Monday, June 18, 2018

07:00–08:00	**Registration for workshop "Membrane technology and testing" and conference** at Hotel Westin Bellevue		
08:00–10:00	**Bus transfer** to Fraunhofer IKTS in Hermsdorf		
10:00–16:00	**Workshop "Membrane technology and testing"** at Fraunhofer IKTS in Hermsdorf H. Richter et al. (Fraunhofer IKTS, DE)		
10:00–10:20	**Welcome coffee** at Fraunhofer IKTS in Hermsdorf		
10:20–10:45	**Fraunhofer IKTS - Introduction** I. Voigt (Fraunhofer IKTS, DE)		
10:45–12:00	**Workshop part 1 (in group rotation)**		
	Tubular supports (Extrusion, tubes, capillaries, high-temperature firing)	**Flat supports, coating and characterization** (Tape casting, sol gel coating, REM, Hg-porosimetry, N_2 sorption, XRD)	**Membrane testing and pilot production** (Liquid filtration, pervaporation, gas permeation, lab- and pilot-scale testing)
12:00–13:00	**Lunch break**		
13:00–14:15	**Workshop part 2 (in group rotation)**		
	Membrane testing and pilot production (Liquid filtration, pervaporation, gas permeation, lab- and pilot-scale testing)	**Tubular supports** (Extrusion, tubes, capillaries, high-temperature firing)	**Flat supports, coating and characterization** (Tape casting, sol gel coating, REM, Hg-porosimetry, N_2 sorption, XRD)
14:15–15:30	**Workshop part 3 (in group rotation)**		
	Flat supports, coating and characterization (Tape casting, sol gel coating, REM, Hg-porosimetry, N_2 sorption, XRD)	**Membrane testing and pilot production** (Liquid filtration, pervaporation, gas permeation, lab- and pilot-scale testing)	**Tubular supports** (Extrusion, tubes, capillaries, high-temperature firing)
15:30–16:00	**Closing of the workshop**		
16:00–18:00	**Bus transfer** to Hotel Westin Bellevue		
16:00–20:00	**Registration for conference, exhibition and poster set-up** at Hotel Westin Bellevue		
18:00–20:00	**Welcome reception** at Hotel Westin Bellevue		

Tuesday, June 19, 2018

08:00–09:00	**Registration for conference** at Hotel Westin Bellevue
09:00–09:35	**Grand opening**
09:00–09:15	**I. Voigt** (Fraunhofer IKTS, DE)
09:15–09:25	**D. Hilbert** (Mayor of the city of Dresden, DE)
09:25–09:35	**H. Voß** (German Society for Membrane Technology e.V. – DGMT, DE)
09:35–10:25	**Plenary speech** in room CON 1-3 **Expanding the chemical palette for reliable chemical separations** D. Sholl (Georgia Institute of Technology, US)
10:25–11:00	**Coffee break**

