

UNIVERSITY of HOUSTON

UH ENERGY



The Texas Industrial Energy Efficiency Program is delighted to present the **2020 Texas Water Forum** – one of the highlights on TIEEP’s annual calendar. Our theme is *Save Energy While You Save Water – Better Equipment and Better Strategies*. Due to the current restrictions on in-person meetings, the forum

will be held as a webinar, **2:00 to 4:00 pm, May 7, 2020**. Register [here](#).

The Water Forum will be followed (**4:00-5:00 pm**) by the **STS-AIChE Monthly Technical Meeting**, on the topic *The 2021 Region H Water Plan: Long-Range Planning for the Greater-Houston Area*. Water Forum participants are invited and encouraged to attend.

PDH certificates for licensed engineers are available for both the **Water Forum** and the **STS-AIChE monthly meeting**.



Many thanks to our sponsor:



Water Forum Program

Theme: *Save Energy While You Save Water – Better Equipment and Better Strategies*.

Water and energy are both essential in the process industries, and in all aspects of modern life. They require diligent management, and they are closely interconnected. Technology advances in water management have created opportunities to reduce the consumption of both of these resources simultaneously. Our Forum will explore new equipment and engineering approaches to accomplish this double objective. Confirmed speakers for the technical program are:

Jim Wark – Culligan. *Advancements in Water Treatment* Chemical

Engineering professionals have for years sought to balance environmental issues and peak efficiencies for their processes and equipment. With regulations constantly changing, and increasing public outrage over contamination concerns – whether realistic or not – evolving technologies in water treatment have made some strides to reduce many of these concerns.

For decades salt-based water softeners, for example, have been used to save household and business costs associated with scale build-up. Boilers and hot water heaters are basic examples. However,



salt bans have recently been implemented in a number of places, including several cities in California, and it seems the same restrictions will hit several other locations soon.

In our presentation, we will introduce just one new technology that gives both businesses and households a choice quite different than previously offered. You will get a chance to see where the future might be heading in water treatment.

Bio: Jim Wark has been in the field of water treatment for almost 40 years. He started in residential water treatment in 1981 in Napa, California. From there he has gone on to problem water treatment, then commercial and industrial water systems. Jim and his wife, Agnes, whom he met in a water treatment consultation and sale in the Philippines, work together with new technologies such as you will see in this presentation, as well as others still under development.

Somnath Basu and Paul Sun – Headworks International. *Petroleum Refinery Wastewater Treatment: Principles and Case Studies*

Petroleum refinery wastewater characteristics vary widely depending upon the types and sources of crude, refining processes, and the final products. Treatment of these wastewater streams can be challenging, with the variability of their characteristics. Availability of large quantities of crudes from unconventional sources and increasingly stringent discharge regulation of treated effluents significantly add to these challenges. This presentation will explain refinery wastewater treatment principles with the help of three case studies.

Bio 1: SOMNATH BASU, P.E. is Vice President of Global Process Engineering and Chief Technology Officer at Headworks International in Houston, TX. At Headworks he leads the development of new processes and technologies for biological wastewater treatment. His main interests are biological nutrient control processes and petroleum refinery and petrochemical wastewater treatment. Somnath has over 30 years of experience in water and wastewater treatment system engineering and design, and his prior affiliations include Shell Global Solutions and AECOM. He has a PhD in environment engineering from Northeastern University, Boston and an MBA from the University of Massachusetts, Amherst. He has published extensively in technical journals and presented in numerous international conferences globally. He has authored several book chapters in the area of water and wastewater treatment.



Bio 2: Dr. Paul T. Sun has been in the industrial water and wastewater treatment area for more than 40 years. He received his PhD from Purdue University in 1975. He was a Principal Consultant with Shell Global Solutions, worked in water management of shale gas development/production and other refinery and petrochemical wastewater treatment and reuse projects. He is currently retired from Shell. He published more than 30 technical papers and participated in numerous seminars during his career. He was one of the recipients of the Willem Rudolfs Award for Best Industrial Waste Paper, Water Environment Federation, 1999 and Recipient of 2002 IChemE (G.B.) Water Award.



Juan Miguel Pinto – Energy Recovery Inc. *Energy Consumption and Desalination*

Desalination has become an important water source for several countries, and private companies are also using it as part of their water strategy, alongside conventional water resources. However, one of the main barriers to desalination is the cost in comparison with conventional water resources. The largest cost in desalination is energy (> 50–60% of water total cost).

The presentation will discuss desalination energy consumption, high pressure pumps, energy recovery devices (ERDs) options, and other approaches to reducing energy consumption. Special attention will be given to renewable energy sources, and how they can be combined with desalination systems.



Bio: Juan Miguel Pinto is Director, Sales & Strategy, Americas, for Energy Recovery Inc (ERI). ERI provides energy solutions to industrial fluid flow markets worldwide. Juan joined ERI in 2004, and he has played key roles in R&D, Engineering, Project Management, and Sales. He has authored and co-authored over 20 international publications.

Juan serves on the Board of Directors of the International Desalination Association (IDA), and he is President of La Asociación Latinoamericana de Desalación y Reusó (ALADYR). He received an Industrial Engineering Degree from Universidad Catolica Andres Bello in Caracas, Venezuela, and an EMBA from the University of Florida.

STS-AIChE Monthly Technical Meeting Program

The Water Forum will be followed (4:00-5:00 pm) by the **STS-AIChE monthly dinner meeting** – but without the dinner! The monthly meeting will use the same [webinar registration](#) as the Water Forum, so you do not need to register separately.

The monthly meeting speaker is Jason Afinowicz, PE, Practice Leader for Water Resources Planning at Freese and Nichols. His presentation is ***The 2021 Region H Water Plan: Long-Range Planning for the Greater-Houston Area***. Water Forum participants are invited to stay for the AIChE meeting presentation, to gain insights into a different dimension of water management.



PDH certificates for licensed engineers are available for both the **Water Forum** and the **STS-AIChE monthly meeting**.