

## PERSONAL INFORMATION



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Sex M | Date of birth 17/09/1979 | Nationality Italian

JOB APPLIED FOR  
 POSITION  
 PREFERRED JOB  
 STUDIES APPLIED FOR  
 PERSONAL STATEMENT

Researcher type B/Professor

## WORK EXPERIENCE

(2017 - pursuing)

### Postdoctoral researcher

University of Rome "Tor Vergata", Industrial Department  
 Synthesis and characterization of anionic and ampholytic membranes for FCs (European Program CREATE, H2020), synthesis of inorganic materials (Hydrotalcites LDHs, Metal Organic Frameworks MOFs) and development of lonomer n<sub>2</sub> Analysis (INCA method) for PFSA membranes  
**Business or sector** Energy conversion, polymers

(2016 - 2017)

### H-Chercheur

University of "Aix Marseille", Madirel (UMR 7246)  
 Polymères fonctionnalisés à échange anionique et amphotère pour batteries redox à flux de nouvelle generation, (UFI, VINCI 2016 Cap. IV C4-38)  
**Business or sector** Energy storage, polymers

(2016)

### Postdoctoral researcher

University of Perugia, Dep. of Chemistry, Biology and Biotechnology, Tratos Cavi SpA  
 Innovativa famiglia di cavi in posa mobile (Fondo per la crescita sostenibile-Bando "Progetti di ricerca e sviluppo negli ambiti tecnologici identificati dal Programma Quadro Horizon 2020") Rinuncia in data: 30/11/2016. Synthesis and characterization of nanofillers consisting of zirconium phosphonates and organically modified hydrotalcites  
**Business or sector** Nanofillers for polymers

(2011-2014)

### Adjunct Professor

University of Rome Tor Vergata, Dep. Chemical Science and Technologies  
 A.Y. 2011/2012 and 2012/2013(gratis): "Calcoli stechiometrici per equilibri chimici omogenei ed eterogenei e relative applicazioni in dispositivi elettrochimici"  
 A.Y. 2013/2014: "Complementi di Stechiometria ed elettrochimica"  
**Business or sector** European program LoLiPEM

(2010 - 2011)

### Research grant

University of Perugia, Dep. of Chemistry  
 Fondazione Cassa di Risparmio Perugia. European program MAESTRO. Sulfonated polymers. PEMFCs.  
**Business or sector** Energy conversion, polymers

(2009 - 2010)

### Researcher

Prolabin & Tefarm Srl  
 Research contract, polymer additives, cosmetic ingredients, catalysts. End of Project: 18/11/2010  
**Business or sector** Production, R&D, Marketing

(2004 - 2009)

### Researcher

University of Perugia, Dep. of Chemistry  
 Research contracts, European program (AUTOBRANE, CARISMA) and FISR02. Scholarship with CEMIN and Tor Vergata University. PEMFCs, Nanomaterials and polymeric synthesis. **Business or sector** Energy conversion, polymers, nanomaterials

## EDUCATION AND TRAINING

(2011 - 2014) PhD in Chemical Science and Sciences des Matériaux (Excellent cum Laude)  
 (1998 - 2004) Master degree in Inorganic Chemistry and Materials (108/110)  
 (1993 - 1998) High School degree of Industrial Chemical Technician (60/60)

## PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2

Communication skills

- Good communication skills gained through my experience as speaker in international congress, European project meeting and University teaching.

Organisational / managerial skills

- Collaborations with several university and international research center and industry in Fuel Cells field.

Job-related skills

Good command of R&D (currently working in CREATE European program)  
 Used techniques: INCA Method, Water Uptake, WAXS, Stress Strain Tests, DMA, DSC, TGA  
 Conductivity, Titration, <sup>1</sup>H-NMR, IR, UV-Vis, SEM

Digital skills

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
independent	independent	independent	independent	independent

- good command of office (word, presentation software, power point)
- basic command of Fortran77 and microcal origin

Other skills

- Drawings, paintings, mechanical drawings

Driving licence

B

## ADDITIONAL INFORMATION

From January 2020 he received the **habilitation as associated professor in chemistry** 03/B2-fondamenti chimici delle tecnologie, SSD 07.

**Patent:** "Scambiatori di calore entalpici a membrane di tipo polimerico aromatico solfonato e procedimento per la preparazione di dette membrane" M.L. Di Vona (20% TV), G. Baldinelli (30%), A. Marrocchi (20%), R. Narducci (30%), University of Perugia and University of Rome "Tor Vergata", Number: 102016000112268, presentation date: 08/11/2016. Selected: INNOVAGORA', 6-8 maggio 2019, Milan

**Book chapter:** Perfluorinated sulfonic acids as proton conductor membranes, Solid State Proton Conductors: Properties and Applications in Fuel Cells, **Wiley** West Sussex, United Kingdom, 2012, (G. Alberti, R. Narducci, M.L. Di Vona)

**Work/visit:** ETH Zurich June 2004 (1 week); Aix-Marseille Univ. October-November 2012 (3 weeks), September-October 2013 (5 weeks), May-june 2014 (2 weeks); Sun Tech Toulon July 2014 (1 week); Aix-Marseille Univ. April-May 2017 (2 weeks), CNRS Eq. AIME Montpellier May 2019 (1 week)

