



ORAL PROGRAMME

Monday, 9<sup>th</sup> July 2018

16:00-20:00	Registration
20:00	Welcome Reception

Tuesday, 10<sup>th</sup> July 2018

8:30-8:45	Opening Ceremony
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8:45-9:30	<p>PLENARY LECTURE: <b>Barriers to the Development of New Membrane. Gas Separation Applications.</b>  Richard W. Baker (Membrane Technology and Research, Inc., U.S.A.)  Session chair: Joao G. Crespo, Auditorium 1</p>				
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Location	Auditorium 1	Auditorium 2	Auditorium 3A	Auditorium 3B	Sala / Room 1+2
Topic	Patrick Meares Symposium	Gas & vapor separation I	Mixed matrix membranes I	Membrane reactors and bioreactors I	Micro-and Ultrafiltration I
Chairs	EMS council	P. Izak, A. Volkov	V. Chen, T. Schäfer	M. Menéndez, R. Wickramasinghe	A. Drews, M. Rabiller-Baudry
9:30-10:00	Patrick Meares Prize Symposium	<b>Keynote lecture 1:</b> [99] A.Volkov*, I.Borisov, S.Bazhenov, P.M.Budd, V.Volkov. * A.V. Topchiev Institute of Petrochemical Synthesis RAS, Russia.	<b>Keynote lecture 2:</b> [469] G. Mendes, M. Faria*, M. C. Gonçalves, M. N. de Pinho. *CeFEMA, Instituto Superior Técnico, Universidade de Lisboa, Portugal.	<b>Keynote lecture 3:</b> [376] P. Durán, P. Ugarte, A. Sanz, J. Soler, M. Menéndez*, J. Herguido. * University of Zaragoza, Spain.	<b>Keynote lecture 4:</b> [723] A. Drews*, A. Heyse, N. Xander, T. Skale. * School of Life Science Engineering, Berlin, Germany.
10:00-10:20		[135] L.A. McNeil*, G.A. Mutch, E.I. Papaioannou, I.S. Metcalfe. * Newcastle University, United Kingdom.	[25] M. Shan*, B. Seoane, F. Kapteijn and J. Gascon. * Delft University of Technology, The Netherlands.	[276] M.K. Jørgensen*, J.H. Sørensen, C.A. Quist-Jensen, M.L. Christensen. *Aalborg University, Denmark.	[485] S. Liu, L. Villafaña López, E. Clavijo, P. Bourseau, M. Frappart, E. Couallier*. * Université de Nantes, France.
10:20-10:40		[168] F. M. Benedetti*, E. Ricci, M. Carta, M. G. De Angelis, N. McKeown. * University of Bologna, Italy.	[125] L. Upadhyaya*, Y Chiao, R Wickramasinghe, X Qian. * University of Arkansas, USA.	[333] J. Martín-Pascual*, G. Calero-Díaz, C. López-López, J. C. Torres, J. M-Poyatos. * University of Granada, Spain.	[498] M. Hartinger*, U. Kulozik. *Technical University of Munich, Germany.
10:40-11:00		[209] Zhongde Dai*, Qiang Yu, L. Ansaloni, S. Janakiram, Jing Deng and Liyuan Deng. * Norwegian University of Science and Technology, Norway.	[38] A. Abdel-Karim, S. Leaper*, M. Alberto, A. Vijayaraghavan, X. Fan, S.M. Holmes, E.R. Souaya, M. I. Badawy, P. Gorgojoa. * The University of Manchester, United Kingdom.	[70] A. R. Alkmim*, A. B. Belisário, G. M. de Almeida, M. C. S. Amaral, S. M. A. C. Oliveira. *Federal University of Minas Gerais, Brazil.	[115] M. Le Hir*, Y. Wyart, G. Georges, L. Siozade, M. Sergent, P. Moulin. *Aix Marseille Université, France.
11:00-11:30	Coffee Break				

Topic	Patrick Meares Symposium	Gas & vapor separation II	Mixed matrix membranes II	Membrane reactors and bioreactors II	Micro-and Ultrafiltration II
<b>Chairs</b>	EMS council	P. Izak, A. Volkov	V. Chen, T. Schäfer	M. Menéndez, R. Wickramasinghe	A. Drews, M. Rabiller-Baudry
11:30-11:50	Patrick Meares Prize Symposium	[254] Xiaohua Ma, Mahmoud A. Abdulhamid, Ingo Pinnau*. * King Abdullah University of Science and Technology, Kingdom of Saudi Arabia.	[349] Elsa Lasseguette*, Geo Paul, Giorgio Gatti, Maria-Chiara Ferrari. * The University of Edinburgh, United Kingdom.	[866] Anh Vu, S. R. Wickramasinghe*, X. Qian. *University of Arkansas, USA.	[719] B. Wang*, K. Li. * Imperial College London, United Kingdom.
11:50-12:10		[313] M. Minelli*, M. Boselli, D.R. Paul, G.C. Sartia. * University of Bologna, Italy.	[526] M.Z. Ahmad, T. Peters, N. M. Konnertz, T. Visser, C. Téllez, J. Coronas, V. Fila*, W. M. de Vos, N. E. Benes. * University of Chemistry and Technology, Czech Republic.	[560] L. Giorno*, G.Vitola, F. Militano, A. Yihdego Gebreyohannes, T. Poerio, R. Mazzei. *Institute on Membrane Technology ITM-CNR, Italy.	[620] P. Krzeminski*, E. Feys, M. Anglès d'Auriac, A. Wennberg, W. Uhl. * Norwegian Institute for Water Research, Norway.
12:10-12:30	Joint EFCE-EMS Award	[644] P. Ortiz-Albo*, I. Kumakiri, J.P. Crespo, L.A. Neves* *Universidade Nova de Lisboa, Portugal.	[95] A. Sabetghadam*, X. Liu, M. Benzaqui, E. Gkaniatsou, A. Orsi, M. M. Lozinska, C. Sicard, T. Johnson, N. Steunou, P. A. Wright, C. Serre, J. Gascon and Freek Kapteijn. *Delft University of Technology, The Netherlands.	[897] E. Zuriaga-Agustí*, I. Pastor, B. Hernández, M. Galián, M-M. Lorente-Ayza, M.C. Bordes, E. Sánchez, M. Abellán, P. Simón. * FACSA, Spain.	[666] V Shah*, B Wang & K Li. * Imperial College London, United Kingdom.
12:30-12:50		[366] L. Olivieri*, M. Giacinti Baschetti, D. Pizzi, L. Merlo, G. C. Sarti. *Università di Bologna, Italy.	[161] F. Weigelt*, P. Georgopanos, S. Shishatskiy, V. Filiz, T. Brinkmann, V. Abetz. *Institute of Polymer Research, Germany.	[752] N. F. Ghazali*, Q. A. Pahlawi, K. M. Hanim, N. A. Makhtar. *Universiti Teknologi Malaysia, Malaysia.	[68] M. Le Hir, Y. Wyart*, G. Georges, L. Siozade, P. Sauvade, P. Moulin. * Aix Marseille Université, France.
13:00-14:30	<b>Lunch</b>				
Topic	Sponsors session	Gas & vapor separation III	Mixed matrix membranes III	Membrane reactors and bioreactors III	Hybrid membrane processes I
<b>Chairs</b>		J.C. Jansen, L. Neves	M.C. Ferrari, S. Luque	A. Comite, T. Leiknes	A. Deratani, G. Gesan
14:30-14:50	TORAY, EUROPE MEMBRANE, POLYMEM and FUJIFILM	[888] M. Monteleone, A. Fuoco, E. Esposito, C. Rizzuto, E. Tocci, L. Giorno, N.B. McKeown, B. Comesaña Gándara, M. Carta, B. Satilmis, P.M. Budd, J.C. Jansen*. *Institute on Membrane Technology, ITM-CNR, Italy.	[268] A. Fernández-Barquín, C. Casado-Coterillo*, A. Irabien. *Universidad de Cantabria, Spain.	[812] Z. Yin, A. L. Casabuena, H. Shi, I. Xagorarakis, V.V. Tarabara*. *Michigan State University, USA.	[468] D. Linh Nguyen, M. A. Kammoun, Q. Minh Bui, F. Zaviska, P. Sizat, A. Deratani*. *Univerity of Montpellier, France.
14:50-15:10		[466] F. Şahin*, B. Topuz, H. Kalıpçılar. *Middle East Technical University, Turkey.	[507] S. Janakiram*, X. Yu, Z. Dai, L. Ansaloni, L. Deng. *Norwegian University of Science and Technology, Norway.	[9] M.F. Tay*, C. Liu, B. Wu, T.H. Chong. *Nanyang Technological University, Singapore.	[557] Ramato Ashu Tufa*, Efreem Curcio, Jaromír Hnát, Martin Paidar, Karel Bouzek. *University of Chemistry and Technology Prague, Czech Republic.

15:10-15:30	TORAY EUROPE MEMBRANE, POLYMEM and FUJIFILM	[450] Z. Petrusová*, L. Morávková, K. Machanová. *Czech Academy of Sciences, Czech Republic.	[577] M. Etxeberria-Benavides*, O. Davida, T. Johnsonb, M. M. Łozińskac, A. Orsic, P. A. Wrightc, S. Masteld, R. Hillenbrandd,e, F. Kapteijnf, J. Gasconf. *Tecnalia Research and Innovation, Spain.	[456] N. Nemesóthy*, L. Tóth, G. Tóth, P. Bakonyi, L. Gubicza, K. Belafi-Bako. *University of Pannonia, Hungary.	[655] M. Tagliavini*, A. I. Schäfer. *Karlsruhe Institute of Technology, Germany.
15:30-15:50		[394] N. Belov*, R. Nikiforov, A. Zharov, E. Polunin, Yu. Pogodina, V. Shantarovich, Yu. Yampolskii. * A.V. Topchiev Institute of Petrochemical Synthesis of RAS, Russia.	[259] W. Fam*, J. Mansouri, H. Li, J. Hou, V. Chen. *University of New South Wales, Australia.	[565] Abaynesh Y. Gebreyohannes*, M. Dharmjeet, T. Swusten, M. Mertens, J. Verspreet, T. Verbiest, C. Courtin, Ivo F.J. Vankelecom. *Centre for Surface Chemistry and Catalysis KU Leuven Chem & Tech, Belgium.	[60] X.R. Yan*, A. Favard, S. Anguille, J.L. Seguin, M. Bendahan and P. Moulin. * Aix Marseille University, France.
15:50-16:20	<b>Coffee Break</b>				
<b>Topic</b>	<b>Membranes for drinking and process water production I</b>	<b>Gas &amp; vapor separation IV</b>	<b>Mixed matrix membranes IV</b>	<b>Membrane reactors and bioreactors IV</b>	<b>Hybrid membrane processes II</b>
<b>Chairs</b>	M.N. de Pinho, G. Pourcelly	J.C. Jansen, L. Neves	M.C. Ferrari, S. Luque	A. Comité, T. Leiknes	A. Deratani, G. Gesan
16:20-16:40	[248] R. Jain, L. Dössegger and Pierre R. Bérubé*. *The University of British Columbia, Canada.	[606] A. P. Isfahani*, M. Sadeghi, E. Sivaniah, B. Ghalei. *Kyoto University, Japan.	[885] V. Martin-Gil, T. Supinkova, P. Lambert, M. Z. Ahmad, R. Castro-Muñoz, P. Hrabanek, A. Zikanova, M.Kocirik and V. Fila*. *University of Chemistry and Technology Prague, Czech Republic.	[491] Z. Maletskyi*, O. Kulesha. *Norwegian University of Life Sciences, Norway.	[670] F. Militano*, T. Poesio, R. Mazzei, L. Giorno. Institute on Membrane Technology, ITM-CNR, Italy.
16:40-17:00	[184] S.H. Park*, J.H. Kim, S.J. Moon, E. Drioli and Y.M. Lee. *Hanyang University, Republic of Korea.	[510] J. Deng*, Z. Dai, M. Sandru, L. Deng. *Norwegian University of Science and Technology, Norway.	[553] I. Fuentes*, A. Andrio, C. Viñas, F. Teixidor, V. Compañ. *Institut de Ciencia de Materials de Barcelona, ICMAB-CSIC, Spain.	[889] M. Renaudie, V. Clion, A.C. Aun, C. Dumas, B. Ernst*. *Université de Strasbourg, France.	[896] P. Schiffmann*, C. Voss. *Linde AG, Germany.
17:00-17:20	[328] M. Ramirez-Moreno, P. Zamora, J. M. Ortiz, Victor M. Monsalvo, Frank Rogalla, A. Esteve-Nuñez, Arévalo-Vilches, J*. *Aqualia, Spain.	[887] A. Fuoco*, B. Comesaña-Gándara, M. Longo, E. Esposito, M. Monteleone, I. Rose, C. G. Bezzu, M. Carta, N.B. McKeown, J.C. Jansen. *Institute on Membrane Technology, ITM-CNR, Italy.	[172] M. Tamaddondar*, K. J. Msayib, M. Carta, P. Gorgojo, N. B. McKeown, P. M. Budd. *University of Manchester, United Kingdom.	[598] I. Smets*, M.K. Jørgensen, G. Van De Staey, M.L. Christensen. *KU Leuven, Belgium.	[826] A.A. Atlaskin*, A.N. Petukhov, D.N. Shablykin, V.M. Vorotyntsev, I.V. Vorotyntsev. *Nizhny Novgorod State Technical University, Russia,

