# Sunday, 29 July 2018

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| **ARRIVAL OF DELEGATES & REGISTRATION** | |
| **ALL DAY** | ARRIVAL OF DELEGATES: SHUTTLE SERVICE FROM OR TAMBO AIRPORT TO HOTELS |
| **14:00 – 18:00** | Registration at the Link Area (Thamsanqa Kambule Auditorium) UNISA Science Campus |
| **18:00 – 19:00** | Welcome Evening |

# Monday, 30 July 2018

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| **07:30 – 08:30** | **REGISTRATION** | Link Area (Thamsanqa Kambule Auditorium) |
| | **OPENING CEREMONY** | Thamsanqa Kambule Auditorium |
| **08:30 – 08:40** | **Opening Remarks by AMSIC-2 Conference Chair: Prof. Edward Nxumalo** | |
| **08:40 – 08:45** | **Address from AMSIC-2 President: Dr. Abdoulaye Doucouré** | |
| **08:45 – 09:00** | **Address from the Dean of the College of Science, Engineering and Technology (CSET), UNISA: Prof. Bhekie Mamba** | |
| **09:00 – 09:30** | **Address from UNISA DVC: Prof. Thenjiwe Meyiwa** | |
| **09:30 – 10:15** | **PL1: Prof. Glenn Lipscomb**<br>*Department of Chemical Engineering, University of Toledo, USA*<br>**Spacers for spiral wound modules** | |
| **10:15 – 10:45** | **TEA BREAK & GROUP PHOTO** | Link Area |

The 2nd African Membrane Society International Congress (AMSIC-2)
29 July – 1 August 2018, University of South Africa, Florida,
Johannesburg, South Africa

| Symposium | Session 1<br>Desalination and Drinking Water | Session 2<br>Fabrication and Modification | Session 3<br>Air Filtration and Gas Separation |
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| Venue | Thamsanqa Kambule Auditorium | Council Chambers | GJ GerwelC3-01 |
| Session Chair | Prof. Rong Wang | Dr. Abdoulaye Doucouré | Dr R Vijayakumar |
| 10:45 – 11:15 | **KN1: Prof. Mamadou S. Diallo**<br>*Korea Advanced Institute of Science & Technology, Korea*<br><br>New directions in mixed matrix membranes | **KN2: Prof. Raja Ben Amar**<br>*Faculté des Sciences de Sfax, Tunisia*<br><br>Development of new ceramic membranes from low-cost materials: application to wastewater treatment and water desalination | **KN3: Prof. Lingam Pillay**<br>*Stellenbosch University, South Africa*<br><br>Energy reduction in membrane bioreactors-some novel findings |
| 11:15 – 11: 35 | **OP1: Dr. Rajesh Kumar**<br>*Kuwait Institute for Scientific Research, Kuwait*<br><br>Hydrophobically modified PVDF nanocomposite membranes for seawater desalination via direct contact membrane distillation | **OP5: Prof. Yuzhong Zhang**<br>*Tianjin Polytechnic University, China*<br><br>Development of novel membranes | **OP9: Ms. Katerina Setnickova**<br>*Institute of Chemical Process Fundamentals of the Cas, v.v.i, Czech Republic*<br>Novel membranes with ordered nanowell structure for gas separation |
| 11:35–11:55 | **OP2: Ms. Mokgadi F Bopape**<br>*Tshwane University of Technology, South Africa*<br><br>Modification of polyether sulfone-based membranes with novel nanocellulose crystal powder NCC for purification of potable water | **OP6: Ms. Nelisa Gaxela**<br>*University of Johannesburg, South Africa*<br><br>Effect of blended p(MOA-DMPA) on PVDF membranes | **OP10: Mr. Javad A Dehkordi**<br>*Tarbiat Modares University, Iran*<br>An investigation on the important role of porous support layer in the performance of gas separation membrane modules |
| 11:55 – 12:15 | **OP3: Mr. Machodi Mathaba**<br>*University of Johannesburg, South Africa*<br><br>Effect of chitosan on the heavy metal removal efficiency of chitosan-modified polyether sulfone (PES) membrane during treatment of acid mine drainage | **OP7: Ms. Nozipho Gumbi**<br>*University of South Africa, South Africa*<br><br>Fabrication of macrovoid-free polyethersulfone/sulfonated polysulfone/o-MWCNT support UF membranes with improved mechanical strength, antifouling and performance properties | **OP11: Ms. Ellen Kwenda**<br>*University of South Africa, South Africa*<br><br>Carbon sphere-assisted solar evaporation of urine for the recovery of nutrients |
| 12:15 – 12:35 | **OP4: Dr. Ahmad Al-Sairafi**<br>*Kuwait Institute for Scientific Research, Kuwait*<br><br>A pilot scale study of forward osmosis desalination system for Arabian Gulf seawater desalination | **OP8: Ms. Kate Kotlhao**<br>*University of Johannesburg, South Africa*<br><br>Evaluation of Ag-ZnO modified polyamide thin-film composite membranes for removal of 2, 4-dichlorophenol from water | **OP12: Ms. Palesa Menze**<br>*Air Products South Africa*<br><br>Air Products in South Africa: Fundamentals and products |
| 12:35 – 13:35 | **LUNCH BREAK** | | Exhibition Hall |

