

The Department of Coatings and Polymeric Materials at NDSU,  
the NASA ND Space Grant Consortium,  
and the Red River Valley Local Section American Chemical Society

are pleased to announce:

## **The Commercial Process of Research from First Ideas to Final Product**

**Dr. Joseph H. Osborne**

**The Boeing Company – Phantom Works**

Dr. Osborne is a lead engineer in the Phantom Works Non-Metallic Materials organization in Seattle. His primary responsibilities include developing and testing inorganic coatings, paints, and corrosion control methods. Current efforts include coating system integration, developing new surface preparation processes and primers, and researching replacements for cadmium plating and hexavalent chromium for corrosion control. Dr. Osborne is principal investigator for several programs including the Enhanced Self-Priming Topcoat and the Advanced Aircraft Corrosion Protection programs. He holds a Ph.D. in Inorganic and Organometallic Chemistry from the University of Washington.

### *Abstract*

New technologies are continually being developed with the goals of improved performance and reduced ownership cost of aerospace products. Drivers for this technology development include environmental and health regulations, reduced weight and fuel burn, increased manufacturing efficiency, reduced maintenance requirements, etc. Successful transition of new technologies into production use on new and legacy vehicles depends on a number of factors including the readiness level of the technology, product cycles, supplier/production capability, and the complexity of engineering drawing and specification changes. Business factors such as production offsets and renegotiation of production contracts are also important.

This talk will attempt to demystify the transition process. The engineering drawing infrastructure and typical qualification procedures will be described using examples of successful transitions of coating technologies. The revolution in primary structure materials used in the Boeing 787 Dreamliner will be described to illustrate future directions and opportunities in coatings and protective materials development.

**February 8th, 2007**

Research 1 at NDSU Research and Technology Park

Room 148/154

Hors d'oeuvres at 5:30 pm Seminar starts at 5:45 pm