



Mechanical Engineering
Alumni Career Celebration

June 4, 2010

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Program Agenda

*All events are located inside the
Roselle Center for the Arts (CFA).*

2:00pm **Registration & Networking**
Lobby

2:15pm **Welcome & Department
Research** by Prof. Anette
Karlsson
Gore Recital Hall

2:30pm **Department Forensics Work**
by Prof. Jack Vinson
Gore Recital Hall

2:45pm **National Transportation
Safety Board: Accident
Investigation & Forensic
Analysis** by guest speaker
Brian Murphy
Gore Recital Hall

3:30pm **Break—Refreshments**
Lobby

3:45pm **Department Medical
Devices Work**
by Prof. Jill Higginson
Gore Recital Hall

4:00pm **Go Where You're Loved,
Do What You Love:
Career Paths in the Medical
Devices Industry**
by guest speaker
Alex Bourdon
Gore Recital Hall

4:45pm **Distinguished Career
Award Presentations**
by Anette Karlsson
Gore Recital Hall

5:30pm **Networking
& Refreshments**
Lobby

6:00pm **Adjourn**

6:30pm **Engineering Alumni
Reception**
DuPont Hall

8:00pm **Mug Night**
The Green



2:15pm | Gore Recital Hall, CFA

Welcome & Department Research

Anette M. Karlsson

Professor Anette M. Karlsson is the Chair at the Department of Mechanical Engineering at the University of Delaware. She received a Ph.D. in Mechanical and Aerospace Engineering at Rutgers University, New Jersey, in 1999 within the area of Solid Mechanics, and conducted postdoctoral research at Princeton University until joining the University of Delaware in 2002. Dr. Karlsson is interested in the thermo-mechanical properties and response of advanced materials. She currently applies her expertise to materials used in clean energy production, with particular focus on materials for gas turbines, fuel cells and wind turbines.



2:30pm | Gore Recital Hall, CFA

Department Forensics Work

Jack Vinson

Dr. Vinson is the H. Fletcher Brown Professor Emeritus of Mechanical and Aerospace Engineering at the University of Delaware. Vinson earned his Ph.D. in engineering mechanics at the University of Pennsylvania and joined the UD faculty in 1964 after spending several years working in government and industry. He served as chairman of the Mechanical and Aerospace Engineering Department at UD from 1965-79, taught one of the first composites courses in the nation in 1969, and became the founding director of UD's Center for Composite Materials in 1974. The author or co-author of seven popular textbooks, Vinson has been a highly active contributor to several professional societies.



2:45pm | Gore Recital Hall, CFA

National Transportation Safety Board: Accident Investigation & Forensic Analysis

Brian Murphy

Brian Murphy (BME1990) is National Resource Specialist for Aircraft Structures at the National Transportation Safety Board. His industry experiences include nearly ten years of performing detailed strength, fatigue, and damage tolerance analysis on a variety of metallic and composite structures. Prior to joining the NTSB, he worked for the Federal Aviation Administration for two years as a certification engineer in the area of structures on several Sikorsky helicopter programs. Murphy is also a private pilot. Since joining the Safety Board in September 2000, he has been the structures group chairman for numerous aviation accidents and/or incidents, including United Airlines Flight 93, the fourth airliner hijacked on September 11, 2001, which fell to earth near Shanksville, PA.

Abstract

Congress has charged the National Transportation Safety Board (NTSB) with investigating every civil aviation accident in the U.S. and issuing safety recommendations aimed at preventing accidents. The NTSB also provides investigators to serve as U.S. Accredited Representatives for aviation accidents overseas involving U.S. registered aircraft or involving aircraft or major components of U.S. manufacture. An aircraft structures engineer from the Office of Aviation Safety is the point-of-contact for all on-site activities and is responsible for accounting for the total aircraft structure, documenting the aircraft damage and wreckage, and determining the pre-accident integrity of the aircraft. The aircraft structures engineer is also responsible for determining whether the aircraft structure failed prematurely, and if so what deficiencies in design, manufacturing, or material processing or errors in maintenance or operation led to the premature failure of the structural elements. This talk will discuss the engineering failure analysis used to determine the probable cause for several aviation accidents.



3:45pm | Gore Recital Hall, CFA

Department Medical Devices Work

Jill Higginson

Dr. Higginson is an Assistant Professor in the Department of Mechanical Engineering with a joint appointment in the Biomechanics and Movement Science Program at the University of Delaware. Since July 2008, Dr. Higginson has also directed the Center for Biomedical Engineering Research. She trained at Cornell University (BS Mechanical Engineering '96), Penn State University (MS Bioengineering '98), and Stanford University (PhD Mechanical Engineering '05). Her research applies experimental and computational techniques to study muscle coordination during walking in healthy and impaired populations. Ongoing projects supported by the NIH target abnormal muscle control strategies in stroke and osteoarthritis.



