



Spectroscopy Society of Pittsburgh January Meeting

Duquesne University – Mellon Hall of Science (Laura Falk Hall)

Wednesday – January 20, 2010

Technology Forum Speaker's Presentation **5:30PM**

Social Hour **6:00PM**

Dinner in the City View Café (6th Floor) **6:30PM**

Business Meeting **8:00PM**

Technical Program Speaker's Presentation **8:15PM**

Deadline for Dinner Reservations **1/15/10**

Carolyn Benga crbssp@yahoo.com or (412) 487-0915

Joint with Optical Society of America

TECHNOLOGY FORUM - 5:30 PM

James R. McCarville , Port Of Pittsburgh Commission

"Technology, Innovation and Economic Development on the Waterways"

The mission of the Port of Pittsburgh Commission is to promote the commercial use and development of the Inland Waterway Transportation System and to integrate that system into the economic, recreational, environmental and intermodal future of SW Pennsylvania. As such we have been actively engaged in trying to drive down the cost of doing business on the waterway through technology. We have established a benchmarking exchange within European inland river ports to identify best practices and have developed innovations on our own. Working with Carnegie Mellon University we have developed a virtual navigation system to approach locks in good visibility and bad, we have captured the communications architecture on the rivers between the towboats, their HQs and the Coast Guard, Corps of Engineers, and IRS. We are now developing, with CMU, a conops plan for a "Wireless Waterway" and may be seeking funding for it in the near future.



Bio

James R. McCarville has 30 years of port experience. He has served as the executive director of ports on the Great Lakes (Superior, WI '77-'84), US east coast (Richmond, VA '84-'90) and the US inland waterway system where he has been the Executive Director of the Port of Pittsburgh Commission (since 1994). From 1990 to 1993 Jim served as a private consultant, advising governments of Brazil, Uruguay and Mexico on matters of port organization, operational efficiency and privatization and the governments of both Panama and the United States on the strategic transition plan for the transfer of the Panama Canal.

Jim is the eastern vice-president of PIANC-USA, part of the Permanent International Association of Navigation Congresses and past president of the national trade association for the Inland Rivers' Ports and Terminals, Inc. (IRPT). He has served as a member of US Secretary of Transportation's (DOT's) Maritime Transportation System National Advisory Council (MTSNAC) and as member of the National Academy of Science/Transportation Research Board panel that prepared the report on "The Maritime Transportation System and the Federal Role: Measuring Performance, Targeting Improvements". He is on the Board of Directors of both Waterways Council, Inc. and the National Waterways Conference and is active on the Transportation Research Board's committee on Inland Waterways.

Principle challenges at the Port of Pittsburgh include: securing federal funding for the rebuilding waterway infrastructure; the advancement of new technologies for river information systems, for which the Commission was awarded a patent in 2007 for a virtual navigation locking technology called "SmartLock"; and benchmarking best practices in a series of US-EU inland port "SmartRivers" conferences.

Jim is a native of Wisconsin. He is a graduate of Regis College in Denver and holds advanced degrees in Foreign Service from Georgetown University, Washington, DC, and Urban Studies from Roosevelt University, Chicago IL. Jim is married to Haydee (Aye-EE-day) McCarville and they have three grown children.

Jim started his career as Lakefront Recreational Planner on the staff of the mayor of Milwaukee and, before that, as a community leadership trainer in the Peace Corps in Brazil. He speaks fluent Portuguese and English.

TECHNICAL PROGRAM - 8:15PM

Steven Christesen, Ph.D., Edgewood Chemical and Biological Center

“Detection of Chemical, Biological and Explosive Agents Using Raman Spectroscopy”

The Laser Standoff Detection Branch at the Edgewood Chemical Biological Center (ECBC) has an active research program on the application of Raman spectroscopy to the detection of hazardous materials including chemical, biological, and explosive agents. Included in these efforts are the measurements of the wavelength dependence of the Raman scattering signal for chemical agents and explosives, the application of spatially offset Raman spectroscopy for detecting and identifying subsurface contamination, Raman chemical imaging of fingerprints contaminated with explosives, surface-enhanced Raman chemical imaging for identification of bacteria, and the development of SERS analytical and spectroscopic figures of merit in support of the DARPA SERS S&T Fundamentals Program. The talk will cover each of these topics, but with an emphasis on the application of normal Raman spectroscopy to the standoff detection of chemical and explosive surface contamination.

Bio

Dr. Steven Christesen is a research scientist at the US Army Edgewood Chemical Biological Center in Edgewood Maryland and has over 25 years of experience in the spectroscopic detection of chemical and biological agents. He received a BS in chemistry from the College of William and Mary and a Ph.D. in physical chemistry from the University of North Carolina. Dr. Christesen is a lead scientist on the application of Raman spectroscopy and surface-enhanced Raman spectroscopy to the detection of chemical and biological agents, including the detection of agents in water and the UV Raman detection of agents on surfaces. Dr. Christesen helped pioneer the Army's fielded application of Raman spectroscopy to the identification of chemical agents in sealed glass containers. He has over 60 publications on these and other related topics as well as over 40 presentations at scientific conferences including invited talks at Pittcon and FACSS. Dr. Christesen is a member of the Society of Applied Spectroscopy, and the Optical Society of America, and he has chaired 5 SPIE symposia on optical sensors for chemical and biological detection.



Dinner Reservations:

Please email Carolyn Benga at crbssp@yahoo.com or call (412) 487-0915 to make dinner reservations NO LATER THAN FRIDAY, January 15, 2010. This month's entrée will be Prosciutto Stuffed Chicken Breast served over Linguini w/ Marinara Sauce. Minestrone soup will begin the meal and Cheesecake with Raspberry Sauce will be served for dessert. Dinner will cost \$8 and checks can be made out to the SSP. If you have dietary restrictions, please let Carolyn know when you RSVP.

Parking Instructions:

The Duquesne University Parking Garage is located on Forbes Avenue. Upon entering the garage, receive parking ticket and drive to upper floors. Pick up a parking chit at the dinner or meeting. If any difficulties arise, contact Dr. Mitch Johnson at Duquesne University.