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| **Session Chair** | **To be confirmed** | | Thamsanqa Kambule Auditorium |
| **13:35 - 14:20** | **PL2:Prof. Jas Pal Badyal**<br>*Durham University Department of Chemistry*<br>**Scalable Smart Surfaces for Water Harvesting and Purification** | | |
| **Symposium** | **Session 4**<br>**Desalination and Drinking Water** | **Session 5**<br>**Fabrication and Modification** | **Session 6**<br>**Hybrid and Integrated Processes** |
| **Venue** | Thamsanqa Kambule Auditorium | Council Chambers | GJ Gerwel C3-01 |
| **Session Chair** | **Prof. Raja Ben Amar** | **Prof. Mamadou S. Diallo** | **Dr. Richard Moutloali** |
| **14:20 – 14:50** | **KN4: Dr. André Deratani**<br>*Université de Montpellier, France*<br><br>Desalination performance of PV powered stand-alone OSMOSUN® unit under intermittent operating conditions | **IN1: Prof. Chris Buckley**<br>*Pollution Research Group, University of KwaZulu-Natal, South Africa*<br>Implementation of membrane R&D- A retrospective view | **IN2: Prof. Titus Msagati**<br>*Nanotechnology and Water Sustainability Research Unit, University of South Africa, South Africa*<br>*Novel MWCNT-PVDF membranes for desalination by membrane distillation: Effect of solvent composition* |
| **14:50 – 15:10** | **OP13: Mr. Christopher Chukwuati**<br>*University of Johannesburg, South Africa*<br><br>The effect of PEI component on PES/GO/PEI/Ag NPS nanocomposite membranes for the treatment of organic dyes and removal of heavy metals in water | **OP16: Mr. Edward R Masenye**<br>*University of Johannesburg, South Africa*<br><br>Fabrication of hyperbranched polyethylenimine blended with multiwalled carbon nanotubes composites membranes for the removal of Pb (II) from water | **OP19:** |
| **15:10 – 15:30** | **OP14: Jingshi Wang**<br>*Deakin University, Australia*<br><br>Ultra-thin semi-permeable polymer alloy membranes for low cost desalination | **OP17: Sinethemba Xabela**<br>*University of Johannesburg, South Africa*<br><br>Grafting of PSBMA on graphene oxide surface for modification of cellulose acetate membranes for water treatment | **OP20: Simanye Sam**<br>*University of Johannesburg, South Africa*<br><br>Cadmium(2) removal from water using carbon nanodots embedded on polyethersulfone membrane and detection using anodic strippingvoltammetry |
| **15:30–15:50** | **OP15: Dr. Machawe Motsa**<br>*University of South Africa, South Africa*<br><br>Surface modification of low pressure NF membranes via LBL-assembly: characterization and application in brackish water treatment | **OP18: Ms. Elizabeth Masibi**<br>*University of Johannesburg, South Africa*<br><br>Graphene oxide (GO) and metal organic frameworks (MOFS) hybrids; synthesis, characterization and assessment in membrane application | **OP21:** |
| **15:50 – 16:20** | **TEA BREAK** | | Link Area |