17:20-17:40	[372] Sofia Catarino, Mariana R. de Sousa, Maria Norberta de Pinho* *Universidade de Lisboa, Portugal.	[751] S. Picaud-Vannereux*, E. Favre, D. Roizard, F. Lutin. *Laboratoire Réactions et Génie des Procédés LRGP, France.	[340] K. Fischer*, A. Gawel, D. Rosen, M. Krause, A. Abdul Latif, J. Henke, I. Thomas, M. Kühnert, J. Griebel, A. Prager, A. Schulze. * Leibniz Institute of Surface Engineering, Germany.	[338] J. P. Burghardt*, A. U. Rehman, M. Ebrahimi, D. Gerlach, P. Cermak. *University of Applied Sciences Mittelhessen, Germany.	[862] F. A. Ferreira*, T. Esteves, C. A. M Afonso, F. C. Ferreira. *Instituto Superior Técnico, Universidade de Lisboa, Portugal.
17:45-19:30	<b>Poster session I: Gas and vapor separation, Mixed matrix membranes, Membrane reactors and bioreactors, Micro-and Ultrafiltration, Membranes for drinking and process water production, Membranes for wastewater treatment, Hybrid membrane processes, Modelling and simulation, Inorganic membranes, Membrane contactors, Facilitated transport.</b>				
<b>Wednesday, 11<sup>th</sup> July 2018</b>					
8:45-9:30	PLENARY LECTURE: <b>The measurement of ragging and clogging in MBRs.</b> Simon Judd (Qatar University, Qatar; Cranfield University, U.K.), Auditorium 1				
Location	Auditorium 1	Auditorium 2	Auditorium 3A	Auditorium 3B	Sala / Room 1+2
Topic	Gas & vapor separation V	Modelling and simulation I	Nanofiltration and Reverse Osmosis I	Membranes for drinking and process water production II	Electrochemical membrane processes I
Chairs	M. Guiver, K. Li	V. Freger, J. Sánchez-Marcano	B. Kruczek, A. Urriaga	E. Drioli, I. Escobar	R. G.H. Lammertink, V. Nikonenko
9:30-10:00	<b>Keynote lecture 5:</b> [622] M. D. Guiver*, S. Wang, Z. Jiang, Z. Wang. *Tianjin University, China.	<b>Keynote lecture 6:</b> [592] V. Freger*, N. Fridman-Bishop. *Technion, Israel.	<b>Keynote lecture 7:</b> [853] F. Asempour, S. Akbari, Du Bai, B. Kruczek* *University of Ottawa, Canada.	<b>Keynote lecture 8:</b> [428] E. Drioli*, F. Macedonio. *National Research Council—Institute on Membrane Technology (ITM— CNR), Italy.	<b>Keynote lecture 9:</b> [227] V. Nikonenko*, M. Andreeva, S. Zyryanova, N. Pismenskaya, G. Pourcelly. *Kuban State University, Russia.
10:00-10:20	[777] A. Caravella*, C. Zhao, H. Xu, A. Brunetti, G. Barbieri, A. Goldbach. *University of Calabria, Italy.	[37] S. Rebughini*, F. Gallino. *SAES Getters S.p.A. Lainate, Italy.	[42] B. Liu*, J. C. Crittenden. *Sichuan University, China.	[528] M. Pessoa-Lopes*, C.F. Galinha, J.G. Crespo, S. Velizarov. *Universidade NOVA de Lisboa, Portugal.	[238] E. H. Rotta, L. Marder, A. M. Bernardes*. *Universidade Federal do Rio Grande do Sul, Brazil.
10:20-10:40	[689] P. van der Gryp*, P.P.P. Roberts. *University of Stellenbosch, South Africa.	[830] P. Altschuh*, M. Bremerich, A. Reiche, A. Reiter, M. Selzer, B. Nestler. *Karlsruhe University of Technology, Germany.	[96] H. M. Tham*, K. Y. Wang, D. Hua, S. Japip, T. S. Chung. *National University of Singapore, Singapore.	[639] X. Bi *, L. Cheng, C. Liu. *Qingdao University of Technology, P.R.of China.	[437] F. Roghmans*, E. Evdochenko, S. Schneider, A. Smailji, A. Mani, M. Wessling. *Aachen University, Germany.
10:40-11:00	[441] D. Pierleoni, M. Minelli*, M. Giacinti Baschetti, S. Ligi, V. Morandi, V. Palermo and F. Doghieri. *University of Bologna, Italy.	[834] M. Younas*, A. Muhammad, G. Lipscomb. *University of Engineering and Technology, Pakistan.	[107] J. Zhu*, B. Van der Bruggen. * KU Leuven, Belgium.	[628] J.A. Andrés-Mañas*, I. Requena, A. Ruiz-Aguirre, F.G. Acién, G. Zaragoza. *Universidad de Almería, Spain.	[87] U. Nieken*, Jiabing Xia, G. Eigenberger, H. Strathmann. *University of Stuttgart, Germany.
11:00-11:30	<b>Coffee Break</b>				

Topic	Membrane formation and surface modification I	Modelling and simulation II	Nanofiltration and Reverse Osmosis II	Membranes for drinking and process water production III	Electrochemical membrane processes II
<b>Chairs</b>	M. Guiver, K. Li	V. Freger, J. Sánchez-Marcano	B. Kruczek, A. Urriaga	E. Drioli, I. Escobar	R. G.H. Lammertink, V. Nikonenko
<b>11:30-11:50</b>	[63] S. Nunes*, S. Chisca, N. L. Le. King Abdullah University of Science and Technology, Saudi Arabia.	[53] J. Sanchez-Marcano*, M.P. Belleville. *Université de Montpellier, France.	[139] Á. Soriano, D. Gorri, A. Urriaga*. *University of Cantabria, Spain.	[414] J. Eke, P. Wagh, I.C. Escobar*. *University of Kentucky, USA.	[591] R.G.H. Lammertink*, J.C. de Valença, A.M. Benneker, J.A. Wood. *University of Twente, The Netherlands.
<b>11:50-12:10</b>	[116] I. Stratmann*, L. Lempke, A. Kouchaki Shalmani, S. Panglisch, M. Ulbricht. *Universität Duisburg-Essen, Germany.	[183] G. Dong*, V. Chen. *University of New South Wales, Australia.	[734] S. Laborie, M. Monnot, R. Lebrun, C. Cabassud*. *Université de Toulouse, France.	[681] S. Kayaci, S. Kürklü, S. Velioglu, M. G. Ahunbay*, S. B. Tantekin-Ersolmaz, W.B. Krantz. *Istanbul Technical University, Turkey.	[517] G. Cifuentes*, H. Godoy, J. León, B. Garrido and M. Cifuentes. *University of Santiago of Chile, Chile.
<b>12:10-12:30</b>	[229] A. Schulze*, I. Thomas, M. Went, D. Breite, K. Fischer, M. Schmidt, A. Prager. *Leibniz Institute of Surface Engineering, Germany.	[146] S.Y. Jung*, T.G. Kang, K.H. Ahn. *Seoul National University, Republic of Korea.	[339] R. Verbeke*, Elke Dom, I.F.J. Vankelecom. * KU Leuven, Belgium.	[860] A. Atisha, M. Bernards, E. K. Yanful, J. Kujawa, W. Kujawski*. *Nicolaus Copernicus University in Toruń, Poland.	[452] M. La Cerva*, L. Gurreri, M. Tedesco, A. Cipollina, A. Tamburini, M. Ciofalo, G. Micale. *Università degli Studi di Palermo, Italy.
<b>12:30-12:50</b>	[202] J. Ma*, H. M. Andriambololona, D. Quemener, M. Semsarilar. *Université de Montpellier, France.	[157] A. M. Arias *, P. L. Mores, N. J. Scenna, J. A. Caballero, M. C. Mussati, S. F. Mussati. * CAIMI Centro de Aplicaciones Informáticas y Modelado en Ingeniería, Argentina.	[651] Liu Tian-Yin*, Song Qilei, Kim Jelfs, Andrew Livingston. *Imperial College London, United Kingdom.	[422] M. Vanoppen*, E. De Meyer, P. Van Elslande, E. van den Brande, A.R.D. Verliefde *Ghent University, Belgium	[519] D.A. Vermaas*, W.A. Smith. *Delft University of Technology, The Netherlands.
<b>13:00-14:30</b>	<b>Lunch</b>				
Topic	Membrane formation and surface modification II	Modelling and simulation III	Nanofiltration and Reverse Osmosis III	Membrane fouling and ageing I	Electrochemical membrane processes III
<b>Chairs</b>	Z.C. Emecen, A. Kemperman	G. de Luca, F. Lipnizki	L. Peeva, A. Szymczyk	P. Bérubé, V. Volkov	N. Pismenskaya, W. Kujawski
<b>14:30-14:50</b>	[269] D. Breite*, A. Prager, A. Schulze. *Engineering Permoserstr, Germany.	[101] G. De Luca*, R. Amuso, A. Figoli, R. Mancuso, J. Hoinkis, B. Gabriele. *University of Calabria, Italy.	[34] B. Balanec, A. Ghoufi, A. Szymczyk*. *Université de Rennes, France.	[94] I. Borisov, G. Golubev, V. Vasilevsky, A. Volkov, V. Volkov*. *A.V. Topchiev Institute of Petrochemical Synthesis RAS, Russia.	[739] W. Kujawski*, A.Yaroshchuk, S.Koter. *Nicolaus Copernicus University in Torun, Poland.
<b>14:50-15:10</b>	[131] P. May*, M. Ulbricht. *Universität Duisburg-Essen, Germany.	[265] G. Zarca*, A. Urriaga, I. Ortiz, L. T. Biegler. *Universidad de Cantabria, Spain.	[283] D. Rall*, D. Menne, J. Kamp, L. von Kolzenberg, M. Wessling. *RWTH Aachen University, Germany.	[664] K. Schroën*, Ties van de Laar, J. Sprakel. *Wageningen University, The Netherlands.	[599] J. Meier-Haack*, M. Rashid, K. Schlenstedt, C. M. Bell. *Leibniz Institute of Polymer Research Dresden, Germany.

15:10-15:30	[298] Ibrahim M.A. ElSherbiny, Ahmed S.G. Khalil*, Mathias Ulbricht. *Fayoum University, Egypt.	[327] K. Dalane*, M. Hillestad, L. Deng. *University of Science and Technology, Norway.	[569] Zhiwei Jiang*, Santanu Karan, Andrew G. Livingston. *Imperial College London, United Kingdom.	[277] C. Aksoy*, P. Kaner, M. Saksiriwatekul, A. Asatekin, P. Z. Çulfaz-Emecen. *Middle East Technical University, Turkey.	[610] T. Jiříček*, B. Machado, H. Fárová, T. Kotala. * Membrain s.r.o, Czech Republic.
15:30-15:50	[314] M. Tepper*, J. Rubner, T. Luelf, M. Wessling. *RWTH Aachen University, Germany.	[331] T. Renouard*, A. Lejeune, M. Rabiller-Baudry. *Univ Rennes, France.	[357] L. Paseta*, M. Navarro, J. Benito, I. Gascon, J. Coronas, C. Tellez. *Universidad de Zaragoza, Spain.	[213] M. Zhou*, T. Mattsson. *Chalmers University of Technology, Sweden.	[757] M. Haddad*, L. Bazinet, B. Barbeau. *Polytechnique Montreal, Canada.
15:50-16:20	<b>Coffee Break</b>				
<b>Topic</b>	<b>Membrane formation and surface modification III</b>	<b>Modelling and simulation IV</b>	<b>Nanofiltration and Reverse Osmosis IV</b>	<b>Membrane fouling and ageing II</b>	<b>Electrochemical membrane processes IV</b>
<b>Chairs</b>	Z.C. Emecen, A. Kemperman	G. de Luca, F. Lipnizki	L. Peeva, A. Szymczyk	P. Bérubé, V. Volkov	N. Pismenskaya, W. Kujawski
16:20-16:40	[423] S.P. Sun*, T.D. Lu, Q.C. Xia. *Nanjing Tech University, China.	[523] X. Liu*, K. H. Tng, W. Fan, P. Dai, J. Guan, Y. Wang, G. Leslie. *University of New South Wales, Australia.	[906] M. Cook, L. Peeva*, A. Livingston. *Imperial College London, United Kingdom.	[685] S. J. Robinson, P. R. Bérubé*. *University of British Columbia, Canada.	[424] N.D. Pismenskaya*, E.D. Melnikova, V.V. Sarapulova, E.E. Nevakshenova, V.V. Nikonenko, P. Sifat, G. Pourcelly. *Kuban State University, Russia.
16:40-17:00	[430] S. P. Singh*, Y. Li, J. Zhang, J. M. Tour, C. J. Arnusch. *Ben-Gurion University of the Negev, Israel.	[120] H. Zhang*, K. Zhou, A. Wing-Keung Law. *Nanyang Technological University, Singapore.	[783] R. Moliner-Salvador*, E. Sánchez, I. Celades, A. Deratani, J. Palmeri. *Universitat Jaume I, Spain.	[409] S. Armbruster*, A. Brochard, J. Lölsberg, M. Wessling. * RWTH Aachen University, Germany.	[878] M. Nuel*, F. Zaviska, G. Lesage, M. Heran. *Institut Européen des Membranes, France.
17:00-17:20	[105] P.M. Budd, R.S. Bhavsar, J. O'Connor, N. Iftikhar* *University of Manchester, United Kingdom.	[530] M. Tedesco*, H.V.M. Hamelers, P.M. Biesheuvel. *European Centre of Excellence for Sustainable Water Technology, The Netherlands.	[634] J. Kamp*, P. Mund, P. Bolduan, M. Wessling. *RWTH Aachen University, Germany.	[444] L. Fortunato *, J.G. Lee, S. Jeong, N. Ghaffour, T. Leiknes. * King Abdullah University of Science and Technology, Saudi Arabia.	[198] L Ma, L Gutierrez*, M Vanoppen, A Verliefe. *Ghent University, Belgium.
17:20-17:40	[586] T. Eljaddi, D. Mejia, E. Favre, D. Roizard*. *Laboratoire Réactions et Génie des Procédés, France.	[665] E. Frédéric, P. Schmitz, A. Krifi, A. Liné, C. Guigui, M. Jacob*, P. Baldony, C. Machinal, Y. Deleuze. *TOTAL SA, France.	[649] M. Amirilargani*, R. B. Merlet, A. Nijmeijer, L. Winnubst, L. C. P. M. de Smet, E. J. R. Sudhölter. * Delft University of Technology, The Netherlands.	[690] S. Pandit, Y. Oren, M. S. Mauter, M. Herzberg*. *Ben-Gurion University of the Negev, Israel.	[405] P. Arribas*, Q. Zhang, M. C. García-Payo, M. Khayet, C. D. Vecitis. *Harvard University, USA; Complutense University and Technical University of Madrid (UCM-UPM), Spain
17:45-19:30	<b>Poster session II: Membrane formation and surface modification, Membrane fouling and ageing, Nanofiltration and Reverse Osmosis, Electrochemical membrane processes, Membranes for energy conversion and storage, Fuel cells and batteries, Nanotechnology and membranes, Emerging membrane science and technology, Biomedical membrane applications, Process intensification and economic analysis, Membrane module development, Osmotic membrane contactors.</b>				