11:00–11:50	**Plenary speech** in room CON 1-3 **Advanced ion-transport materials for application in membranes and fuel cells** J. M. Serra-Alfaro (Polytechnic University of Valencia, ES)		
11:50–12:40	**Plenary speech** in room CON 1-3 **Smart solutions for climate protection** R. Kleinschmidt (thyssenkrupp Industrial Solutions, DE)		
12:40–14:00	**Lunch break**		
	Parallel sessions in rooms CON 1, CON 2, CON 3		
	Room CON 1	**Room CON 2**	**Room CON 3**
14:00–16:10	**A) Zeolite membranes 1** **Session chair:** M. Matsukata (Waseda University, JP)	**B) Oxygen transport membranes 1** **Session chair:** J. Lin (Arizona State University, US)	**C) Characterization and modeling** **Session chair:** I. S. Metcalfe (Newcastle University, UK)
14:00–14:30	**Directly-synthesized high-aspect-ratio zeolite MFI nanosheets for membrane-separation applications** M. Tsapatsis (University of Minnesota, US)	**Asymmetric membranes** S. Baumann (Forschungszentrum Jülich GmbH, DE)	**Acoustic emission monitoring: a novel diagnostic tool for the characterization of porous ceramic membranes during gas permeation** A. Julbe (University of Montpellier, FR)
14:30–14:50	**Tailoring the intracrystalline structure of b-oriented silicalite-1 zeolite film** X. Wang (TU Delft, NL)	**Chemical and morphological stability of oxygen transport membranes in 4-end oxyfuel processes** M. Schroeder (RWTH Aachen, DE)	**Single pore engineering and measurement of permeation rates via visualisation** G. Mutch (Newcastle University, UK)
14:50–15:10	**Fast preparation of oriented silicalite-1 membranes for butane isomer separation by microwave heating** R. F. Zhou (Nanjing Tech University, CN)	**MIEC membranes for intensified combustion and carbon capture** M. Bernhardt (Fraunhofer IKTS, DE)	**Study of 3D porous structure of non-oxide membranes by X-ray tomography and impact of such structure on water transport** S. Masson (University of Montpellier, FR)
15:10–15:30	**Improvement of gas permeance through MFI zeolite membranes prepared on porous silica substrates** M. Nomura (Shibaura Institute of Technology, JP)	**MIEC hollow fiber membranes in a plasma atmosphere** T. Schiestel (Fraunhofer IGB, DE)	**Simulation and modeling of water permeation in TiO_2 nanoporous membranes using non-equilibrium molecular dynamics** T. Yoshioka (Kobe University, JP)
15:30–15:50	**Exfoliated monolayer WS_2 nanosheets for healing intercrystalline defects of zeolite membrane** Y.-T. Zhang (Nanjing Tech University, CN)	**Performance and long-term stability of asymmetric $La_{0.6}Sr_{0.4}Co_{0.2}Fe_{0.8}O_{3-\delta}$ membranes in CO_2-rich atmosphere** F. Drago (Ricerca sul Sistema Energetico S.p.A, IT)	**Porous media flow – flow simulation in the design process of ceramic membrane elements for cross-flow filtration** M. Stahn (Fraunhofer IKTS, DE)
15:50–16:10	**Our recent progress on preparation and applications of zeolite membranes** X. H. Gu (Nanjing Tech University, CN)	**Perovskite membranes with enhanced stability by atomic layer deposition of metal oxide nanofilm** G. Zhang (Nanjing Tech University, CN)	**A methodology for the evaluation of membrane robustness and lifetime** C. Goebbert (Nanostone Water GmbH, DE)
