

# Curriculum Vitae (January 2018)

## Suzana Pereira Nunes

Professor

Chemical and Environmental Science and Engineering  
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## Education

- 1992 Livre Docencia (1992) ("Habilitation"), University of Campinas, Brazil
- 1985-1986 Postdoc (Alexander von Humboldt Fellow), Johannes Gutenberg University, Mainz, Germany
- 1985 Doctor of Science, Chemistry, University of Campinas (UNICAMP), Brazil
- 1980 B. Sci. Chemistry, 1981 B. Sci. Technological Chemistry, University of Campinas (UNICAMP), Brazil

## Previous Academic Appointments and Experience

- 2012-2017 Associate Dean, Division of Biological and Environmental Science and Engineering at KAUST
- 2010 Associate Professor of Chemical and Biological Engineering at KAUST
- 1997-2009 Scientist, Head of Department of Membranes for Sustainable Energy, Director of the Helmholtz Virtual Institute Asymmetric Structures for Fuel Cell at the Helmholtz Association, Germany
- 1992-1997 Associate Professor, Physical Chemistry, University of Campinas, Brazil
- 1987-1992 Assistant Professor, Physical Chemistry, University of Campinas, Brazil
- 1986-1987 Senior Scientist, Pirelli Research Center
- 1988 Visiting scientist at Max-Planck-Institut für Polymerforschung, Mainz, Germany
- 1990 Visiting scientist at the Tokyo Institute of Technology, Tokyo, Japan

## Awards, honors, advisory boards, scholarships

- Since 2015 Fellow of the Royal Society of Chemistry (since 2015)
- Since 2016 Member of the Advisory Board of the Barrer Membrane Center, Imperial College London
- 1985-1986 Alexander von Humboldt Postdoctoral Fellow
- Since 1988 Associate Member of the Academy of Science, State of São Paulo, Brazil
- 1990-1997 Brazilian Research Council CNPq scholarship for scientific excellence
- 1981-1985 Master/ PhD Scholarship São Paulo State Foundation FAPESP, Brazil

Member of the board of directors of scientific societies:

- 1993-1997 Director and Vice-President Brazilian Polymer Society
- 2005-2009 Member of the director council of the European Membrane Society
- 2008-2010 Member of the board of directors of the European Membrane House

## Activity as Reviewer and Editorial Board Member

Member of Editorial Board: Scientific Reports, Nature Publishing Group

Referee of scientific journal:

RSC Advances, Macromolecules, Polymer, Macromolecular Physics and Chemistry, Journal of Polymer Science, Journal of Applied Polymer Science, Journal of Membrane Science, Desalination, Fuel Cells, International Journal of Hydrogen Energy, Journal of Physical Chemistry, Cellulose, ACS Environmental Science and Technology, ACS Industrial and Engineering Chemistry Research, Advanced Materials, Science, Nature Materials.

Reviewer of grants:

Evaluator in the 6<sup>th</sup> and 7<sup>th</sup> European Framework Program (Nanotechnology and Energy), European Commission, 2005, 2006, 2009, 2016

Strategic committee for evaluation of scientific activities of VITO Institute, Belgium in the field of Membrane Technology 2006; Evaluator for the Research Council KU Leuven, 2012; Evaluator for the Swiss Science Foundation, 2012, Evaluator for the Polish

Science Foundation, 2016, Evaluator for the Environment and Water Industry Programme Office (EWI), Singapore, 2012; Evaluator for the Serrapilheira Foundation, Brazil, 2017

## **Organization of conferences and workshops**

*Brazil:* Co-organizer of the 2<sup>nd</sup> Brazilian Polymer Conference (1993), Sao Paulo; 2<sup>nd</sup> Ibero American Congress on Membrane Technology (1994) Rio de Janeiro; Ibero-American Polymer Conference (1994), Gramado.

*Europe:* Coordinator of the European Marie Curie “Conferences and Training on Membrane Technology” project for organization of summer schools of the *European Membrane Society (EMS)* (2006-2009); Co-organizer of EMS workshops in Toulouse, France, and Geesthacht, Germany, 2002, 2004.

*USA:* Co-organizer of the North American Membrane Society Workshops on “Emerging Membrane Materials and Manufacturing Methods”, Honolulu 2008, Charleston 2009, Washington 2010, Las Vegas 2011, New Orleans 2012, Boise 2013, Houston 2014, Boston 2015; San Francisco 2017; Lexington, planed for 2018;

MRS Spring Meeting 2017 – Symposium “Emerging Membrane Materials for Sustainable Separations”

*Saudi Arabia:* Chair of KAUST Winter Enrichment Program WEP2013; Co-Chair of WEP2012; Organiser of the Symposium Sustainable Energy for All, 2012; Organiser of the Symposium Women in Science 2012; Chair of the “European Membrane Society – Middle East School on Membrane Technology for Sustainable Water Desalination and Reuse”, 2012; Chair of the KAUST Workshop of Membrane Science and Technology for Water, November 2014

## Competitive awarded research grants

*Brazil (1990-1997):*

1990-1997 Grants (total > 1 Mio USD) of Brazilian Research Council (CNPq) and Sao Paulo State Foundation (FAPESP), DAAD-Probral, Brazil-European Commission

*Germany (1999-2009):*

2000-2003 Coordinator of the Helmholtz Strategic Project “Membranes and Electrodes for Direct Methanol Fuel Cell”, in collaboration with the German Aerospace Center (DLR). (total 3.5 Mio Euro)

2001-2004 DFG project New Membranes for DMFC (support of 1 PhD for 3 years)

2004-2008 Head of the Helmholtz Virtual Institute “Asymmetric Structures for Fuel Cell”, in collaboration with DESY (Hamburg Synchrotron), FZJ (Research Center Jülich) and Universities of Kiel, Ulm and Hamburg-Harburg (TUHH) (total 1 Mio Euro)

2007-2011 Partner in the Helmholtz-Allianz MEM-BRAIN coordinated by FZJülich for the development of polymeric membranes for CO<sub>2</sub> separation in coal power plants.

