






PERSONAL INFORMATION	Emanuela Sgreccia
	 Department of Industrial Engineering, via del Politecnico 1, 00133 Rome, Italy
	 
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WORK EXPERIENCE

2017- pursuing

Postdoctoral Researcher

University of Rome Tor Vergata, Department of Industrial Engineering

- Synthesis and Characterization of Amphoteric Membranes (CREATE European Project)

Business or sector Ion Exchange Membranes, Energy Applications, Polymers

Academic Year 2019/2020

Adjunct Professor

University of Rome Tor Vergata, Department of Chemical Science and Technologies

- Complementi di Stechiometria ed Elettrochimica

Business or sector Teaching University

Academic Year 2018/2019

Adjunct Professor

University of Rome Tor Vergata, Department of Chemical Science and Technologies

- Complementi di Stechiometria ed Elettrochimica

Business or sector Teaching University

Academic Year 2017/2018

Adjunct Professor

University of Rome Tor Vergata, Department of Chemical Science and Technologies

- Complementi di Stechiometria ed Elettrochimica

Business or sector Teaching University

01/06/2010 - 31/10/2011

Postdoctoral Researcher

University of Rome Tor Vergata, Department of Chemical Science and Technologies (LOLIPEM European Project)

- Polymeric Membranes for Fuel Cells

Business or sector Ion Exchange Membranes, Energy Applications, Polymers

EDUCATION AND TRAINING

01/06/2012 – 30/09/2012

Grant

University of Rome Tor Vergata, Department of Chemical Science and Technologies (LOLIPEM European Project)

- Caratterizzazione di membrane a base di polimeri aromatici

2006 –2009 (36 months)

Ph.D. in Chemistry (University of Rome Tor Vergata ,Rome, Italy)

Ph.D. in Sciences ds Matériaux, Physique, Chimie & Nanosciences (Université de Provence, Marseille, France) (Très Honorable)

Thesis in co-supervision financed by Franco-Italian University (Vinci Programme 2006)

- Proton Conducting Membranes Based on Sulfonated Aromatic Polymers for PEM Fuel Cells: Synthesis and Properties

01/04/2006 – 31/08/2006	Grant University of Rome Tor Vergata, Department of Electronic Engineering (MIUR FIRB) ▪ Ottimizzazione dei metodi di deposizione di materiali sensibili organici su sensori chimici
01/03/2005 – 28/02/2006	Grant University of Rome Tor Vergata, Department of Electronic Engineering (MIUR FIRB) ▪ Ottimizzazione dei metodi di deposizione di materiali sensibili organici su sensori chimici
01/02/2004 – 31/01/2006	Grant University of Rome Tor Vergata, Department of Electronic Engineering (FIRS MITE/TIV) ▪ Verifica della funzionalità di sensori per ambienti di telepresenza immersiva virtuale
2003	Laurea in Electronic Engineering (V.O.) University of Rome Tor Vergata ▪ Ottimizzazione dei parametri di fabbricazione di sensori chimici TSMR
1990	High School Degree of State Industrial and Technical Institute (Computer Science)

