

Program

4-Day Master Course Pre-treatment, Membrane Fouling and Scaling

Prof. Jan C. Schippers, September 25–28 , 2017 Rome, Italy



Jan Schippers, Professor Em. in Water Supply Technology at IHE Institute for Water Education, UNESCO in Delft and consultant will give this interactive course. He has extensive professional experience in drinking and industrial water supply projects in Morocco, Qatar, United Emirates, Gabon, Cab Verde, Namibia, Uzbekistan, France and The Netherlands.

His specializations are: Consultancy, research, training and education in the field of integral drinking and industrial water treatment and desalination/membrane related technologies.

Gave courses on Membrane Technology, Fouling, scaling and pre-treatment in membrane technology, Aquatic Chemistry, Conventional filtration Techniques and Membrane Bio Reactors in Cyprus, Morocco, China, Jordan, Yemen, Bahrain, Iran, Oman, Saudi Arabia, Chile, Italy and The Netherlands.

Monday, 25 September, 2017

8.30 – 9.00 h	Registration & Workbook
9.00 – 10.45 h	1. Introduction membrane technology 2. Principles micro- and ultrafiltration
10.45 – 11.00 h	Coffee break.
11.00 – 12.30 h	3. Overview MF/UF elements and system
12.30 – 13.30 h	Lunch
13.30 – 15.00 h	4. Fouling MF/UF fouling control and pre-treatment 5. Principles reverse osmosis and nanofiltration
15.00 – 15.15 h	Tea break
15.15 – 17.00 h	5. Principles reverse osmosis and nanofiltration 6. Overview RO and NF membranes and elements

Tuesday, 26 September, 2017

9.00 – 11.00 h	7. Process design RO systems with spiral wound elements
11.00 – 11.15 h	Coffee break
11.15 – 12.30 h	8. Normalizing data in RO/NF systems
12.30 – 13.30 h	Lunch
13.30 – 15.00 h	9. Fouling in RO/NF systems 10. Conventional pre-treatment techniques for RO/NF
15.00 – 15.15 h	Tea break
15.15 – 17.00 h	10. Conventional pre-treatment techniques for RO/NF 11. Fouling due to particulate matter. SDI and MFI

Wednesday, 27 September, 2017

9.00 – 11.00 h	11. Fouling due to particulate matter. SDI and MFI 12. MFI-UF; prediction fouling rate
11.00 – 11.15 h	Coffee break.
11.15 – 12.30 h	13. Fouling due to algae and transparent exo-polymers 14. Fouling due to coagulants
12.30 – 13.30 h	Lunch
13.30 – 15.00 h	15. Removal particulate matter in practice 16. Removal of iron and manganese
15.00 – 15.15 h	Tea break
15.15 – 17.00 h	16. Removal of iron and manganese 17. Biofouling; Principles, prediction and pre-treatment

Thursday, 28 September, 2017

9.00 – 11.00 h	17. Biofouling; Principles, prediction and pre-treatment 18. Organic fouling
11.00 – 11.15 h	Coffee break.
11.15 – 12.30 h	19. Fouling and control in membrane bioreactors 20. Principles of scaling
12.30 – 13.30 h	Lunch
13.30 – 15.00 h	21 Manual scaling calculations 22. Calcium carbonate; Langelier and Stiff & Davis Index 23. Scaling predictions with computer program
15.00 – 15.15 h	Tea break
15.15 – 16.45 h	24. Scaling in seawater reverse osmosis 25. Scaling Control, monitoring, and antiscalants 26. Cleaning RO/NF membranes
16.45 – 17.00 h	Closing and Certificates

Pre-treatment, Membrane Fouling and Scaling

Prof. Jan C. Schippers, MSc, PhD

September 25 - 28 2017

Rome, Italy

REGISTRATION FORM

Surname _____ Name _____

Affiliation _____

Address _____

Country _____ Telephone _____

Fax _____ Email _____

Registration fee:

EDS members **€2,500**

Non-members **€2,700**

The fee includes 5 nights accommodation, lunches, coffee, dinners and course workbook.

Payment can be made by:

Credit card

Visa

Mastercard

Bank Transfer to be sent to the address below and a copy emailed to us.

Please take care of your own bank charges

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Exp. date _____ Security code _____

Cardholder name _____

Signature _____

Account name: European Desalination Society

Account No. 11863.19

Banca Monte dei Paschi di Siena

67100 L'Aquila, Italy

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Please fill in the form and send as an attachment to:
balabanmiriam@gmail.com or fax to: +1 928 543 3066