2008-2009 Coordinator of the NRC (Canada)-Helmholtz Collaboration “Development of membrane-electrode-assemblies for fuel cell operation at high temperature and low humidity conditions”; Collaboration with Industrial Materials Institute (Boucherville), Fuel Cell and Hydrogen Technologies (Vancouver) (total 0.5 Mio Euro)

2006-2007 Alexander von Humboldt on membranes for fuel cell (host of postdoc)

2009 Alexander von Humboldt on materials for hydrogen storage (host of postdoc)

2009 DAAD on membranes for fuel cell (PhD student)

2001-2005 Project on membranes for fuel cell (modelling of processes and membrane characterization) with the University of Porto, supported by FCT-Portugal (PhD student).

2002-2005 Project on membranes for fuel cell in collaboration with the Universidade Federal do Rio de Janeiro, supported by the MCT-Brazil (postdoc).

2003 Project on membrane development in collaboration with the Universidade Federal de Santa Catarina, Brazil, supported by CAPES-Brazil (PhD).

2006-2007 Project on fuel cell membranes in collaboration with the Universidade Estadual de Santa Catarina, Joinville, Brazil, supported by CAPES-Brazil (postdoc)

2006-2007 Project on fuel cell in collaboration with the University of Chulalongkorn, Bangkok, Thailand (PhD).

2007 DBU Project on hydrogen technology, University of Letland (PhD).

*European Projects (2002-2009)**as Coordinator:*

2004-2008 Coordinator of the European Strategic Targeted Project „Compact Direct (M)ethanol Fuel Cell for Portable Applications“ (MOREPOWER) (total 4 Mio Euro). Collaboration with 4 European industries (Fiat, Johnson Matthey, Solvay, Nedstack), 2 research centers (CNR-ITAE, IMM) and 1 university (Politecnico di Torino). The project aimed the development of new membranes and catalysts for fuel cells operating with ethanol and methanol, modelling and miniaturization. The final deliverable was a 500 W compact fuel cell prototype.

2002-2006 Coordinator of the European Marie Curie „Training Site on Membrane Technology“ for exchange and training of European PhD students on membrane science (total >0.5 Mio Euro)

2006-2009 Coordinator of the European Marie Curie Conferences and Training on Membrane Technology for the organization of 5 summer schools and workshops on new materials and membrane technology for PhD students and young scientists. (total 0.3 Mio Euro)

*as Partner in:*

2002-2006 European Project Ceramic Membranes for Hydrogen Separation (5<sup>th</sup> European Framework Program) (membrane development for gas separation in the petrochemical industry) coordinated by Shell.

2007-2008 European Coordination Action CARISMA (high temperature fuel cell polymeric membranes) coordinated by CNRS, Montpellier, France. Topic: coordination of the activities on membranes and catalysts for fuel cell in Europe.

2009 European project SOLHYDROMICS (“Nanodesigned Electrochemical Converters of Solar Energy into Hydrogen based on Natural Enzymes or their Mimics”)

Coordinated by Politecnico di Torino for the development of biomimetic systems for the production of hydrogen by “water splitting”.

*At KAUST:*

KAUST Seed-Fund Award “PQ03-094-I isoporous membrane”, US\$248, starting in 2011, 30 months (co-PI: Suzana Nunes, PI: Klaus-Viktor Peinemann)

Geometric Modeling and Scientific Visualization Collaborative Award, "Visualization and Pore Tuning of Asymmetric Membranes", start Dec 2011, 3 years project, 100 kUS\$/year (PI: Suzana Nunes, Co-PI: Markus Hadwiger, Ganesh Sundaramoorthi, Victor Calo)

KAUST-IBM-Program Simulation of pore formation in membranes by self-assembly (PI: Suzana Nunes, Co-PI: Jed Pitera (IBM)), Total Award Amount: US\$200000, US\$ 50000 own base budget contribution, start Jan 2012, 1 year

KAUST Workshop European Membrane Society – Middle East School on Membrane Technology for Sustainable Water Desalination and Reuse", 2012

SRI-Numerical Porous Media (NumPor), start 2012, 3 years (1 PhD student)

Coordinators: Yalchin Efendiev (Texas A M University), Victor Calo, Co-PI Suzana Nunes, Markus Hadwiger, Ganesh Sundaramoorthi

Innovation Award Proposal "Interaction Between IAMCS and NumPor on Simulation of Complex Processes in Porous Media", Texas A & M University (collaboration with Yalchin Efendiev and Victor Calo). Total Award Amount: US\$ 40 000, 2012, 1 year

AEA Proposal "Primary colonizers eco-physiology in submerged UF membranes for wastewater treatment and reuse: effect of cleaning and composition of membrane,"

PI: Pascal Saikaly (KAUST) and W. Liu (Illinois), Co-PI: Suzana Nunes. Total Award US\$ 530 000 (KAUST+Illinois)

