

# COMMITTEES

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# PRESENTATIONS

## ORAL PRESENTATIONS – LECTURES

### PLENARY LECTURES (PL)

The presentation time for each plenary lecture is 45 min and 5 min for discussion.

### KEYNOTE LECTURES (KL)

The presentation time for each keynote lecture is 25 min and 5 min for discussion.

### SHORT LECTURES (SL)

The presentation time for each short lecture is 15 min and 5 min for discussion.

## RECORDINGS

Audio/video recording of the lectures or copying of the lecture files is not allowed without the prior agreement of the speaker. The organizers reserve the right to take documentation photographs during the meeting

## POSTER PRESENTATIONS

Poster presentations will take place on Monday, May 14, from 19.30 to 21.00. Material for fixing posters will be provided.

E-poster presentations will be available during the entire conference in the foyer of the conference hall.

## TOPICS

- T1** New Membrane Materials and New Trends
- T2** Gas and Vapor Separation
- T3** Pressure Driven Membrane Processes
- T4** Electrochemical Membrane Processes
- T5** Membrane Systems in Water Treatment, Biotechnology and Biomedical Applications
- T6** Membrane Operations in Process Engineering
- T7** Modelling and Simulation of Membrane Systems
- T8** General Session and New Trends

MONDAY, MAY 14, 2018

LIBUŠE HALL

LIBUŠE HALL

**PLENARY LECTURE**

Hall Libuše + Bruncvík + Přemysl

PL1 8:30-9:20

**Advanced Membranes by Selective Swelling of Block Copolymers**

Y. Wang | China

9:20–9:40

*Coffee break*

**KEYNOTE LECTURE**

Chairman: J. Gaálová | Czech Republic

KL1 9:40-10:10

**Polymers of Intrinsic Microporosity for Gas and Liquid Separation**

A. Volkov | Russian Federation

**T1: NEW MEMBRANE MATERIALS AND NEW TRENDS**

Chairman: J. Gaálová | Czech Republic

T1/SL1 10:10-10:30

**Preparation of Macroporous Hydrophobic Flat-Sheet PVDF Membranes Via Vapour Induced Phase Separation**

C. Alexowsky, M. E. Bojarska, M. Ulbricht | Germany

T1/SL2 10:30-10:50

**Star-Shaped Polymers for Membrane Surface Functionalization to Generate Additional Adsorber Properties**

J. Brückerhoff, V. Schnecke, M. Ulbricht | Germany

T1/SL3 10:50-11:10

**Metal Organic Framework Particle Filled PI/PDMS Composite Membranes for Pervaporation Separation of Biobutanol**

A.Çalhan, S. Deniz, A. Hasanoğlu | Turkey

11:10–11:30 *Coffee break*

**11:30 – 12:30 Panel Discussion: Dairy&Ingredients**

12:30–13:50 *Lunch (Restaurant HARVEST, 1<sup>st</sup> floor)*

**PLENARY LECTURE** Hall Libuše + Bruncvík + Přemysl

PL2 13:50-14:40

**From Biological to Bio-Artificial Systems  
Membranes: Perspectives for Industrial Production  
and Life Science Application**

L. Giorno | Italy

14:40–15:00 *Coffee break*

**T1: NEW MEMBRANE MATERIALS AND NEW  
TRENDS**

Chairman: A. Volkov | Russian Federation

T1/SL4 15:30-15:50

**New Membranes with Immobilizing Chiral Selector  
for Racemic Mixture Separation**

J. Gaálová, P. Cuřínová, I. Stibor, P. Izák | Czech  
Republic

T1/SL5 15:50-16:10

**Polymer-Supported Chitosan Membranes for  
Pervaporation**

E. Chrzanowska, W. Kujawski, M. Gierszewska,  
E. Olewnik-Kruszkowska | Poland

T1/SL6 16:10-16:30

**Grafted Cation-Exchange Membranes Based on  
UV-Oxidized Polyaliphatic Films**

D.V. Golubenko, R.R. Shaydullin, A.B. Yaroslavtsev |  
Russian Federation

16:30–16:50 *Coffee break*

T1/SL7 16:50-17:10

**Development and Evaluation of an Antifouling  
Coating for Reverse Osmosis Membranes Which  
Can Be Applied in Modules**

S. Laghmari, P. May, M. Ulbricht | Germany

T1/SL8 17:10-17:30

### **Understanding Water Permeation Mechanism in Graphene Oxide-Based Membranes**

F. Moghadam, J.E. Shin, H.B. Park | Republic of Korea

T1/SL9 17:30-17:50

### **Gas Transport Through Defect Controlled Large Area Graphene Membranes**

J.S. Roh, H.J. Im, Y.M. Jeong, H.B. Park | Republic of Korea

## GALLERY Groundfloor

### **19:30 – 21:00 POSTER SESSION**

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*The poster session program can be found on pages 33 – 42.*

*We ask the authors to be present at their posters at least from 19:30 to 21:00.*

*The Student Award announcement will take place at the closing ceremony on Wednesday.*

**PLENARY LECTURE**

Hall Libuše + Bruncvík + Přemysl

PL1 8:30-9:20

**Advanced Membranes by Selective Swelling of Block Copolymers**

Y. Wang | China

9:20–9:40

*Coffee break***KEYNOTE LECTURE**

Chairman: V. Nikonenko | Russian Federation

KL2 9:40-10:10

**Approaches to the Synthesis of Ion-Exchange Membranes and Directed Changes in Their Transport Properties**

A. Yaroslavtsev | Russian Federation

**T4: ELECTROCHEMICAL MEMBRANE PROCESSES**

Chairman: V. Nikonenko | Russian Federation

T4/SL35 10:10-10:30

**Improving Electrochemical Production of  $H_2O_2$** 

R. Bisselink, M. Zijlstra, E. Goetheer | Netherlands

T4/SL36 10:30-10:50

**Hybrid Capacitive Deionization as an Emerging Method for Lithium Removal from Aqueous Solutions**

A. Siekierka, M. Bryjak | Poland

T4/SL37 10:50-11:10

**Zeta Potential of Ion-Exchange Membranes**T. Luxbacher<sup>1</sup>, A. E. Yaroshchuk<sup>2</sup> | <sup>1</sup>Austria, <sup>2</sup>Spain

11:10–11:30

*Coffee break***11:30 – 12:30 Panel Discussion: Gas Separations**

12:30–13:50

*Lunch (Restaurant HARVEST, 1<sup>st</sup> floor)*



**PLENARY LECTURE**

Hall Libuše + Bruncvík + Přemysl

PL2 13:50-14:40

**From Biological to Bio-Artificial Systems  
Membranes: Perspectives for Industrial Production  
and Life Science Application**