16:10–16:40	**Coffee break**		

16:40–18:50	A) Zeolite membranes 2	B) Oxygen transport membranes 2	D) Transport and application
	Session chair: M. Tsapatsis (University of Minnesota, US)	**Session chair:** R. Bredesen (SINTEF Materials and Chemistry, NO)	**Session chair:** R. Bhave (Oak Ridge National Laboratory, US)
16:40–17:10	**Preparation and permeation properties of CHA and AEI zeolite membranes** H. Kita (Yamaguchi University, JP)	**Ceramic composite membranes for oxygen separation: a short review on recent developments and challenges** W.-R. Kiebach (Technical University of Denmark, DK)	**Consideration of the Joule-Thomson-effect for the transport of vapor through anodic alumina membranes under conditions of capillary condensation** T. Loimer (Technische Universität Wien, AT)
17:10–17:30	**DDR zeolite membrane: the recent development for practical use in CO_2-EOR field** J. Okazaki (JGC Corporation, JP)	**Mechanical properties and lifetime predictions of $SrTi_{1-x}Fe_xO_{3-\delta}$ (x = 0.25, 0.35, 0.5)** F. Schulze-Küppers (Forschungszentrum Jülich GmbH, DE)	**Experimental study of membrane distillation using ceramic membranes** K. Milew (Technische Universität Bergakademie Freiberg, DE)
17:30–17:50	**An oriented and all-silica DDR structure zeolite membrane for effective post-combustion carbon capture** Y. Jeong (Korea University, KR)	**Highly stable cobalt-free dual-phase oxygen transporting membrane in the intermediate-low temperature range** F. Liang (Qingdao Institute of Bioenergy and Bioprocess Technology, CN)	**Novel percrystallization inorganic membrane** J. da Costa (University of Queensland, AU)
17:50–18:10	**Preparation of SAPO-34 hollow fibers for gas enrichment** P. S. Lee (Chung-Ang University, KR)	**Performance of mixed conducting membranes under reaction/separation/reaction conditions** H. Jiang (Qingdao Institute of Bioenergy and Bioprocess Technology, CN)	**Gas separation by interfacial diffusion membranes** D. Wang (University of Sydney, AU)
18:10–18:30	**Preparation of Ag-*BEA membrane for olefin/paraffin separation** M. Sakai (WASEDA University, JP)	**Dual-phase membranes for oxygen separation** X. Zhu (Dalian Institute of Chemical Physics, CN)	**Purification of cellulase fermentation broth via ceramic microfiltration membranes with a separation layer of attapulgite nanofibers** M. S. Li (Huaiyin Normal University, CN)
18:30–18:50	**Synthesis and pervaporative solvent dehydration behavior of mordenite zeolite composite membranes having controlled microstructure** C.-H. Cho (Chungnam National University, KR)	**OTMs surface modification by means of dual-phase materials deposition: Oxygen permeation optimization under oxyfuel environments** J. Garcia-Fayos (Instituto de Tecnología Química (UPV-CSIC), ES)	**New membrane applications in liquid and gas separation** C. Günther (Rauschert Kloster Veilsdorf GmbH, DE)
18:50–22:00	**Poster session/Get together** at Hotel Westin Bellevue		