Thursday, 12 <sup>th</sup> July 2018					
8:45-9:30	<p style="text-align: center;"><b>PLENARY LECTURE: How to create innovative membrane structures</b>            Klaus-V. Peinemann (King Abdullah University of Science and Technology (KAUST), Saudi Arabia)            Session chair: Richard W. Baker, Auditorium 1.</p>				
<b>Location</b>	Auditorium 1	Auditorium 2	Auditorium 3A	Auditorium 3B	Sala / Room 1+2
<b>Topic</b>	<b>Membrane formation and surface modification IV</b>	<b>Modelling and simulation V</b>	<b>Nanotechnology and membranes I</b>	<b>Membrane fouling and ageing III</b>	<b>Membranes for energy conversion, fuel cells and batteries</b>
<b>Chairs</b>	M. Khayet, S. Nunes	M. L. Christensen, E. Tocci	A. Cassano, K. Nijmeijer	M. Herzberg, O. Khelifi	G. Porucelly, A. Ribes
9:30-10:00	<b>Keynote lecture 10: [64] S. Nunes*, D. Kim, S. Chisca, G. Falca, C. Boi.</b> *King Abdullah University of Science and Technology, Saudi Arabia.	<b>Keynote lecture 11: [499] A. D'Haese*, I. De Leersnyder, P. Vermeir, A. Verliefde.</b> *Ghent University, Belgium.	<b>Keynote lecture 12: [370] K. Nijmeijer*, Z. Borneman, T. Liang, H.P.C. van Kuringen, D.J. Mulder, S. Tan, Y. Wu, A.P.H.J. Schenning.</b> *TU Eindhoven, The Netherlands.	<b>Keynote lecture 13: [292] O. Khelifi*, E. Koltsova, A. Nehrii, H. Ratnaweera, K.B. Lee, C.H. Lee.</b> *Norwegian University of Life Sciences, Norway.	<b>Keynote lecture 14: [47] G. Pourcelly*.</b> *University of Montpellier, France.
10:00-10:20	<b>[583] J. Kujawa*, S. Al-Gharabli, W. Kujawski, Z. Abu El-Rub, E. M. Hamad.</b> *Nicolaus Copernicus University, Poland.	<b>[633] S. Mondal, M. Bruna, I. Griffiths, G. Z. Ramon*.</b> *TECHNION, Israel.	<b>[82] M. Lopez-Viveros*, I. Favier, M. Gómez, J-F. Lahitte, J-C. Remigy.</b> *Université de Toulouse, France.	<b>[448] T. Virtanen*, J. Lahti, M. Mänttäri, M. Kallioinen.</b> *Lappeenranta University of Technology, Finland.	<b>[362] M. F. Rabuni*, T. Li, K. Li.</b> *Imperial College London, United Kingdom.
10:20-10:40	<b>[455] A. Jonquieres*, X. Solimando, C. Lherbier, J. Babin, C. Arnal-Herault, E. Roméro, S. Acherar, B. Jamart-Gregoire, D. Barth, D. Roizard.</b> *Universite de Lorraine/CNRS, France).	<b>[574] A. Campione*, L. Gurreri, A. Cipollina, A. Tamburini, I. David L. Bogle, G. Micale.</b> *Università degli studi di Palermo, Italy.	<b>[743] A. Droudian*, S. Ki Youn, L. Wehner, R. M. Wyss, M. Li, H. Gyu Park.</b> *ETH Zurich, Switzerland.	<b>[933] T. V. Plisko*, A. V. Bilydukevich, A. S. Liubimova, A. V. Penkova</b> *National Academy of Sciences of Belarus	<b>[272] S. Escorihuela*, A. Tena, S. Shishatskiy, S. Escolástico, T. Brinkmann, J. M. Serra, V. Abetz.</b> *Instituto de Tecnología Química, CSIC, Universitat Politècnica de València, Spain.
10:40-11:00	<b>[833] A. Figoli, T. Marino, C. Ursino, F. Russo, E. Di Nicolò, F. Galiano*.</b> *Institute on Membrane Technology, Italy.	<b>[733] N. Vergadou*, D.N. Theodorou.</b> *National Center for Scientific Research Demokritos, Greece.	<b>[78] Z. X. Low, J. Ji*, D. Blumenstock, D. Mattia.</b> *University of Bath, United Kingdom.	<b>[544] Emmanuelle Filloux, A. Fabre, P. Faure, A. Bréhant*, Y. Wyart, P. Moulin.</b> *SUEZ, France.	<b>[144] J. Y. Jeon, J. Y. Han, S. Noh, S. Park, C. Y. Ryu, Y. S. Kim, C. Bae*.</b> *Rensselaer Polytechnic Institute, United States.
11:00-11:30	<b>Coffee Break</b>				
<b>Topic</b>	<b>Membrane formation and surface modification V</b>	<b>Modelling and simulation VI</b>	<b>Membranes for wastewater treatment I</b>	<b>Membrane fouling and ageing IV</b>	<b>Biomedical membrane applications</b>
<b>Chairs</b>	M. Khayet, S. Nunes	M. L. Christensen, E. Tocci	A. Cassano, K. Nijmeijer	M. Herzberg, O. Khelifi	L. De Bartolo, M.N. de Pinho
11:30-11:50	<b>[417] M. Khayet*, M.C García-Payo.</b> *University Complutense of Madrid, Spain.	<b>[762] E. Tocci*, C. Rizzuto, F. Macedonio, J.-H. Tsai, K.-L. Tung, L. Giorno, E. Drioli.</b> *Institute on membrane Technology, Italy.	<b>[696] A. Cassano*, C. Conidi, L. Fucà, E. Drioli.</b> *Institute on Membrane Technology, Italy.	<b>[654] N.M. Farhat*, E. Loubineaud, E.I.E.C. Prest, J. El-Chakhtoura, C. Salles, Sz.S. Bucs, J. Trampé, W.B.P. Van den Broek, J.M.C. Van Agtmaal, M.C.M. Van Loosdrecht, J.C. Kruithof, J.S. Vrouwenvelder.</b> *King Abdullah University of Science and Technology, Saudi Arabia.	<b>[20] H. M. M. Ahmed, S. Salerno, S. Morelli, L. Giorno, L. De Bartolo*.</b> *Institute on Membrane Technology, Italy.

11:50-12:10	[767] C. Fontàs*, R. Vera, E. Anticó. *Universitat de Girona, Spain.	[747] V. H. Grisales Díaz*, O. A. Prado-Rubio, M. J. Willis, M. von Stosch. *Newcastle University, United Kingdom.	[458] M. Jafari*, P. Desmond, M. Van Loosdrecht, C. Picioreanu. *Delft University of Technology, The Netherlands.	[581] N. Nady*. *Egypt-Japan University of Science and Technology, Egypt.	[584] A M. Malankowska, I. Julian, I. Pellejero, H.S. Rho, S. Schlautmann, R.M. Tiggelaa. M.P. Pina*, R.M. Mallada, H. Gardeniers. *University of Zaragoza, Spain.
12:10-12:30	[616] B. Ghalei*, Y. Kinoshita, K. Sakurai, K. Wakimoto, E. Sivaniah. *Kyoto University, Japan.	[795] J. M. Zielinski, S. A. Altinkaya*. *Izmir Institute of Technology, Turkey.	[153] M. Guate*, A. Ortiz, I. Ortiz. *Universidad de Cantabria, Spain.	[725] B. Diawara*, K. Fatyeyeva, S. Marais. *Laboratory Polymers Biopolymers and Surfaces (PBS), France.	[818] R. Melich*, F. Padilla, C. Charcosset. *Université Claude Bernard Lyon, France.
12:30-12:50	[842] D. A. Kennedy, T. Omar, F. H. Tezel*. *University of Ottawa, Canada.	[630] Y. Shi, X. Liu*, P. Dai, J. Guan, Y. Wang, T. D. Waite, G. Leslie. * University of New South Wales, Australia	[443] R. Gueccia*, S. Randazzo, D. Chillura Martino, A. Cipollina, G. Micale. Università degli Studi di Palermo, Italy.	[652] C. Rey, N. Hengl*, S. Baup, A. Dufresne, H. Djeridi, F. Pignon. *Université Grenoble Alpes, France.	[798] S. Morelli*, A. Piscioneri, S. Salerno, C.C. Chen, L. Giorno, E. Drioli, L. De Bartolo. *Institute on Membrane Technology, Italy.
13:00-14:30	<b>Lunch</b>				
<b>Topic</b>	<b>Membranes for wastewater treatment II</b>	<b>Emerging membrane science and technology I</b>	<b>Facilitated transport</b>	<b>Membrane contactors I</b>	<b>Inorganic membranes I</b>
<b>Chairs</b>	B. van der Bruggen, Y. Zhang	C. Boi, A. Cipollina	M. Barboiu, I. Vorotyntsev	D. Mattia, I. Ortiz	C. Algieri, S. Mestre
14:30-14:50	[73] Y. He*, Y. P. Tang, D. Ma, T.S. Chung. *National University of Singapore, Singapore.	[61] L.E. Koloti, N.P. Gule, O.A. Arotiba, S.P. Malinga*. *University of Johannesburg, South Africa.	[828] A.I. Akhmetshina, A.A. Atlaskin, A.V. Vorotyntsev, A. Mechergui, I.V. Vorotyntsev*. *Nizhny Novgorod State Technical University, Russia.	[65] J. C. O'Brien, E. Ekanem, J. L. Scott, D. Mattia*. *University of Bath, United Kingdom.	[124] M.D. Palacios, M.J. Orts, E. Sánchez, S. Mestre*. Universitat Jaume I, Spain.
14:50-15:10	[187] E.A. Grushevenko*, I.A. Podtynnikov, V.V. Volkov, I.L. Borisov. *A.V.Topchiev Institute of Petrochemical Synthesis, Russia.	[332] K. Remmen*, R. Schäfer, T. Wintgens, M. Lenz, M. Wessling. *Fachhochschule Nordwestschweiz, Switzerland.	[7] M. Barboiu*. *Institut Européen des Membranes, France.	[243] S.T Houlker*, M Pidou, E.J McAdam. *Cranfield University, United Kingdom.	[8] J. Lee*, J.K. Ha, I.H. Song. *Korea Institute of Materials Science, South Korea.
15:10-15:30	[604] F. Ricceri, M. Giagnorio*, A. Tiraferri. *Politecnico di Torino, Italy	[93] M. Inês G. S. Almeida*, R. W. Catrall, S. D. Kolev. *The University of Melbourne, Australia.	[676] R. Rea*, M.G. De Angelis, M. Giacinti Baschetti. *Università di Bologna, Italy.	[682] C.A. Quist-Jensen*, J.M. Sørensen, A. Svenstrup, L. Scarpa, T.S. Carlsen, H.C. Jensen, L. Wybrand*, M.L. Christensen. *Aalborg University, Denmark.	[193] I. Kistner, A. Schulz, C. Rösler*, T. Schiestel. *Fraunhofer IGB, Germany.
15:30-15:50	[555] B. Cristóvão*, R. Janssens, J.Torrejais, P. Luis, B. V. der Bruggen M. R. Bronz, J.G. Crespo, V.J. Pereira. *Universidade Nova de Lisboa, Portugal.	[178] B. A. Pulido*, S. Chisca, S. P. Nunes. *King Abdullah University of Science and Technology, Saudi Arabia.	[701] N Varol*, K Fatyeyeva, E Dargent. *Université de Rouen Normandie, France.	[714] K. Rahaoui*, F. Abdullah, R. Alhindawi, L.C. Ding, A. Date, A. Akbarzadeh, M. Khayet. *RMIT University, Australia.	[241] N. Kruse*, G. Braun, J.U. Repke. *TH Köln, Germany.



15:50-16:20	Coffee Break				
Topic	Membranes for wastewater treatment III	Emerging membrane science and technology II	Nanotechnology and membranes II	Membrane contactors II	Inorganic membranes II
Chairs	B. van der Bruggen, Y. Zhang	C. Boi, A. Cipollina	M. Barboiu, I. Vorotyntsev	D. Mattia, I. Ortiz	C. Algeri, S. Mestre
16:20-16:40	[572] N. C. Magalhães*, A. F. R. Silva, P. V. M. Cunha, M. C. S. Amaral, J. E. Drewes. *UFMG - Brazil & TUM – Germany	[593] H. Roth*, S. Emonds, M. Tepper, T. Luefl, M. Wessling. *RWTH Aachen University, Germany.	[647] M. N. Nguyen*, A. I. Schäfer. *Karlsruhe Institute of Technology, Germany.	[26] L. Han, A.G. Fane, J.W. Chew*. *Nanyang Technological University, Singapore.	[635] A. Garofalo, L. Donato, A. Criscuoli, E. Drioli, C. Algeri*. *Institute on Membrane Technology, Italy.
16:40-17:00	[663] N. Ran*, J. Gilron, M. Herzberg. *Ben Gurion University, Israel.	[418] Y.Chi*, J.Y.Chong, B.Wang, K.Li. *Imperial College of London, United Kingdom.	[145] M. Ghosh*, K. Jorissen, J. A. Wood, R. G.H. Lammertink. *University of Twente, The Netherlands.	[568] P. Beirnaert*, J.C. Remigy. *Université de Toulouse, France.	[188] M. Dilaver*, S. M. Hocaoglu, G. Soydemir, M. Dursun. *Tubitak Marmara research center, Turkey.
17:00-17:20	[671] M. Sauchelli*, G. Pellegrino, A. D'Haese, I. Rodriguez-Roda, W. Gernjak. *Institut Català de Recerca del Aigua, Spain.	[732] K. Park*, D. Y. Kim, D. R. Yang. *Korea University, Korea.	[207] J. Schumacher*, L. Madauß, M. Ghosh, H. Lebius, B. Ban-d'Etat, R. G. H. Lammertink, M. Schleberger, M. Ulbricht. *Universität Duisburg-Essen, Germany.	[803] U. T. Syed*, A.M.A. Dias, H.C. de Sousa, J.G. Crespo, C. Brazinha. *Universidade Nova de Lisboa, Portugal.	[770] C. Pflieger*, M. Weyd, H. Richter, P. Puhlfürß, I. Voigt, M. Berry, V. Prehn, A. Junghans. *Fraunhofer IKTS, Germany
17:25-19:00	EMS GENERAL ASSEMBLY, Auditorium 1				
20:00	Gala Dinner				
Friday, 13 <sup>th</sup> July 2018					
8:45-9:30	PLENARY LECTURE: <b>Membrane functionalities: understanding the nanoscale to impact on the macroscale</b> Joao G. Crespo (Universidade Nova de Lisboa, Portugal), Auditorium 1				
Location	Auditorium 1	Auditorium 2	Auditorium 3A	Auditorium 3B	Sala / Room 1+2
Topic	Membranes for wastewater treatment IV	Emerging membrane science and technology III	Membrane contactors III	Forward osmosis and osmotic membrane contactors I	Process intensification and economic analysis
Chairs	J. Benavente, K. Kimura	L. Giorno, D. Quemener	C. Cabassud, R. Mallada	C. Güell, R. Wickramasinghe	P. Moulin, E. Sánchez-Vilches
9:30-10:00	<b>Keynote 15:</b> [346] K. Kimura*, T. Kakuda, H. Iwasaki. *Hokkaido University, Japan.	<b>Keynote 16:</b> [562] A. Albisa, E. Piacentini, V. Sebastian, M. Arruebo, J. Santamaria, L. Giorno*. *Institute on Membrane Technology, National Research Council, ITM-CNR, Italy.	<b>Keynote 17:</b> [722] P. Jacob, S. Laborie, C. Cabassud*. *Université de Toulouse, France.	<b>Keynote 18:</b> [844] K. Sardari, P. Fyfe, R. Wickramasinghe*. *University of Arkansas, USA.	<b>Keynote 19:</b> [766] A. Ramirez Santos*, M. Borzog, B. Addis, V. Piccialli, C. Castel, E. Favre. *Université de Lorraine, France.