L. Giorno | Italy

14:40–15:00 *Coffee break***KEYNOTE LECTURE**

Chairman: A. Yaroslavtsev | Russian Federation

KL5 15:00-15:30

**Strategies for Drastically Improving the  
Ecoefficiency of Bipolar Membrane Electrodialysis  
During the Production of a Cranberry Juice  
Protecting the Intestinal Cell Barrier Integrity**

L. Bazinet | Canada

**T4: ELECTROCHEMICAL MEMBRANE PROCESSES**

Chairman: A. Yaroslavtsev | Russian Federation

T4/SL38 15:30-15:50

**Power Production in a Reverse Electrodialysis Pilot  
Plant with Desalination Brine and Treated Waste  
Water Effluent**M. Higa, Y. Kakihana, M. Yasukawa, T. Abo, M. Kuno,  
Y. Noguchi | Japan

T4/SL39 15:50-16:10

**Fouling Mechanisms of Ion Exchange Membranes  
and Resins in Ampholyte-Containing Food Industry  
Solutions**N. Pismenskaya<sup>1</sup>, E. Nevakshenova<sup>1</sup>, V. Sarapulova<sup>1</sup>,  
V. Nikonenko<sup>1</sup>, M. Bdiri<sup>2</sup>, L. Dammak<sup>2</sup>, S. Mikhaylin<sup>3</sup>,  
L. Bazinet<sup>3</sup> | <sup>1</sup>Russian Federation, <sup>2</sup>France, <sup>3</sup>Canada

T4/SL40 16:10-16:30

**Membrane Capacitive Desalination with Flow-  
Electrodes: Energy Recovery and Process Design  
Implications**A. Rommerskirchen, C. J. Linnartz, D. Müller, L.  
Becker, M. Wessling | Germany

16:30–16:50

Coffee break

BRUNCVÍK HALL

T4/SL41 16:50-17:10

**Can the Electrochemical Performance of Heterogeneous Ion Exchange Membranes Be Better than that of Homogeneous Membranes?**

V. Nikonenko<sup>1</sup>, N. Pismenskaya<sup>1</sup>, S. Mareev<sup>1</sup>,  
D. Butylsky<sup>1</sup>, S. Zyryanova<sup>1</sup>, K. Nebavskaya<sup>1</sup>,  
M. Cretin<sup>2</sup>, G. Pourcelly<sup>2</sup>, L. Dammak<sup>2</sup> | <sup>1</sup>Russian  
Federation, <sup>2</sup>France

T4/SL42 17:10-17:30

**How Electrodialysis Configuration Influences Whey Deacidification and Membrane Scaling**

G. Dufton, S. Mikhaylin, S. Gaaloul, L. Bazinet |  
Canada

T4/SL43 17:30-17:50

**Electrodialysis-Based Desalination and Reuse of Polymer-Flooding Produced Water**

P.A. Sosa-Fernandez, J.S. Post, H. Bruning, F.  
Leermakers, H. Rijnaarts | Netherlands

GALLERY Groundfloor

**19:30 – 21:00 POSTER SESSION**

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GALLERY

## PLENARY LECTURE

Hall Libuše + Bruncvík + Přemysl

PL1 8:30-9:20

### **Advanced Membranes by Selective Swelling of Block Copolymers**

Y. Wang | China

9:20-9:40

*Coffee break*

## KEYNOTE LECTURE

Chairman: S. Melnikov | Russian Federation

KL3 9:40-10:10

### **Biopolymeric Membranes: A Contribution for a Circular Economy?**

J. G. Crespo, I. Coelho | Portugal

## **T5: MEMBRANE SYSTEMS IN WATER TREATMENT, BIOTECHNOLOGY AND BIOMEDICAL APPLICATIONS**

Chairman: S. Melnikov | Russian Federation

T5/SL54 10:10-10:30

### **Industrial Waste Water Recycling and Energy Conservation Using High Temperature RO Membranes**

R. Franks, J. De la Cruz, C. Bartels, G. Van Gils | USA  
Presentation: I. Lásková | Czech Republic

T5/SL55 10:30-10:50

### **Reactive Retention of Tetracycline onto Functionalized Cellulose Acetate Membranes**

A.M. Pandele, S.L. Voicu | Romania

T5/SL56 10:50-11:10

### **Capacitive Deionisation for Improved Cooling Water Efficiency in Thermal Energy Plants**

W. De Schepper, J. Helsen, C. Vanschepdael, B. Jacobs | Belgium

11:10-11:30

*Coffee break*

12:30-13:50

*Lunch (Restaurant HARVEST, 1<sup>st</sup> floor)*

PL2 13:50-14:40

**From Biological to Bio-Artificial Systems  
Membranes: Perspectives for Industrial Production  
and Life Science Application**

L. Giorno | Italy

14:40–15:00 *Coffee break***T5: MEMBRANE SYSTEMS IN WATER  
TREATMENT, BIOTECHNOLOGY AND  
BIOMEDICAL APPLICATIONS**

Chairman: T. Láska | Czech Republic

T5/SL57 15:30-15:50

**Antibiofilm Properties of Biodegradable Polymer-  
Based 3D Scaffolds as Chronic-Wound Dressings**N. Bou Haidar, S. Marais, A. Marciano, E. Dé,  
J.-M. Valleton, A.C. Duncan | France

T5/SL58 15:50-16:10

**GMVP's Journey to Brine Solution**

S. Kim | Republic of Korea

T5/SL59 16:10-16:30

**Hollow Fiber Membrane Bioreactor for the  
Formation of 3D Human Liver Microtissue  
Spheroids**L. De Bartolo, H.M.M. Ahmed, S. Salerno,  
A. Piscioneri, S. Khakpour, E. Drioli, L. Giorno | Italy16:30–16:50 *Coffee break*

T5/SL60 16:50-17:10

**Tools for Visualizing and Evaluating Wetting in  
Membrane Distillation**

P. Jacob, S. Laborie, C. Cabassud | France

T5/SL61 17:10-17:30

**Electrodialysis in an Organic Medium by the  
Example of Processing Lithium Chloride from a  
Solution Containing Aprotic Organic Solvents**S. Melnikov, N. Sheldeshov, V. Zabolotsky, S. Loza,  
A. Achoh | Russian Federation