Competitive Research Grant (CRG-2): Charge-mosaic and biomimetic block copolymer membranes Total Award US\$ 800 000 (cooperation with K. Peinemann and N. Hadjichristidis) 2013-2016

KAUST-ARAMCO Project Membrane Distillation for Produced Water 2014-2016

KAUST Workshop on Membrane Science and Technology for Water (CS4), November 2014

Competitive Research Grant 2017-2020 (Cooperation with the Imperial College, London): Ultra-stable membranes for molecular separations in high temperature solvent systems

## Teaching activities

### *Brazil*

University of Campinas (1987-1997)

*For undergraduate students (Chemistry and Chemical Engineering):*

1. General Chemistry (1988, 1995)
2. Applied Chemistry (1991, 1993, 1994, 1996)
3. Experimental physical chemistry (1989, 1990, 1991, 1992, 1993, 1994)

*For PhD and Master students (Chemical Science):*

4. Introduction in polymer science (1991, 1993)
5. Physical chemistry of polymer solutions (1987, 1988, 1989, 1996)
6. Characterization of polymers (1992)
7. Polymer Blends (1993)
8. Microscopy (1991, 1992, 1993)

*Implementation of new lectures for the industry:*

9. Polymer Center Initiative 1992-1997: courses for the industry in the field of polymer materials (Introduction to Polymer science, Polymer Characaterization, Polymer Blends, Methods of Polymerization).

*Federal Universities of Bahia (UFBA), Salvador (1988, 1989)*

10. Polymer materials

*Federal Universities of Minas Geraes (UFMG), Belo Horizonte (2002)*

11. Membrane Technology

### *KAUST*

CBE-230/330 CHEMS-230 Physical Chemistry of Macromolecules

Spring Semester 2010, Spring Semester 2011, Spring Semester 2012

CBE-213/313 Interface Science, Engineering and Technology, 2010, 2011, 2012

EnSE-310 Colloids, Interfaces and Surfaces, 2014, 2015, 2016, 2017

## **Supervision of students and postdocs**

### *Brazil*

#### *Master students supervised at the University of Campinas*

1. Denise Freitas Siqueira, Adhesion and Morphology of Polymer Pairs, Master of Science, 1990
2. Edmir Carone Junior, Blends of polyamide/ poly (methyl methacrylate), Master of Science, 1995
3. Katia Fraga Silveira, Organic/inorganic polymer hybrids, Master of Science, 1995
4. Mauricio Luis Sforca, Hydrophilic Membranes for Ultrafiltration, Master of Science, 1995

#### *PhD students supervised at the University of Campinas*

1. Denise Freitas Siqueira, Block copolymer solutions in selective solvents, Doctor of Science, 1992
2. Edvani Curti Muniz, Miscibility and Phase Separation of Polymer Blends, Doctor of Science, 1993
3. Dario Windmöller, Extraction of Carboxylic Acids through Membranes, Doctor of Science, 1995
4. Edmir Carone Junior, Impact modification of polyamides, Doctor of Science, 1998
5. Mauricio Luis Sforca, Membranes from polymer hybrids, Doctor of Science, 1998
6. Jair Maggioni, Thermodynamics of Membrane Formation, Doctor of Science, 1998

#### *Postdocs at the University of Campinas*

Dr. Rita Zoppi, Nanocomposites, 1994-1996

### *Germany*

#### *Co-supervision of PhD students:*

1. Alexander Dyck, Membranes for fuel cell, PhD, 2003, Universität Paderborn, Germany
2. Yolanda Alvarez-Gallego, Polyimides for fuel cell membranes, PhD, 2005, CSCIC Madrid, Spain
3. C. Karthikeyan, Polymer composites for fuel cell, PhD, 2005, TU Hamburg Harburg, Germany
4. Mariela Ponce, Heteropolyacid membranes for fuel cell, PhD, 2005, University Hamburg, Germany (*full time*)

5. Vasco Silva, Membranes for DMFC, PhD, 2005, University of Porto, Portugal
6. Jerusa Roeder, Membranes for hydrogen separation, PhD, 2005, University of Santa Catarina, Brazil
7. Dominique Gomes, Membranes for gas separation, PhD, 2003, University of Rio de Janeiro, Brazil
8. Carmen Nistor, Membranes for environmental application, PhD, 2009, IASI, Romania
9. Rapee Gosalawit, Nanocomposites for proton conductive membranes. PhD, 2008, University of Chulalongkorn, Thailand
10. Husnul Maab, Membranes for direct alcohol fuel cell, PhD, 2009, University of Kiel, Germany
11. Yaowapa Treekamol, Membranes for fuel cell, PhD, TU Hamburg Harburg, 2009-2014.