10:00-10:20	[41] J. Xue, Y. Zhang, Y. Liu, M. Gamal El-Din*. *University of Alberta, Canada.	[847] W. Yave*, L. Leva. *DeltaMem AG, Switzerland.	[814] E. Lamperti, R. Manno, M. Urbiztondo, M. Malankowska, M.P. Pina, R. Mallada*. *University of Zaragoza, Spain.	[529] M.S. Camilleri-Rumbau*, S. Braekevelt, T. S. Jensen, K. Lorenz, X. Tung Nguyen, M. Errico, M. C. Martí-Calatayud, M. F. Andersen, K. Trzaskus, V. Sanahuja-Embuena, J. Vogel, M. Wessling, C. H. Nielsen. *Aquaporin A/S, Denmark.	[56] J. Guilbaud, Y. Wyart, K Kaag, P. Moulin*. * Aix Marseille Université, France.
10:20-10:40	[738] B. Kırız, I. Bayram, U. Yetis, G. Capar*. *Ankara University Water Management Institute, Turkey.	[869] B. Olave*, I. Rafaniello, T. Schäfer. *University of the Basque Country, Spain.	[425] A. Bottino, G. Carniglia, C. Costa, A. Comite, F. Ferrari, R. Firpo, A. Jezowska, M. Pagliero*. *University of Genoa, Italy.	[846] D. Bai*, F. Asempour, B. Kruczek. *University of Ottawa, Canada.	[648] J. Monte*, J. Bernardo, M. Sá, C. Pereira, R. Mota, J. Galante, P. Nascimento, F. Semião, C. F.Galinha, V. J. Pereira, D. Fonseca, L. Costa, V. Verdelho, F. Jacobs, J. G. Crespo, C. Brazinha. *Universidade Nova de Lisboa, Portugal.
10:40-11:00	[256] M. R. S. Sousa*, J. Lora-Garcia, M.F. López-Pérez. *Universitat Politècnica de València, Spain.	[771] S. Huang, M. Dakhchoune, W. Luo, E. Oveisi, G. He, M. Rezaei, J. Zhao, A. Züttel, K. V. Agrawal*. *École Polytechnique Fédérale de Lausanne, Switzerland.	[175] A. Khiter, P. Loulergue*, B. Balannec, A. Szymczyk, O. Arous, N. Nasrallah. *Univ Rennes, France.	[260] Y. W. Berkessa, Q. Lang, M. Tan, B. Van der Bruggen, Y. Zhang*. *Chinese Academy of Sciences, China.	[148] N. Sreedhar, N. Thomas, O. Al-Ketan, R. Rowshan, H. Hernandez, R. Al-Rub, H. A. Arafat*. *Khalifa University of Science and Technology, United Arab Emirates.
11:00-11:30	<b>Coffee Break</b>				
<b>Topic</b>	<b>Membranes for wastewater treatment V</b>	<b>Emerging membrane science and technology IV</b>	<b>Nanotechnology and membranes III</b>	<b>Forward osmosis and osmotic membrane contactors II</b>	<b>Inorganic membranes III</b>
<b>Chairs</b>	J. Benavente, K. Kimura	L. Giorno, D. Quemener	C. Cabassud, A. Schaefer	C. Güell, R. Wickramasinghe	P. Moulin, E. Sánchez-Vilches
11:30-11:50	[825] C. Briciu-Burghina, B. Brennan, K. Nolan, F. Regan, J. Lawler*. *Dublin City University, Ireland.	[233] D. Quemener*, S. Nehache, P. Tyagi, M. Semsarilar, A. Deratani. *Université de Montpellier, France.	[6] M. Barboiu*. *Institut Européen des Membranes, France.	[564] C. Güell*, A. Martínez, A. García, J. Wang, M. Paz Romero, J. Ruiz, V. Alonso, M. Ferrando. *Universitat Rovira i Virgili, Spain.	[500] E. Sánchez*, M-M. Lorente-Ayza, M.C. Bordes, S. Sales, E. Zuriaga-Agustí, I. Pastor, B. Hernández, M. Galián, M. Abellán. *Universitat Jaume I, Spain.
11:50-12:10	[558] P. Sanchis-Perucho, A. Robles*, F. Durán, J. Ferrer, A. Seco. *Universitat de València, Spain.	[559] L. C. Tomé*, A. P. S. Martins, J. G. Crespo, I. M. Marrucho. *Universidade Nova de Lisboa, Portugal.	[236] D. Venturi*, R. Casadei, S. Ligi, L. Giorgini, M. G. Baschetti. *University of Bologna, Italy.	[378] T. F. Mastropietro*, C. Meringolo, E. Fontananova, T. Poerio, H. Yang, W. Chen, J. Y. Y. Heng, G. Di Profio. * University of Calabria, Italy.	[287] M. Matsukata*, N. Yasuda, M. Sakai. *Waseda University, Japan.
12:10-12:30	[356] M. Stoller*, J.M. Ochando-Pulido, G. Vilardi, N. Verdonesi, L. Di Palma. *Sapienza University of Rome, Italy.	[563] R. Lively*. *Georgia Institute of Technology, United States.	[225] A. Razmjou*, G. Eshaghi, Y. Oroji, V. Chen. *University of Isfahan, Iran; University of New South Wales, Australia	[432] G. Blandin, I. Rodríguez-Roda*, J. Comas. *University of Girona, Spain.	[134] G. Li*, Y. Wang, X. Lang, S. Fan. *South China University of Technology, China.
12:30-13:00	<b>Awards and closure, Auditorium 1</b>				
13:00-14:30	<b>Lunch</b>				

**Tuesday, 10<sup>th</sup> July 2018**

## **Gas & vapor separation I**

### **[99]. Synergy effect for thin bilayered gas separation membranes based on PIM-1**

*A. Volkov\**, *I. Borisov\**, *S. Bazhenov\**, *P. M. Budd\*\**, *V. Volkov\**

\* A.V. Topchiev Institute of Petrochemical Synthesis RAS, Russia

\*\* School of Chemistry, The University of Manchester, United Kingdom

### **[135]. An investigation of the interaction between silver and dual-phase molten salt-ceramic membranes**

*L.A. McNeil*, *G.A. Mutch*, *E.I. Papaioannou*, *I.S. Metcalfe*

School of Engineering, Newcastle University, United Kingdom

### **[168]. Sorption of CO<sub>2</sub>, CH<sub>4</sub> and their mixtures in PIM-EA-TB**

*F. M. Benedetti\**, *E. Ricci\**, *M. Carta\*\**, *M. G. De Angelis*, *N. McKeown\*\*\**

\* DICAM, Department of Civil, Chemical, Environmental and Materials Engineering, University of Bologna, Italy

\*\* Dept. of Chemistry, Swansea University, United Kingdom

\*\*\* School of Chemistry, University of Edinburgh, United Kingdom

### **[209]. Nanocellulose based nanocomposite hollow fiber membranes for CO<sub>2</sub> capture**

*Z. Dai*, *Qiang Yu*, *L. Ansaloni*, *S. Janakiram*, *J. Deng* and *L. Deng*

Department of Chemical Engineering, Norwegian University of Science and Technology, Norway

## **Mixed matrix membranes I**

### **[469]. Structure of water in hybrid cellulose acetate-silica ultrafiltration membranes and permeation properties**

*G. Mendes\**, *M. Faria\*\**, *M. C. Gonçalves\*\*\**, *M. N. de Pinho\*\**

\* Chemical Engineering Department, Instituto Superior Técnico, Universidade de Lisboa, Portugal

\*\* CeFEMA, Chemical Engineering Department, Instituto Superior Técnico, Universidade de Lisboa, Portugal

\*\*\* CQE, Centro de Química Estrutural, Instituto Superior Técnico, Universidade de Lisboa, Portugal

### **[25]. Mixed-Matrix Membranes containing an Azine-Linked Covalent Organic Framework for CO<sub>2</sub> separation**

*M. Shan\**, *B. Seoane\*\**, *F. Kapteijn\** and *J. Gascon\*\*\**

\*Catalysis Engineering, Chemical Engineering Department, Delft University of Technology, The Netherlands

\*\*Faculty of Science, Debye Institute for Nanomaterials Science, Utrecht University, The Netherlands

\*\*\*King Abdullah University of Science and Technology, KAUST Catalysis Center, Saudi Arabia

### **[125]. Cu<sup>+2</sup>/Cu<sup>+</sup> Metal-Organic Frameworks (MOFs) based Mixed Matrix Membranes for Solvent-resistant Separation**

*L. Upadhyaya\**, *Y. Chiao\*\**, *R. Wickramasinghe\*\**, *X. Qian\**

\*Department of Biomedical Engineering, University of Arkansas, United States.

\*\*Ralph E Martin Department of Chemical Engineering, University of Arkansas, United States.

### **[38]. High flux and fouling resistant flat sheet polyethersulfone membranes incorporated with graphene oxide for ultrafiltration applications**

*A. Abdel-Karim<sup>a,d,1</sup>*, *S. Leaper<sup>a,1</sup>*, *M. Alberto<sup>a</sup>*, *A. Vijayaraghavan<sup>b</sup>*, *X. Fan<sup>a</sup>*, *S.M. Holmes<sup>a</sup>*, *E.R. Souza<sup>c</sup>*, *M. I. Badawy<sup>d</sup>*, *P. Gorgojo<sup>a</sup>*

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## Membrane reactors and bioreactors I

### [376]. A Pd/Ag membrane reactor for pure hydrogen production from biogas: intensified methane dry reforming

*P. Durán, P. Ugarte, A. Sanz, J. Soler, M. Menéndez, J. Herguido*

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Aragon Institute of Engineering Research (I3A), University of Zaragoza, Spain

### [276]. Hybrid osmotic microfiltration bioreactor for nutrient recovery

*M.K. Jørgensen\*, J.H. Sørensen\*\*, C.A. Quist-Jensen\*, M.L. Christensen\**

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### [333]. Biodegradation capacity on a membrane bioreactor system of an impact of ciprofloxacin, carbamazepine and ibuprofen treating real urban wastewater

*J. Martín-Pascual\*, G. Calero-Díaz\*\*, C. López-López\*, J. C. Torres\*\*, J. M-Poyatos\**

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### [70]. Monitoring filterability decrease of membrane bioreactors using multivariate statistical techniques

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## Micro-and Ultrafiltration I

### [723]. Ultrafiltration of Pickering Emulsions for Continuous Multiphase Catalysis

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### [485]. Membrane filtration for the recovery of lipids from microalgae extracts

*S. Liu\*/\*\*, L. Villafaña López\*, E. Clavijo\*, P. Bourseau\*, M. Frappart\*, E. Couallier\**

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### [498]. Spatial dependency of flux and transmission of small proteins in polymeric spiral-wound microfiltration membranes

*M. Hartinger, U. Kulozik\**

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### [115]. Ultrafiltration membrane fouling characterization by multi-scale methodology

*M. Le Hir\*, Y. Wyart\*, G. Georges\*\*, L. Siozade\*\*, M. Sergent\*\*\*, P. Moulin\**

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## Gas & vapor separation II

### [254]. Design and Synthesis of Polyimides Based on Carbocyclic Pseudo Tröger's Base-Derived Dianhydrides for Membrane Gas Separation Applications

*X. Ma, M. A. Abdulhamid, I. Pinnau\**

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### [313]. On the microporosity of ultra-high free volume glassy polymers

*M. Minelli,<sup>a,b</sup> M. Boselli,<sup>b,c</sup> D.R. Paul,<sup>d</sup> G.C. Sarti<sup>a</sup>*

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### [644] Insights into Ionic Liquid@MOF-MMMs and their performance in CO<sub>2</sub> separation processes

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### [366]. The effect of pressure and mixed gas composition on humid CO<sub>2</sub> and hydrocarbon permeation in Aquivion® PFSA

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## Mixed matrix membranes II

### [349]. Nanocomposite membranes based on UPO and PIM1

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### [526]. High-pressure CO<sub>2</sub>/CH<sub>4</sub> separation of Zr-MOFs based mixed matrix membranes

*Mohd Zamidi Ahmad<sup>1,2,3</sup>, Thijs Peters<sup>4</sup>, Nora M. Konnertz<sup>5</sup>, Tymen Visser<sup>5</sup>, Carlos Téllez<sup>3</sup>, Joaquín Coronas<sup>3</sup>, Vlastimil Fila<sup>1</sup>, Wiebe M. de Vos<sup>2</sup>, Nieck E. Benes<sup>2</sup>*

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### [95]. Influence of filler topology and polymer on the performance of MOF-based mixed matrix membranes for CO<sub>2</sub> capture

*Anahid Sabetghadam,<sup>1</sup> Xinlei Liu,<sup>1</sup> Marvin Benzaqui<sup>2,3</sup>, Effrosyni Gkaniatsou<sup>2</sup>, Angelica Orsi<sup>4</sup>,*

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**[161]. Development and characterization of defect-free Matrimid® mixed-matrix membranes containing activated carbon particles for gas separation**

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**Membrane reactors and bioreactors II**

**[866]. Production of HMF from Lignocellulosic Biomass with Polymeric Solid Acid Catalysts**

*Anh Vu\*, S. Ranil Wickramasinghe\*, Xianghong Qian\*\**

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**[560]. Advances in biocatalytic membrane reactors and strategies to implement system efficiency for industrial sustainable production**

*L. Giorno, G. Vitola, F. Militano, A. Yihdego Gebreyohannes, T. Poerio, R. Mazzei*

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**[897]. Eco-friendly ceramic membranes for water reuse in a membrane bioreactor (MBR)**

*E. Zuriaga-Agustí\*, I. Pastor\*, B. Hernández\*, M. Galián\*, M-M. Lorente-Ayza\*\*, M.C. Bordes\*\*, E. Sánchez\*\*, M. Abellán\*\*\*, P. Simón\*\*\**

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**[752]. Enzymatic Membrane Reactor for Oil Palm Lignocellulosic Biomass Hydrolysis**

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**Micro-and Ultrafiltration II**

**[719]. Drying, shrinking, and pore size reduction of ultrafiltration PVDF membranes prepared by NIPS and CCD methods**

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**[620]. Antibiotic resistance genes removal by ultrafiltration**

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**[666]. Nanostructured dual layer polymeric membranes prepared by combined crystallisation & diffusion (CCD) technique**

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**[68]. Effect of salinity and nanoparticle polydispersity on retention and UF membrane fouling**

*M. Le Hir\*, Y. Wyart\*, G. Georges\*\*, L. Siozade\*\*, P. Sauvade\*\*\*, P. Moulin\**

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**Gas & vapor separation III**

**[888]. Pure versus mixed gas permeation and diffusion in polymers of intrinsic microporosity**

*M. Monteleone\*, A. Fuoco\*, E. Esposito\*, C. Rizzuto\*, E. Tocci\*, L. Giorno\*, N.B. McKeown\*\*, B. Comesaña Gándara\*\*, M. Carta\*\*\*, B. Satilmis\*\*\*\*, P.M. Budd\*\*\*\*\*, J.C. Jansen\**

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\*\*\*\* Department of Chemistry, Ahi Evran University, Turkey

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**[394]. Gas permeation, diffusion, sorption and free volume in novel perfluorinated homo- and copolymers**

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\*\* N.D. Zelinskii Institute of Organic Chemistry of RAS, Russia

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**[466]. ZIF Based PDMS MMMs for Separation Ethanol and IPA from Nitrogen**

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**[450]. Hexane vapour permeation in polydimethylsiloxane membrane**

*Z. Petrusová, L. Morávková, K. Machanová*

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**Mixed matrix membranes III**