Publications  
 Presentations  
 Projects  
 Conferences  
 Seminars  
 Honours and awards  
 Memberships  
 References  
 Citations  
 Courses  
 Certifications

(Project Selected): “Polymer Electrolyte Membranes Fuel Cells for Automotive Applications” (Oral Communication) R. Narducci, E. Sgreccia, M.L. Di Vona, *Bar Camp Energia, L'energia spiegata festival dell'energia, Università LUISS Guido Carli, 24-25/05/2013, Rome, Italy*

Proton conductivity of composite polyelectrolyte membranes with metal-organic frameworks for fuel cell applications, **Advanced Materials Interfaces**, 6, 2, 2019, Article number 1801146 (J. Escorihuela, R. Narducci, Vicente Compañ and F. Costantino)

How to Improve Nafion with Taylor Made Annealing, **RSC Advances**, 8, 48, 2018, 27268-27274, (R. Narducci, P. Knauth, J.-F. Chailan, M.L. Di Vona) *In memoriam Prof. Giulio Alberti*

Mixed Membrane Matrices Based on Nafion/UiO-66/SO<sub>3</sub>H-UiO-66 Nano-MOFs: Revealing the Effect of Crystal Size, Sulfonation, and Filler Loading on the Mechanical and Conductivity Properties, **Applied Materials and Interfaces**, 9, 48, 2017, 42239-42246, (Donnadio A., Narducci R., Casciola M., Marmottini F., D'Amato R., Jazestani M, Chiniforoshan H., Costantino F.)

Anion-conducting ionomers: study of type of functionalizing amine and macromolecular cross-linking, **International Journal of Hydrogen Energy**, 39, pp. 14039-14049, 2014, (M.L. Di Vona R. Narducci, L. Pasquini, K. Pelzer, P. Knauth)

Cation-conducting ionomers made by ion exchange of sulfonated poly-ether-ether-ketone: Hydration, mechanical and thermal properties and ionic conductivity, **Journal of Membrane Science**, 465, pp.185–192, 2014, (R. Narducci, M.L. Di Vona, P. Knauth)

Cross-linked sulfonated aromatic ionomers via SO<sub>2</sub> bridges: Conductivity properties, **Journal of Power Sources** 243, 488-493, 2013, (M.L. Di Vona , L. Pasquini, R. Narducci, K. Pelzer, A. Donnadio , M. Casciola, P. Knauth)

Measurement of the Young's modulus of Nafion membranes by Brillouin light scattering, **J. Power Sources**, 195 (2010) 7761-7764, (E. Roberti, G. Carlotti, S. Cinelli, G. Onori, A. Donnadio, R. Narducci, M. Casciola and M. Sganappa)

Effects of Hydrothermal/Thermal Treatments on the Water-uptake of Nafion Membranes and Relations with Changes of Conformation, Counter-elastic force and Tensile Modulus of the Matrix **J. Power Sources**, 178 (2008) 575-583, (G. Alberti, R. Narducci and M. Sganappa)

On the decay of Nafion conductivity at high Temperature and relative Humidity, **J. Power Sources**, 162 (2006) 141-145, (M. Casciola, G. Alberti, M. Sganappa, R. Narducci)

(Oral communication) “The INCA (Ionomer Nc Analyses) Method. A new approach to study perfluorinated ionomers”, R. Narducci, **MRS fall meeting & exhibit, Boston, USA, 25-30 November 2018**

(Keynote) “Synthesis and characterization of composite membranes using layered double hydroxides (LDH) and metal organic framework (MOF) as fillers to enhance the properties of anion exchange membranes (AEM)”, R. Narducci, **THERMEC'2018, July 8-13, 2018, Paris - FRANCE**

(Invited Presentation) “INCA (Ionomer Nc Analyses) Method. A new approach to the study of perfluorinated ionomers”, R. Narducci, G. Alberti, **CEWEG, Geneva, Switzerland, 20-22 November 2017**

(Oral Communication) “Composite anionic membranes based on polysulfone and layered double hydroxides”, R. Narducci, P. Knauth, M. L. Di Vona, **EUROMAT 2017, Thessaloniki, Greece, 17-22 September 2017**

(Oral Communication) “Composite anion exchange membranes based on polysulfone and lamellar MgAl double hydroxides”, R. Narducci, P. Knauth, M. L. Di Vona, **21 INTERNATIONAL CONFERENCE ON SOLID STATE IONICS, Fiera di Padova, 18/06/17 - 23/06/17 PADOVA, Italy**

(Oral Communication) “Anionic Exchange Membranes (AEM) for Fuel Cell Applications”, R. Narducci L. Pasquini, P. Knauth, M.L. Di Vona, **EMR-S spring meeting, 26-31 May 2014, Lille, France**

(Oral Communication) “Plots counter pressure index Vs temperature: another point of view to explain ionomer annealing”, R. Narducci, G. Alberti, M.L. Di Vona, **EMR-S spring meeting, 14-17 May 2012, Strasbourg, France**

Scholarship: VINCI 2016 Cap. IV, C4-38, Université Franco Italienne

Scholarship: VINCI 2013 Cap. II, C2-62, Università Italo Francese

Total citations Scopus 26/03/2020 = 915, Hindex 16, 37 documents, 42 communications, 40 congress ad meetings

ANNEXES

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- Full CV in Italian with list of: publications, congress, meetings, courses etc.