

INSTRUCTORS

Daniel H. Bar, Vice President/General Manager Amerida, Division of Eurodia Industrie
Jean Pierre Berlan, Process Engineer, Filtration & Separation, TetraPak, Inc.
David Bromley, President, Clow Water Treatment
David Burnett, Director of Technology, Global Petroleum Research Institute, Texas A&M University
Dr. Gary Carlson, Senior Engineer, MemPro Ceramics Corporation
Peter Cartwright, Cartwright Consulting
Dr. Munir Cheryan, Professor, University of Illinois, Department of Food Science
Dr. Lee Clapp, Assistant Professor of Environmental Engineering, Texas A&M University Kingsville
Joseph Curran, West Area Technical Support, EcoLab Food & Beverage Division
Dewitt Dees, Sales Manager, Oil & Gas, Veolia Water Solutions & Technologies, North America Inc.
John Ehlig, Sales Engineer, Hastik - Baymont, Inc.
Doug Emerson, Sales Engineer, GEA Filtration
Jesse Flores, Sales Engineer, CINC
Ben Gould, Marketing Manager, Ashbrook, Simon-Hartley
Chuck Harrison, Field Engineer, CINC
Carl R. Hoffman, Market Manager, Food & Beverage, Koch Membrane Systems
Bill Irvine, President, Engineering Fluid Solution, LLC
Dr. Vadim Kochergin, Professor, Audubon Sugar Institute, Louisiana State University Ag Center
Dr. Gerald Luss, Technical Director, Complete Filtration Resources Inc.
John McKenna, Industrial Division, Senior Process Consultant, Westfalia Separator, Inc., GEA
Lewis Pain, Regional Sales Manager, PCI Membrane Systems Inc.
Dennis L. Schmidt, Manager Tech Service, Membrane Systems, Johnson Diversey
Carl J. Vavra, Program Head, Separation Sciences Group, Food Protein R&D Center, Texas A&M University
Mark Wilson, Sales Engineer, GE Water Process Technologies
Scott Wittwer, Product Manager, Graver Technologies
Dr. Jorge Yacubowicz, Process Development Manager, Koch Membrane Systems, USA
John Zibrida, President, ZIBEX, Inc.

OBJECTIVES OF SHORT COURSE

- Review basic principles of membrane filtration & separations processing including system design, membrane & equipment selection costs, economics, and practical applications
- Orient new product formulators, food scientists, chemists, chemical engineers, environmental engineers, petroleum engineers, and students to processing and products of these technologies
- Review major applications of microfiltration, ultrafiltration, reverse osmosis, nanofiltration, pervaporation, chromatography, centrifugation, and other technologies in food processing, chemical processing, petroleum processing, pharmaceutical processing and water treatment, environmental and industrial processing and manufacturing
- Review fundamentals and practical aspects of membrane fouling and cleaning
- Provide **daily** "hands-on" demonstrations and familiarize attendees with the practical aspects of membrane & separations technologies
- Review new technologies / developments in Membrane Filtration Technology & Separations Technologies
- Review case studies, success stories, new systems designs, industrial/commercial applications and economics of membrane systems, pre and post-treatment technologies

LOCATION AND FACILITIES

All lectures will be held at **Rudder Tower** on the Texas A&M University Campus, Monday through Thursday, April 19 - 23, 2009. Parking is across the street in the University Center Garage. For a parking map, go to <http://campusmaps.tamu.edu/>

Pilot plant demonstrations will be in the pilot plant facilities at the Food Protein Research & Development Center, Cater-Mattil Hall, 373 Olsen Boulevard, Texas A&M University. Participants will be taken by bus to Cater-Mattil Hall (Texas A&M University Campus) for daily afternoon demonstrations.

REGISTRATION

The registration fee for the short course and pilot plant demonstrations is **\$1,495.00** and includes an eBook Manual, daily lunch, Thursday graduation, luncheon, refreshments, certificates of completion, and daily pilot plant demonstrations.

There is a 10% discount if three or more individuals from the same organization register for the short course. Academic discounts may be applicable if space is available.

Make checks payable to **TEES (Texas Engineering Experiment Station) and mail to TEES Fiscal Office, 3124 TAMU, College Station, TX 77843-3124**. You may pay the fee by credit card (American Express, Visa, Diners Club or Master Card). **Registration fees are not refundable** but substitute personnel may be sent by the same firm. Mail the registration form and a copy of your check to Cyndi Casanova, Short Course Coordinator (See address on registration application form). Space is limited; therefore, applications will be accepted on a first-come, first-serve basis.