Wednesday, June 20, 2018

08:30–10:40	E) Metal-organic frameworks 1	F) Proton conducting membranes	H) Application 1
	Session chair: J. Caro (University of Hannover, DE)	**Session chair:** M.-L. Fontaine (SINTEF Materials and Chemistry, NO)	**Session chair:** S. D. Hopkins (PALL Corporation, US)
8:30–9:00	**Microstructural engineering and architectural design of metal-organic framework membranes** W. Yang (Dalian institute of Chemical Physics, CN)	**Lanthanum tungstate based membranes for H_2 extraction and CO_2 utilization: fabrication strategies** M. E. Ivanova (Forschungszentrum Jülich GmbH, DE)	**Hybrid water treatment of multi-channel alumina microfiltration and polypropylene beads with air back-flushing: roles of adsorption, photo-oxidation, and PP beads** J. Y. Park (Hallym University, KR)

9:00–9:20	**Seeding-free aqueous synthesis of crystal-size-engineered ZIF-8 MOF membranes** S. Tanaka (Kansai University, JP)	**Co-adsorption of H_2O and CO_2 on $BaZrO_3$-based proton-conducting electrolytes** J. Polfus (SINTEF Materials and Chemistry, NO)	**Direct filtration of municipal wastewater using flat-sheet ceramic membrane** X. Li (University of Hong Kong, CN)
9:20–9:40	**Fabrication of ZIF-8 membranes by solvent-free transformation of spray-coated ZnO layers** B. Reif (Friedrich-Alexander-University Erlangen-Nürnberg, DE)	**Influence of A-site defect on stability and hydrogen permeation property of $Ba_{1-x}Zr_{0.1}Ce_{0.7}Y_{0.2}O_{3-\alpha}$ ($x = \pm 0.5$)** C. Yan (Shanghai Normal University, CN)	**Application of flat-sheet ceramic membrane in combined processes for potable reuse of reclaimed domestic wastewater** X. Zhang (Tsinghua University, CN)
9:40–10:00	**Toward high-throughput ZIF-8 membranes on scalable supports for propylene/propane separation** H.-K. Jeong (Texas A&M University, US)	**Formation and electrical poperties of the heterosystems with proton conducting thin-film $La_{0.95}Sr_{0.05}ScO_{3-\alpha}$ electrolyte** A. Kuzmin (Russian Academy of Sciences, RU)	**Novel MBR coupled with ceramic UF membrane filtration and in-situ ozonation for wastewater treatment** Z. Zhang (Tsinghua University, CN)
10:00–10:20	**A novel route for crystallization of highly-intergrown metal-organic frameworks membranes for gas separation** K. V. Agrawal (École Polytechnique Fédérale de Lausanne, CH)	**Doped barium zirconate thin-film electrolyte for high temperature proton conducting cells (PCCs)** F. Han (German Aerospace Center DLR, DE)	**Suppression of membrane fouling in the ceramic membrane bioreactor (C-MBR) by minute electric field** W.-T. Shang (Shenzhen Key Laboratory, CN)
10:20–10:40		**Scaling up of tubular proton ceramic electrolysers** M.-L. Fontaine (SINTEF Materials and Chemistry, NO)	**Influence of water quality on virus removal by a novel N-doped TiO_2-coated Al_2O_3 ceramic membrane** T. Luxbacher (Anton Paar GmbH, AT)
10:40–11:10	**Lunch break**		
11:10–13:20	**E) Metal-organic frameworks 2** **Session chair:** W. Yang (Dalian institute of Chemical Physics, CN)	**G) Electrochemical devices 1** **Session chair:** L. Singheiser (Forschungszentrum Jülich GmbH, DE)	**H) Application 2** **Session chair:** A. Nijmeijer (Shell, NL)
11:10–11:40	**MOF-based membrane encapsulated ZnO nanowires for enhanced gas sensor selectivity** M. Drobek (Université de Montpellier, FR)	**"Uphill" permeation of CO_2 from dilute gas streams in a leak free laser-drilled dual phase molten salt-ceramic membrane** I. S. Metcalfe (Newcastle University, UK)	**Process intensification of liquid-phase reactions using ceramic membranes** A. Buekenhoudt (VITO NV – HQ, BE)
11:40–12:00	**Inner metal-organic framework hollow fiber membranes for gas separation** K. Huang (Imperial College London, UK)	**Effect of the composition of Cu-electrodes fabricated by electroless plating on the galvanic hydrogen pumping through proton-conducting ceramic membranes** S. Ricote (Colorado School of Mines, US)	**Application of ceramic nanofiltration membranes for water treatment in oil sands mines** S. Motta (University of Twente, NL)
12:00–12:20	**LDH-assisted fabrication of high quality MOF layers for efficient gas separation and anti-corrosion** Y. Liu (Dalian University of Technology, CN)	**Evaluating proton uptake in mixed ionic/electronic conducting air electrode materials for electrochemical devices** K. Leonard (Kyushu University Motooka, JP)	**Inorganic membranes for drying of critical ethanol mixtures** M. Weyd (Fraunhofer IKTS, DE)
12:20–12:40	**Two-dimensional metal-organic framework nanosheets membranes for H_2/CO_2 separation** Y. Peng (Dalian Institute of Chemical Physics, CN)	**Sodium conducting solid electrolyte membranes based on a glass ceramic material** J. Schilm (Fraunhofer IKTS, DE)	**Performance evaluation of different inorganic membranes in dehydrating ethanol for PGX technology** J. Mahmoudi (Ceapro INC., Canada)

12:40–13:00	**Structural modification techniques for tailoring ZIFs for gas separation: a computational study** P. Krokidas (Texas A&M University at Qatar, QA)	**Effects of TiO_2 doping on Li^+-stabilized Na-β''-alumina for energy storage applications** C. Dirksen (Fraunhofer IKTS, DE)	**Experiences with an pervaporation process for drying of natural gas** A. Oßmann (DBI Gas- und Umwelttechnik GmbH, DE)
13:00–13:20			**Study of vapor capillary condensation in symmetric and asymmetric nanoporous membranes and treatment of associated petroleum gas via capillary condensation technique** D. Petukhov (M. V. Lomonosov Moscow State University, RU)
13:20–14:15	**Lunch break**		
14:30–18:00	**Boat trip on the river Elbe** (meeting point: 14:30 in front of the Westin Bellevue, 15 min footpath, boat starts at 15:00)		
19:00–22:00	**Dinner international conference committee** (invited guests only, restaurant Augustiner)		