| Symposium | Session 7<br>Ultra/Microfiltration | Session 8<br>Membrane Characterization | Session 9<br>Hybrid and Integrated Processes |
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| **Venue** | Thamsanqa Kambule Auditorium | Council Chambers | GJ Gerwel C3-01 |
| **Session Chair** | **Prof Lingam Pillay** | **To be confirmed** | **To be confirmed** |
| **16:20 – 16:40** | **OP22: Ms. Thandanani Ndlovu**<br>*University of Johannesburg, South Africa*<br><br>Fabrication of nanofibrous membranes for selective removal of organic and inorganic pollutants | **OP24: Mr. Nyiko M Chauke**<br>*University of Johannesburg, South Africa*<br><br>Intrinsic features of ZSM-22 zeolite/polyethersulfone composite as support membrane | **OP26: Mr. Itumeleng Block**<br>*Anton Paar, South Africa*<br><br>Use of zeta potential measurement to monitoring membrane fouling and enhance membrane separation performance |
| **16:40 – 17:00** | **OP23: Sina F Torbati**<br>*Tarbiat Modares University, Iran*<br><br>Investigations of the effect of incorporation of $TiO_2$ on the performance of PES ultrafiltration membranes for oily water treatment | **OP25:** | **OP27: Dr. Gomotsegang Molelekwa**<br>*Tshwane University of Technology, South Africa*<br><br>Uptake of membrane technology by the public sector in South Africa |
| **17:00 – 18:00** | **POSTER SESSION** | | Exhibition Hall |
| **18:00 – 20:00** | **Welcome Cocktail** | | **Struben venue, RoodepoortTheatre** |

# Tuesday, 31 July 2018

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| **8:00 – 8:10** | **ANNOUNCEMENTS** | | Thamsanqa Kambule Auditorium |
| **Session Chair** | **To be confirmed** | | |
| **8:10 – 8:55** | **PL3: Prof/Dr Mihail Barboiu**<br>*Institut Européen des Membranes, Université de Montpellier*<br>**Rubbery organic frameworks-molecular control of $CO_2$ capture with elastomeric membranes** | | |
| **Symposium** | **Session 10**<br>**Ultra/Microfiltration** | **Session 11**<br>**Membrane Characterization** | **Session 12**<br>**Air Filtration and Gas Separation** |
| **Venue** | Thamsanqa Kambule Auditorium | Council Chambers | GJ Gerwel 301 |
| **Session Chair** | **Mr Simon Sibiya** | **To be confirmed** | **To be confirmed** |
| **8:55 – 9:25** | **KN5: Dr. Abdoulaye Doucouré**<br>*Hollingsworth & Vose Company, USA*<br><br>A Roadmap for advancing the field of membrane and filtration sciences in Africa | **KN6: Prof. Mathias Ulbricht**<br>*University of Duisburg-Essen, Germany*<br><br>Increasing separation performance by integration of tailored functional polymeric layers in established filtration membranes and modules | **KN7: Prof. Lingam Pillay**<br>*University of Stellenbosch, South Africa*<br><br>Low energy, low maintenance membrane systems for developing economies-recent developments |
| **9:25 – 9:45** | **OP28: Ms. Thollwana A Makhetha**<br>*University of Johannesburg, South Africa*<br><br>Ultrafiltration membrane composites tailored by ZIF@GO with highly improved organic dye rejection performances | **OP30: Dr. Sana Gassara**<br>*Université de Montpellier, France*<br><br>Physycochemical properties monitoring of UF hollow fiber membrane during fabrication and aging | **OP32: Dr. R Vijayakumar**<br>*Aerfil, USA*<br><br>Introduction to air filters |
| **9:45 – 10:05** | **OP29: Ms. Azile Nqombolo**<br>*University of Johannesburg, South Africa*<br><br>Poly(m-phenylineisopthalmide) ultrafiltration membrane incorporating graphene oxide-metal organic framework with improved water flux and antifouling properties | **OP31: Prof. Michael Daramola**<br>*University of Witwatersrand, South Africa*<br><br>Nanocomposite sodalite/ceramic membrane for pre-combustion $CO_2$ capture from integrated gasification combined cycle (IGCC) | **OP33: Xin Feng / Dr. R VijayaKumar**<br>*China Academy of Building Research*<br><br>A novel long-life air cleaning unit and its continuous operation performance analysis |
| **10:05 – 10:35** | **TEA BREAK** | | Link Area |

