

ASME Seminar

History of Steam Turbine Development

Speaker: Michael J. Boss

Date: Thursday, April 22nd

Time: 6:00-6:30 PM Social Gathering
6:30-8:00 PM Speaker

Place: Reamer Campus Center, Union
College, Schenectady, NY

To reserve your seat, contact Matt Hilbert
(hilbertm@union.edu, or David Smith
(smithd2@asme.org or calling (518) 385-1234 by
noon April 20th



Abstract:

April's event is a joint meeting with the ASME Student Section at Union College. Mike Boss, from GE Energy in Schenectady, will talk about the history of steam turbine development. This event was planned to commemorate the 100th anniversary of the commercial operation of the first large steam turbine built by General Electric. This 5,000 KW steam turbine went into service for Commonwealth Edison in October 1903 and is an ASME Historic Landmark. After it was retired from service, the steam turbine was moved back to the GE plant, where it resides today.

The presentation will cover steam turbine design from the 1890's, when the first commercially successful steam turbines were developed, through steam turbine applications used in the most efficient combined cycle plants being designed today. Along the way, Mr. Boss will speak about why steam turbines displaced stationary steam engines at the

start of the 20th century, how General Electric got into the steam turbine business, and explain major evolutions in steam turbine design over the past 100 years. The lecture is packed with photos of historic steam turbines (from all manufacturers), many of which are also designated ASME historic landmarks.

Speaker's Bio:

Mike Boss is the Manager of the Mechanical Systems Integration Leaders in GE's Steam Turbine Technology business in Schenectady, New York. He is responsible for leading the team in the design and development of new steam turbine designs. Mike has over twenty nine years experience in turbine design, including the areas of steam turbine performance calculation, turbine auxiliary systems and steam path component design.

Mike earned a B.S. in Mechanical Engineering from the Ohio State University at Columbus. He also received an M.S.M.E. degree from Union College in Schenectady, New York with a major in fluid dynamics and thermodynamics.

Mike has received a number of management and design awards and has authored the papers: "An Introduction to the Thermodynamics and Cycles of Steam Turbines" and "Basic Thermodynamics". He also co-authored the papers: "Medway - A High Efficiency Combined Cycle Power Plant Design", "Steam Turbines For 50Hz Combined Cycle Applications" and "Steam Turbines for STAG Combined Cycle Power Systems"

Place:

Reamer Campus Center at Union College in Schenectady Light appetizers will be served prior to the meeting. Light refreshments will be served at 6:00 PM. The talk will start at 6:30 PM. A \$5 donation to cover food and beverage might be requested.

Directions:

From the North: From the Northway (I-87) take exit 6 (marked 'Route 7 west'). Follow Route 7 west for 6.5 miles and bear right onto Union Street. Continue on Union Street for ~ 3 miles. Turn right onto Seward Place. At the next traffic light, turn right onto Nott Street. In about 100 yards, turn right into parking lot.

From all other directions: Get onto I-890 from NYS Thruway (Exit 26 if coming from the west or Exit 25 if coming from the east or south). Take I-890 to Exit 4 (Erie Boulevard). Follow Erie Boulevard north to Nott Street (second light after going under RR bridge). Turn right on Nott Street. Proceed east

for approximately 3/4 mile until you reach Seward Place. The entrance to the parking lot is on the right approximately 100 yards beyond intersection with Seward Place.

From parking lot, located at corner of Nott Street and Seward Place, walk towards the Nott Memorial (large domed building). The Reamer Campus Center is the second building on the left (clock in front of building). Go into main entrance and follow signs to the social gathering (in front of Auditorium). A map of the Union College campus is located at <http://www.union.edu/map>.

Message from the Chair

Our March meeting was a tour of the Mechanicville Hydroelectric Plant. The tour was organized by past section chair Lewis Stitt and hosted by Jim Besh, President of Albany Engineering. Albany Engineering is refurbishing the plant. We had over thirty people on the tour, ranging from high school students interested in engineering as a career to retired engineers who never lost their interest. The group saw a plant that was built in 1897 and is still capable of generating electricity. Mr. Besh described not only the plant and his firm's refurbishment plans, but also the plant's history and its place in the development of our national electrical grid. This was our second outstanding plant tour of the year. I hope our section membership appreciates the hard work of our volunteers in making these tours available to the section.

Each year our section holds one joint meeting with the RPI student section and one with the Union College student section. This month we join forces with the Union College mechanical engineering students and present a program recognizing 100 years of steam turbine technology. I'm sure you will find it interesting and I look forward to seeing many of you at the meeting.

Fred Willett

Employment Opportunity Mechanical Engineer

Upstate NY cutting edge technology Aerospace Manufacturing Company seeks an exceptional Mechanical

Engineer. Will provide interpretation of customer specifications; perform heat transfer analysis, stress, and other calculations as required. Provide project management including customer interface, integration of design, and the technical resources necessary to complete assigned projects. Design of Experiments participant and will lead the design transfer to manufacturing. Provide cost reduction analysis. Previous experience in Mechanical and Electro-Mechanical design/test of aerospace components and assemblies is required. Act as both internal and external point of contact for assigned projects. A BS Degree in Mechanical or Aerospace Engineering is required. Lean Manufacturing, SPC, and Six Sigma initiatives is a major plus. Must be hands multiple task individual, be a focused participant in team dynamics, and have excellent communication skills. Competitive compensation, relocation assistance, and benefit package offered. Position is with a multiple facility organization that is tops in their field. Forward resume in confidence to:

Charlie Thomaschek
Senior Search Consultant
Cochran, Cochran & Yale
5900 Main Street
Williamsville, NY 14221
716-631-1300
chase@ccy.com

Distribution of Section Newsletter

The Hudson Mohawk newsletter is posted at:
www.asme.org/sections/udson-mohawk.

Once each newsletter is posted on the Section's web page, an e-mail notification and link to the above website is sent to members who have e-mail addresses in the ASME member database. If you are an active member of ASME and did not receive an e-mail notification, please go to the ASME web site and update your membership information.
<http://members.asme.org/myasme/login/myasme.cfm>