**[268]. Experimental and simulation results of CO<sub>2</sub> separation using mixed matrix composite hollow fiber membranes**

*A. Fernández-Barquín, C. Casado-Coterillo, A. Irabien*

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**[507]. Ultra selective ionic liquid/nanocellulose blend membranes for CO<sub>2</sub> capture**

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**[577]. High Performance Mixed Matrix Membranes (MMMs) Composed of ZIF-94 Filler and 6FDA-DAM Polymer**

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**[259]. Gelled graphene oxide-ionic liquid composite membranes for carbon dioxide separation**

*W. Fam<sup>a</sup>, J. Mansouri<sup>a</sup>, H. Li<sup>a</sup>, J. Hou<sup>a,b</sup>, V. Chen<sup>a</sup>*

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**Membrane reactors and bioreactors III**

**[812]. Removal of human adenovirus in MBRs: Roles of membrane pore size, fouling, pressure relaxation and membrane cleaning**

*Z. Yin, A. L. Casabuena, H. Shi, I. Xagorarakis, V.V. Tarabara*

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**[9]. A nanofiltration membrane bioreactor (NF-MBR)+reverse osmosis (RO) process for water reuse**

*M.F., Tay<sup>a,b</sup>, C., Liu<sup>b</sup>, B. Wu<sup>b</sup>, T.H., Chong<sup>a,b</sup>*

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**[456]. Optimisation of Itaconic Acid Production with Membrane Systems**

*N. Nemestóthy, L. Tóth, G. Tóth, P. Bakonyi, L. Gubicza, K. Belafi-Bako,*

Research Institute on Bioengineering, Membrane Technology and Energetics, University of Pannonia, Hungary

**[565]. Magnetic responsive membrane bioreactor for simultaneous membrane fouling reduction and bioethanol production from lignocellulose**

*Abaynesh Y. Gebreyohannes\*, M. Dharmjeet\*\*, T. Swusten\*\*\*, M. Mertens\*, J. Verspreet\*\*\*\*, T. Verbiest\*\*\*, C. Courtin\*\*\*\*, Ivo F.J. Vankelecom\**

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**Hybrid membrane processes I**

**[468]. Integration of Nanofiltration and Electrodialysis for surface water treatment in rural area of Mekong Delta: an optimization process**

*D. Linh Nguyen\*\*, M. A. Kammoun\*, Q. Minh Bui\*\*, F. Zaviska\*, P. Sizat\*, A. Deratani\**

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**[557]. Closed-Loop Reverse Electrodialysis Driven Alkaline Water Electrolysis for Renewable Hydrogen Production**

*Ramato Ashu Tufa\*, Efrem Curcio\*\*, Jaromír Hnát\*, Martin Paidar\*, Karel Bouzek\**



\* Department of Inorganic Technology, University of Chemistry and Technology Prague, Czech Republic

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#### **[655]. Micropollutant adsorption through a thin adsorbent layer coupled with an ultrafiltration membrane**

*M. Tagliavini, A. I. Schäfer*

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#### **[60]. Membrane SF: Hybrid membrane process to remove emerging pollutants**

*X.R. Yan\*, A. Favard\*\*, S. Anguille\*, J.L. Seguin\*\*, M. Bendahan\*\* and P. Moulin\**

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### **Membranes for drinking and process water production I**

#### **[248]. Pilot Scale Demonstration of Passive Fouling Control in Gravity Driven Membrane Filtration**

*Rajat Jain\*, Lukas Dössegger\*\* and Pierre R. Bérubé\**

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#### **[184]. Enhanced, hydrophobic, fluorine-containing thermally rearranged (TR) membranes for desalination**

*S.H. Park\*, J.H. Kim\*, S.J. Moon\*, E. Drioli\*, \*\* and Y.M. Lee\**

\* Department of Energy Engineering, College of Engineering, Hanyang University, Republic of Korea

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#### **[328]. Real waste water treatment and saline water desalination in a single-stage with a Microbial Desalination Cell**

*Marina Ramirez-Moreno\*, Patricia Zamora\*\*, Juan M. Ortiz\*, Victor M. Monsalvo\*\*, Frank Rogalla\*\*, Abraham Esteve-Nuñez\*\*, Juan Arévalo-Vilvhes\*\**

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#### **[372]. Clarification and protein stabilization of white wines by ultrafiltration**

*Sofia Catarino\*, \*\*, \*\*\*, Mariana R. de Sousa\*\*, Maria Norberta de Pinho\*\**

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### **Gas & vapor separation IV**

#### **[606]. Thin film gas separation membranes based on pentiptycenecontaining polyurethane with enhanced CO<sub>2</sub> plasticization resistance**

*Ali Pournaghshband Isfahani, Morteza Sadeghi, Easan Sivaniah, Behnam Ghalei*

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#### **[510]. Thiol-ene-epoxy homo-polymerized PEG-based membranes for CO<sub>2</sub> separation**

*Jing Deng\*, Zhongde Dai\*, Marius Sandru\*\*, Liyuan Deng\**

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**[887]. Gas transport analysis in the ultrapermeable polymer of intrinsic microporosity, PIM-TMN-Trip**

*A. Fuoco\**, *B. Comesaña-Gándara\*\**, *M. Longo\**, *E. Esposito\**, *M. Monteleone\**, *I. Rose\*\**, *C. G. Bezzu\*\**, *M. Carta\*\*\**, *N.B. McKeown\*\**, *J.C. Jansen\**

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**[751]. Cryogenic separation performance improvement by zeolite membrane for propane recovery from nitrogen mixtures**

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**Mixed matrix membranes IV**

**[885]. Novel MMMs using zeolite SSZ-16 and high performance 6FDA polyimide for CO<sub>2</sub>/CH<sub>4</sub> separation**

*V. Martin-Gil<sub>a</sub>*, *T. Supinkova<sub>b</sub>*, *P. Lambert<sub>a</sub>*, *M. Z. Ahmad<sub>a</sub>*, *R. Castro-Muñoz<sub>a</sub>*, *P. Hrabanek<sub>b</sub>*, *A. Zikanova<sub>b</sub>*, *M. Kocirik<sub>b</sub>* and *V. Fila<sub>a</sub>*

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**[553]. Enhanced Conductivity in Hybrid PEDOT/Metallacarborane Systems**

*Isabel Fuentes\**, *Andreu Andrio\*\**, *Clara Viñas\**, *Francesc Teixidor\**, *Vicente Compañ\*\*\**

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**[172]. Network-PIM-1 as a promising filler for incorporation into PIM-1-based mixed matrix membranes (MMMs)**

*M. Tamaddondar\**, *K. J. Msayib\*\**, *M. Carta\*\*\**, *P. Gorgojo\*\*\*\**, *N. B. McKeown\*\**, *P. M. Budd\**

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**[340]. Easy Dip-Coating Method to Covalently Immobilize Highly Photocatalytic Active TiO<sub>2</sub> Nanoparticles on a PES Membrane**

*K. Fischer\**, *A. Gawel*, *D. Rosen*, *M. Krause*, *A. Abdul Latif*, *J. Henke*, *I. Thomas*, *M. Kühnert*, *J. Griebel*, *A. Prager*, *A. Schulze*

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**Membrane reactors and bioreactors IV**

**[491]. Comparison of Al- and Fe-based Membrane Fouling Reducers for Biofilm Membrane Bioreactor**

*Z. Maletskyi*, *O. Kulesha*

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**[889]. Intensified hydrogen production in an in situ gas extracting membrane bioreactor with stabilized consortia**

*Marie Renaudie\**, *\*\**, *Valentin Clion\**, *\*\**, *Anne-Clémence Aun\**, *Christine Dumas\**, *Barbara Ernst\**

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**[598]. Osmotic pressure dictates membrane fouling in MBRs: fact or fiction?**

*I. Smets\**, *M.K. Jørgensen\*\**, *G. Van De Staey\**, *M.L. Christensen\*\**

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**[338]. Production of short-chain fructooligosaccharides in enzyme membrane reactor systems**

*Jan Philipp Burghardt<sup>1,2</sup>*, *Amad Ur Rehman<sup>1</sup>*, *Mehrdad Ebrahimi<sup>1</sup>*, *Doreen Gerlach<sup>3</sup>*, *Peter Czermak<sup>1,2,3,4</sup>*

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**Hybrid membrane processes II**

**[670]. Development of bio-hybrid cellulose membranes for biorecognition and bio-separation**

*F. Militano*, *T. Poerio*, *R. Mazzei*, *L. Giorno*

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**[896]. Industrial application of a hybrid membrane-adsorption process**

*P. Schiffmann*, *C. Voss*

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**[826]. Absorbing pervaporation technique for ammonia recovery after the Haber process**

A.A. Atlaskin, A.N. Petukhov, D.N. Shablykin, V.M. Vorotyntsev, I.V. Vorotyntsev

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**[862]. Hybrid process Diafiltration-Adsorption for genotoxic removal from active pharmaceutical ingredient post reaction streams**

*F. A. Ferreira\**, *T. Esteves\**, *C. A. M Afonso\*\**, *F. C. Ferreira \**

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**Wednesday, 11<sup>th</sup> July 2018**

**Gas & vapor separation V**

**[622]. Composite membranes with CO<sub>2</sub>-selective surfaces**

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**[777]. Influence of Mass Transfer Resistance due to Support in Pd/ceramic Composite Membranes using Sweep Gas**

*A. Caravella\**, *C. Zhao\*\**, *\*\*\**, *H. Xu\*\**, *A. Brunetti\*\*\*\**, *G. Barbieri\*\*\*\**, *Andreas Goldbach\*\**

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**[689]. Pervaporation: The dehydration of hydrazine hydrate**

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**[441]. Tuneable gas separation properties by advanced 2D materials coatings on dense and porous polymeric membranes**

*D. Pierleoni\**, *M. Minelli\**, *M. Giacinti Baschetti\**, *S. Ligi\*\**, *V. Morandi\*\*\**, *V. Palermo\*\*\*\** and *F. Doghieri\**

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**Modelling and simulation I**

**[592]. Nanofiltration: compositional effects and a new model**

*Viatcheslav Freger\**, *Noga Fridman-Bishop\*\**

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\*\* Technion – IIT, Department of Civil and Environmental Engineering, Israel

**[37]. A hierarchical approach for the molecular design of polymeric sealants for Vacuum Insulating Glass**

*Stefano Rebughini\**, *Federico Gallino\**

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**[830]. A methodology for the determination of the effective pore radius, in the context of macroscopic fluid flow predictions in medical diagnostic membranes**

*P. Altschuh\**, *M. Bremerich\*\**, *A. Reiche\*\**, *A. Reiter\**, *M. Selzer\**, *B. Nestler\**

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**[834]. Modelling and simulation of hollow fiber membrane contactor for post combustion CO<sub>2</sub> capture through sweep gas**

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**Nanofiltration and Reverse Osmosis I**

**[853] Functionalization of Halloysite NanoTubes for Thin Film Nanocomposite Membranes**

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#### **[42]. Optimization of Thin Film Composite Nanofiltration Membranes Formation Conditions**

*B. Liu\**, *J. C. Crittenden\*\**

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#### **[96]. Polyacrylonitrile Hollow Fibre Membranes for Organic Solvent Nanofiltration**

*H. M. Tham\**, *K. Y. Wang\*\**, *D. Hua\*\**, *S. Japip\*\**, *T. S. Chung\*\**

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#### **[107]. Elevated Performance of Thin Film Nanocomposite Membranes Enabled by Modified Hydrophilic MOFs for Nanofiltration**

*Junyong Zhu\**, *Bart Van der Bruggen\**

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### **Membranes for drinking and process water production II**

#### **[428]. Water, energy and minerals production from seawater with advanced integrated membrane desalination process**

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#### **[528]. Arsenic removal from drinking water in an ion-exchange membrane reactor: optimization by Response Surface Methodology (RSM)**

*M. Pessoa-Lopes*, *C.F. Galinha*, *J.G. Crespo*, *S. Velizarov*

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#### **[639]. Combining Ultrafiltration with PAC and Micro-flocculation Enhance the Removing of NOM From Micro-polluted Source Water**

*X. Bi \**, *L. Cheng*, *C. Liu*

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#### **[628]. Experimental validation of vacuum-enhanced operation in an air-gap membrane distillation commercial module**

*J.A. Andrés-Mañas\**, *I. Requena\**, *A. Ruiz-Aguirre\*\**, *F.G. Ación\**, *G. Zaragoza\*\*\**

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### **Electrochemical membrane processes I**

#### **[227]. Electrodialysis in overlimiting current regimes: Enhancement of mass transport and mitigation of fouling**

*V. Nikonenko\**, *M. Andreeva\**, *S. Zyryanova\**, *N. Pismenskaya\**, *G. Pourcelly\*\**

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**[238]. Sulphate and phosphate separation under overlimiting electro dialysis conditions**

*E. H. Rotta\*, L. Marder\*, A. M. Bernardes\**

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**[437]. 2D surface patterned ion-exchange membranes enhance electroconvection**

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**[87]. A flow battery based on reverse electro dialysis with bipolar membranes**

*U. Nieken, Jiabing Xia, G. Eigenberger, H. Strathmann*

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**Membrane formation and surface modification I**

**[63]. Shaping membrane architecture from meso- to macro scale**

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**[116]. Comparing the influence of tailored copolymer additives on polyphenylenesulfone based flat sheet and hollow fibre ultrafiltration membranes**

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**[229]. Directed Surface Engineering of Polymer Membranes by the Use of Electron Beam Irradiation**

*A. Schulze, I. Thomas, M. Went, D. Breite, K. Fischer, M. Schmidt, A. Prager*

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**[202]. Membrane Preparation by Sequential Spray Deposition of Polymer PISA Nanoparticles**

*J. Ma, H. M. Andriambololona, D. Quemener, M. Semsarilar*

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**Modelling and simulation II**

**[53]. A critical analysis of enzymatic membrane reactors through the coupling of experiments and modelling**

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**[183]. Open-source industrial-scale module simulation: paving the way towards the right configuration choice for membrane distillation**

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**[146]. Numerical simulation and experiment of particle deposition on the prism-shaped patterned membrane surface**

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\*\* School of Aerospace and Mechanical Engineering, Korea Aerospace University, Goyang-City, Republic of Korea

**[157]. A cost-based comparison of membrane and chemical absorption processes for carbon capture**

*A. M. Arias \**, *P. L. Mores \**, *N. J. Scenna \**, *J. A. Caballero \*\**, *M. C. Mussati \*\*\**, *S. F. Mussati \*\*\**

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**Nanofiltration and Reverse Osmosis II**

**[139]. Membrane selection for the removal of water priority pollutants. NF/RO separation of perfluorinated compounds**

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**[734]. Design strategy of small RO plants powered by photovoltaic energy with consideration of environmental and energy issues**

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**[339]. New strategies to obtain chlorine-resistant TFC membranes**

*R. Verbeke\*, Elke Dom\*, I.F.J. Vankelecom\**

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**[651]. Polymer Nanofilms with Enhanced Microporosity and Tunable Pore Size Enable Ultra-selective Molecular Separations**

