

## **PERSONAL INFORMATION**

Panero Stefania:

Researcher unique identifiers

ORCID: 0000-0002-9779-1050

Scopus ID: 7004014558

Date of birth: 12/01/1952

Nationality: Italian

URL for web site: <https://www.chem.uniroma1.it/dipartimento/persone/stefania-panero>

## **EDUCATION**

1978- Master degree in Industrial Chemistry (110/110 cum laude)

## **CURRENT POSITION**

2005- Associate Professor of Physical Chemistry, SSD CHIM/02 Physical Chemistry. Sapienza University of Rome, Faculty of Science.

2012- Qualification as Full Professor for the 03/A2 area (Models and methodologies for Chemical Sciences)

## **PREVIOUS POSITIONS**

1981- Researcher scientist, Sapienza University of Rome, Faculty of Science.

1979/1981- Accademia Nazionale dei Lincei grant holder and CNR fellowship, Sapienza University of Rome, Faculty of Engineering.

## **FELLOWSHIPS AND AWARDS**

2009- Sapienza University Award "Excellence in Science" for the research topic "New Materials for Safe and Sustainable Lithium Ion Polymer Batteries"

## **RESEARCH ACTIVITY**

Stefania Panero focused her attention on nanotechnology for the development of new types of electrode and electrolyte materials for advanced batteries and fuel cells. Her studies provide consistent evidence that new, morphologically optimized materials approach performance levels required for batteries and fuel cells designed for electric vehicle applications.

She develops scientific and technological activities, focused on the study of materials and processes for energy storage, conversion and utilization, possibly from renewable sources.

Essentially the following themes are developed:

- a. Study of innovative materials to be used as electrodes and electrolytes in new electrochemical devices (lithium-ion batteries, fuel cells, electrolyzers)
- b. Electrochemistry of conducting polymers as electrodes and electrolytes for plastic batteries and supercapacitors.
- c. Electrochemical methods applied to environmental remediation, restoration and conservation of artistic artefacts.
- d. Realization and study of nanostructured materials for biomedical applications

## **SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS**

She has trained over 80 students, including 10 doctoral students and 50 master students from Italian Academic Institutes and Foreign Universities.

She mentored six young researchers to start their professional career.

## **TEACHING ACTIVITIES**

2011-to day. Responsible for the course "Energy storage, conversion and production" Faculty of Science at Sapienza University.

2015- to day. Responsible for the course "Advanced Chemical methods in Archaeological Materials Science. The class, given in English, is part of the teaching initiatives of the ERASMUS + Program.

2004-2005. Responsible for the course "Materials for energy storage and conversion". Faculty of Science at Sapienza University. The class was given in the framework of the Erasmus Mundus European master.

## **ORGANISATION OF SCIENTIFIC MEETINGS**

2008- today. Organizing Committee and Scientific Board member of the meeting "Ionic Liquids for Electrochemical Devices ILED ". The conference is held in Rome every 2 years.

### **INSTITUTIONAL RESPONSIBILITIES**

2012-to day. Director of the Research Centre of Sapienza "HYDRO-ECO- Hydrogen and alternative energy sources". The Centre involves four Departments from the Faculty of Science and Engineering. Its mission is to develop scientific and technological activities focussed on the study of materials and processes for energy storage, conversion and utilization.

2005-to day. Member of the Doctoral School "Mathematical Models for Engineering, Electromagnetics and Nanosciences"

2004-2006. Local Coordinator of the European Joint Master established in the framework of the FP6 EU Programme ALISTORE -Network of Excellence.

### **COMMISSIONS OF TRUST**

2017- Member of the examination board of the Doctoral School "Chemical and Pharmaceutical Sciences and Biotechnology: Chemical Sciences" University of Camerino, Italy

2012- Member of examination committee for PhD-defence, Delft University of Technology, The Netherland.

2010- Member of examination committee for PhD-defence, Université Montpellier II, Sciences et Techniques du Languedoc, France.

2008- Member of examination committee for PhD-defence, Faculty of Science and Technology, Uppsala, Sweden.

2008- Member of examination committee for PhD-defence, University of Rome Tor Vergata, Italy

### **REVIEWER ACTIVITIES**

Peer Reviewer of several International Journals in the field of Materials Science for Energy : Journal of Power Sources, Electrochimica Acta, ACS Publications, Journal of the Electrochemical Society, Journal of Physical Chemistry.