Thursday, June 21, 2018

08:00–10:10	**I) Graphene-based membranes** **Session chair:** K. Li (Imperial College London, UK)	**G) Electrochemical devices 2** **Session chair:** J. M. Serra-Alfaro (University of Queensland, AU)	**J) Ceramic membranes** **Session chair:** A. Ayral (University of Montpellier, FR)
8:00–8:30	**Two-dimensional-material membranes for molecular and ionic separation** W. Jin (Nanjing Tech University, CN)	**Intermediate temperature steam electrolysis using proton conducting perovskites membrane** H. Matsumoto (Kyushu University, JP)	**Nano and macro porous membranes à la carte** M. Lelonek (SmartMembranes GmbH, DE)
8:30–8:50	**Molecular sieving graphene-based membranes produced by dip-coating** T. van Gestel (Forschungszentrum Jülich GmbH, DE)	**Interactions between forsterite support material and LSM cathode during co-sintering of an all-ceramic SOFC** S. Harboe (Forschungszentrum Jülich GmbH, DE)	**Preparation and properties of porous attapulgite clay ceramic membrane support** Z. R. Fan (Huaiyin Normal University, CN)
8:50–9:10	**Natural and synthetic branched cross-linkers for graphene oxide membranes** V. Boffa (Aalborg Universitet, DK)	**High-performance micro-monolith solid oxide fuel cells (SOFC)** M. F. Bin Rabuni (Imperial College London, UK)	**Micro-channeled MgO tubular supports for asymmetric oxygen transport membranes** Y. Liu (Eindhoven University of Technology, NL)
9:10–9:30	**Highly efficient molecular sieving from chemically modified 2D-materials** L. Ries (University of Montpellier, FR)	**Microchanneled ceramic membrane as a cathode support of solid oxide electrolysis cell** D. Dong (University of Jinan, CN)	**One-step thermal processing of high-performance perovskite hollow fibers** Z. Liu (Nanjing Tech University, CN)
9:30–9:50	**Pristine graphene membranes supported on ceramic hollow fibre prepared via a sacrificial layer approach** Y. Chi (Imperial College London, UK)	**Reduction of sintering temperature of 8YSZ by iron doping for a cost-efficient all-ceramic SOFC concept** F. Grimm (Forschungszentrum Jülich GmbH, DE)	**Microstructure adjustment of ceramic hollow fiber membrane by controlling spinning conditions** H. Liu (Nanjing Tech University, CN)
9:50–10:10	**Development of GO-based membranes for effective radionuclide removal** X.-L. Zhang (Jiangxi Normal University, CN)	**Reactive electrochemical membranes for degradation of pharmaceuticals by anodic oxidation** S. Cerneaux (University of Montpellier, FR)	**Game-changer in inorganic membranes** J. Anquetil (TAMI Industries, FR)
10:10–10:40	**Coffee break**		

