



**APRIL 11 & 12, 2012**

**EMBASSY SUITES, GREENSBORO, NC**

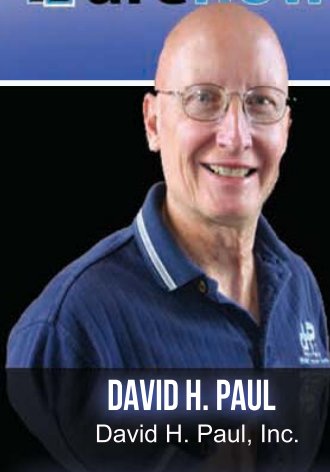
# TECHNICAL TRAINING *SYMPOSIUM*

TRAINING BEYOND THE ACADEMIC



Pure water is only one component of your company's production systems, but it can be a major bottleneck if not properly addressed. Pureflow's Technical Training Symposium is uniquely designed to provide relevant, practical education to help you do water better. You will learn from industry-leading experts. Look inside for session topics, speaker information and details.

**PUREFLOWINC.COM | 1.800.242.9430**



**DAVID H. PAUL**

David H. Paul, Inc.

## PRETREATMENT

This session covers the basics of the most common pretreatment steps required to protect membrane units from scaling, fouling and chemical attack. Technologies covered include:

- ACID AND SCALE INHIBITOR INJECTIONS
- CARTRIDGE FILTRATION
- SOFTENING
- ACTIVATED CARBON
- MULTIMEDIA FILTRATION
- SULFITE INJECTION
- MICROFILTRATION/ULTRAFILTRATION
- UV



## REVERSE OSMOSIS

This session covers the basics of the reverse osmosis technology.

Topics covered include:

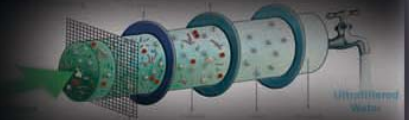
- HOW REVERSE OSMOSIS (RO) WORKS
- HOW RO MEMBRANE ELEMENTS WORK
- HOW RO MEMBRANES WORK
- HOW RO UNITS WORK

## MICROFILTRATION & ULTRAFILTRATION

This session covers the basics of microfiltration (MF) and ultrafiltration (UF).

Topics covered include:

- MF/UF MEMBRANES
- BACKWASHING
- MF/UF APPLICATIONS
- CHEMICALLY ENHANCED BACKWASH (CEB)
- NORMAL SERVICE
- CLEAN IN PLACE (CIP)



## OZONE



Ozone is a powerful and effective sanitizing agent for high purity water systems, but has its own set of operational challenges. This session includes guidelines on all aspects of ozonated water system design, including what type of ozone generator to use, tank and loop design, material selections, tank venting, and personnel safety. Some of the pitfalls of system design will also be brought to light.



**HARV SCHOLZ**  
Pureflow, Inc.



**CAMERON CHAMBERS**  
GE Power & Water

## EDI



Discussion centers around the science behind EDI technology and how it affects the operation. We will also look at lessons learned over the past 10 years of operation of the technology.





**STEVE SIVERNS**  
Pureflow, Inc.

## CHLORINE/CHLORAMINE DESTRUCTION

Ultraviolet (UV) lights are well known for use in biological contamination control and for destruction of dissolved organic compounds and ozone and have recently demonstrated advantages over other technologies in some applications. This presentation will provide an overview of UV reduction of chlorine and chloramines and then compare available technologies, their efficiency, side effects, design considerations and implementation costs.



As the cost of water continues to climb and the sources of good water decrease, designing systems with the objective of being efficient with the water we use is increasingly valuable. This presentation will review design approaches and look at some specific examples of efficient process designs. We will also look at the changes to process risk and system cost impacted by these designs.

## GOING GREEN



**TC SOLI**  
Soli Pharma Solutions, Inc.

## MICROBIAL CONTROL

This presentation is an introduction to biofilms that explains how they grow and spread, their impact on the surfaces they colonize and the water that passes over those surfaces, and why that form of growth can be so resistant to cleaning and sanitization.

This presentation focuses on biofilm control using sanitizers, system design features, and ongoing microbial controls that can reduce biofilm development. Understanding the resistances and weaknesses of biofilm learned from the previous presentation, attendees can better understand how to successfully control biofilm with good designs, the timely use of aggressive sanitizers and ongoing/in-line microbial controls.



## SANITIZATION

# \$540

- ✓ 9 TRAINING SESSIONS
- ✓ 4 CASE STUDIES
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