4:00pm | Gore Recital Hall, CFA

Go Where You're Loved, Do What You Love: Career Paths in the Medical Devices Industry

Alex Bourdon

Alex T. Bourdon, BME1981, is a medical device executive who integrates manufacturing and product development into a competitive advantage for growth. His accomplishments include launching market-leading new products in minimally invasive surgery and diagnostics, turning around nine manufacturing plants in various industries, growing a product line to over \$200 million while reducing the cost by more than \$20 million, leading the diagnostics industry in customer satisfaction, and dramatically improving regulatory compliance and product quality. Bourdon is currently Vice President of Manufacturing & Operations for International Technidyne Corporation, Inc., a manufacturer of medical diagnostic instruments, consumables, and incision devices.

Abstract

Our engineering educations at UD have prepared us for a variety of possible careers, but each of us must make our own choices of which to pursue. Those choices will impact our earning, our learning and many other aspects of our lives. But how to choose? Believing that real life examples can effectively help people make informed choices, in *Go Where You're Loved, Do What You Love*, Alex Bourdon illustrates career guidance from *The Art Of Worldly Wisdom* with experiences from his 30 year career as an engineer and businessman in fields as diverse as nuclear defense, chemicals and medical devices.



4:45pm | Gore Recital Hall, CFA

Distinguished Career Award Presentations

Anette Karlsson

See bio on p.4.

2009 & 2010

Distinguished Career Alumni

Distinguished Career Alumni (DCAs) are selected for recognition based on several criteria, including achievement, impact, uniqueness, and interest.

The 2009 DCAs are being honored this year due to the last minute cancelation of the 2009 conference.

2009 DCAs



DR. E. FENTON CAREY, JR. ('67, '70M), who currently runs his own consulting business, has been a national policy maker in the areas of defense, energy, transportation, and the environment. A former Navy Captain and naval aviator who did combat duty, Carey holds a Ph.D. in aeronautical engineering from the Naval Postgraduate School in Monterey, California, in addition to bachelor's and master's degrees from Delaware. He has won awards for superior achievement and service from the U.S. Departments of Defense, Energy, Transportation, and Navy.



JOHN W. GILLESPIE, JR. ('76, '78M, '85Ph.D.) is Donald C. Phillips Professor at the University of Delaware and Director of UD's Center for Composite Materials. Gillespie has served as a member of the influential National Research Council Board on Manufacturing and Engineering Design, Chair of the National Materials Advisory Board Committee on High-Performance Structural Fibers for Advanced Polymer-Matrix Composites, and Editor of the Journal of Thermoplastic Composite Materials. He also serves on numerous international editorial boards. Gillespie was awarded the Paul A. Siple Memorial Award in 1998 by the U.S. Army and the Jud Hall Composites Manufacturing Award in 2000 by the Composites Manufacturing Association of the Society of Manufacturing Engineers. Gillespie has co-authored more than 200 journal publications and patents.



E. DOUGLAS HUGGARD ('55, '61M) spent his entire career with Atlantic Electric, a utility servicing the southern one-third of New Jersey, and then with Atlantic Energy, a holding company formed in 1987 consisting of four non-regulated energy-related subsidiaries. He joined Atlantic Electric as a junior engineer in 1955 and held various engineering, operational and management positions until becoming a corporate officer in 1974. He was elected President & Chief Operating Officer and Director in 1984, Chief Executive Officer in 1985, and Chairman of the Board & Chief Executive Officer in 1989. Huggard then served as Director of four Atlantic Energy, Inc. subsidiaries from 1987 to 1993. He retired from active employment in April 1993, continuing as Chairman of the Board, and then retired from the Board of Directors in April 1996.



JIM LASER ('69) is currently self-employed as a consultant, primarily to the pharmaceutical and biotech industries. Before establishing Whitney Consulting in 2002, he spent 28 years with Merck & Co. Inc., where he held increasingly responsible positions in operations, materials management, engineering and technical services in the manufacture of pharmaceutical and biological products. His last position at Merck was Vice President of Vaccine and Sterile Operations. A resident of Doylestown, Penn., Laser is a licensed professional engineer in Pennsylvania and Virginia. He is a member of the Board of Directors of Wave 80 Biosciences, Inc. as well as the Board of the Bucks County Council of the Boy Scouts of America. In 2004, Laser endowed a scholarship for an athlete majoring in engineering.



ERIC SVENDSEN ('71) is CEO of Foster Wheeler Energia in Madrid, Spain and CEO for Foster Wheeler Global Industrial Boilers, providing leadership of the Spanish office of Foster Wheeler as well as worldwide industrial boiler products for Foster Wheeler Global. The company recently sold its first solar boiler, a major milestone for the Spanish company. Svendsen has extensive international business experience having lived in Spain, Ireland (5 yrs.), and China (1 1/2 yrs). His wife, Ana, is a Spanish citizen, acquiring U.S. citizenship in 1990. The Svendsens currently live in Spain.

2010 DCAs



RALPH COPE ('78, '79) is President and Senior Partner of Accudyne Systems, Inc., a world leader in developing equipment for composite part fabrication and supercritical fluid separation. With current annual revenues of over \$6 million, the company employs 35 people, many of them graduates of UD's engineering programs. After completing his bachelor's and master's degrees at UD, Cope went on to earn a Ph.D. in mechanical engineering from the Ohio State University. He taught at UD for several years before starting his own company in 1994 and is credited with re-emphasizing the "consulting company" organization of the ME capstone course. Cope also introduced the use of design problems being drawn from challenges faced by researchers across campus.

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