10:40–12:50	**K) Carbon-based membranes 1** **Session chair:** H. Richter (Fraunhofer IKTS, DE)	**L) Palladium-based membranes** **Session chair:** H. van Veen (Energy Research Centre of the Netherlands, NL)	**M) Micro-/Ultrafiltration membranes** **Session chair:** A. Buekenhoudt (VITO NV – HQ, BE)
10:40–11:10	**Carbon nitride nanotube membranes** D. Mattia (University of Bath, UK)	**High-temperature studies on thin-layered Pd alloy membranes** A. Goldbach (Dalian Institute of Chemical Physics, CN)	**Hybrid organic-inorganic biomimetic membranes** M. Barboiu (Institut Européen des Membranes, FR)
11:10–11:30	**Carbon molecular sieve hollow fiber membranes for H_2 purification and CO_2 capture: effect of hollow fiber module** H.-H. Chen (National Chung Hsing University, TW)	**Highly sulfur-tolerant Pd composite membranes with a protective layer of MoS_2/γ-alumina** H. Li (Dalian Institute of Chemical Physics, CN)	**Elaboration and characterization of flat ceramic microfiltration membrane made from natural phosphate and phosphogypsum** S. Alami Younssi (University Hassan II of Casablanca, MA)
11:30–11:50	**Carbon molecular sieve membranes for hydrogen separation** M. A. Llosa Tanco (TECNALIA, ES)	**High capacity device for hydrogen separation from gas mixture of H_2 + N_2, using vanadium alloy membrane** C. Nishimura (National Institute for Materials Science, JP)	**Porous ceramic membranes prepared by low-cost materials for microfiltration** J. Ha (Korea Institute of Materials Science, KR)
11:50–12:10	**On the use of carbon molecular sieve membranes for OCM product separation** J. Medrano (Eindhoven University of Technology, NL)	**Hydrogen permeation in selective vanadium-based multi-layered membranes prepared by high power impulse magnetron sputtering** S. Fasolin (The National Research Council, IT)	**PVDF/palygorskite nanocomposite ultrafiltration membranes with enhanced flux and antifouling properties** S. Y. Zhou (Huaiyin Normal University, CN)
12:10–12:30	**Carbon molecular sieve membrane-based reactive separations for power generation applications** H. Chen (University of Southern California, US)	**Palladium membranes – from innovation to industrial application** T. Peters (SINTEF Materials and Chemistry, NO)	**Tape cast porous mullite membranes based on alumina/aluminum precursors and polysiloxane** R. Nishihora (Federal University of Santa Catarina, BR)
12:30–12:50	**Synthesis of vertically aligned carbon nanotubes on dense and porous ceramic substrates for membrane applications** A. Simon (Fraunhofer IKTS, DE)	**The effect of the porous support in the hydrogen permeation properties of thin Pd-Ag supported membranes** D. A. Pacheco Tanaka (TECNALIA, ES)	**Performance of clay-alumina membrane modules after 15 years** S. Bandyopadhyay (CSIR-Central Glass & Ceramic Research Institute, IN)
12:50–13:40	**Lunch break**		
	PhD student speech competition		
13:40–15:40	**N) PhD: Membrane application** **Session chair:** M. Barboiu (Institut Européen des Membranes, FR)	**O) PhD: Modeling and characterization** **Session chair:** I. Voigt (Fraunhofer IKTS, DE)	**P) PhD: Membrane preparation** **Session chair:** W. A. Meulenberg (Forschungszentrum Jülich GmbH, DE)
13:40–13:55	**Direct filtration of municipal wastewater using flat-sheet ceramic membrane** L. Pu (University of Hong Kong, CN)	**Integrity and robustness of ceramic tight ultra- and nanofiltration membranes** F. Kramer (TU Delft, NL)	**Hierarchically porous multilayer TiO_2 membranes: fabrication and characterization** M. Buldu (Sabancı University, TR)