| Symposium | Session 13<br>Hybrid and Integrated Processes | Session 14<br>Membrane Characterization | Session 15<br>Workshop on Air-filtration |
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| Venue | Thamsanqa Kambule Auditorium | Council Chambers | GJ Gerwel C3-01 |
| Session Chair | Prof. Mathias Ulbricht | Prof. Jas Pal Badyal | |
| 10:35 – 10:55 | **IN3: Mr.Simon M Sibiya**<br>*Rand Water, South Africa*<br><br>Ultrafiltration for potable water production-pilot plant experiences at Rand Water | **IN4: Dr. Richard Moutloali**<br>*DST/MINTEK Nanotechnology Innovation Center – UJ Water Research Node, South Africa*<br>Modulating membrane selectivity: A comparative study | **Workshop on Air-filtration**<br><br>**Dr. R Vijayakumar**<br><br>Introduction to air filters |
| 10:55 – 11:15 | **OP34: Dr. Ludovic Dumée**<br>*Deakin University, Australia*<br><br>Ultra-thin and high adsorption capacity composite nanofiber membranes for virus removal | **OP39: Mr. Sakhile Dube**<br>*University of Johannesburg, South Africa*<br><br>Synthesis and characterization of hyperbranched polyethylineimine multiwalled carbon nanotube incorporated with Fe-Cu bimetallic nanoparticles for water treatment | |
| 11:15 – 11:35 | **OP35: Prof. Efrem Curcio**<br>*University of Calabria, Italy*<br><br>Salinity gradient power generation by reverse electrodialysis: System performance using natural feed streams | **OP40: Prof. Seyed S Hosseini**<br>*Tarbiat Modares University, Iran*<br><br>Improvement in efficiency of electroplating wastewater treatment through development and modification of PAN nanofiltration membranes | |
| 11:35 – 11:55 | **OP36: Mr. Lebea Nthunya**<br>*University of South Africa and Ghent University, South Africa, Belgium*<br>Thermally and microwave-assisted synthesis of silver nanoparticles for growth inhibition of the thermophilic bacteria on PVDF nanofiber membranes | **OP41: Ms. Ngozi Enemuo**<br>*University of the Witwatersrand, South Africa*<br><br>Nickel and cobalt-modified nanocomposite polysulfone membranes and their leaching studies | |
| 11:55 – 12:15 | **OP37: Dr. Bhekani Mbuli**<br>*University of Johannesburg, South Africa*<br><br>Adsorption-desorption of Pb (II) heavy metal ions from water using antifouling pH-responsive PA-TFC membranes | **OP42: Dr Michael Daramola**<br>*University of the Witwatersrand, South Africa*<br><br>Synthesis and application of carbon nanotube-infused polymer membrane (CNT/PSF/PVA) in the treatment of phenol-containing refinery wastewater | |
| 12:15 – 12:35 | **OP38: Ms. Khona Maziya**<br>*University of Johannesburg, South Africa*<br><br>Immobilization of silver nanoparticles decorated on dendritic polymer nanofibrous membrane for antibacterial properties | | |
| 12:35 – 13:35 | **LUNCH BREAK** | | Exhibition Hall |