Book Chapter	M.L. Di Vona, E. Sgreccia, S. Tosto: <i>Solid State Proton Conductors: Properties and Applications in Fuel Cells</i> . Solid State Proton Conductors, 01/2012; , ISBN: 9780470669372
Patent	G. Auer, M.L. Di Vona, E. Sgreccia (2009). Brennetoffzellmembran. DE 10 2009 006 493 A1 G. Auer, M.L. Di Vona, E. Sgreccia (2010). Fuel Cell membrane EP 2 392 046 B1
Papers	R.-A. Becerra-Arciniegas, R. Narducci, G. Ercolani, E. Sgreccia, L. Pasquini, M.L. Di Vona, P. Knauth: <i>Model Long Side-Chain PPO-Based Anion Exchange Ionomers: Properties and Alkaline Stability</i> Journal of Physical Chemistry C 2020 , 124, 1309-1316. R.-A. Becerra-Arciniegas, R. Narducci, G. Ercolani, S. Antonaroli, E. Sgreccia, L. Pasquini, P. Knauth, M.L. Di Vona: <i>Alkaline stability of model anion exchange membranes based on poly(phenylene oxide) (PPO) with grafted quaternary ammonium groups: Influence of the functionalization route</i> Polymer 2019 , 185,121931. R. Narducci, E. Sgreccia, G. Ercolani, M. Sette, S. Antonaroli, L. Pasquini, P. Knauth, M.L. Di Vona: <i>Influence of the position of ionic groups in amphoteric polyelectrolytes on hydration and ionic conduction: Side chain vs main chain</i> European Polymer Journal 2019 , 119, 45-51. E. Sgreccia, L. Pasquini, G. Ercolani, P. Knauth, M.L. Di Vona: <i>Stimuli-responsive amphoteric ion exchange polymers bearing carboxylic and amine groups grafted to a cross-linkable silica network</i> European Polymer Journal 2019 , 112, 255-262. G. Barbieri, A. Brunetti, M.L. Di Vona, E. Sgreccia, P. Knauth, H. Y. Hou, R. Hempelmann, F. Arena, L.D. Beretta, B. Bauer, M. Schuster, J.O. Ossó, L.F. Vega: <i>LoLiPEM: Long life proton exchange membrane fuel cells</i> . International Journal of Hydrogen Energy 2016 , 41, 1921-1934. P. Knauth, E. Sgreccia, M.L. Di Vona: <i>Chemomechanics of acidic ionomers: Hydration isotherms and physical model</i> . Journal of Power Sources 2014 , 267, 692-699. M.L. Di Vona, E. Sgreccia, R. Narducci, L. Pasquini, H. Hou, P. Knauth: <i>Stabilized Sulfonated Aromatic Polymers by in situ Solvothermal Cross-Linking</i> . Frontiers in Energy Research 2014 , 2(OCT), 39. B. Maranesi, H. Hou, R. Polini, E. Sgreccia, G. Alberti, R. Narducci, P. Knauth, M.L. di Vona: <i>Cross-Linking of Sulfonated Poly(ether ether ketone) by Thermal Treatment: How Does the Reaction Occur?</i> . Fuel Cells 2013 , 13(2), 107-117. H. Hou, R. Polini, M.L. Di Vona, X. Liu, E. Sgreccia, J. C. Chailan, P. Knauth: <i>Thermal crosslinked and nanodiamond reinforced SPEEK composite membrane for PEMFC</i> . International Journal of Hydrogen Energy 2013 , 38(8), 3346-3351. M.L. Di Vona, E. Sgreccia, P. Knauth: <i>Cross-linked Aromatic Polymers for High Durability PEM Membranes: Materials and Methods</i> . ECS Transactions 2012 50(2), 1021-1030. A. Brunetti, E. Fontananova, A. Donnadio, M. Casciola, M.L. Di Vona, E. Sgreccia, E. Drioli, G. Barbieri: <i>New approach for the evaluation of membranes transport properties for polymer electrolyte membrane fuel cells</i> . Journal of Power Sources 2012 , 205, 222-230. M.L. Di Vona, G. Alberti, E. Sgreccia, M. Casciola, P. Knauth: <i>High performance sulfonated aromatic ionomers by solvothermal macromolecular synthesis</i> . International Journal of Hydrogen Energy 2012 , 37(10), 8672-8680.

Papers

P. Knauth, H. Hou, E. Bloch, E. Sgreccia, M.L. Di Vona: *Thermogravimetric analysis of SPEEK membranes: Thermal stability, degree of sulfonation and cross-linking reaction*. Journal of Analytical and Applied Pyrolysis **2011**, 92(2), 361-365.

E. Sgreccia, M.L. Di Vona, P. Knauth: *Hybrid composite membranes based on SPEEK and functionalized PPSU for PEM fuel cells* International Journal of Hydrogen Energy **2011**, 36(13), 8063-8069 .

M.L. Di Vona, E. Sgreccia, A. Donnadio, M. Casciola, J. F. Chailan, G. Auer, P. Knauth: *Composite polymer electrolytes of sulfonated poly-ether-ether-ketone (SPEEK) with organically functionalized TiO₂*. Journal of Membrane Science **2011**, 369(1-2), 536-544.

P. Knauth, E. Sgreccia, A. Donnadio, M. Casciola, M.L. Di Vona: *Water Activity Coefficient and Proton Mobility in Hydrated Acidic Polymers*. Journal of the Electrochemical Society **2011**, 158(2), B159-B165.