T5/SL62 17:30-17:50

**Treatment of Wastewater from Flue Gas  
Desulphurization Plant by Membrane Distillation**

A. Ali, A. Criscuoli, F. Macedonio, E. Drioli | Italy

GALLERY Groundfloor

**19:30 – 21:00 POSTER SESSION**

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GALLERY

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## KEYNOTE LECTURE

Chairman: K. Friess | Czech Republic

KL4 9:40-10:10

### Purification of Flue Gas by Means of Membranes

M. Bobák, A. Žitková, J. Vejražka, V. Červenka,  
J. Maršálek, P. Izák | Czech Republic

## T2: GAS AND VAPOR SEPARATION

Chairman: K. Friess | Czech Republic

T2/SL26 10:10-10:30

### Regeneration of TFC PA Membrane Used for Permeation of Hexane Vapours

Z. Petrusová<sup>1</sup>, L. Morávková<sup>1</sup>, V. Štefková<sup>1</sup>,  
K. Machanová<sup>1</sup>, V. Jandová<sup>1</sup>, M. Košťejn<sup>1</sup>, P. Izák<sup>1</sup>,  
J. Jansen<sup>2</sup> | <sup>1</sup>Czech Republic, <sup>2</sup>Italy

T2/SL27 10:30-10:50

### A Case Study on The Parallel Production of Biomethane and Food Grade CO<sub>2</sub> from Biogas

E. Esposito, L. Dellamuzia, U. Moretti,  
A. Fuoco, L. Giorno, J.C. Jansen | Italy

T2/SL28 10:50-11:10

### Binary Gas Separation Using Mmms Based on Graphene Oxide

V. Martin-Gil, J. Ullsperger, H. Schwarzova, K. Friess,  
Z. Sofer, V. Fila | Czech Republic

11:10–11:30 Coffee break

12:30–13:50 Lunch (Restaurant HARVEST, 1<sup>st</sup> floor)

14:40–15:00 Coffee break

## KEYNOTE LECTURE

Chairman: E. Esposito | Italy

KL6 15:00-15:30

### Advanced Membrane Materials for Targeted Gas Separations - Polymers Vs. Graphene Oxide

K. Friess, Z. Sofer, D. Bouša, M. Boháčová, M. Lanč, P. Číhal,  
M. Klepić, O. Vopička, V. Fíla, V. Martin | Czech Republic

**T2: GAS AND VAPOR SEPARATION**

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Chairman: E. Esposito | Italy

T2/SL29 15:30-15:50

**Potential of Membranes for Gas Separation in Oil Industry**

J. Lederer, J. Kocík | Czech Republic

T2/SL30 15:50-16:10

**Gas Diffusion in Polymers of Intrinsic Microporosity Vs Gas Molecular Properties**A. Fuoco<sup>1</sup>, C. Rizzuto<sup>1</sup>, E. Tocci<sup>1</sup>, M. Monteleone<sup>1</sup>, E. Esposito<sup>1</sup>, P. M. Budd<sup>2</sup>, M. Carta<sup>2</sup>, N. B. McKeown<sup>2</sup>, J. C. Jansen<sup>1</sup> | <sup>1</sup>Italy, <sup>2</sup>United Kingdom

T2/SL31 16:10-16:30

**Pure Versus Mixed Gas Permeation in Polymers of Intrinsic Microporosity (PIMs)**J. C. Jansen<sup>1</sup>, M. Monteleone<sup>1</sup>, A. Fuoco<sup>1</sup>, E. Esposito<sup>1</sup>, M. Carta<sup>2</sup>, C. G. Bezzu<sup>2</sup>, I. Rose<sup>2</sup>, B. Comesaña-Gándara<sup>2</sup>, N.B. McKeown<sup>2</sup> | <sup>1</sup>Italy, <sup>2</sup>United Kingdom

16:30–16:50

*Coffee break*

**TUESDAY, MAY 15, 2018**

LIBUŠE HALL

LIBUŠE HALL

**PLENARY LECTURE** Hall Libuše + Bruncvík + Přemysl

PL3 8:30-9:20

**New Engineered Membranes for Separation and Reaction**

K. Li | United Kingdom

9:20–9:40 *Coffee break*

**KEYNOTE LECTURE**

Chairman: D. Butylskii | Russian Federation

KL7 9:40-10:10

**Emerging Two-Dimensional Materials for Membrane Applications**

H. B. Park | Republic of Korea

**T1: NEW MEMBRANE MATERIALS AND NEW TRENDS**

Chairman: D. Butylskii | Russian Federation

T1/SL10 10:10-10:30

**Ultra-Fast Flux and High Thermally Efficiency Water Desalination by Using an Ultrathin Porous Hyflon-AD Membrane**

M.L. Perrotta, G. Saielli, G. Casella, F. Macedonio, L. Giorno, E. Drioli, A. Gugliuzza | Italy

T1/SL11 10:30-10:50

**Approach to the High Recovery BWRO**

M. Kimura, S. Hanada, J. Okabe, Y. Okamoto, A. Garg | Japan

T1/SL12 10:50-11:10

**Laser-Induced Graphene Polyethersulfone Membrane Filters: Anti-Biofouling and Anti-Microbial Properties**

S.P. Singh, Ch.J. Arnusch | Israel

11:10–11:30 *Coffee break*



**11:30 – 12:30 Panel Discussion: Biomedical Applications**

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12:30–13:50 *Lunch (Restaurant HARVEST, 1<sup>st</sup> floor)***PLENARY LECTURE** 

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Hall Libuše + Bruncvík + Přemysl

PL4 13:50-14:40

**Ion Transport in Charged Polymer Membranes**

B. D. Freeman | USA

14:40–15:00 *Coffee break***T1: NEW MEMBRANE MATERIALS AND NEW TRENDS**

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Chairman: M. Kimura | Japan

T1/SL13 15:00-15:20

**Zif-8 Particle Size Effects on Reverse Osmosis Performance of Polyamide Thin-Film Nanocomposite Membranes: Importance of Particle Adhesion**

T.H. Lee, J.Y. Oh, H.B. Park | Republic of Korea

T1/SL14 15:20-15:40

**Investigation of Undulation of Homogeneous Ion-Exchange Membranes Surface**D.Yu. Butylskii<sup>1</sup>, S.A. Mareev<sup>1</sup>, C. Larchet<sup>2</sup>, L. Dammak<sup>2</sup>, N.D. Pismenskaya<sup>1</sup>, V.V. Nikonenko<sup>1</sup> |  
<sup>1</sup>Russian Federation, <sup>2</sup>France

T1/SL15 15:40-16:00

**Application of Novel Polyethyleneoxide-Based Diblock Copolymers as Material or Additive for Ultrafiltration Membranes**