*Postdocs and scientists*

1. Dr. Eckard Rickowski (1998-2001), fuel cell
2. Dr. Kai Jakoby (1999-2002), fuel cell
3. Dr. Bastian Ruffmann (2000-2004), fuel cell
4. Dr. Serge Vetter (2001-2004), fuel cell
5. Dr. Luis Prado (2001-2004), fuel cell
6. Dr. Dominique Gomes (2003-2007), fuel cell and gas separation
7. Dr. Mariela Ponce (2005-2009), fuel cell
8. Dr. Jerusa Roeder (2006-2007), fuel cell (Alexander von Humboldt Fellow)
9. Dr. Sergey Shishatiskii (2002-2009), gas separation
10. Prof. Sergio Pezzin (2007), fuel cell
11. Dr. Mauricio Schieda (2007-2009), fuel cell
12. Dr. Rapee Gosalawit (2009), nanoporous materials for hydrogen storage (Alexander von Humboldt Fellow)

*KAUST*

*Directed Research*

CBE-299 Directed Research:

1. Monise Masuchi (*Fall Semester 2010*)
2. Muhammad Suhaimi Ismail (*Fall Semester 2010*)

3. Octavio Salinas (*Fall Semester 2010*)
4. Iran Prada (*Summer Semester 2011*)
5. Hashim Kamakhi (*Spring Semester 2012*)
6. Nooruddin Jamali (*Fall Semester 2011*)
7. Pia Latorre (*Fall Semester 2011*)

ChemS-299 ChemS Directed Research:

8. Agnes Sweileh (*Summer Semester 2011*)

EnSE-299 Directed Research:

9. Yihui Xie (*Summer Semester 2011*)

*Supervision of Master Students*

*Chemical Engineering (CBE); Environmental Science and Engineering (EnSE):*

1. Iran David Charry Prada, „Synthesis and modification of nanoparticles for surface nanostructuration of polymeric membranes“, April 2012 (CBE)
2. Pia Wiche Latorre, „Water Footprint and Energy Consumption of King Abdullah University of Science and Technology“, May 2012 (CBE)
3. Yihui Xie, “Nanocomposite Membrane via Magnetite Nanoparticle Assembly”, 2012 (EnSE)
4. Giada Soldan, „Functionalized nanostructured membranes for separation and recovery of monoclonal antibodies”, December 2017 (CBE)

*Supervised PhD Students**Environmental Science and Engineering (EnSE):*

1. Poornima Madhavan on block copolymer membranes, copolymer rheology, June 2016
2. Nicolas Moreno Chaparro on modelling of block copolymer assembly in solutions, May 2016.
3. Sara Livazovic on interfacial polymerization for membrane formation, June 2016.
4. Meixia Shi on simulation of transport in FO and NF membranes and correlation with different properties, May 2016.
5. Yihui Xie on synthesis of polysulfone copolymers for membrane preparation, May 2016.
6. Taghreed Jalal on membranes for chemical industry, October 2016.
7. DooLi Kim on green membrane manufacture, June 2017.

*Materials Science and Engineering (MSE):*

8. Debora Marques on block copolymer membranes (SAXS and microscopy characterization), November 2013.

*Current PhD students:*

1. Burhannudin Sutisna on block copolymer membranes (start August 2013) (CBE)
2. Bruno Ponce de Leon on polymeric membranes for high temperature (start Jan 2015) (EnSE)
3. Dinesh Mahalingam on nanocomposites for membranes (start August 2015) (EnSE)
4. Gheorghe Falca on hollow fiber membranes (start August 2016) (EnSE)

*Previous Research Scientist and Posdocs*

1. Dr. Russell Tayouo (May 2010- July 2014), Research Scientist
2. Dr. Munirasu Selvaraj (January 2011- July 2013)
3. Dr. Husnul Maab (January 2011- November 2013)
4. Dr. Srivatsa Bettahalli Narasimha (July 2013- 2016)
5. Dr. Duong Phuoc (January 2014- 2017)
6. Dr. Ngoc L.Le (January 2014-2017)

7. Dr. Christopher Waldron (2015-2017)

Current Research Scientist and Postdocs

1. Dr. Stefan Chisca (July 2013-2015, Research Scientist since 2015)
2. Dr. Valentina Musteata (since January 2015)
3. Shaofei Wang (since August 2017)

## List of Publications

Google Scholar (Jan 7<sup>th</sup>, 2017): 9076 citations, **h-index 50**

### Books

1. S. P. Nunes and K. V. Peinemann, editors and authors of the first half of the book. "Membrane Technology in the Chemical Industry", Wiley-VCH, Weinheim, Germany, 1<sup>st</sup> edition 2001.
2. S. P. Nunes and K. V. Peinemann, editors and authors of the first half of the book. "Membrane Technology in the Chemical Industry", Wiley-VCH, Weinheim, Germany, 2<sup>nd</sup> edition 2006, translation to Chinese 2005.
- 3-6. S. P. Nunes and K. V. Peinemann, editors, Membrane Technology, Wiley-VCH, Weinheim, Germany, series of 4 books:  
Vol. 1. Membranes for Life Science, published in 2007  
Vol. 2 Membranes for Energy Conversion, published in 2007  
Vol. 3 Membranes for Food Application, to be published in August 2010  
Vol. 4 Membrane Technology for Water Treatment, published in 2010
7. A. Basile and S. P. Nunes, editors. Advanced membrane science and technology for sustainable energy and environmental applications, Woodhead Publishing Limited, Cambridge, UK, 2011.

### Book Chapters

1. S. P. Nunes; C. P. Costa, A. W. Hechenleitner, F. Galembeck. Osmosedimentation in Density Gradients. In: B. Sedlacek, J. Kahozec, editors, "Synthetic Polymeric Membranes", Gruyter, Berlin, Germany, 1987, p. 581-588.