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**Membranes for drinking and process water production III**

**[414]. Role of Membrane Surface Charge and Hydrophobicity in Removal and Destruction of Algal Toxins at Basic pH Values**

*J. Eke, P. Wagh, I.C. Escobar*

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**[681]. Concurrent Desalination and Boron Removal via Reverse Osmosis**

*S. Kayaci\*, S. Kürklü\*, S. Velioglu\*, M. G. Ahunbay\*, S. B. Tantekin-Ersolmaz\*, W.B. Krantz\*\*, \*\*\**

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**[860]. Application of tailored nanofiltration membranes for the removal of ibuprofen (IBP), naproxen (NPR), and diclofenac (DCF) from wastewater effluents**

*A. Atisha\*, M. Bernards\*\*, E. K. Yanful\*, J. Kujawa\*\*\*, W. Kujawski\*\*\**

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\*\* Western University, Department of Biology, Canada

\*\*\* Nicolaus Copernicus University in Toruń, Faculty of Chemistry, Poland

**[422]. Treatment of NH<sub>4</sub>NO<sub>3</sub> laden condensate for re-use as boiler feed water – from lab to pilot scale**

*M. Vanoppen\**, *E. De Meyer\**, *P. Van Elslande\**, *E. van den Brande\*\**, *A.R.D. Verliefde\**

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**Electrochemical membrane processes II**

**[591]. Ion transport at membranes in detail**

*R.G.H. Lammertink*, *J.C. de Valença*, *A.M. Benneker*, *J.A. Wood*

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**[517]. Copper electrowinning from diluted solutions through EDR cells with high fluidodynamics**

Gerardo Cifuentes<sup>1\*</sup>, Héctor Godoy<sup>1</sup>, Juan León<sup>1</sup>, Belén Garrido<sup>1</sup> and Magdalena Cifuentes<sup>2</sup>

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**[452]. Experiments and modelling for determining the Limiting Current Density in Electrodialysis units**

*M. La Cerva\**, *L. Gurreri\**, *M. Tedesco\*\**, *A. Cipollina\**, *A. Tamburini\**, *M. Ciofalo\**, *G. Micale\**

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**[519]. Ion transport in bipolar membranes for non-extreme pH gradients**

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**Membrane formation and surface modification II**

**[269]. Charge Selective Polymer Membranes with pH Dependent Selectivity**

*D. Breite*, *A. Prager*, *A. Schulze*

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**[131]. Clickable anti-fouling hydrogel coatings for filtration membranes**

*P. May*, *M. Ulbricht*

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**[298]. Influence of surface micro-patterning and chemical surface modification on the colloidal fouling of PA TFC membranes**

*Ibrahim M.A. ElSherbiny\**, *Ahmed S.G. Khalil\*\**, *Mathias Ulbricht\**

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**[314]. Helical Ridge Membranes for Enhanced Mass Transfer**

*M. Tepper<sup>1,2</sup>*, *J. Rubner<sup>1,2</sup>*, *T. Luefl<sup>1,2</sup>*, *M. Wessling<sup>1,2</sup>*



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### **Modelling and simulation III**

#### **[101]. Nanostructures based membrane functionalization: a molecular modelling for structure-properties relationship**

*G. De Luca\**, *R. Amuso\*\**, *A. Figoli\**, *R. Mancuso\*\**, *J. Hoinkis\*\*\**, *B. Gabriele\*\**

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#### **[265]. Hydrogen and syngas recovery from flue gas using membrane technology: an optimization study**

*Gabriel Zarca\**, *Ane Urtiaga\**, *Inmaculada Ortiz\**, *Lorenz T. Biegler\*\**

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#### **[327]. Subsea natural gas dehydration with membrane processes**

*K. Dalane*, *M. Hillestad*, *L. Deng*

Department of Chemical Engineering, Norwegian University of Science and Technology (NTNU), Norway

#### **[331]. Simulation of OSN membrane cascades: a versatile architecture to select the optimal configuration based on specific criteria**

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### **Nanofiltration and Reverse Osmosis III**

#### **[34]. Nanofiltration performance of conical and hourglass nanopores**

*B. Balannec\**, *A. Ghoufi\*\**, *A. Szymczyk\**

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#### **[283]. Designing layer-by-layer nanofiltration membranes**

*D. Rall\**, *\*\**, *D. Menne\**, *J. Kamp\**, *\*\**, *L. von Kolzenberg\**, *M. Wessling\**, *\*\**

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#### **[569]. Sub-8nm polyamide thin film composite membranes for reverse osmosis application**

*Zhiwei Jiang\**, *Santanu Karan*, *Andrew G. Livingston*

\* Barrer Centre, Department of Chemical Engineering, Imperial College London, South Kensington Campus, United Kingdom.

#### **[357]. Thin Film Nanocomposite Membranes for Nanofiltration by Application of the Langmuir-Schaefer Technique**

*L. Paseta\**, *M. Navarro\**, *J. Benito\*\**, *I. Gascon\*\**, *J. Coronas\**, *C. Tellez\**

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## Membrane fouling and ageing I

### [94]. Mitigation of membrane fouling during separation of ABE fermentation broth

*I. Borisov, G. Golubev, V. Vasilevsky, A. Volkov, V. Volkov*

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### [664]. Microfluidic tools to investigate and improve membrane processes

*Karin Schroën<sup>1</sup>, Ties van de Laar<sup>1,2</sup>, Joris Sprake<sup>2</sup>*

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### [277]. Temperature Responsive Polymeric Microgels for Fouling Removal during Membrane Filtrations

*C. Aksoy\*, P. Kaner\*\*, M. Saksiriwatekul\*\*, A. Asatekin\*\*, P. Z. Çulfaz-Emecen\**

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### [213]. Cohesive Strength of Membrane Surface Fouling layers – Effect of Crossflow Regimes

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## Electrochemical membrane processes III

### [739]. Modelling Reverse Electrodialysis by using Irreversible Thermodynamics

*W.Kujawski\*, A.Yaroshchuk\*\*, S.Koter\**

\*Nicolaus Copernicus University in Torun, Poland

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### [599]. Temperature-stable anion-exchange materials from cyclopolymerization of quaternary ammonium halides

*J. Meier-Haack\*, M. Rashid\*, K. Schlenstedt\*, C. M. Bell\*\**

\* Leibniz Institute of Polymer Research Dresden, Germany

\*\* Reutlingen University, Germany

### [610]. Can electrodialysis make zero liquid discharge economically feasible?

*Tomáš Jiříček\*, Beatriz Machado\*\*, Hana Fárová\*, Tomáš Kotla\**

\* Membrain s.r.o, Czech Republic

\*\* Beatriz da Silva Machado, Federal University of Bahia, Brazil

### [757]. Can Stand-alone ED or coupled ED-MD be a Suitable Approach to Treat Spent Brine from Ion-exchange and Recycle NaCl?

*M. Haddad\*, L. Bazinet\*\* and B. Barbeau\**

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## Membrane formation and surface modification III

### [423]. Structure control and surface modification of nanofiltration membranes for sustainable applications

*S.P. Sun\**, *T.D. Lu*, *Q.C. Xia*

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### [430]. Laser induced graphene (LIG) membranes and filters derived from polyethersulfone (PES) membranes for water and wastewater treatment

*Swatantra P. Singh<sup>1</sup>*, *Yilun Li<sup>2</sup>*, *Jibo Zhang<sup>2</sup>*, *James M. Tour<sup>2</sup>* and *Christopher J. Arnusch<sup>1</sup>*

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<sup>2</sup> Department of Chemistry, Department of Materials Science and NanoEngineering, Smalley-Curl Institute and NanoCarbon Center, Rice University, USA

### [105]. Membrane-based solvent extraction (pertraction) utilising polymers of intrinsic microporosity

*P.M. Budd*, *R.S. Bhavsar*, *J. O'Connor*, *N. Iftikhar*

School of Chemistry, University of Manchester, United Kingdom

### [586]. 100% salt rejection for efficient distillation membranes thanks to surface modification: dream or reality?

*T. Eljaddi\**, *D. Mejia \**, *E. Favre\**, *D. Roizard\**

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## Modelling and simulation IV

### [523]. Numerical simulation of mechanical vibration induced membrane surface shear stress in a pilot-scale vibration MBR

*Xuefei Liu\**, *Keng Han Tng\**, *Wenbo Fan\*\**, *Pan Dai\*\**, *Jing Guan\*\**, *Yuan Wang\**, *Greg Leslie\**

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### [120]. Coarse-grained molecular dynamics study of membrane distillation through meso-size graphene channels

*Hui Zhang<sup>1,2</sup>*, *Kun Zhou<sup>1,3</sup>*, *Adrian Wing-Keung Law<sup>1,4</sup>*

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<sup>3</sup> School of Mechanical and Aerospace Engineering, Nanyang Technological University, Singapore

<sup>4</sup> School of Civil and Environmental Engineering, Nanyang Technological University, Singapore

### [530]. Does membrane thickness play a role in (reverse) electrodialysis?

*M. Tedesco*, *H.V.M. Hamelers*, *P.M. Biesheuvel*

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### [665]. 3D porous media flow models to simulate filtration in multichannel ceramic membranes

*E, Frédéric\**, *P, Schmitz\**, *A, Krifi\**, *A, Liné\**, *C, Guigui\**, *M, Jacob\*\**, *P, Baldony\*\**, *C, Machinal\*\*\**, *Y, Deleuze\*\*\**

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## Nanofiltration and Reverse Osmosis IV

### [906]. Widening the Applications of PIMs and Epoxysilicones in Organic Solvent Nanofiltration

*M. Cook, L. Peeva, A. Livingston*

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### [783]. Nanofiltration treatment for boron removal from ceramic industry wastewater

*R. Moliner-Salvador\*, E. Sánchez\*, I. Celades\*, A. Deratani\*\*, J. Palmeri\*\*\**

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### [634]. Layer by layer design of acid resistant NF and RO membranes from tubular ceramic support

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### [649]. Maleic anhydride based copolymers grafted to $\gamma$ -alumina for organic solvent nanofiltration: Importance of the copolymer structure

*M. Amirilargani\*, R. B. Merlet\*\*, A. Nijmeijer\*\*, L. Winnubst\*\*, L. C. P. M. de Smet\*, E. J. R. Sudhölter\**

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\*\* MESA+ Institute for Nanotechnology, University of Twente, The Netherlands

## Membrane fouling and ageing II

### [685]. Seeking More Realistic Membrane Ageing at Bench Scale

*S. J. Robinson\*, P. R. Bérubé\**

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### [409]. Aerating Static Mixers Prevent Fouling

*S. Armbruster\*, A. Brochard\*, J. Lölsberg\*, \*\*, M. Wessling\*, \*\**

\* RWTH Aachen University, Chemical Process Engineering, Germany

\*\* DWI – Leibniz-Institute for Interactive Materials, Germany

### [444]. Fouling development in membrane distillation: *In-situ* monitoring and destructive analysis

*Luca Fortunato\*, Jung-Gil Lee\*, Sanghyun Jeong\*\*, Noredine Ghaffour\*, TorOve Leiknes\**

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### [690]. Bacterial biofilm formation on different commercially available ion exchange membranes and its effect on Donnan exchange

*Soumya Pandit<sup>1</sup>, Yoram Oren<sup>1</sup>, Meagan S. Mauter<sup>2</sup>, Moshe Herzberg<sup>1\*</sup>*

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## Electrochemical membrane processes IV

### [424]. The «abnormal» current-voltage and transport characteristics of ion exchange membranes in phosphate solutions

*N.D. Pismenskaya\**, *E.D. Melnikova\**, *V.V. Sarapulova\**, *E.E. Nevakshenova\**, *V.V. Nikonenko\**, *P. Sizat\*\**, *G. Pourcelly\*\**

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### [878]. Tertiary treatment of source separated urine by electrodialysis and electro-oxydation technology for direct water reuse

*M. Nuel\**, *F. Zaviska\**, *G. Lesage\**, *M. Heran\**

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### [198]. Solution-diffusion Driven Transport of Uncharged Organics in Ion-exchange Membranes

*L. Ma\**, *L. Gutierrez\**, *M. Vanoppen\**, *A. Verliefde\**

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### [405]. Improved bacterial removal through interlaced CNT electrodes on membrane surfaces

*P. Arribas\**, *\*\**, *\*\*\**, *Q. Zhang\**, *M. C. García-Payo\*\**, *M. Khayet\*\**, *\*\*\*\**, *C. D. Vecitis\**

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## Thursday, 12<sup>th</sup> July 2018

## Membrane formation and surface modification IV

### [64]. Greener membrane manufacture

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### [583]. Fluorinated membranes, activated by Piranha reagent and grafted with fluoralkylsilanes and alkylsilanes for the removal of hazardous VOCs

*J. Kujawa\**, *S. Al-Gharabli\*\**, *W. Kujawski\**, *Z. Abu El-Rub\*\**, *E. M. Hamad\*\*\**

\* Faculty of Chemistry, Nicolaus Copernicus University in Toruń, Poland

\*\*Pharmaceutical and Chemical Engineering Department, German Jordanian University, Jordan

\*\*\* Biomedical Engineering Department, German Jordanian University, Jordan

### [455]. Pseudopeptide-polymer conjugates: A new class of selective bio-additives for CO<sub>2</sub> separation membranes

*A. Jonquieres\**, *X. Solimando\**, *C. Lherbier\**, *J. Babin\**, *C. Arnal-Herault\**, *E. Roméro\**, *S. Acherar\**, *B. Jamart-Gregoire\**, *D. Barth\*\**, *D. Roizard\*\**

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\*\*Laboratoire Réactions et Génie des Procédés, LRGP UMR CNRS-Université de Lorraine, France

### [833]. Preparation of novel Polyethersulfone porous membranes with Polarclean® as green solvent

*A. Figoli\**, *T. Marino\**, *C. Ursino\**, *F. Russo\**, *E. Di Nicolò\*\**, *F. Galiano\**

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## Modelling and simulation V

### [499]. On negative rejection of uncharged organic solutes in Forward Osmosis

*A. D'Haese\**, *I. De Leersnyder\*\**, *P. Vermeir\*\**, *A. Verliefde\**

\* PalnT, Faculty of Bioscience Engineering, Ghent University, Belgium

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### [633]. Impact of porous structure on membrane transport

*S. Mondal\**, *M. Bruna\**, *I. Griffiths\**, *G. Z. Ramon\*\**

\* Mathematical Institute, University of Oxford, UK

\*\* Civil & Environmental Engineering, Technion – Israel Institute of Technology, Israel

### [574]. Electro dialysis with capacitive electrodes (CED): hierarchical process modelling for water desalination

*A. Campione\**, *L. Gurreri\**, *A. Cipollina\**, *A. Tamburini\**, *I. David L. Bogle\*\**, *G. Micale\**

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### [733]. Multiscale modelling for the prediction of gas permeability in glassy polymers

*N. Vergadou\**, *D.N. Theodorou\*\**

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\*\*School of Chemical Engineering, National Technical University of Athens, Greece