ACCOMMODATIONS

Lodging reservations should be made directly by the attendees by calling (979) 846-0184. A block of rooms has been reserved at the College Station Hampton Inn for the short course participants. Room rates are **\$99 (single or double)** plus tax per night (rooms available at 3 PM; complementary hot breakfast provided each morning). Ask for the rate specifically and mention the **Group Code MEM**. Shuttle service is provided from the Easterwood Airport to and from the College Station Hampton Inn. Shuttle service can be arranged by calling the College Station Hampton Inn at (979) 846-0184. **Hotel reservations must be received before April 3, 2009.**

Hampton Inn

320 Texas Avenue South
College Station, Texas 77840 U.S.A.
Tel: 979-846-0184
1-800-426-7866
Fax: 979-268-5807

www.collegestation.hamptoninn.com

Upcoming Short Course

5th Annual "WATER Issues and Technologies:
Process Water, Wastewater, and Desalination"

For additional information, write, call, fax or email to:

Mr. Carl J. Vavra
Food Protein R&D Center, TEES
The Texas A&M University System
2476 TAMU, 373 Olsen Blvd., Cater-Mattil Hall
College Station, Texas 77843-2476 USA
Phone: 979-845-2758; Fax: 979-845-2744
Email: cjvavra@tamu.edu



The Separation Sciences Pilot Plant is available for contract research.

Organized by the
Food Protein Research & Development Center
Separation Sciences Program
Texas Engineering Experiment Station
The Texas A&M University System
College Station, Texas

Membrane / Filtration & Other Separations Technologies:
Fundamentals, New Developments, Applications and
Daily Pilot Plant Demonstrations
April 19 - 23, 2009

19th Annual
Practical Short Course

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Separation Sciences Program
Food Protein Research and Development Center
The Texas A&M University System
2476 TAMU, 373 Olsen Blvd., Cater-Mattil Hall
College Station, TX 77843-2476 U.S.A.



Register on the web:
www.tamu.edu/separations

Short Course Lectures

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www.tamu.edu/separations

Registration Application

Sunday, April 19, 2009

5:00 PM Registration, Welcome & Announcements - Hampton Inn, 320 Texas Avenue South, College Station, TX - Hotel Lobby (979-846-0184)

Monday, April 20, 2009

7:30 AM Bus leaves Hotel for Rudder Tower, Texas A&M University
8:00 AM Welcome & Announcements - Carl Vavra
8:10 AM "Basic Principles of Membrane Filtration Separations" - Dr. Munir Cheryan
10:00 AM Refreshments and Photo Session of Group
10:15 AM "Pre and Post-Treatment of Process Liquids in Membrane Filtration Applications" - Peter Cartwright
11:15 AM "Water Resources and Water Use - Is it Sustainable?" - Bill Irvine
12:00 PM LUNCH @ Texas A&M University Kyle Field Press Box
1:30 PM "Membrane Filtration Modules & Systems" - Dr. Munir Cheryan
2:30 PM "The Use of Ceramic Membranes - Examples from Industry" - Dr. Gary Carlson
3:15 PM Refreshments
3:30 PM "Practical Aspects of Membrane Filtration Design and Control" - Doug Emerson
4:30 PM Bus Leaves for FPRDC for Multiple Demonstrations

- Review Examples of Membrane Types, Modules and Systems - Carl Vavra
- Sweco - Vibrating Screen & Mixing Technologies - John Ehlig
- HydraKleen - Liquid Solid Separation Technology - Bill Irvine
- R³f Technology - Fine Media Separation Technology - David Bromley

Tuesday, April 21, 2009

7:30 AM Bus leaves Hotel for Rudder Tower, Texas A&M University
8:00 AM "How to Run a Pilot Plant Experiment/Test and Applications Testing" - Peter Cartwright
8:45 AM "Choosing Between Media or Membrane Filtration for Suspended Solids Removal" - Ben Gould
9:30 AM Refreshments
9:45 AM "Feed Pre-Treatment by Centrifugation" - John McKenna
10:30 AM "Stainless Steel Membranes and Their Applications" - Scott Wittwer
11:15 AM "New Membrane Filtration Products for the Beverage