2. K. V. Peinemann and S. P. Nunes, Membrane Application, in Schüth, Ferdi / Sing, Kenneth S. W. / Weitkamp, Jens, editors, „Handbook of Porous Solids“, Wiley VCH, Weinheim, 2002.
3. V. S. Silva, A. M. Mendes, L. M. Madeira, S. P. Nunes, Membranes for direct methanol fuel cell applications: analysis based on characterization, experimentation and modeling. In: X. W. Zhang, editor, “Advances in Fuel Cells”, Research Signpost, Trivandrum, India, 2005, p. 57-80.
4. K. V. Peinemann and S. P. Nunes, Polymer membranen In: K. Ohlrogge and K. Ebert, editors, “Membranen”, Wiley-VCH, Weinheim, Germany, 2006, p. 1-22
5. S. P. Nunes, Membranen für die Brennstoffzelle In: K. Ohlrogge and K. Ebert, editors, „Membranen“, Wiley-VCH, Weinheim, Germany, 2006, p. 453-468.
6. S. P. Nunes, Organic-inorganic membranes for fuel cell application. In: S. M. J. Zaid, Takeshi Matsuura, editors, “Polymer membranes for fuel cells”, Springer, 2008.
7. S. P. Nunes, Organic-inorganic membranes. In: R. Mallada and M. Menendez, editors, “Inorganic Membranes: Synthesis, Characterization and Applications”, Membrane Science and Technology, 13, 2008, pages 121-134, Elsevier.
8. S. P. Nunes, D. Gomes, M. Ponce, Nanocomposites based in ionomers. In: S. Thomas, S. V. Valsaraj, A. P. Meera, Zaikov, G. E. editors, “Recent Advances in Polymer Nanocomposites, Brill, ISBN-13: 978 90 04 17297 5; ISBN-10: 90 04 17297 1, 2010.
9. S. P. Nunes and K. V. Peinemann, Advanced polymeric and organic-inorganic membranes for pressure driven processes, In: E. Drioli, editor, „Comprehensive Membrane Science and Engineering“, Elsevier, ISBN-978-0-444-53204-6, 2010.

10. S. P. Nunes, Membranes for Energy, In: G. Rios, G. Centi and N. Kanellopoulos, editors, "Nanoporous Materials for Energy and the Environment", Pan Stanford, 2011, ISBN-10: 9814267171, ISBN-13: 978-9814267175.
11. S. P. Nunes, Preparation and characterization of polymeric membranes for fuel cells. In: M. G. Buonomenna and G. Golemme, editors, "Advance Materials for Membrane Preparation", e-Book, Bentham Science Publishers.
12. N. L. Le, D. Phuoc, S. P. Nunes, Advance Polymeric and Organic-Inorganic Membranes for Pressure-Driven Processes, Reference Module in Chemistry, Molecular Sciences and Chemical Engineering, Elsevier, 2017.

### Special Issues

1. S. P. Nunes, K. V. Peinemann and K. Böddeker (editors). Special issue of the *Journal of Membrane Science* on Fuel Cells, 2001.
2. S. P. Nunes and Pierre Aimar (editors). Special issue of the *Journal of Membrane Science* on Membranes for CO<sub>2</sub> Separation, 2010.
3. A. Basile, A. Iullianeli and S. P. Nunes (editors). Special issue of the International Journal of Hydrogen Energy, on European Fuel Cell, 2011.

### Publications in Scientific Journals

1. S. P. Nunes and F. Galembeck. Preparation and characterization of cellulose acetate membranes for osmosedimentation. *Journal of Polymer Science: Polymer Letters Edition* 21, 49-55 (1983).
2. A. T. N. Pires, S. P. Nunes and F. Galembeck. Osmosedimentation: approach to sedimentation equilibrium under gravity. *Journal of Colloid and Interface Science* 98, 489-493 (1984).
3. S. P. Nunes, A. T. N. Pires and F. Galembeck. Concentration of dextran and gammaglobulin by osmocentrifugation. *Chemica Scripta* 23, 233-239 (1984).

4. S. P. Nunes and F. Galembeck. Percoll and Ficoll self-generated density gradients by low-speed osmocentrifugation. *Analytical Biochemistry* 146, 48-51 (1985).
5. S. P. Nunes, F. Galembeck and N. Barelli. Cellulose acetate membranes for osmosedimentation: performance and morphological dependence on preparation conditions. *Polymer* 27, 937-943 (1986).
6. S. P. Nunes, A. A. W. Hechenleiter and F. Galembeck. A new centrifugal ultrafiltration device. *Separation Science and Technology* 21, 823-830 (1986).
7. S. P. Nunes and F. Galembeck. Osmosedimentation: a study using the linear approximation of non-equilibrium thermodynamics. *Journal of Irreversible Thermodynamics* 12, 205-212 (1987).
8. L. Jelich, S. P. Nunes, E. Paul and B. A. Wolf. On the co-occurrence of demixing and thermo reversible gelation of polymer solutions. 1. Experimental Observations. *Macromolecules* 20, 1943-1947 (1987).
9. S. P. Nunes, B. A. Wolf and H.-E. Jeberien. On the co-occurrence of demixing and thermoreversible gelation of polymer solutions. 2. Thermodynamic background. *Macromolecules* 20, 1948-1951 (1987).
10. S. P. Nunes and B. A. Wolf. On the co-occurrence if demixing and thermoreversible gelation of polymer solutions. 3. Overall view. *Macromolecules* 20, 1952-1957 (1987).
11. S. P. Nunes, R. A. Costa, S. P. Barbosa, G. Almeida and F. Galembeck. Tracking degradation and pyrolysis of EPDM insulators. *IEEE Transactions on Electrical Insulators* 24, 99-105 (1989).
12. S. P. Nunes, P. Alves Jr. and F. Galembeck. A low cost, small-scale polymer mixer. *Journal of Chemical Education* 67, 982-983 (1990).