## Nanotechnology and membranes I

### [370]. Liquid crystal polymer membranes for selective ion separations

*K. Nijmeijer\**, *\*\**, *Z. Borneman\**, *\*\**, *T. Liang\**, *\*\*\**, *\*\*\*\**, *H.P.C. van Kuringen\*\*\**, *\*\*\*\*\**, *D.J. Mulder\*\*\**, *\*\*\*\*\**, *S. Tan\*\*\*\**, *Y. Wu\*\*\*\**, *A.P.H.J. Schenning\*\*\**, *\*\*\*\*\**

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\*\*\*\* School of Chemical Engineering, Sichuan University, China

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\*\*\*\*\* Institute for Complex Molecular Systems (ICMS), Eindhoven University of Technology, The Netherlands

### [82]. Control size of gel-trapped palladium nanoparticles on a catalytic membrane. Applications to fine chemistry.

*M. Lopez-Viveros\**, *I. Favier\*\**, *M. Gómez\*\**, *J-F. Lahitte\**, *J-C. Remigy\**

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**[743]. Enhanced chemical separation by self-sustaining nanofilm synthesized at the vapor-liquid interface.**

*A. Droudian, S. K. Youn, L. Wehner, R. M. Wyss, M. Li, H. G. Park*

Nanoscience for Energy Technology and Sustainability, Department of Mechanical and Process Engineering, Eidgenössische Technische Hochschule (ETH), Switzerland

**[78]. Multifunctional Polymer-Boron Nitride Nanosheet Nanofiltration Membranes.**

*Z. X. Low, J. Ji, D. Blumenstock, D. Mattia*

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**Membrane fouling and ageing III**

**[292]. Biofouling Control with Quorum Quenching Bacteria in Membrane Bioreactors for industrial wastewater treatment**

*O. Khelifi\*, E. Koltsova\*, A. Nehrii\*, H. Ratnaweera\*, K.B. Lee\*\*, C.H. Lee\*\*\**

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\*\* Department of Environmental Engineering, Kyungpook National University, Republic of Korea

\*\*\* School of Chemical and Biological Engineering, Seoul National University, Republic of Korea

**[448]. Phenolic compounds and their interactions in membrane fouling**

*T. Virtanen, J. Lahti, M. Mänttari, M. Kallioinen*

LUT School of Engineering Science, Lappeenranta University of Technology, Finland

**[933]. Fabrication and Characterization of Polyamide-Fullerenol Thin Film Nanocomposite Hollow Fiber Ultrafiltration Membranes with Enhanced Antifouling Performance**

*T. V. Plisko, A. V. Bilyukevich, A. S. Liubimova, A. V. Penkova*

\* Institute of Physical Organic Chemistry, National Academy of Sciences of Belarus, Belarus

**[544]. How to test membrane robustness regarding abrasion?**

*Emmanuelle Filloux\*, A. Fabre\*, P. Faure\*, A. Bréhant\*, Y. Wyart\*\*, P. Moulin\*\*\**

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\*\* Equipe Procédés Membranaires (EPM), Aix Marseille Université, France

**Membranes for energy conversion, fuel cells and batteries**

**[47]. Alkaline polymer membranes for fuel cell applications. Challenging proton exchange membrane fuel cells?**

*G. Pourcelly*

University of Montpellier, European Membrane Institute, France

**[362]. Electrode design for direct-methane micro-tubular solid oxide fuel cell (MT-SOFC)**

*M. F. Rabuni\*, T. Li\* and K. Li\*\**

\* Department of Chemical Engineering, Imperial College London, UK

\*\* Barrer Centre, Imperial College London, UK

**[272]. Gas separation properties of thin film polyimides on ceramic supports for high temperature applications**

*S. Escorihuela\**, *A. Tena\*\**, *S. Shishatskiy\*\**, *S. Escolástico\**, *T. Brinkmann\*\**, *J. M. Serra\**, *V. Abetz\*\**

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\*\* Helmholtz-Zentrum Geesthacht, Institute of Polymer Research, Germany

**[144]. Development of Hydroxide Ion Conducting Anion Exchange Membranes and Their Applications in Alkaline Membrane Fuel Cells**

*J. Y. Jeon\**, *J. Y. Han*, *S. Noh\**, *S. Park\**, *C. Y. Ryu\**, *Y. S. Kim\*\*\**, and *C. Bae\**,\*\*

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**Membrane formation and surface modification V**

**[417]. Lights and shadows of electrospun nanotextured membranes used in membrane distillation**

*M. Khayet\**, \*\*, *M.C García-Payo\**

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**[767]. Advances in preparation, modification, and application of polymer inclusion membranes**

*C. Fontàs*, *R. Vera*, *E. Anticó*

Chemistry Department, University of Girona, Spain

**[616]. Surface functionalization of high free volume polymers towards hydrogen separation materials**

*B. Ghalei*, *Y. Kinoshita*, *K. Sakurai*, *K. Wakimoto*, *E. Sivaniah*

Institute for Integrated Cell-Material Sciences (iCeMS), Kyoto University, Japan

**[842]. Preparation and Characterization of Novel Clinoptilolite Membranes for the Treatment of Natural Gas Type Mixtures**

*D. A. Kennedy*, *T. Omar*, *F. Handan Tezel*

Department of Chemical and Biological Engineering, University of Ottawa, Canada

**Modelling and simulation VI**

**[762]. Membrane assisted crystallization of salt crystals: Modeling & Experiments**

*E. Tocci\**, *C. Rizzuto\**, *F. Macedonio\**, *J.H. Tsai\*\**, *K.L. Tung\*\**, *L. Giorno\**, *E. Drioli\**

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**[747]. Critical flux determination in dynamic ultrafiltration using neural networks**

*V. H. Grisales Díaz\**, *O. A. Prado-Rubio\*\**, *M. J. Willis\**, *M. von Stosch\**

\* School of Engineering, Newcastle University, UK



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**[795]. The Effect of Mass Transfer Resistance and Non-Uniform Initial Solvent Concentration on Permeation Through Polymer Membranes**

*J. M. Zielinski\**, *S. A. Altinkaya\*\**

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\*\* İzmir Institute of Technology, Department of Chemical Engineering, Turkey

**[630]. Pressure and flow distribution in pipe and torus aerators in MBR: CFD Simulation and Laboratory Study**

*Y. Shi\**, \*\*, *X. Liu\*\**, *P. Dai\**, *J. Guan\**, *Y. Wang\*\**, *T. D. Waite\*\*\**, *G. Leslie \*\**

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## **Membranes for wastewater treatment I**

**[696]. Recovery of biologically active-compounds from licorice root extracts by membrane-based operations**

*A. Cassano*, *C. Conidi*, *L. Fucà*, *E. Drioli*

Institute on Membrane Technology (ITM–CNR), the University of Calabria, Italy

**[458]. Biofilm compression under dead-end ultrafiltration: An experimental and numerical study**

*M. Jafari\**, *P. Desmond\*\**, *M. Van Loosdrecht\**, *C. Picioreanu\**

\* Department of Biotechnology, Faculty of Applied Sciences, Delft University of Technology, The Netherlands

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**[153]. Polymeric Hollow fiber-supported Catalysts membranes for nitrate/nitrite removal from groundwater**

*M. Guate*, *A. Ortiz*, *I. Ortiz*

Department of Chemical and Biomolecular Engineering. University of Cantabria, Spain

**[443]. Experimental investigation and modelling of diffusion dialysis for the recovery of waste acid solutions**

*R. Gueccia\**, *S. Randazzo\**, *D. Chillura Martino\*\**, *A. Cipollina\**, *G. Micale\**

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## **Membrane fouling and ageing IV**

**[654]. Monochloramine use for biological stability and biofouling control in RO membranes treating an MBR wastewater effluent**

*N.M. Farhat\**, *E. Loubineaud\*\**, *E.I.E.C. Prest\*\**, *J. El-Chakhtoura\*,\*\**, *C. Salles \*\*\**, *Sz.S. Bucs\**, *J. Trampé\*\*\**, *W.B.P. Van den Broek\*\*\**, *J.M.C. Van Agtmaal\*\*\**, *M.C.M. Van Loosdrecht\*\**, *J.C. Kruithof\*\*\*\**, *J.S. Vrouwenvelder \*,\*\**

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**[581]. Brush-Like Oligomers of Aminophenol for Effective Protein Repellency PES Surface**

*N. Nady*

Department of Chemical and Petrochemical Engineering, Faculty of Engineering, Egypt-Japan University of Science and Technology, Egypt

**[725]. Thermal aging effect in polycarbonate membranes: influence of polymer grade, aging temperature and time**

*B. Diawara, K. Fatyeyeva, S. Marais*

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**[652]. In-situ local flow fields and shear stress near membrane surface of colloidal suspensions concentrated during cross-flow ultrafiltration probed by SAXS and micro-PIV**

*C. Rey\*, N. Hengl\*, S. Baup\*, A. Dufresne\*\*, H. Djeridi\*\*\*, F. Pignon\**

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**Biomedical membrane applications**

**[20]. Hollow fiber membrane bioreactor for the biofabrication of 3D liver microtissues**

*H. M. M. Ahmed, S. Salerno\*, S. Morelli, L. idietta Giorno, L. De Bartolo*

Institute on Membrane Technology, The University of Calabria, Italy

**[584]. Blood oxygenation in microfluidic meander-type membrane contactors**

*A.M. Malankowska\*, I. Julian\*, I. Pellejero\*\*, H.S. Rho\*\*\*, S. Schlautmann\*\*\*, R.M. Tiggelaar\*\*\*\*. M.P. Pina\*, R.M. Mallada\*, H. Gardeniers\*\*\**

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\*\* Institute for Advanced Materials, Public University of Navarra, Spain

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**[818]. Preparation of perfluorocarbon emulsions by premix membrane emulsification for acoustic droplet vaporization in biomedical applications**

*R. Melich\*\*, F. Padilla\*\*,\*\*\*,\*\*\*\*, C. Charcosset\**

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\*\* LabTAU, INSERM, Centre Léon Bérard, Université Lyon, France

\*\*\* Department of Radiation Oncology, University of Virginia School of Medicine, USA

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**[798]. PLLA microtube array membrane bioreactor as investigational platform for neurodegenerative diseases**

*S. Morelli\*, A. Piscioneri\*, S. Salerno\*, C.C. Chen\*\*, L. Giorno\*, E. Drioli\*, L. De Bartolo\**

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## Membranes for wastewater treatment II

### [73]. UiO-66 incorporated thin-film nanocomposite membranes for efficient selenium and arsenic removal

*Y. He\**, *Y. P. Tang\*\**, *D. Ma\*\**, *T.S. Chung\*\**

\* NUS Graduate School for Integrative Science and Engineering, National University of Singapore, Singapore

\*\* Department of Chemical and Biomolecular Engineering, National University of Singapore, Singapore

### [187]. Subsisted polymethylsiloxane membrane for oxygenates removal from water by pervaporation

*E.A. Grushevenko*, *I.A. Podtynnikov*, *V.V. Volkov*, *I.L. Borisov*

A.V.Topchiev Institute of Petrochemil Synthesis RAS, Russia

### [604]. Production of high quality water from brackish groundwater using a Forward Osmosis – Nanofiltration system

*F. Ricceri\**, *M. Giagnorio\**, *A. Tiraferri\**

\* Department of Environment, Land and Infrastructure Engineering, Politecnico di Torino, Italy

### [555]. Membrane filtration and advanced oxidation processes to treat anti-cancer drugs in hospital and domestic wastewater effluents

*B. Cristóvão\**, *R. Janssens\*\**, *J.Torrejais\**, *P. Luis\*\**, *B. V. der Bruggen\*\*\** *M. R. Bronze\*\*\*\**, *J.G. Crespo\*\*\*\*\**, *V.J. Pereira\**

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\*\*\*\*\* REQUIMTE/Chemistry Department, Faculdade de Ciências e Tecnologia, UNL, Portugal

## Emerging membrane science and technology I

### [61]. Biodegradation of bisphenol a on an enzyme modified nanofibrous membrane for water treatment

*LE Koloti\**, *NP Gule\*\**, *OA Arotiba\**, *SP Malinga\**

\*Department of Applied Chemistry, University of Johannesburg, Johannesburg, South Africa

\*\*Department of Polymer Science, Stellenbosch University, South Africa

### [332]. Layer-by-layer membrane modification for resource recovery from hydrochloric acid

*K. Remmen\**, *R. Schäfer\**, *T. Wintgens\**, *M. Lenz\**, *M. Wessling\*\**

\*FHNW, Institute for Copreneurship, Switzerland

\*\* Lehrstuhl für Chemische Verfahrenstechnik, RWTH Aachen University, Germany

### [93]. Polymer inclusion membranes (PIMs): a valuable tool in chemical analysis

*M. I. G. S. Almeida*, *R. W. Cattrall*, *S. D. Kolev*

School of Chemistry, The University of Melbourne, Australia

### [178]. Solvent and thermal resistant porous membranes from alkynecontaining high-performance polymers

*B. A. Pulido*, *S. Chisca*, *S. P. Nunes*

Biological and Environmental Science and Engineering Division (BESE), King Abdullah University of Science and Technology (KAUST), Saudi Arabia.

## Facilitated transport

### [828]. Advance of H<sub>2</sub>S, CO<sub>2</sub> and CH<sub>4</sub> binary and ternary mixture separation by the SILMs

*A.I. Akhmetshina, A.A. Atlaskin, A.V. Vorotyntsev, A.Mechergui, I.V. Vorotyntsev*

Laboratory of membrane and catalytic processes, Nanotechnology and Biotechnology Department, Nizhny Novgorod State Technical University, Russia

### [7]. Rubbery organic frameworks-facilitated transport through dyanameric membranes

*M. Barboiu*

Institut Européen des Membranes, Montpellier, France

### [676]. Modelling water sorption in Facilitated Transport Membranes with PC-SAFT Equation of State: the case of Polyvinyl amine

*R. Rea, M.G. De Angelis, M. Giacinti Baschetti*

Università di Bologna, Italy

### [701]. Microstructure and water barrier properties of biobased poly (L-lactide)/poly (D-lactide) stereocomplex

*N Varol\*, \*\*, K Fatyeyeva\*, E Dargent\*\**

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## Membrane contactors I

### [65]. Continuous production of cellulose microbeads using membrane emulsification

*J.C. O'Brien\*, E. Ekanem\*\*, J. L. Scott\*, D. Mattia\*\**

\* Department of Chemistry, University of Bath, UK

\*\* Department of Chemical Engineering and Centre for Advanced Separations Engineering, University of Bath, UK

### [243]. Accuracy of mass transfer estimation between differing membrane contactor geometries

*S.T Houlker, M Pidou, E.J McAdam*

CWSI, Cranfield University, UK

### [682]. Simultaneous recovery of phosphorus and ammonium from wastewater through membrane crystallization

*C.A. Quist-Jensen, J.M. Sørensen, A. Svenstrup, L. Scarpa, T.S. Carlsen, H.C. Jensen, L. Wybrandt, M.L. Christensen*

Department of Chemistry and Bioscience, Aalborg University, Denmark

### [714]. High saline water desalination using direct contact membrane distillation: An experimental investigation

*K. Rahaoui\*,\*\*, F. Abdullah\*, R. Alhindawi\*, L.C. Ding\*, A. Date\*, A. Akbarzadeh\*, M. Khayet\*\*,\*\*\**

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## **Inorganic membranes I**

### **[124]. Ink-jet technology applied to engineer low- cost ceramic membranes**

*M.D. Palacios\*, M.J. Orts\*\*, E. Sánchez\*\*, S. Mestre\*\*, \*\**

\* University Institute of Ceramic Technology. Universidad Jaume I, Spain.

