



ETM

Department of Engineering and Technology Management

Technology Management Seminar Series

Graduate Seminars - Spring 2009



Chris Bailey, *University of Greenwich*
Professor of Computational Mechanics and
Reliability

Background:

MBA, Technology Management, 1994
PhD, Computational Modelling, 1988

Chris joined the University of Greenwich in 1991 after a three year post-doctoral fellowship at Carnegie-Mellon University. He has published over 200 papers on Design and Simulation of micro/nano-technology based processes and products and has managed many UK and International projects and worked closely with over 100 companies with regards their design, simulation and modelling requirements. Chris is a member of the NAFEMS Multi-Physics Modelling working group, a senior member of IEEE-CPMT, and a UK Committee member of IMAPS. In 2003 he was the Royal Society visiting Professor to Hong Kong. In 2007 he was and Programme Chair for High Density Packaging Conference in Shanghai, China, and also the local organizer of the IEEE sponsored EuroSime conference in London. In 2008 he was the General Chair for the Electronics System-integration Technology Conference (ESTC-2008) in Greenwich, London.

Seminar Topic:

Computational Engineering and saving a National Maritime Treasure – The Cutty Sark

Abstract:

Since the 1960's computer aided engineering has grown significantly both in academia and industry. This presentation will illustrate how digital technologies are being used to help conserve and save a maritime treasure the Cutty Sark. Built in 1869 this ship, based in historic Greenwich, is one of the finest examples of Victorian innovation in terms of merchant naval design. In her time, she was one of the fastest ships on the sea. Since 1956 Cutty Sark has rested in dry dock in Greenwich as a museum.

In 2003 it became apparent that the iron fabric of the vessel was becoming heavily corroded and that immediate conservation work was needed. This requires removal of the ships planks and treatment of the iron frames to reduce the rate of corrosion. Another highly novel aspect of the conservation programme is to raise the ship into a new support structure as part of the new museum being built in Greenwich. For a structure of this age and condition these activities pose many problems in terms of understanding how the ship will behave structurally.

The presentation will discuss how computer aided technologies, used for high technology sectors such as aerospace and automotive, are being adapted for the heritage sector and in particular how they are being used to help conserve and maintain the Cutty Sark for future generations for at least another 100 years. Technologies such as Finite Element Analysis, Computational Fluid Dynamics, and Prognostics and Health Monitoring will be illustrated.

Day: May 21 , 2009

Time: 12.00 – 1.00pm PT

Room: [Unitus Bldg. 203](#)
2121 SW 4th Avenue
Portland, OR 97201