J. Gaalken, M. Ulbricht | Germany

T1/SL16 16:00-16:20

**Influence of Different Photocatalytic Dopants in the Antifouling Performance of a New Generation of MFC Membranes**R. Bahamonde<sup>1,2</sup>, P. Luis<sup>1</sup> | <sup>1</sup>Belgium, <sup>2</sup>Ecuador

**PLENARY LECTURE**

Hall Libuše + Bruncvík + Přemysl

PL3 8:30-9:20

**New Engineered Membranes for Separation and Reaction**

K. Li | United Kingdom

9:20-9:40

*Coffee break***KEYNOTE LECTURE**

Chairman: T. Jiříček | Czech Republic

KL8 9:40-10:10

**Main Directions in Electromembrane Processes**

P. Křížánek | Czech Republic

**T4: ELECTROCHEMICAL MEMBRANE PROCESSES**

Chairman: T. Jiříček | Czech Republic

T4/SL44 10:10-10:30

**Ions' Transport Through Ion Exchange Membranes in the Systems Used to Obtaining Organic Acids and Bases by Bipolar Electrodialysis**

N. Sheldeshov, V. Zabolotskiy, K. Lebedev, N. Kovalev | Russian Federation

T4/SL45 10:30-10:50

**Effect of Alkali Attack on Anion-Exchange Membrane: Performance Reduction and Its Mechanism**

S. Doi, M. Yasukawa, Y. Kakihana, M. Higa | Japan

T4/SL46 10:50-11:10

**Separation of Diluate and Concentrate Stream in Shock Electrodialysis Unit**

J. Kosina | Czech Republic

11:10-11:30

*Coffee break***11:30 – 12:30 Panel Discussion: Zero Liquid Discharge**

12:30-13:50

*Lunch (Restaurant HARVEST, 1<sup>st</sup> floor)*

PL4 13:50-14:40

**Ion Transport in Charged Polymer Membranes**

B. D. Freeman | USA

14:40–15:00 *Coffee break***T4: ELECTROCHEMICAL MEMBRANE PROCESSES**

Chairman: J. Kosina | Czech Republic

T4/SL47 15:00-15:20

**Experimental and Modeling Study of Recovery of Sulphuric Acid from Lead Batteries Waste Solutions by Means of Diffusion Dialysis**

Šeda L., Čopák L. | Czech Republic

T4/SL48 15:20-15:40

**A Novel Micro-Monolithic Solid Oxide Fuel Cells (SOFCs)**

M.F. Rabuni, T. Li, K. Li | United Kingdom

T4/SL49 15:40-16:00

**Optimization of Porous Material in Shock Electrodes Unit**

J. Čížek, J. Marek, J. Kosina, J. Sláma | Czech Republic

T4/SL50 16:00-16:20

**Recycling Sulphuric Acid and Sodium Hydroxide by Industrial Scale Bipolar Electrodes Unit**

T. Jiříček, J. Fehér, M. Amrich, D. Neděla, F. Toman, B. Velen, J. Cakl, J. Kroupa | Czech Republic

## **PLENARY LECTURE**

Hall Libuše + Bruncvík + Přemysl

PL3 8:30-9:20

### **New Engineered Membranes for Separation and Reaction**

K. Li | United Kingdom

9:20–9:40

*Coffee break*

## **KEYNOTE LECTURE**

Chairman: F. Lipnizki | Sweden

KL9 9:40-10:10

### **Resource Recovery from Wastewater and Urine Using Membrane Technology**

F. Volpin, S. Phuntsho, H.K. Shon | Australia

## **T3: PRESSURE DRIVEN MEMBRANE PROCESSES**

Chairman: F. Lipnizki | Sweden

T3/SL32 10:10-10:30

### **Fluorides Removal from Contaminated Groundwater by the Means of Reverse Osmosis and Nanofiltration**

M. Bystrianský, M. Šír, Z. Honzajková, R. Vurm, P. Hrychová, A. Bervic, M. Kubal | Czech Republic

T3/SL33 10:30-10:50

### **Analysis of Deposit Layer Formation in Hollow Fiber Membranes (HFM) During Milk Protein Fractionation**

R. Schopf, U. Kulozik | Germany

T3/SL34 10:50-11:10

### **Membrane Processes for Protein Recovery: Present and Future**

F. Lipnizki, M. Rayner | Sweden

11:10–11:30

*Coffee break*

12:30–13:50

*Lunch (Restaurant HARVEST, 1<sup>st</sup> floor)*

PL4 13:50-14:40

**Ion Transport in Charged Polymer Membranes**

B. D. Freeman | USA

14:40–15:00 *Coffee break*

**T8: GENERAL SESSION AND NEW TRENDS**

Chairman: R. Schopf | Germany

T8/SL83 15:00-15:20

**Mega's Technological Solution for the Dairy Industry**

M. Jirdásek, Z. Petráš | Czech Republic

T8/SL84 15:20-15:40

**Marie Skłodowska-Curie Actions - Opportunities for PhD Students and Post-Docs in Horizon 2020**

P. Fedorová | Czech Republic

## KEYNOTE LECTURE

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Chairman: M. Bobák | Czech Republic

KL10 9:40-10:10

### **Artificial Water Channels**

M. Barboiu | France

## T8: GENERAL SESSION AND NEW TRENDS

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Chairman: M. Bobák | Czech Republic

T8/SL77 10:10-10:30

### **Advances in Liquid Breakthrough of Hydrophobic Membranes at High Temperature: A Study of the Temperature Dependency**

F. Varela-Corredor, S. Bandini | Italy

T8/SL78 10:30-10:50

### **3D Printed Feed Channel Spacers for Spiral Wound Membrane Module**

W.S. Tan, J. An, C.K. Chua, A.G. Fane, T.H. Chong | Singapore

T8/SL79 10:50-11:10

### **Development of a Hydrogen Impurity Enrichment Device Using Pd-alloy Membranes to Support the Growing Hydrogen Economy**

M. Plunkett, A. Murugan, K. Li | United Kingdom

11:10-11:30

*Coffee break*

### **PLENARY LECTURE** Hall Libuše + Bruncvík + Přemysl

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PL5 8:30-9:20

#### **Carbon Utilization Initiatives and Membrane Research in Korea**

K.-H. Lee, J.H. Kim, J.N. Choi | Republic of Korea

9:20–9:40 *Coffee break*

### **T1: NEW MEMBRANE MATERIALS AND NEW TRENDS**

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Chairman: N.B. McKeown | United Kingdom

T1/SL17 10:10-10:30

#### **Glass Fiber Membranes with Omniphobic Surface Reached by Effective Deposition of Zinc Oxide Nanoparticles: Great Potential for Membrane Contactor Applications**