\*\* Chemical Engineering Department. Universidad Jaume I, Spain.

### **[8]. Facile surface modification techniques of ceramic membranes for improving fouling resistance in water treatment**

*J. Lee, J.H. Ha, I.H. Song*

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### **[193]. MIEC hollow fiber membranes in a plasma atmosphere**

*I. Kistner\*, A. Schulz\*, C. Rösler\*\*, T. Schiestel\*\**

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\*\*Fraunhofer Institute for Interfacial Engineering and Biotechnology, Germany

### **[241]. A new Maxwell–Stefan diffusion based transport model for studying gas separation at pressures up to 20 MPa**

*N. Kruse\*, G. Braun\*, J.U. Repke\*\**

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\*\* TU Berlin, Germany

## **Membranes for wastewater treatment III**

### **[572]. Anaerobic digestion and membrane separation processes association for vinasse treatment enabling water reuse**

*N. C. Magalhães\*\*, A. F. R. Silva\*, P. V. M. Cunha\*, M. C. S. Amaral\*, J. E. Drewes\*\**

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### **[663]. Hybrid membrane bioreactor- powdered activated carbon (MBR-PAC) process for wastewater treatment**

*N. Ran, J. Gilron, M. Herzberg*

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### **[671]. Assessing the role of the draw solution on the transport of trace organic contaminants through novel forward osmosis membranes**

*M. Sauchelli \*\*, G. Pellegrino \*, A. D'Haese \*\*\*, I. Rodriguez-Roda \*\*, W. Gernjak \*, \*\*\*\**

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## **Emerging membrane science and technology II**

### **[593]. Chemistry in a spinneret - Composite hollow fiber membranes with sinusoidal geometry**

*H. Roth\*, S. Emonds\*, M. Tepper\*, T. Luelf\*, M. Wessling\*, \*\**

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**[418]. Pristine graphene membranes supported on ceramic hollow fibre prepared via a sacrificial layer approach**

*Y. Chi, J. Y. Chong, B. Wang, K. Li*

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**[732]. Process modelling and economic feasibility study of a new draw solution assisted reverse osmosis process for seawater desalination**

*K. Park\*, D. Y. Kim\*\*, D. R. Yang\**

\* Korea University, Department of Chemical and Biological Engineering, Republic of Korea

\*\* Imperial College of London, Department of Chemical Engineering, UK

## **Nanotechnology and membranes II**

**[647]. Immobilisation of carbon-based nanoparticles within ultrafiltration membranes for hormone removal**

*M. N. Nguyen, A. I. Schäfer*

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**[145]. Ion Transport through a One-Atom Thick Membrane**

*M. Ghosh\*, K. Jorissen, J. A. Wood, R. G.H. Lammertink*

Soft Matter, Fluidics and Interfaces, University of Twente, The Netherlands

**[207]. Swift heavy ion perforated and track-etched graphene/polymer composite membranes for ultrafiltration**

*J. Schumacher\*, L. Madauß\*\*, M. Ghosh\*\*\*, H. Lebius\*\*\*\*, B. Ban-d'Etat\*\*\*\*, R. G. H. Lammertink\*\*\*, M. Schleberger\*\*, M. Ulbricht\**

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## **Membrane contactors II**

**[26]. Understanding oily wastewater treatment via membrane Distillation**

*L. Han\*, A.G. Fane\*\*, J.W. Chew\*,\*\**

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\*\* Singapore Membrane Technology Centre, Nanyang Environmental and Water Research Institute, Nanyang Technological University, Singapore

**[568]. Management of dissolved gases in wine using a dense composite hollow fibre membrane contactor**

*P. Beirnaert, J.C. Remigy*

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**[803]. Greening perfluorocarbon based nanocapsules by membrane emulsification technique: An impetus to register novel biomedical and bioprocessing applications**

*U. T. Syed\**, *A.M.A. Dias\*\**, *H.C. de Sousa\*\**, *J.G. Crespo\**, *C. Brazinha\**

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## **Inorganic membranes II**

### **[635]. MFI Zeolite Membranes as Potential Devices for Water Treatment**

*A. Garofalo, L. Donato, A. Criscuoli, E. Drioli, C. Algieri*

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### **[188]. Hot wastewater and caustic soda recovery by using ceramic membrane ultrafiltration in the textile industry**

*M. Dilaver, S. M. Hocaoglu, G. Soydemir, M. Dursun*

TUBITAK Marmara Research Center Environment and Cleaner Production Institute, Turkey

### **[770]. Development ceramic nanofiltration membranes with high volume-specific membrane area and their application in the effective treatment of problematic process waste waters from the oil and gas industry as well as mining**

*C. Pflieger\*, M. Weyd\*, H. Richter\*, P. Puhlfürß\*, I. Voigt\*, M. Berry\*\*, V. Prehn\*\*\*, A. Junghans\*\*\*\**

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## **Friday, 13<sup>th</sup> July 2018**

### **Membranes for wastewater treatment IV**

#### **[346]. Identification of structures of polysaccharides causing membrane fouling in MBRs: a proposal for new model polysaccharides**

*K. Kimura, T. Kakuda, H. Iwasaki*

Division of Environmental Engineering, Hokkaido University, Japan

#### **[41]. Membrane bioreactor with ozonation pretreatment: a competent candidate for recalcitrant industrial wastewater treatment**

*J. Xue<sup>1</sup>, Y. Zhang<sup>1</sup>, Y. Liu<sup>1\*</sup>, M. Gamal El-Din<sup>1\*</sup>*

<sup>1</sup> Department of Civil and Environmental Engineering, University of Alberta, Canada

#### **[738]. Ultrafiltration performance for sericin recovery from silk effluents**

*B. Kiraz\*, I. Bayram\*\*, U. Yetis\*, G. Capar\*\**

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\*\* Ankara University Water Management Institute, Turkey

#### **[256]. Optimization of operating conditions in ultrafiltration process for the elimination of organic matter in the paper industry waste effluent: Taguchi experimental design approach**

*M. R. S. Sousa, J. Lora-García, M.F. López-Pérez*

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## Emerging membrane science and technology III

### [562]. Membrane-assisted nanoprecipitation for size-tuned nanoparticles mass production

*A. Albisa<sup>1,2,3</sup>, Emma Piacentini<sup>3</sup>, Victor Sebastian<sup>1,4</sup>, Manuel Arruebo<sup>1,4</sup>, J. Santamaria<sup>1,4</sup>, L. Giorno<sup>3</sup>*

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### [847]. Challenging the new PERVAPTM membranes: from solvent dehydration to water desalination

*W. Yave<sup>1\*</sup> and L. Leva<sup>1</sup>*

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### [869]. Gating-membranes based on functional DNA sandwich structures

*B. Olave\*, I. Rafaniello\*, T. Schäfer\*#*

\* POLYMAT, University of the Basque Country (UPV/EHU), Spain

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### [771]. Large-area single-layer graphene membranes by crack-free transfer for gas mixture separation

*Shiqi Huang<sup>1</sup>, Mostapha Dakhchoune<sup>1</sup>, Wen Luo<sup>2</sup>, Emad Oveisi<sup>3</sup>, Guangwei He<sup>1</sup>, Mojtaba Rezaei<sup>1</sup>, Jing Zhao<sup>1</sup>, Andreas Züttele<sup>2</sup>, Kumar Varoon Agrawal<sup>1</sup>*

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## Membrane contactors III

### [722]. A new method for the identification of wetting mechanisms and evaluation of wetting indicators for membrane contactors

*P. Jacob, S. Laborie, C. Cabassud*

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### [814]. 3D PDMS microfluidic membrane contactors for CO<sub>2</sub> separation

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### [425]. Hydrophobic ceramic membranes for membrane distillation

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### [175]. Membrane distillation for the extraction of biomolecules from synthetic fermentation broths

*A. Khiter<sup>1,2,3</sup>, P. Loulergue<sup>1\*</sup>, B. Balanec<sup>1</sup>, A. Szymczyk<sup>1</sup>, O. Arous<sup>4</sup>, N. Nasrallah<sup>2</sup>*

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## Forward osmosis and osmotic membrane contactors I

### [844]. Integrated electrocoagulation – forward osmosis process for treating hydraulic fracturing produced waters

*K. Sardari\**, *P. Fyfe\*\**, *R. Wickramasinghe\**

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### [529]. Process upscaling using Aquaporin-based Hollow Fiber Forward Osmosis membranes

*M.S. Camilleri-Rumbau\**, *S. Braekevelt\**, *T. S. Jensen\*\**, *K. Lorenz\*\*\**, *X. Tung Nguyen\**, *M. Errico\*\**, *M. C. Martí-Calatayud\*\*\**, *M. Friis Andersen\**, *K. Trzaskus\**, *V. Sanahuja-Embuena\**, *J. Vogel\**, *M. Wessling\*\**, *C. Hélix Nielsen\**, \*\*\*\*

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### [846]. Novel Forward Osmosis (FO) Testing System for Dynamic Testing of Reverse Osmosis (RO) Membranes

*D. Bai<sup>1</sup>*, *F. Asempour<sup>1</sup>*, *B. Kruczek<sup>1</sup>*

<sup>1</sup>Department of Chemical and Biological Engineering, University of Ottawa, Canada

### [260]. Unprecedented Electrical Field Induced Forward Osmosis (EInFO) against the Concentration Gradient

*Yifru Waktole Berkessa<sup>1,2</sup>*, *Qiaolin Lang<sup>1</sup>*, *Ming Tan<sup>1</sup>*, *Bart Van der Bruggen<sup>3</sup>*, *Yang Zhang<sup>1,2\*</sup>*

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<sup>3</sup> Department of Chemical Engineering, KU Leuven, Belgium

## Process intensification and economic analysis

### [766]. Membrane separation processes for steelmaking gases treatment: optimal design for carbon capture and hydrogen recovery

*A. Ramirez Santos\**, *M. Borzog*, *B. Addis*, *V. Piccialli*, *C. Castel*, *E. Favre*

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### [56]. Ballast water treatment by membrane processes

*J. Guilbaud\**, *Y. Wyart\**, *K Kaag\*\** and *P. Moulin\**

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### [648]. Harvesting of *Dunaliella salina* by membrane filtration with permeate recovery for microalgae cultivation

*J. Monte<sup>a,b</sup>*, *J. Bernardo<sup>a,b</sup>*, *M. Sá<sup>a</sup>*, *C. Pereira<sup>c</sup>*, *R. Mota<sup>c</sup>*, *J. Galante<sup>c</sup>*, *P. Nascimento<sup>c</sup>*, *F. Semião<sup>c</sup>*, *C. F. Galinha<sup>a</sup>*, *V. J. Pereira<sup>b</sup>*, *D. Fonseca<sup>c</sup>*, *L. Costa<sup>c</sup>*, *V. Verdelho<sup>c</sup>*, *F. Jacobs<sup>d</sup>*, *J. G. Crespo<sup>a</sup>*, *C. Brazinha<sup>a</sup>*

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**[148]. Mass transfer enhancement and biofouling mitigation in membrane Systems by novel 3D printed TPMS feed spacers**

*N. Sreedhar\**, *N. Thomas\**, *O. Al-Ketan\**, *R. Rowshan\*\**, *H. Hernandez\**, *R. Al-Rub\**, *H. A. Arafat\**

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**Membranes for wastewater treatment V**

**[825]. Transmembrane Chemisorption for Ammonia Removal from Abattoir Waste: Pilot Scale**

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**[558]. PDMS membranes for efficient recovery of dissolved methane from AnMBR effluents**

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**[356]. Application of an advanced control system on a membrane process for tannery wastewater treatment and Chromium recovery**

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**Emerging membrane science and technology IV**

**[233]. Dynamic block copolymer membranes: exploring the limits of membrane malleability**

*D. Quemener*, *S. Nehache*, *P. Tyagi*, *M. Semsarilar*, *A. Deratani*

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**[559]. Poly(ionic liquid)s for CO<sub>2</sub> separation: from free standing to thin film composite membranes**

*Liliana C. Tomé\**, *Ana P. S. Martins\**, *João G. Crespo\*\**, *Isabel M. Marrucho\*\*\**

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**[563]. Carbon Molecular Sieve Membranes as Enablers for Organic Solvent Reverse Osmosis**

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**Nanotechnology and membranes III**

**[6]. Artificial Water Channels**

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**[236]. Graphene/Graphene Oxide stabilized polyvinylamine nanocomposite membranes for CO<sub>2</sub> separation**

*Davide Venturi\**, *Riccardo Casadei\**, *Simone Ligi\*\**, *Loris Giorgini\**, *Marco Giacinti Baschetti\**

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**[225]. Selective transportation of monovalent cations in vermiculite membranes with two-dimensional nanofluidic channels**

*Amir Razmjou\**, *\*\**, *Ghazaleh Eshaghi\**, *Yasin Oroji\*\*\**, and *Vicki Chen\*\**

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**Forward osmosis and osmotic membrane contactors II**

**[564]. Combined membrane processes to valorise agri-food by-products: the carob case**

*C. Güell\**, *A. Martínez\**, *A. García\**, *J. Wang\**, *M. Paz Romero\*\**, *J. Ruiz\*\*\**, *V. Alonso\*\*\**, *M. Ferrando\**

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**[378]. Progress in Continuous Template-Assisted Membrane Crystallization for BioTherapeutics Purification**

*Teresa F. Mastropietro\**, *Carmen Meringolo\**, *Enrica Fontananova\**, *Teresa Poerio\**, *Huaiyu Yang\*\**, *Wenqian Chen\*\**, *Jerry Y. Y. Heng \*\**, *Gianluca Di Profio\**

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**[432]. Impact of module design and external concentration polarisation on submerged osmotic processes**

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**Inorganic membranes III**

**[500]. Ecological low-cost ceramic membranes based on olive stones as pore former**

*E. Sánchez\**, *M-M. Lorente-Ayza\**, *M.C. Bordes\**, *S. Sales\**, *E. Zuriaga-Agustí\*\**, *I. Pastor\*\**, *B. Hernández\*\**, *M. Galián\*\**, *M. Abellán\*\*\**

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**[287]. Ag<sup>+</sup>-exchanged zeolite BEA membrane for ethylene/ethane separation**

*M. Matsukata\* \*\**, *N. Yasuda\**, *M. Sakai\*\*\**

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**[134]. A graphene oxide membrane for efficient pervaporation dehydration of bio-oil: Transport behaviors and anti-fouling mechanism**

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