13. D. F. Siqueira, F. Galembeck and S. P. Nunes. Adhesion and morphology of PVDF/PMMA and compatibilized PVDF/PS interfaces. *Polymer* 32, 990-999 (1991).
14. E. C. Muniz, P. A. Vasquez, R. E. Bruns. S. P. Nunes and B. A. Wolf. Polymer-polymer miscibility evaluation by acoustic emission. *Makromolekulare Chemie, Rapid Communications* 13, 45-53 (1992).
15. S. P. Nunes and K. V. Peinemann. Ultrafiltration membranes of PVDF/PMMA. *Journal of Membrane Science* 73, 25-35 (1992).
16. D. F. Siqueira and S. P. Nunes. Compatibilization of PVDF/PS blends with styrene and methyl methacrylate random and block copolymer. *Polymer Networks & Blends* 8 (1), 45-50 (1993).
17. D. F. Siqueira, R. E. Bruns and S. P. Nunes. Optimization of ternary polymer blends using statistical mixture model. *Polymer Networks & Blends* 8 (2), 63-69 (1993).
18. C. Blicke, K. V. Peinemann and S. P. Nunes. Ultrafiltration membranes of PESA/PEI. *Journal of Membrane Science* 79, 83-91 (1993).
19. D. F. Siqueira and S. P. Nunes. Morphology of block copolymers in selective environments. *Polymer* 25, 490-495 (1994).
20. E. C. Muniz, M. Pellegrini and S. P. Nunes. Preferential wetting of oligomeric ethylene glycol/ propylene glycol blends. *Acta Polymerica* 45, 110-114 (1994).
21. E. C. Muniz, S. P. Nunes and B. A. Wolf. Shear influence on the phase separation of oligomer blends. *Makromolekulare Chemie, Macromol. Chem. Phys.* 195, 1257-1271 (1994).
22. D. F. Siqueira, S. P. Nunes and B. A. Wolf. Solution properties of a diblock copolymer in a selective solvent of marginal quality. 1. Phase diagram and rheological behavior. *Macromolecules* 27, 234-239 (1994).

23. D. F. Siqueira, S. P. Nunes and B. A. Wolf. Solution properties of a diblock copolymer in a selective solvent of marginal quality. 2. Micelle characterizarion. *Macromolecules* 27, 4561-4565 (1994).
24. S. P. Nunes, M. L. Sforça and K. V. Peinemann. Dense hydrophilic composite membranes for ultrafiltration. *Journal of Membrane Science* 106, 49-56 (1995)
25. K. F. Siqueira, I. V. P. Yoshida and S. P. Nunes. Phase Separation in PMMA/silica sol-gel systems. *Polymer* 36, 1425-34 (1995).
26. R. A. Zoppi, C. M. Fonseca, M. A. De Paoli and S. P. Nunes. Solid Electrolytes based on poly (amide-6-b-ethylene oxide). *Solid State Ionics* 91, 123-130 (1996).
27. S. P. Nunes, J. Schultz, K. V. Peinemann. Silicone Membranes with Silica Nanoparticles. *Journal of Materials Science Letters*. 15, 1139-1141 (1996).
28. S. P. Nunes and T. Inoue. Evidence for spinodal decomposition and nucleation and growth mechanisms during membrane formation. *Journal of Membrane Science* 111, 93-103 (1996).
29. L. Tröger, H. Hünnefeld, S. P. Nunes, M. Öhring and D. Fritsch. Poly (amide imide) films with high metal loading. *Journal of Physical Chemistry* 101, 1279-1291 (1997).
30. L. Troeger, L., H. Huenefeld, S. P. Nunes, M. Oehring, D. Fritsch. Structural characterization of catalytically active metal clusters in polymer membranes. In: *Zeitschrift fuer Physik D*. Vol. 40 (1997) 81-83.
31. L. Troeger, S. P. Nunes, M. Oehring, H. Huenefeld, D. Fritsch. Local Structure of Catalytically Active Metal Clusters in Polymer Membranes. *J. Physique* 4. 7 (1997) C2-875 - C2-877.

32. M. L. Sforca, S. P. Nunes and K. V. Peinemann. Composite nanofiltration membranes prepared by in situ polycondensation of amines in a poly(ethylene oxide-b-amide) layer. *J. Membr. Sci.* 135, 179-186 (1997).
33. S. P. Nunes. Recent advances in the controlled formation of pores in membranes. *Trends in Polymer Science* 5, 187-191 (1997).
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138. Lijo Francis; Ahmad Al-Saadi; Husnul Maab; Suzana Nunes; Noreddine Ghaffour; Gary Amy, High Performance Membranes for Red Sea Water Desalination using Direct Contact Membrane Distillation, AMTA/AWWA Membrane Technology Conference, San Antonio, USA, Feb 2013, (presented by Francis)
139. Ahmad S. Alsaadi, Lijo Francis, Jun-De Li, Husnul Maab, Suzana Nunes, Stephen Gray, Gary Amy, Noreddine Ghaffour, Modeling of Air-Gap Membrane Distillation Process, AMTA/AWWA Membrane Technology Conference, San Antonio, USA, Feb 2013, (presented by Alsaadi).
140. N. Ghaffour, L. Francis, A. Al-Saadi, H. Maab, S.P. Nunes, G. Amy, Scaling-up membrane distillation process: challenges and potential applications, International