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| **Session Chair** | **Prof. Titus Msagati** | Thamsanqa Kambule Auditorium |
| **13:35 – 14:20** | **PL4:Prof. Jianxin Li**<br>*State Key Laboratory of Separation Membranes and Membrane Processes, School of Materials Science and Engineering, Tianjin Polytechnic University, China*<br>**Recent Developments on Membranes for Water Treatment and Industrial Separation** | |
| **Symposium** | **Session 16**<br>**Catalytic membranes and reactors** | **Session 17**<br>**Modelling** |
| **Venue** | Thamsanqa Kambule Auditorium | Council Chambers |
| **Session Chair** | **Prof. Titus Msagati** | **Prof. Raja Ben Amar** |
| **14:20 – 14:40** | **OP44: Dr. Alex Kuvarega**<br>*University of South Africa, South Africa*<br><br>Catalytic mixed matrix PVDF membranes based on in-situ generated PAMAM dendrimer microparticles | **OP49: Dr. Amos Adeniyi**<br>*Tshwane University of Technology, South Africa*<br><br>Predictic the fouling tendency of RO/NF membranes using fractal analysis and membrane autopsy |
| **14:40 – 15:00** | **OP45: Dr. Abaynesh Gebreyohannes**<br>*KU Leuven, Belgium*<br><br>Membrane bioreactors: in microalgae harvesting, in-situ fouling degradation and bioethanol production | **OP50: Dr. Rachida Chemini**<br>*University of Science and Technology Houari Boumediene, Algeria*<br><br>Simulation of water treatment plants in the petroleum industry |
| **15:00 – 15:20** | **OP46: Ms. Koketjo M Shaku**<br>*University of Johannesburg, South Africa*<br><br>Photocatalytic membrane embedded on hyperbranched polyethyleneimine host and bismuth vanadate nanoparticles for the removal of organic pollutants in water | **OP51: Ms Selaelo Ramokgopa**<br>*MINTEK/University of Johannesburg, South Africa*<br><br>Carbon nanotube-infused thin film composite membrane for acid mine (AMD) drainage |
| **15:20 – 15:40** | **OP47: Mr. Lwazi Ndlwana**<br>*MINTEK/University of Johannesburg, South Africa*<br><br>Towards Pd@Fe@HPEI/PMAA-PES and Pd@FeAg@HPEI/PMAA-PES nano-multicatalytic composite membranes for the rapid degradation of methyl orange in water | **OP52: Prof. Alexander Anim-Mensah**<br>*Illinois Tool Works*<br><br>Relating key parameters in a membrane separation system and performance prediction (via Video Conference) |
| **15:40 – 16:00** | **OP48: Mr. Majid Jahdi**<br>*University of South Africa, South Africa*<br><br>Photocatalytic $TiO_2$ co-doped nanomaterials for water treatment applications | **KN8: Dr. Woe Joy Lau**<br>*University Technologi Malaysia, Malaysia*<br><br>Development of thin-film nanocomposite (TFN) membrane for water applications |
| **16:00 – 16:30** | **TEA BREAK** | Link Area |
| **16:30** | **TRANSFERS TO HOTELS** | |
| **18:00** | **TRANSFERS TO CONFERENCE DINNER** | |
| **18:00– 22:00** | **CONFERENCE GALA DINNER** | Moyo Zoo Lake |

# Wednesday, 1 August 2018

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| | **CLOSING CEREMONY** | Thamsanqa Kambule Auditorium |
| **Session Chair** | **Prof. Edward Nxumalo** | |
| **08:00 – 08:10** | **Announcements** | |
| **08:10 – 08:55** | **PL5: Prof. Rong Wang**<br>*School of Civil and Environmental Engineering,Nanyang Technological University, Singapore*<br>**Development of novel membranes for desalination and water reuse** | |
| **08:55 – 09:15** | **Dr Lueta De Kock**<br>*Nanotechnology and water Sustainability Research Unit, University of South Africa, South Africa* | |
| **09:15 – 09:25** | **Conference Awards** | |
| **09:25 – 09:30** | **CLOSING REMARKS: AMSIC President and Conference Chair** | |
| **09:30 – 10:00** | **UNISA Facility Tour** | |
| **10:00 – 10:30** | **TEA BREAK** | |
| **10:30 – 15:55** | **EXCURSIONS AND DEPARTURE** | |

Note: **PL** – Plenary Lecture by Invited Speaker; **KN** – Keynote by Invited Speaker; **IN** – Invited Speaker; **OP** – Oral Presentation

**Notes on the AMSIC-2 programme draft:**

1. This is not the final programme
2. The draft will be re-arranged once all registered delegates captured.
3. Session chairs in some sessions will be added and modified where necessary.
4. Final AMSIC-2 programme will be available on 24 July.