

MAE Seminars, Spring 2008

Starting up a Manufacturing Research Center from Scratch

When: March 13, Thursday, 4:15 pm

Where: Truitt Auditorium (BR 1402)

Speaker: Dr. John A. Patten

Dr. Patten's talk will walk us through the process of developing a Manufacturing Research effort at Western Michigan University (WMU).

The outline of the presentation is:

1. Background/History:
 - a. Started the Manufacturing/Precision Programs at UNC Charlotte;
 - b. Got to know Tom Dow.
2. What is Manufacturing Research?
 - a. What areas could WMU develop a niche/concentration?
 - b. Complementary Manufacturing Engineering degree program.
*Develop relationship with regional industries.
3. Survey/meet/visit companies and organizations
 - a. 30 + companies
 - b. Other universities in the state: UM, MSU, MTU, WSU, GVSU, FSU, etc.
4. Thrust areas.

About the speaker

Professor Patten has worked in academia for the last 23 years. Prior to his academic career, he was employed in industry for about 13 years. During most of his professional career, 35+ years, he has been involved in manufacturing operations and research. In particular Dr. Patten's machining research has been extensive, starting back in the mid 70's while working at GM, and conducting testing at the Research Center. For at least the past 18 years, Dr. Patten has concentrated his machining research on nominally brittle materials, e.g. ceramics and semiconductors. These materials have included germanium, silicon, silicon nitride, silicon carbide, and glass. Dr. Patten and his colleagues were the first to report on the origins of this ductile regime, i.e. the high pressure phase transformation, of these materials.

Dr. Patten continued his career at Western Michigan University starting in the fall of 2003, after serving on the faculty at UNC-Charlotte for nearly 20 years.. He assumed the leadership role for WMU's Manufacturing Research Center, as its first Director, and he is also Chair of the Manufacturing Engineering Department. Dr. Patten has a number of funded research projects (sponsored by DOD, NSF, MUCI, TRF et al.) for a total of over \$300,000. Dr. Patten is active in publishing, including book chapters, journal articles and conference papers.

Professor Patten received his undergraduate degree in Mechanical/Manufacturing Engineering from General Motors Institute (now Kettering University) in 1976, followed

by his MSE from Oakland University in 1982 and his PhD from NCSU (Mechanical/Precision Engineering) in 1996.