Desalination Association World Congress, October 2013, Tianjin, China (presented by Ghaffour)

141. Klaus-Viktor Peinemann, Suzana P. Nunes, Madhavan Karunakaran, Neelakanda Pradeep, Haizhou Yu, Xiaoyan Qiu, Membrane Manufacturing by Block Copolymer Self-assembly: Drawbacks and Promises, ICMAT 2013, Singapore, July 2013 (presented by Peinemann).
142. S. P. Nunes and D. Marques, Analysis of the Self-Assembly of Block Copolymer Micelles by Small Angle X-ray Scattering (SAXS) for Membrane Application, ICMAT 2013, Singapore, July 2013 (presented by Marques).
143. N. Moreno Chaparro, V. Calo and S. P. Nunes, Generating and Predicting Nanostructures for Membranes, 5th International Conference on Porous Media, May 2013, Prague (invited lecture)
144. S. P. Nunes, Functionalized Isoporous Membranes, Engineering with Membranes, September 4-7, 2013, Saint-Pierre d'Oléron, France (Invited Keynote Lecture and Member of Scientific Committee).
145. S. P. Nunes, Membrane Technology for Water Desalination and Reuse, Middle East Process Engineering, Bahrain, September 29-October 2, 2013 (Member of Technical Committee, Invited Lecture and Session Chair)
146. S. P. Nunes, Membranes with Nanostructured Porosity, Nanomemwater, October 8-10, 2013, Izmir, Turkey (Plenary Lecture)
147. S. P. Nunes, Pore formation in block copolymer membranes  
Polymer Conference: From Synthesis to Properties to Applications, KAUST, November 9-13, 2013 (Invited Lecture)
148. S. P. Nunes, Invited Lecture in Trondheim, Norway, May 2014 (MEMFO 2014)
149. S. P. Nunes, Lecture at ICOM 2014, China, July 2014
150. S. P. Nunes, Invited Lecture at MACRO 2014, Thailand, July 2014
151. S. P. Nunes, Keynote Lecture at MRS (*Materials Science Conference*) Fall Meeting 2014, USA, November 2014
152. S. P. Nunes, Invited Lecture at North American Electrochemical Society, Symposium Co-organizer, October 2014
153. S. P. Nunes, Invited lecture at ECI Conference Advanced Membrane Technology VI: Water, Energy and Nrw Frontiers, "Taking advantage of N-Heterocyclic polymers for membrane application", Feb 2015, Syracure, Italy

154. S. P. Nunes, Invited lecture and co-chair ("Membranes functionalization and biomimic membranes" session) Engineering with Membranes 2015, May 2015, Beijing
155. S. P. Nunes, Invited lecture and Co-Chair of the Session "Membranes for Clean Water, Clean Energy and Life Science" of the ICMAT 2015, June/july 2015, Singapore.
156. S. P. Nunes, Invited lecture AICHE 2015, "Self-Assembly for Membrane Formation: Influence of Solvent Quality, Hydrogen Bonds and Coulombic Interactions", Nov. 2015, Salt Lake City, USA
157. S. P. Nunes, Invited lecture AICHE 2015, "Polymeric Membranes Manufactured from Solutions in Ionic Liquid", Nov. 2015, Salt Lake City, USA
158. S. P. Nunes, Invited lecture PACIFICHEM 2015, "Membrane manufacture with ionic liquids as greener solvents and morphology inducer", Dec 2015, Honolulu, USA.
159. Gerald Matar, G Gonzalez-Gil, H Maab, Suzana Pereira Nunes, JS Vrouwenvelder, Pascal Saikaly, Evolution and accumulation of organic foulants on hydrophobic and hydrophilic membrane surfaces in a submerged membrane bioreactor, International Water Association (IWA), 2015.
160. Meixia Shi, Galina Printsypar, Oleg Iliev, Victor M. Calo, Gary L. Amy, Suzana P. Nunes. Water flow prediction for membranes using 3D simulations with detailed morphologies. ICMAT2015, Singapore.
161. P. Madhavan, S. P. Nunes, Frontiers In Polymer science 2015, Riva Del Garda, Italy (poster).
162. S. Livazovic and S. P. Nunes, Cellulose composite membranes with ionic liquid as a green solvent 25<sup>th</sup> Annual meeting North American Membrane Society (NAMS), Boston, MA, May 30 - June 3, 2015 (poster)
163. Y. Xie, S. Nunes. Functionalized polysulfone and polysulfone-based triblock copolymers for high-performance water separation membranes. Jun. 14, 2015. Poster presentation. Gordon Research Seminar and Conference, Boston.
164. Y. Xie, S. Nunes, Functionalized Polysulfone and Polysulfone-based Triblock Copolymers for High-performance Water Separation Membranes. May 22, 2015. Poster presentation. Frontiers in Polymer Science Symposium, Riva del Garda.
165. T. Jalal, S. Nunes, NAMS 2015, Boston, Feb 2015.
166. S. Nunes, New block copolymers and blends for membranes, MACRO 2016, Istanbul, Turkey, July 17-21, 2016. (invited lecture)

