

# UNH Materials Science Seminar

13:10-14:00, Wednesday, April 27, 2011

DeMeritt 240

University of New Hampshire

## Coated Paper: Substrate for the Magic of Printing

Al Osgood

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It is applied at 45 mph, is 4 to 8 microns thick and utilized nano-particles as a crucial part of the process before it was cool to talk “nano”. It conveys the knowledge, hopes and dreams of the world in bright, bold, accurate, gorgeous color. It’s a paper coating. It’s what makes printing jump off the paper and grab your eyes. This presentation will cover the basic to advanced concepts that are used to develop/engineer the coating that makes printed paper so spectacular. Also presented, will be how the organic and inorganic, high pigment volume concentration matrix paper coating makes the near photographic levels of printing possible. Scientific theories that are used as basis for engineering paper coatings will be discussed with examples that illustrate why they are important for printing. In particular, an appreciation for the necessary heterogeneous uniformity on a sub-micron scale of all the materials in a paper coating that allows high quality printing will become clearer and more impressive to the audience.

**Al Osgood** received his B.S. in Chemical Engineering from the University of Maine in 1981 and was recently promoted to Associate Research Fellow in Sappi. He did his co-op work at Boise-Cascade paper mill in Rumford & found his calling with paper coatings. He has enjoyably spent his entire career working in & around paper coatings R&D with S.D. Warren/Sappi. In 1983 he started his association with leading edge paper coating research by pioneering the use engineered particle size distribution pigments in paper coatings with JM Huber. In the intervening years he has focused on developing & applying his understanding of coating pore structure as a function of pigment particle size distributions. Combining the pigment information with his understanding of binder ink vehicle interactions, he has developed many new & updated old grades for the Westbrook, Muskegon, Cloquet and Somerset Sappi FPNA mills. He was recognized within Sappi with the 2007 Sappi International Technical Innovation Award for being the technical lead for the development of the fast ink drying Tempo grade.

Host: Prof. John Tsavalas, x2293