Ch-H. Chen, L-H. Chen, A. Huang, K-L. Tung | Taiwan

T1/SL18 10:30-10:50

#### **Development of Antifouling Polyamide-Fullerenol Thin Film Nanocomposite Hollow Fiber Membranes**

T. Plisko<sup>1</sup>, A. Liubimova<sup>1</sup>, A. Bilyukevich<sup>1</sup>, A. Penkova<sup>2</sup> | <sup>1</sup>Belarus, <sup>2</sup>Russian Federation

T1/SL19 10:50-11:10

#### **Nanostructured Filtration Materials**

D. Kimmer, I. Vincent, L. Lovecka, M. Kovarova, J. Chmelensky | Czech Republic

11:10–11:30 *Coffee break*

### **T1: NEW MEMBRANE MATERIALS AND NEW TRENDS**

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Chairman: N.B. McKeown | United Kingdom

T1/SL20 11:30-11:50

#### **Preparation of Ion Exchange Foils by Molding**

J. Sláma, J. Marek, J. Čížek, J. Kosina | Czech Republic

T1/SL21 11:50-12:10

## Recent Developments in Polymers of Intrinsic Microporosity for Advanced Separations

P.M. Budd | United Kingdom

T1/SL22 12:10-12:30

### Mechanically Enhanced Electrospun Polyamide-6 Nanofiber Composite Membranes for Liquid Filtration

F. Yalcinkaya, B. Yalcinkaya, J. Hruza, P. Hrabak | Czech Republic

12:30–13:50

Lunch (Restaurant HARVEST, 1<sup>st</sup> floor)

## T1: NEW MEMBRANE MATERIALS AND NEW TRENDS

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Chairman: T. Plisko | Belarus

T1/SL23 13:50-14:10

### Ultrapermearable Polymers of Intrinsic Microporosity (PIMs) for Gas Separation Membranes

N. B. McKeown, C. G. Bezzu, M. Carta, I. Rose, J. Chen, B. Comesaña-Gándara<sup>1</sup>, A. Fuoco<sup>2</sup>, E. Esposito<sup>2</sup>, J C. Jansen<sup>2</sup> | <sup>1</sup>United Kingdom, <sup>2</sup>Italy

T1/SL24 14:10-14:30

### Fabrication of PSF/PEI/Al<sub>2</sub>O<sub>3</sub> Ultrafiltration Membranes and Their Application in Apple Juice Clarification

S. Severcan, S. Saki, K. Kahraman, N. Uzal | Turkey

T1/SL25 14:30-14:50

### Development of Polymeric Nanofiltration Membranes for Sustainable Applications

S.P. Sun | China

14:50–15:10

Coffee break

## 15:10 CLOSING CEREMONY

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Hall Libuše + Bruncvík + Přemysl



## PLENARY LECTURE

Hall Libuše + Bruncvík + Přemysl

PL5 8:30-9:20

### **Carbon Utilization Initiatives and Membrane Research in Korea**

K.-H. Lee, J.H. Kim, J.N. Choi | Republic of Korea

9:20-9:40

*Coffee break*

## KEYNOTE LECTURE

Chairman: Z. Slouka | Czech Republic

KL11 9:40-10:10

### **Designing Microporous Membranes for CO<sub>2</sub> Capture**

E. Tocci | Italy

## T7: MODELLING AND SIMULATION OF MEMBRANE SYSTEMS

Chairman: Z. Slouka | Czech Republic

T7/SL71 10:10-10:30

### **Characterization of Nanofiltration Membrane and Its Application for the Separation of Heavy Metals from Wastewater**

E. Wallace, J. Cuhorka, P. Mikulášek | Czech Republic

T7/SL72 10:30-10:50

### **Mechanic-Thermodynamic Model of Ion-Exchange Membrane Swelling**

A. Kozmai, V. Nikonenko, S. Zyryanova, A. Klevtsova | Russian Federation

T7/SL73 10:50-11:10

### **Water Splitting in an Electric Field**

D. Šnita | Czech Republic

11:10-11:30

*Coffee break*

## **T7: MODELLING AND SIMULATION OF MEMBRANE SYSTEMS**

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Chairman: Z. Slouka | Czech Republic

T7/SL74 11:30-11:50

### **Simulation and Optimization of a Direct Solar-Heating Vacuum Membrane Distillation System**

Q. Ma, A. Ahmadi, C. Cabassud | France

T7/SL75 11:50-12:10

### **Computational Design of Nanoporous Materials for Water Desalination**

F. Raffone, F. Risplendi, S. Savazzi, G. Cicero | Italy

T7/SL76 12:10-12:30

### **Modification of the Microheterogeneous Model of Ion-Exchange Membrane Taking into Account Internal Electrical Double Layer**

V. Nichka, S. Mareev, M. Porozhnyy, S. Shkirskeya, V. Nikonenko | Russian Federation

12:30–13:50

*Lunch (Restaurant HARVEST, 1<sup>st</sup> floor)*

## **T4: ELECTROCHEMICAL MEMBRANE PROCESSES**

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T4/SL51 13:50-14:10

### **Whey Demineralization by Electrodialysis with Pulsed Electric Field: A More Ecoefficient Approach**

N. Lemay, S. Mikhaylin, L. Bazinet | Canada

T4/SL52 14:10-14:30

### **Particle Image Velocimetry Method for Tracing Vortices On Ion-Exchange Systems**

T. Belloň, J. Vejražka, Z. Slouka | Czech Republic

T4/SL53 14:30-14:50

### **Visualization of Electrokinetic Processes Occurring During Measurement of Current-Voltage Characteristics**

T. Belloň, P. Polezhaev, Z. Slouka | Czech Republic

14:50–15:10

*Coffee break*

## **15:10 CLOSING CEREMONY**

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Hall Libuše + Bruncvík + Přemysl

## PLENARY LECTURE

Hall Libuše + Bruncvík + Přemysl

PL5 8:30-9:20

### **Carbon Utilization Initiatives and Membrane Research in Korea**

K.-H. Lee, J.H. Kim, J.N. Choi | Republic of Korea

9:20-9:40

*Coffee break*

## KEYNOTE LECTURE

Chairman: S. Rogenbuke | Turkey

KL12 9:40-10:10

### **Membrane Applications and Opportunities in the Oil & Gas Industry**

S. Adham, A. Hussain, J. Minier-Matar, A. Janson | Qatar

## T6: MEMBRANE OPERATIONS IN PROCESS ENGINEERING

Chairman: S. Rogenbuke | Turkey

T6/SL63 10:10-10:30

### **Improving Performance of Membrane Gas Separation by Novel Unsteady-State Pulsed Retentate Modes**

I. Vorotyntsev, M. Trubyanov, A. Atlaskin, E. Puzonov, S. Battalov, T. Sazanova, P. Drozdov, V. Vorotyntsev | Russian Federation

