17 graduate student theses and published the research work with his students. This is a highly distinctive record. Professor Mohanty is an excellent teacher at both undergraduate and graduate levels, and his teaching effectiveness ranks in the top 15% among the ME faculty. We are very pleased to recommend, with the strong support of the College of Engineering and Computer Science Executive Committee, Pravansu S. Mohanty for promotion to professor of mechanical engineering, with tenure, Department of Mechanical Engineering, College of Engineering and Computer Science.

Subrata Sengupta
Dean
College of Engineering and Computer Science

Daniel Little
Chancellor
University of Michigan-Dearborn

May 2010