E. Sgreccia, J. F. Chailan, M. Khadhraoui, M.L. Di Vona, P. Knauth: *Mechanical properties of proton-conducting sulfonated aromatic polymer membranes: Stress-strain tests and dynamical analysis*. Journal of Power Sources **2010**, 195(23), 7770-7775

M.L. Di Vona, E. Sgreccia, M. Tamilvanan, M. Khadhraoui, C. Chassigneux, P. Knauth: *High ionic exchange capacity polyphenylsulfone (SPPSU) and polyethersulfone (SPES) cross-linked by annealing treatment: Thermal stability, hydration level and mechanical properties*. Journal of Membrane Science **2010**, 354(1-2), 134-141.

E. Sgreccia, M.L. Di Vona, S. Licocchia, M. Sganappa, M. Casciola, J. F. Chailan, P. Knauth: *Self-assembled nanocomposite organic-inorganic proton conducting sulfonated poly-ether-ether-ketone (SPEEK)-based membranes: Optimized mechanical, thermal and electrical properties*. Journal of Power Sources **2009**, 192(2), 353-359.

M.L. Di Vona, E. Sgreccia, S. Licocchia, G. Alberti, L. Tortet, P. Knauth: *Analysis of Temperature-Promoted and Solvent-Assisted Cross-Linking in Sulfonated Poly(ether ether ketone) (SPEEK) Proton-Conducting Membranes*. Journal of Physical Chemistry B **2009**, 113(21), 7505-7512.

M.L. Di Vona, L. Luchetti, G. P. Spera, E. Sgreccia, P. Knauth: *Synthetic strategies for the preparation of proton-conducting hybrid polymers based on PEEK and PPSU for PEM fuel cells*. Comptes Rendus Chimie **2008**, 11(9), 1074-1081.

A. Macagnano, E. Zampetti, B. R. Pistillo, S. Pantalei, E. Sgreccia, R. Paolesse, R. d'Agostino: *Double layer sensors mimic olfactive perception: A case study*. Thin Solid Films **2008**, 516(21), 7857-7865.

M.L. Di Vona, E. Sgreccia, S. Licocchia, M. Khadhraoui, R. Denoyel, P. Knauth: *Composite Proton-Conducting Hybrid Polymers: Water Sorption Isotherms and Mechanical Properties of Blends of Sulfonated PEEK and Substituted PPSU*. Chemistry of Materials **2008**, 20(13), 4327-4334.

E. Sgreccia, M. Khadhraoui, C. de Bonis, S. Licocchia, M.L. Di Vona, P. Knauth: *Mechanical properties of hybrid proton conducting polymer blends based on sulfonated polyetheretherketones*. Journal of Power Sources **2008**, 178(2), 667-670.

A. Macagnano, E. Sgreccia, E. Zampetti, S. Pantalei, C. Di Natale, R. Paolesse, A. D'Amico: *Potentials and limitations of a porphyrin-based AT-cut resonator for sensing applications*. Sensors and Actuators, B: Chemical **2008**, 130(1), 411-417.

A. Macagnano, E. Sgreccia, R. Paolesse, F. De Cesare, A. D'Amico, C. Di Natale: *Sorption and condensation phenomena of volatile compounds on solid-state metalloporphyrin films*. Sensors and Actuators, B: Chemical **2007**, 124(1), 260-268.

Conference Proceedings

S. Pantalei, E. Zampetti, E. Sgreccia, E. Martinelli, L. Sandro, J. Mio Bertolo, A. Bearzotti, A. Macagnano, R. Paolesse, C. Di Natale: *Electrical Characterization Of Porphyrin Thin Film Towards Humidity Concentration*. Sensors and Microsystems, Ed. C. Di Natale, A. D'Amico, G. Soncini, L. Ferrario, M. Zen, World Scientific, Singapore, 2005, p. 257-262

E. Sgreccia, A. Macagnano, E. Dalcanale, C. Di Natale, R. Paolesse: *A study of mass effect in a cavitand supramolecular sensor*. Sensors and Microsystems, Ed. C. Di Natale, A. D'Amico, G. Soncini, L. Ferrario, M. Zen, World Scientific, Singapore, 2006, p 18-23 (doi: 10.1142/9789812793393_0004)

A. Macagnano, C. Di Natale, R. Paolesse, E. Sgreccia, A. D'Amico: *Chemical sensors based on TSMRs: Effect of coating thickness*. Sensors and Microsystem Ed. C. Di Natale, A. D'Amico, G. Soncini, L. Ferrario, M. Zen, World Scientific, Singapore, 2003, p. 134-139