T6/SL64 10:30-10:50

### **Morphology of the Active Polyamide Skin Layer of Reverse Osmosis Membranes**

V. Pipich<sup>1</sup>, K. Schlenstedt<sup>1</sup>, M. Dickmann<sup>1</sup>, Y. Oren<sup>2</sup>, R. Kasher<sup>2</sup>, J. Meier-Haack<sup>1</sup>, Ch. Hugenschmidt<sup>1</sup>, W. Petry<sup>1</sup>, D. Schwahn<sup>1</sup> | <sup>1</sup>Germany, <sup>2</sup>Israel

T6/SL65 10:50-11:10

### **Calcium Phosphate Scaling During Wastewater Desalination on RO and NF Membranes Studied by Oligoamide Surfaces**

K. Rathinam<sup>1</sup>, Y. Oren<sup>1</sup>, W. Petry<sup>2</sup>, D. Schwahn<sup>2</sup>, R. Kasher<sup>1</sup> | <sup>1</sup>Israel, <sup>2</sup>Germany

11:10–11:30

Coffee break

## **T6: MEMBRANE OPERATIONS IN PROCESS ENGINEERING**

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Chairman: S. Rogenbuke | Turkey

T6/SL66 11:30-11:50

### **Prevent Membrane Fouling by Selecting Appropriate Dense Membranes**

M. Michaud, C. Charcosset, D. Mangin, E. Chabanon | France

T6/SL67 11:50-12:10

### **Recovery of Salts from Waste Streams from Anodising Industry by Membrane Crystallization**

J. H. Jacobsen<sup>1</sup>, H. C. Jensen<sup>1</sup>, A. Ali<sup>2</sup>, M. L. Christensen<sup>1</sup>, C. A. Quist-Jensen<sup>1</sup> | <sup>1</sup>Denmark, <sup>2</sup>Italy

12:30–13:50

Lunch (Restaurant HARVEST, 1<sup>st</sup> floor)

## **T6: MEMBRANE OPERATIONS IN PROCESS ENGINEERING**

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Chairman: D. Schwahn | Germany

T6/SL68 13:50-14:10

### **Residence Time of Milk Concentrates During Rinsing of Spiral Wound Membranes (UF) With Water**

I. Kieferle<sup>1</sup>, U. Kulozik | Germany

T6/SL69 14:10-14:30

### **Concentration of Fruit Juices in a Hybrid Process of Osmotic Distillation and Membrane Distillation**

S. Rogenbuke, A. Hasanoğlu | Turkey

T6/SL70 14:30-14:50

### **Improved Recovery of Seawater Desalination by Energy-Efficient Reverse Osmosis (EERO) Process**

T.H. Chong, S. Lee, S. Goh, S.R. Suwarno | Singapore

14:50–15:10

Coffee break

## **15:10 CLOSING CEREMONY**

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Hall Libuše + Bruncvík + Přemysl

## KEYNOTE LECTURE

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Chairman: M. Bleha | Czech Republic

KL13 9:40-10:10

### **New Membrane Materials**

W. Kujawski, J. Kujawa, M. Bryjak | Poland

## T8: GENERAL SESSION AND NEW TRENDS

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Chairman: M. Bleha | Czech Republic

T8/SL80 10:10-10:30

### **Nanostructured Dual Layer Polymeric Membranes Prepared by Combined Crystallisation & Diffusion (CCD) Technique**

V. Shah, B. Wang, K. Li | United Kingdom

T8/SL81 10:30-10:50

### **Comparative Life Cycle Assessment of Cranberry Juice Deacidification by Electrodialysis With Bipolar Membrane and Calcium Carbonate Treatments**

S. Mikhaylin, M. Faucher, L. Henaux, M. Margni, L. Bazinet | Canada

T8/SL82 10:50-11:10

### **Membrane Condenser for Improved Water Efficiency in Cooling Towers**

F. Macedonio, M. Frappa, A. Brunetti, G. Barbieri, E. Drioli | Italy

11:10-11:30

*Coffee break*

MONDAY, MAY 14, 2018

GALLERY, *Ground floor*

19:30-21:00

**T1: NEW MEMBRANE MATERIALS AND NEW TRENDS**

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T1/P1

**Alternative Routes to Polyimides with Specific Properties**

H. Kulhánková, P. Sysel | Czech Republic

T1/P2

**Development of Ion Exchange Membrane with Antimicrobial Additives**

K. Keslerová, L. Dvořák, E. Stránská | Czech Republic

T1/P3

**Development of Polymethylpentene-Based Membrane Material for 3D Printing**D. Bakhtin, V. Igantenko, A. Kostyuk, S. Ilyin, S. Antonov, A. Volkov | Russian Federation

T1/P4

**Electrochemical and Mass Exchange Characteristics of the Heterogeneous Anion-Exchange Membrane, Modified by Poly-N,N-Diallyl Morpholinium**V.I. Zabolotsky, D.A. Bondarev, A.V. Bespalov, S.S. Melnikov | Russian Federation

T1/P5

**Graphene Oxide Membranes for Water Purification**

A. Pedico, A. Lamberti, S. Bianco, S. Kara, M. Fontana, M. Periolatto, V. Martignoni, F. Pirri, E. Tresso | Italy

T1/P6

**Ion Exchange Carbon-Carbon Membranes for Water Filtration and Purification**

N. Rusova, O. Astashkina, A. Lysenko | Russian Federation

T1/P7

**Modification of Sulfonated Polyethersulfone Membrane by ZnO-APTES Nanoparticles to Mitigate Biofouling**

Z. Gončuková, M. Řezanka, J. Dolina, L. Dvořák | Czech Republic

T1/P8

**Novel Semi-Alicyclic Polyimide Membranes: Synthesis, Characterization, and Gas Separation Perties**

J. Kim, C. Park, B. Chang, S. Moon | Republic of Korea

T1/P9

**N-Phosphorilated Polybenzimidazole as a Membrane for Fuel Cell Applications**

A.A. Lysova, Iv.I. Ponomarev, Yu.A. Volkova, A.B. Yaroslavtsev | Russian Federation

T1/P10

**Preparation of Hydrophobic Ceramic Membrane and Application in Vacuum Membrane Distillation and Membrane Crystallization**Ch-Ch. Ko<sup>1</sup>, K-L. Tung<sup>1</sup>, E. Drioli<sup>2</sup> | <sup>1</sup>Taiwan, <sup>2</sup>Italy, Republic of Korea, Saudi Arabia