### **MAJOR COLLABORATIONS**

- Zentrum fuer Sonnenenergie-und Wasserstoff-Forschung (ZSW) ULM, Germany
- Department of Applied Physics, Chalmers University, Goteborg, Sweden
- Department of Biotechnology of Tokyo University, Japan
- Energy Institute, Hunter College in the City University of New York, USA

### **MAIN BIBLIOGRAPHIC DATA**

h-index 46. Total citations 7384 (source SCOPUS)

h-index 53. Overall citations 9496. i10-index 171 (source Google Scholar Metrics)

Documents by author 220 (SCOPUS)

Patents 6.

Chapters on Books 4

#### *Most cited publications*

a) Nanostructured Sn-C composite as an advanced anode material in high-performance lithium-ion batteries. G. Derrien, J.Hassoun, S. Panero, B. Scrosati *Advanced Mater.* 19 (2007) 2336-2340. DOI: 10.1002/adma.200700748

b) A nanostructured Sn-C composite lithium battery electrode with unique stability and high electrochemical performance. J. Hassoun, G. Derrien, S. Panero, B. Scrosati. *Advanced Materials*, 20 (2008) 3169-3175 DOI: 10.1002/adma.200702928

c) An advanced lithium-ion battery based on a graphene anode and a lithium iron phosphate cathode. Hassoun, J., Bonaccorso, F., Agostini, M., Panero S., et all. *Nano Letters* 14, 8, (2014) 4901-4906. DOI: 10.1021/nl502429m

#### *Patents*

i) Pentacyclic Anion Salt and Use Thereof as an Electrolyte. Inventors: M. Armand, M. Bukowska, S. Grugeon, S. Laruelle, L. Niedzicki, S. Panero, P. Reale, B. Scrosati, P. Szczecinski, G.Z. Zukowska, W. Wiczorek. US 8, 927, 160 B2.

ii) Process for Preparing Ionomeric Membranes. Inventors: W. Navarrini, S. Panero, B. Scrosati, A. Sanguineti. US 7704639 B2

## **PAST FUNDING ID – COORDINATING ACTIVITIES**

### *Responsibility in European Projects:*

- LISSEN "Lithium Sulfur Superbattery Exploiting Nanotechnology" 2012-2014 FP7. Responsible and Member of the Steering Committee.
- APPLES "Advanced, High Performance, Polymer Lithium batteries for Electrochemical Storage" 2011-2013 FP7. Responsible and Member of the Steering Committee.
- ALISTORE "Advanced Lithium Energy Storage based on the use of nanopowders and nanocomposite electrodes/electrolytes" 2006-2010 FP6. Local Responsible.
- CARISMA "Coordination Action for research on intermediate and high temperature specialised membrane electrode assemblies" 2006-2007 FP6. Local Responsible
- LIBERAL "Lithium Battery Evaluation and Research-Accelerated Life test direction" 20032005 FP6. Local Responsible

### *Responsibility in National Projects:*

- PAR 2016-2017 "Preparazione e caratterizzazione di materiali elettrodi ad alta tensione e di adatte soluzioni elettrolitiche" 2 years project. Ministero Sviluppo Economico-ENEA. Principal Investigator
- PRIN 2010-11 NAMED-PEM "Advanced nanocomposite membranes and innovative electrocatalysts for durable polymer electrolyte membrane fuel cells" 3 years project. Italian Ministry of Education, University and Research. Principal Investigator.
- PAR 2010 " Sistemi elettrochimici per la generazione e l'accumulo di energia". 3 years project. Ministero Sviluppo Economico-CNR. Principal Investigator.
- FIRB 2006 RINNOVA " Tecnologie elettrochimiche innovative per l'accumulo di energia da fonti rinnovabili "4 years project. Italian Ministry of Education, University and Research. Participant.
- FISR 2001 NUME "Sviluppo di membrane protoniche composite e di configurazioni elettrode innovative per celle a combustibile con elettrolita polimerico" 3 years project. Italian Ministry of Education, University and Research. Participant
- SEED " Sistemi Elettrochimici per la generazione e l'accumulo di energia" 2012-2014. Italian Institute of Technology IIT. Participant

### *Other funded projects*

- Visiting Professor grant. 2017 Sapienza University of Rome
- Large Equipment fund. 2014. Sapienza University of Rome
- Conference and meeting organization fund. 2009. Sapienza University of Rome
- Research activities funds. 2004-2017. Sapienza University of Rome

## **INVITED PRESENTATIONS AT PEER-REVIEWED CONFERENCES AND ADVANCED SCHOOLS**

More than 50 meetings have been attended with oral and poster presentations.

She was invited speaker at the 206th ECS Meeting, Honolulu, Hawaii (2004), and at the 4th ITP International Symposium , Rome, Italy (2011)