13:55–14:10	**Separation of nutritionally valuable components from brewer's spent grain using membrane filtration** F. Grahl (Technische Universität Bergakademie Freiberg, DE)	**A mass transport model for organic solvent nanofiltration** K. Lechner (TU Berlin, DE)	**Float casting for preparation of bicontinuous metal organic framework membranes** P. Tonn (Technische Universität Chemnitz, DE)
14:10–14:25	**Towards an efficient membrane for fatty acid separation** I. Eyskens (VITO NV – HQ, BE)	**Phase transitions and structural stability of $Pr_{2-x}NiO_{4\pm\delta}$, explored by in-situ X-ray and neutron diffraction** D. Ning (Helmholtz-Zentrum Berlin, DE)	**Sonochemical fabrication of four metal-organic frameworks films on metal substrates** O. Abuzalat (University of Calgary, CA)
14:25–14:40	**Hydrophobic ceramic membranes for MD – a systematic evaluation of membrane properties on membrane performance** J. Schnittger (Fraunhofer IKTS, DE)	**The influence of the microstructure of membrane supports on the flux** U. V. Unije (Forschungszentrum Jülich GmbH, DE)	**New avenues for the fabrication of zeolite membranes** P. Karakiliç (University of Twente, NL)
14:40–14:55	**Study of MIEC membranes for its application in an OCM membrane reactor** A. Cruellas Labella (Eindhoven University of Technology, NL)	**Modeling of natural gas reforming using proton-conducting membrane reactors to produce pressurized hydrogen** D. Catalán-Martínez (Universitat Politècnica de València, ES)	**Synthesis procedure and solution composition effect on the successful synthesis of DD3R zeolite membrane** M. Javad Vaezi (Sahand University of Technology, IR)
14:55–15:10	**CO_2 tolerant oxygen selective membranes for OCM membrane reactor** N. Badiola (Eindhoven University of Technology, NL)	**Qualitative and quantitative analysis of 3-dimensional defects in MFI membranes by fluorescence confocal optical microscopy** S. Hong (Korea University, KR)	**Development of a chemically stable carbonate-ceramic membrane for CO_2 separation in water-gas-shift reactors** U. Gude (Forschungszentrum Jülich GmbH, DE)
15:10–15:25	**Cryogenic separation performance improvement by zeolite membrane for propane recovery from nitrogen mixtures** S. Picaud-Vannereux (LRGP Université de Lorraine, FR)	**CFD simulation of hollow fiber-supported NaA zeolite membrane module** J. C. Wang (Nanjing Tech University, CN)	**BSCF 19-bore hollow fiber membranes with superb mechanical strength and excellent oxygen permeation fluxes** T. Wang (Nanjing Tech University, CN)
15:25–15:40	**Development of a hydrogen impurity enrichment device using Pd alloy membranes to support the growing hydrogen economy** M. Plunkett (Imperial College London, UK)	**Investigation of carbon membrane swelling in high pressure gas separation** N. Kruse (Technische Hochschule Köln, DE)	**Modification of PSS supports by the incorporation of CeO_2 particles to promote a completely defect-free Pd-layer by electroless pore-plating** D. Martínez-Díaz (University Rey Juan Carlos, ES)
15:40–16:00	**Coffee break**		
16:00–18:10	**K) Carbon-based membranes 2** **Session chair:** D. Mattia (University of Bath, UK)	**Q) Nanofiltation membranes** **Session chair:** T. Tsuru (Hiroshima University, JP)	**R) Membrane reactors 1** **Session chair:** K. Haas-Santo (Karlsruhe Institute of Technology, DE)
16:00–16:30	**Application of two-dimensional MXene membrane in separation** H. Wang (South China University of Technology, CN)	**High-performance ceramic supported thin film composite membrane for organic solvent nano-filtration** J. R. McCutcheon (University of Connecticut, US)	**Self pressurizing combustion for a more efficient energy production** R. Kriegel (Fraunhofer IKTS, DE)

16:30–16:50	**2D niobium oxide nanosheet membranes for water treatment: effects of nanosheet preparation methods on their membrane performances** K. Nakagawa (Kobe University, JP)	**Synthesis of ceramic nanofiltration membranes for water treatment using atomic layer deposition** R. Shang (TU Delft, NL)	**Co-splitting H_2O and CO_2 on a surface catalyzed oxygen permeable membrane reactor** X. Wu (Massachusetts Institute of Technology, US)
16:50–17:10	**Preparation of supported carbon molecular sieve membrane on alumina hollow fiber for propylene/propane separation** S.-J. Kim (Korea Research Institute of Chemical and Technology, KR)	**Novel control method of molecular weight cut-off (MWCO) during the preparation of ceramic nanofiltration (NF) membranes** Y. K. Chung (Korea Advanced Institute of Science and Technology, KR)	**An innovative plasma multi-layered photoelectrochemical cell for water splitting** S. Roualdes (University of Montpellier, FR)
17:10–17:30	**Influence of post-treatment on gas separation performance of carbon membranes** N. Reger-Wagner (Fraunhofer IKTS, DE)	**Layer by layer design of acid resistant NF/RO membranes from UF tubular ceramic support** J. Kamp (DWI Leibniz Institute for interactive Materials, DE)	**Experimental and simulation study of membrane reactor for methanol synthesis using ZSM-5 zeolite membrane** M. Matsukata (Waseda University, JP)
17:30–17:50	**Polyvinyl alcohol-sulfosuccinic acid-sulfonated arc discharge carbon nanotube (PVA-SSA-SACNT) membranes for polymer electrolyte membrane fuel cells (PEMFC)** R. Vani (Indian Institute of Technology, IN)	**Growing to shrink: polymer brushes inside mesoporous γ-Al_2O_3** R. Merlet (University of Twente, NL)	**Development of a microsieve based micro contactor for gas/liquid phase separation** K. Dyrda (Karlsruhe Institute of Technology, DE)
17:50–18:10	**Synthesis of a novel monolithic gas diffusion electrode based on PTFE/CB composite for proton exchange membrane fuel cell** S. Kattamanchi (Indian Institute of Technology, IN)	**Organomagnesium halides functionalized titania: toward a versatile platform of hybrid ceramic membranes** M. Dorbec (VITO NV – HQ, BE)	**Catalytic ozonation in a hybrid system of ozone/MnO-coated ceramic microfiltration** M. He (National University of Signapore, SG)
20:00–23:00	**Conference Dinner** at Hotel Westin Bellevue		