Industry" - Carl Hoffman
12:00 PM LUNCH @ Texas A&M University
1:30 PM "Applications of Membrane Filtration Technology to Process Waste Streams" - Doug Emerson
2:45 PM "Operation & Maintenance - Related Efficiencies in Industrial Water Use" - Bill Irvine
3:30 PM Refreshments
3:40 PM "How to Prevent Fouling and Fundamentals of Membrane Filtration Cleaning" - Dr. Gerald Luss
4:55 PM Bus Leaves for FPRDC for Multiple Demonstrations:

- PCI Tubular Membrane Filtration System - Lewis Pain
- GEA Whisperfuge - Disk Bowl Centrifuge - John McKenna
- Spiral Membrane Filtration System - GEA Filtration - Doug Emerson
- Graver Stainless Steel Membrane - Scott Wittwer

Wednesday, April 22, 2009

7:30 AM Bus leaves Hotel for Rudder Tower, Texas A&M University
8:00 AM "Membrane Applications in the Sugar Industry: Challenges in Pilot Research Programs" - Dr. Vadim Kochergin
9:00 AM "Water Reuse - Technologies Available Today" - Mark Wilson
9:45 AM Refreshments
10:00 AM "Liquid/Liquid Centrifugation" - Jesse Flores
10:30 AM "Assorted Case Histories: Tubular Polymeric Membranes" - Lewis Pain
11:15 AM "SeIRO, Chemically Stable Ultrafiltration and Nanofiltration Membranes" - Dr. Jorge Yacubwicz
12:00 PM LUNCH @ Texas A&M University
1:30 PM "Production of ESL (Extended Shelf Life) Milk Using Micro-filtration" - Jean Pierre Berlan
2:15 PM "New Developments in Electrodialysis" - Daniel H. Bar
3:15 PM Refreshments
3:25 PM "Industrial Chromatography for Separation and Purification of Valuable Products: Sugar, Sweeteners, and New Applications." - Dr. Vadim Kochergin
4:15 PM Bus leaves for FPRDC for Multiple Demonstrations

- Liquid/Liquid Centrifugation - Jesse Flores & Chuck Harrison
- Zeeweed Hollow Fiber Membrane Filtration System - Mark Wilson

Thursday, April 23, 2009

7:30 AM Bus leaves Hotel For Rudder Tower, Texas A&M University
8:00 AM "Recovery of Water Resources from Brine Produced During Oil & Gas Production" - David Burnett
8:45 AM "KOCH - Membrane BioReactor Technology" - Dr. Jorge Yacubowicz
9:30 AM Refreshments
9:45 AM "Membrane Cleaning and Sanitizing - Common Mistakes" - Dennis L. Schmidt
10:30 AM "Analysis and Diagnosis of Membrane Fouling" - Dr. Lee Clapp
11:15 AM "RO Systems: Recent Developments in Scale and Deposit Control Agents" - John Zibrida
12:00 PM GRADUATION LUNCH @ Texas A&M Rudder Tower
1:15 PM "Technologies for Produced (Brine) Water Treatment" - Dewitt Dees
2:00 PM Refreshments
2:15 PM "Principles of Membrane Cleaning" - Joseph Curran
3:20 PM Bus Leaves for FPRDC for Multiple Demonstrations:

- Pretreatment & Desalination of Oil Field Brine - David Burnett & Carl Vavra
- Discussion, Cleaning & Sanitizing Membranes & Systems - Dennis Schmidt
- Final Review/Questions/Discussion in Pilot Plant

19th Practical Short Course on Membrane / Filtration & Other Separations Technologies

April 19 - 23, 2009, Texas A&M University
College Station, Texas
(Please type or print clearly)

Name: _____
This name will appear on your graduation diploma
Job Title: _____
Company: _____
Address: _____
City: _____ State: _____
Zip Code: _____ Country: _____
Phone: _____ Fax: _____
E-mail: _____
Name Card (you would like to be called):

Name and phone number to contact in case of emergency:

List any special diet requirements:

Credit Card: American Exp. Diners Club Visa Master Card

Name of Cardholder: _____

Card Number: _____

Exp. Date: _____ Total Amount: \$ _____

Signature: _____

Return this application to:

Cyndi Casanova, Short Course Coordinator
Food Protein R&D Center
The Texas A&M University System
2476 TAMU, 373 Olsen Blvd., Cater-Mattil Hall
College Station, Texas 77843-2476 U.S.A.
Tel: 979/847-8997; Fax: 979/845-2744
E-mail: shortcourse@tamu.edu

You can also register on the web at www.tamu.edu/separations