167. S. Nunes, New block copolymers and blends for membrane fabrication, ACS Meeting, Philadelphia, USA, August 21, 2016. (invited lecture)
168. S. Nunes, Membrane preparation from solutions in ionic liquids, IMSTEC 2016, Adelaide, Australia, December 5-8, 2016. (invited lecture)
169. V. Musteata, B. Sutisna, G. Polymeropoulos, K. Peinemann, N. Hadjichristidis, S. Nunes, Small angle X-ray scattering as characterization for block copolymer membranes, IMSTEC 2016, Adelaide, Australia, December 5-8, 2016
170. B. Sutisna and S. Nunes, Design of block copolymer membranes using a master curve for various copolymer architectures, IMSTEC 2016, Adelaide, Australia, December 5-8, 2016.
171. S. Nunes, Modeling, visualization and membrane development, Royal Society Symposium Unifying scientific disciplines to understand and solve emerging membrane filtration challenges, Chicheley, UK, January 9-11, 2017. (invited lecture).
172. D. Kim and S. Nunes, Ionic Liquids Gordon Research Conference, August 14-19, 2016, Sunday River Newry, USA, poster presentation.
173. D. Kim and S. Nunes, Membranes: Materials and Processes Gordon Research Conference, July 30-31, 2016, New London, USA, poster presentation.
174. S. Bettahalli and S. Nunes, Membranes: Materials and Processes Gordon Research Conference, July 30-31, 2016, New London, USA, poster presentation.
175. B. Pulido and S. Nunes, Porous polyisatinbiphenyl membranes for harsh environments, MACRO 2016, Istanbul, July 17-21, 2016, oral presentation.
176. Ngoc Lieu Le, S. Nunes, T. Chung, M. Ulbricht, M. Quilitzsch, P. Hong, H. Cheng, Hollow fiber lumen modification via environmentally friendly poly(zwitterion) grafting, AIChE Meeting 2016, San Francisco, USA, November 2016, oral presentation.
177. P. H. H. Duong, S. Chisca, P. Hong, H. Cheng and S. Nunes, High fouling resistance thin-film composite membranes with copolyazole substrates for osmotically driven processes, NAMS 2016, Bellevue, USA, May 21-25. (oral)
178. S. Chisca, G. Falca, V. Musteata, C. Boi, S. Nunes, Crosslinked polytriazole membranes for organophilic filtration, NAMS 2016, Bellevue, USA, May 21-25. (oral)
179. C. Boi, M. Avanzato, S. Chisca, S. Nunes, Novel polytriazole ion exchange membranes for bioseparations, AIChE 2016, San Francisco, USA, November 2016, oral presentation.

180. S. Nunes, D. Kim, S. Livazovic, P. Madhavan, S. Chisca, Membrane preparation from ionic liquids, IMSTEC 2016, Adelaide, Australia, December 2016. (invited lecture)
181. V. Musteata, B. Sutisna, G. Polymeropoulos, K.V. Peinemann, N. Hadjichristidis, S. Nunes, SAXS as Characterization for Block Copolymer Membranes, IMSTEC 2016, Adelaide, Australia, December 2016. (invited lecture)
182. S. Nunes, Modeling, visualization and membrane development, Royal Society of Chemistry, Chicheley Hall, January 2017. (invited lecture)
183. S. P. Nunes, Membranes for biomolecules separation, KAUST Research, Conference on Polymers-Designing Macromolecules for Applications, February 2017. (invited lecture)
184. S. P. Nunes, Nanostructured membranes based on polysulfone homopolymers and copolymers, APS Meeting, March 2017, New Orleans, USA. (invited lecture)
185. L. N. Le, M. Ulbricht, S. P. Nunes, Poly(ethylene glycol) and poly(zwitterion) grafting for anti-fouling ultrafiltration membranes, MRS Spring Meeting 2017, Phoenix, USA. (Oral)
186. P. H. Duong, S. P. Nunes, Mixed-Polyamide thin-film composite membranes with enhanced antifouling properties, MRS Spring Meeting 2017, Phoenix, USA. (Oral)
187. D. Kim, S. P. Nunes, Fabrication of greener membranes from ionic liquid solutions, MRS Spring Meeting 2017, Phoenix, USA. (Oral)
188. V. Musteata, B. Sutisna, G. Polymeropoulos, K. V. Peinemann, N. Hadjichristidis, S. P. Nunes, GISAXS time-resolved investigation of isoporous block copolymer membrane formation, ICOM 2017, San Francisco, August 2017. (Oral)
189. S. Chisca, P. H. Duong, L. F. Villalobos, G. Falca, K. V. Peinemann, C. Boi, S. P. Nunes, ICOM 2017, San Francisco, August 2017. (Oral)
190. B. Pulido, S. Nunes, Pushing the limits of polymeric membrane stability, ICOM 2017, San Francisco, August 2017. (Poster)
191. B. Sutisna, V. Musteata, K. V. Peinemann, S. P. Nunes, Artificial membranes with preferential nanochannels from block copolymer self-assembly, ICOM 2017, San Francisco, August 2017. (Oral)

192. S. P. Nunes, Membranes with Stimuli Response and Selective Transport, Imagine Membrane Conference, Horta, Azores, Portugal, September, 2017. (Invited lecture)
193. G. Falca, S. Chisca, V. Musteata, C. Boi, S. P. Nunes, Crosslinked polytriazole membranes for organophilic filtration, September 2017 (best poster award)
194. S. Nunes, Green Polymeric Membrane Manufacture with Ionic Liquids, 14. Brazilian Polymer Conference, October 2017. (invited lecture)
195. S. Nunes, From polymer synthesis to sustainable membrane manufacture and separations, October 2017. 5<sup>th</sup> Workshop on Materials Science, Sorocaba, Brazil (invited lecture).