Friday, June 22, 2018

08:30–10:40	**S) Silicon carbide membranes**	**T) Silica membranes**	**R) Membrane reactors 2**
	Session chair: A. Julbe (University of Montpellier, FR)	**Session chair:** J. da Costa (University of Queensland, AU)	**Session chair:** T. Tsotsis (University of Southern California, US)
8:30–9:00	**Filtration of oily water using ceramic membranes: Effect of membrane materials and pore sizes** T. Tsuru (Hiroshima University, JP)	**Silica membranes for selective separation of small gasses under hydrothermal conditions** M. Luiten-Olieman (University of Twente, NL)	**Operation of small scale membrane reactors with CVD silica membranes for MCH dehydrogenation reaction** S.-I. Nakao (Research Institute of Innovative Technology for the Earth, JP)
9:00–9:20	**Microporous SiC and SiCN membranes for gas separation in harsh conditions** H. Richter (Fraunhofer IKTS, DE)	**Recycling of organics via HybSi® dehydration membranes** H. van Veen (Energy Research Centre of the Netherlands, NL)	**Titanium-based oxygen transporting membrane reactor** G. He (Forschungszentrum Jülich GmbH, DE)

9:20–9:40	**Silicon carbide membranes for gas separation applications** B. Nguyen (University of Southern California, US)	**Preparation and characterization of TiO_2-doped hydrothermally stable organosilica membranes** T. Kurt (Ankara University, TR)	**Co-production of hydrogen and carbon nano-tubes by syngas reforming in a high temperature membrane reactor** J. Dong (University of Cincinnati, US)
9:40–10:00	**Concept for cost-effective flat membranes made of silicon carbide-based filter material** J. Adler (Fraunhofer IKTS, DE)	**Fabrication and characterization of metal-doped microporous organosilica membranes with high-flux for desalination** X.-L. Zhang (Jiangxi Normal University, CN)	**Process intensification for "green" hydrogen production** E. Palo (KT – Kinetics Technology SpA, IT)
10:00–10:20	**Water treatment with dead-end recrystallized silicon carbide filters** A. Rubio (Saint-Gobain, FR)	**Atmospheric-pressure plasma-enhanced CVD for low-temperature rapid synthesis of silica membranes** H. Nagasawa (Hiroshima University, JP)	**Ceramic membrane reactors for the synthesis of methane and methanol** J. Richter (Fraunhofer IKTS, DE)
10:20–10:40	**Porous liquid phase sintered silicon carbide ceramics as alternative for recrystallised SiC in membrane application** U. Petasch (Fraunhofer IKTS, DE)	**BTESE-derived organosilica membranes for hydrogen separation** Y. Wei (Macquarie University, AU)	**Biological nitrogen removal in an algal-bacterial membrane coupled photo-sequencing batch reactor (MPSBR)** Y. Tao (Tsinghua University, CN)
10:40–11:10	**Coffee break**		
11:10–13:20	**U) Burggraaf honory session** **Session chairs:** L. Winnubst (University of Twente, NL), A. Nijmeijer (Shell Global Solutions International BV, NL), H. Bouwmeester (University of Twente, NL)		
11:10–11:20	**Introduction** L. Winnubst (University of Twente, NL)		
11:20–12:00	**Microporous inorganic membranes, from lab to fab** R. S. A. de Lange (Pervatech B.V., NL)		
12:00–12:40	**Ionic transport membranes** J. Y. S. Lin (Arizona State University, US)		
12:40–13:20	**Inorganic membranes in reactor and water purification applications** V. T. Zaspalis (Aristotle University of Thessaloniki, GR)		
13:20–13:40	**Closing ceremony**		
13:40–14:40	**Lunch break**		