T1/P11

**Preparation of Polysulfone-Pluronic F127 Membranes with Enhanced Antifouling Performance**K. S. Burts<sup>1</sup>, T. V. Plisko<sup>1</sup>, A. V. Bilydukevich<sup>1</sup>, A. V. Penkova<sup>2</sup> | <sup>1</sup>Belarus, <sup>2</sup>Russian Federation

T1/P12

**The Effects of Surface Morphology on the Electrochemical Characteristics of a Homogeneous Anion-Exchange Membrane Modified with an Inert Hydrophobic Material**S. Zyryanova<sup>1</sup>, E. Korzhova<sup>2</sup>, D. Lopatin<sup>1</sup>, D. Butylskii<sup>1</sup>, V. Nikonenko<sup>1</sup> | <sup>1</sup>Russian Federation, <sup>2</sup>France

T1/P13

**The Impact of Modified Coal with Aryldiazonium Salt on Performance of Heterogeneous Reverse Osmosis Membranes**

B.S. Thaçi, S.T.Gashi, N.M. Daci | Republic of Kosovo

T1/P14

**The Specific Contribution of Hydrophilicity and Surface Charge to Antifouling of RO Membranes**

A. Kalman, T. Coves, R. Kasher | Israel

T1/P15

**Transport Properties of Hybrid Membranes Based on Polybenzimidazoles and Sulfonated Silicas**I.A. Stenina, A.A. Lysova, I.I. Ponomarev,  
A.B. Yaroslavtsev | Russian Federation

T1/P16

**Use of Heterocyclic Aromatic Compounds for Modification of PES Membrane**

L. Dvořák, J. Dolina | Czech Republic

T1/P17

**Use of Silver Nanoparticles for Modification of Commercial Polyethersulfone Membranes to Control Biofouling**

J. Dolina, L. Dvořák | Czech Republic

*<sup>1</sup>Institute for Nanomaterials, Advanced Technologies and Innovation, Technical University of Liberec, Bendlova 7, 460 01 Liberec, Czech Republic***T2: GAS AND VAPOR SEPARATION**

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T2/P18

**Advanced Hybrid Membranes Consisting of Nanodiamonds and P84 Copolyimide for the Hydrogen Enrichment**A. Pulyalina<sup>2</sup>, L. Brožová<sup>1</sup>, Z. Pientka<sup>1</sup>, A. Toikka<sup>2</sup>,  
G. Polotskaya<sup>2</sup> | <sup>1</sup>Czech Republic, <sup>2</sup>Russian Federation

T2/P19

**CO<sub>2</sub>/CH<sub>4</sub> Binary Gas Separation Using MMMs Based on 6FDA Polyimide and SSZ-16 Zeolite**V. Martin-Gil, T. Supiňková, P. Lambert, M. Z. Ahmad,  
R. Castro-Muñoz, P. Hrabanek, M. Kočířík, V. Fila |  
Czech Republic

T2/P20

**Gases High Purification by Membrane Gas Separation. Theory and Practice.**

V. Vorotyntsev | Russian Federation



T2/P21

**Purification of Methane Based Binary and Ternary Gas Mixtures from Acid Gases by Silms**

I. Vorotyntsev, A. Akhmetshina, A. Atlaskin,  
A. Vorotyntsev, A. Mechergui, K. Otvagina,  
A. Petukhov | Russian Federation

T2/P22

**Hollow Fiber Membrane Prepared from Polyimide Blends**

R. Válek, D. Malý, J. Peter | Czech Republic

T2/P23

**Hydrophilic Materials Embedded into Polyimides for Pervaporation Applications**

R. Castro-Muñoz<sup>1,2</sup>, O. de la Iglesia<sup>1</sup>, V. Fíla<sup>2</sup>,  
C. Téllez<sup>1</sup>, J. Coronas<sup>1</sup> | <sup>1</sup>Spain, <sup>2</sup>Czech Republic

T2/P24

**Improving Diffusion Penalty of Graphene Oxide Membranes by Nanopockets**

J. E. Shin, H. S. Park, H. B. Park | Republic of Korea

T2/P25

**Role of Surface Modification in Dual-Phase Membrane on the Oxygen Permeation Flux**

Y. Kwon, B.T. Na, J.H. Park, K.S. Yun, J.H. Yu, J.H. Joo | Republic of Korea

T2/P26

**Vapour Permeation Much More Selective Than Pervaporation: Observed for CTA Based Polymer Membranes**

P. Cihal, O. Vopicka, K. Friess | Czech Republic

**T3: PRESSURE DRIVEN MEMBRANE PROCESSES**

T3/P27

**Combined Electrodeposition and Nanofiltration for Removal of Zinc from Industrial Wastewater**

V. Kočanová, J. Cuhorka, L. Dušek, P. Mikulášek,  
L. Novotný | Czech Republic

T3/P28

**Polymeric, Inorganic and Hybrid Membranes for Hydrogen Peroxide Ultrapurification**R. Abejón<sup>1</sup>, H. Nagasawa<sup>2</sup>, A. Garea<sup>1</sup>, A. Irabien<sup>1</sup>, T. Tsuru<sup>2</sup> | <sup>1</sup>Spain, <sup>2</sup>Japan

T3/P29

**Turbulence Promoters for the Intensification of Ultrafiltration Process**S. Popović<sup>1</sup>, M. Karadžić, J. Cakić<sup>2</sup> | <sup>1</sup>Serbia, <sup>2</sup>Czech Republic**T4: ELECTROCHEMICAL MEMBRANE PROCESSES**

T4/P30

**Computed Microtomography of Heterogeneous Ion-Exchange Membranes**

L. Vobecká, M. Svoboda, J. Beneš, Z. Slouka | Czech Republic

T4/P31

**Current –Voltage Characteristics of Anion Exchange Membrane Before and after Contact with Solutions of Tatrates and Phosphates**

O. Rybalkina, E. Nevakshenova, N. Pismenskaya | Russian Federation

T4/P32

**Influence of the Solution Flow Velocity on the Shape of Current-Voltage Curves in AEM/NaH<sub>2</sub>PO<sub>4</sub> System**

O. Rybalkina, K. Tsygurina, E. Melnikova, N. Pismenskaya | Russian Federation

T4/P33

**Development of Pore-Filled Anion-Exchange Membranes for Efficient Energy Conversion Processes**

D.-H. Kim, J.-E. Lee, B.-S. Kang, J.-S. Park, M.-S. Kang | Republic of Korea

T4/P34

**Fabrication and Characterizations of Pore-Filled Ion-Exchange Membranes for Efficient Reverse Electrodialysis**

D.-H. Kim, B.-S. Kang, M.-S. Kang | Republic of Korea

T4/P35

**Membrane Capacitive Deionization Employing Pore-Filled Ion-Exchange Membranes for Energy-Efficient Desalination**D.-H. Kim, Y.-E. Choi, J.-E. Lee, J.-S. Park, M.-S. Kang  
| Republic of Korea

T4/P36

**Influence Ionic Groups of the Ion Exchanger on the Selectivity of the Bipolar Membrane**N. Kovalev, T. Mochalova, N. Sheldeshov, K. Lebedev,  
V. Zabolotskiy | Russian Federation

T4/P37

**Interaction of Charged Biopolymers with Single Ion-Exchange Resin Particles**

P. Polezhaev, T. Bellon, Z. Slouka | Czech Republic

T4/P38

**Mussel-Inspired Modification of Cation Exchange Membrane for Monovalent Selective Separations**J. Li <sup>1</sup>, B. Van der Bruggen<sup>1,2</sup> | <sup>1</sup>Belgium, <sup>2</sup>South Africa

T4/P39

**Prediction of Potassium Bitartrate Saturation Temperature in Wines**

D. Tvrzník | Czech Republic

T4/P40

**Production and One-Step Purification of Pediocin PA-1 By Electrodialysis with Membrane Filtration**H. Gaudreau<sup>1</sup>, I. Fliss<sup>1</sup>, J. Gulon<sup>1</sup>, E. Rozoy<sup>1</sup>,  
B. Fernandez<sup>1</sup>, D. Drider<sup>2</sup>, N. Nedjar-Arroume<sup>2</sup>,  
P. Dhulster<sup>2</sup>, L. Bazinet<sup>1</sup> | <sup>1</sup>Canada, <sup>2</sup>France

T4/P41

**Recovery and Concentration of Tartaric Acid by Electrodialysis from Lees Model Solutions**X. Vecino, M. Reig, J. López, C. Valderrama, O. Gibert,  
J.L. Cortina | Spain

T4/P42

**Study of Electrochemical and Electrokinetic Behavior of Ion-Exchange Membranes Depending on the Electrolyte Concentration**

T. Belloň, Z. Slouka | Czech Republic

T4/P43

**The Effect of Size and Charge of Counterions on the Behavior of a Cation-Exchange Membrane**

T. Belloň, P. Polezhaev, Z. Slouka | Czech Republic

T4/P44

**Transport Characteristics of Homogeneous Ion Exchange Membranes in NaCl and CaCl<sub>2</sub> Solutions**

V. Sarapulova, V. Titorova, N. Pismenskaya, I. Shkorkina | Russian Federation

T4/P45

**Transport of Orthophosphoric Acid Anions Across an Anion-Exchange Membrane. Modeling and Experiment.**N. Pismenskaya<sup>1</sup>, V. Nikonenko<sup>1</sup>, E. Melnikova<sup>1</sup>, V. Sarapulova<sup>1</sup>, O. Rybalkina<sup>1</sup>, P. Sizat<sup>2</sup>, G. Pourcelly<sup>2</sup> | <sup>1</sup>Russian Federation, <sup>2</sup>France

T4/P46

**Electroconvection in Systems with Heterogeneous Ion-Exchange Membranes**V.I. Zabolotsky<sup>1</sup>, L. Novak<sup>2</sup>, A.V. Kovalenko<sup>1</sup>, V.V. Nikonenko<sup>1</sup>, M.K. Urtenov<sup>1</sup>, A.Y. But<sup>1</sup> | <sup>1</sup>Russian Federation, <sup>2</sup>Czech Republic**T5: MEMBRANE SYSTEMS IN WATER TREATMENT, BIOTECHNOLOGY AND BIOMEDICAL APPLICATIONS**

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T5/P47

**Block Copolymer Membranes Bearing Specific Chiral Selectors for Enantioseparation of Ibuprofen**

J. Žitka, M. Otmar, L. Brožová, P. Izák, M. Jurášek, M. Kohout, P. Sysel, A. Randová, Š. Hovorka | Czech Republic

T5/P48

**Electrodialysis as a Part of Integrated Membrane Process for Landfill Leachate Treatment**

M. Kulhavý, J. Cakl, L. Václavík, J. Maršálek | Czech Republic

T5/P49

**Membrane Based Zero Liquid Discharge Process for Pulp Mill Wastewater**

W. Li, W. Xing | China

T5/P50

**PVDF/PBSA Membranes with Strongly Coupled Phosphonium Derivatives and Graphene Oxide on the Surface Towards Antibacterial and Antifouling Activities**

P. K. Samantaray, G. Madras, S. Bose | India

T5/P51

**Regulation of Drug Permeability Through PDMS-Based Composite Matrices: Analysis with the Maxwell Model for Binary Systems**

K.G. Papadokostaki, M. Tsoka, M. Sanopoulou | Greece

T5/P52

**Slaughterhouse By-Product Electroseparation for Peptide Production as Food Preservative on Meat**R. Przybylski<sup>1</sup>, L. Bazinet<sup>2</sup>, L. Firdaous<sup>1</sup>, M. Kouach<sup>1</sup>, J.-F. Goossens<sup>1</sup>, P. Dhulster<sup>1</sup>, N. Nedjar<sup>1</sup> | <sup>1</sup>France, <sup>2</sup>Canada

T5/P53

**Study on the Effect of Supported [BMIm][PF<sub>6</sub>] Ionic Liquid and Nafion Membranes Used in Microbial Electrochemical Cells**

L. Koók, B. Kaufer, T. Rózsensberszki, P. Bakonyi, K. Bélafi-Bakó, N. Nemestóthy | Hungary

**T6: MEMBRANE OPERATIONS IN PROCESS ENGINEERING**

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T6/P54

**A Chemical Free Scale Inhibition Method for Seawater Reverse Osmosis Membrane Process: Air Micro-Nano Bubble**

A. Jang, H.N.P. Dayarathne, S. Jeong, S. Kang | Republic of Korea

T6/P55

**Change in Osmotic Pressure of Milk Whey in Stages of Membrane Processing Technology**

O. Dymar | Belarus

T6/P56

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R. Abejón, J. Rabadán, A. Garea, A. Irabien | Spain

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B. De Jaegher, W. De Schepper, A. Verliefde, I. Nopens | Belgium

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**Nafion-M (M=Li<sup>+</sup>, Na<sup>+</sup>) Membranes Intercalated by Polar Aprotic Solvents. Ionic Conductivity**

D.Yu. Voropaeva, S.A. Novikova, A.B. Yaroslavtsev | Russian Federation