

## Curriculum vitae

### Prof. Dr. Ligia Maria Moretto

Department of Molecular Sciences and Nanosystems, via Torino 155 Mestre, 30174 Venezia (ITALY).

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Ph.D in Chemical Sciences, University Ca' Foscari of Venice, 1994.

M.Sc. in Engineering at Federal University of Rio Grande do Sul, Porto Alegre, Brazil, 1988

Bachelor in Chemical Engineering at the Federal University of Rio Grande do Sul, Porto Alegre, Brazil. (1973)

Present position (since 2015): Associate professor of Analytical Chemistry, University Ca' Foscari of Venice (Italy).

### Academic activities

University Ca' Foscari of Venice, Italy: Associated professor (since 2015), Researcher: 1996-2015

Professor: Centre of Sciences and Technology at the University of Caxias do Sul, Brazil: 1975-1986

Researcher at the Department of Reactor Technology of the Research Institute of Nuclear Energy (IPEN-CNEN), Sao Paulo, Brazil: 1986-1990.

Visiting professor: Federal University of Rio Grande do Sul, Brasil (2017); University of Caxias do Sul, Brasil (2017, 2004); Department of Physical Chemistry at the National University of Cordoba, Argentina (2000); University of Bordeaux, France (2008 and 2011); Industrial Chemistry at the Faculty of Industrial Chemistry at the University of Venice (1987 and 1989);

Visiting Researcher: IREQ- Hydro-Quebec (07-08/1993, 10-12/1994, 10-12/1996)

International collaborations with: University of Antwerp; National Institute of Chemistry; University of Caxias do Sul Brazil; University of Bordeaux, France; Université Pierre et Marie Curie, Paris - France; Institute de Recherche d'Hydro-Québec, IREQ, Canada; Dr. Nicolas S Bloom, from Frontier Geosciences Research and Consulting, Seattle, USA.

### Research fields:

The main research interests are in the field of electroanalytical chemistry, with particular focus on the development of sensors and biosensors for biomedical and environmental applications.

### New electrode materials:

- Preparation and characterization of ensembles of gold nanoelectrodes (NEE) by electroless deposition with polycarbonate nanoporous membranes as template
- Study and electrochemical characterization of arrays of gold nanoelectrodes produced by *e-beam lithography*.
  - development and characterization of carbon electrodes produced by pyrolysis of photoresist, named *pyrolyzed photoresist carbon electrodes* (PPCE).
  - development of copper nanostructured electrodes by template electrodeposition inside nanoporous membranes.

### Electrochemical biosensors

- Study and developments of biosensors at NEEs
- Application of *self assembled monolayers* of thiols on NEEs for electrode surface protection against protein unspecific adsorption.

Materials for cultural heritage studies

- Sensors and biosensors for analysis of protein binders.
- Study of archaeological glass by LA-ICP-MS.
- Nanomaterials applied to Cultural Heritage.

Bibliometrics: (25/10/2019) WOS: 78 papers, h-index 25, 1804 citations

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Reviewer for international scientific journals, in the field of analytical chemistry and electrochemistry published by American Chemical Society, Royal Chemical Society, Elsevier, Wiley, Springer and others.

Reviewer for research proposals: Research Foundation - Flanders, FWO; Italian Ministry of University and Research.

Participant of several research projects, including: NATO Collaborative Research Grant CRG 951182 "Nanostructured Materials for Electrochemical Environmental Sensing" University of Venice, Italy/Colorado State University 1995-2000; Galileo Italy/France 1996-97 "New methods for analysis and speciation of metals in the Mediterranean environment by using advanced electroanalytical techniques", Università di Venezia/Université P. et M. Curie, Paris, 1996 -1997; Italian Relevance Projects PRIN 2008MWHCP(2010-2012) and PRIN 2010AXENJ8 (2012-2016).

EU-STRATEGICAL INTERREG PROJECT ITALY-SLOVENIA: " TRANS2CARE: Transregional Network for Innovation and Technology Transfer to Improve Health Care". 2011-2014



Recent Scientific publications in international journals:

***Electrochemical sensors:***

Giulia Moro, Fabio Bottari, Joren Van Loon, Els Du Bois, Karolien De Wael\* and Ligia Maria Moretto,\* Disposable electrodes from waste materials and renewable sources for (bio)electroanalytical applications. *Biosensors and Bioelectronics*, 146 (2019) 111758

Giulia Moro, Karolien De Wael, Ligia Maria Moretto\*, Challenges in the electrochemical (bio)sensing of non-electroactive food and environmental contaminants, *Current Opinion in Electrochemistry*, 16 (2019) 57-65.

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Stortini, AM; Fabris, S; Saorin, G; Falzacappa, EV; Moretto, LM\*; Ugo, P, Plasma Activation of Copper Nanowires Arrays for Electrocatalytic Sensing of Nitrate in Food and Water, *NANOMATERIALS*, 9 (2) (2019 )

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Baldo, M. Antonietta; Stortini, Angela M.; Moretto, Ligia M.; Ongaro, Michael; Roman, Marco; Ugo, Paolo *Electrochemical preparation of standard solutions of Pb(II) ions in ionic liquid for analysis of hydrophobic samples: The olive oil case* in *TALANTA* 172 (2017) 133-138

Chiara Gaetani, Emmanuele Ambrosi, Paolo Ugo and Ligia M. Moretto, Electrochemical Immunosensor for Detection of IgY in Food and Food Supplements, *Chemosensors* 2017, 5, 10;

J. Molina, F. Cases, L.M. Moretto\*, *Graphene-based materials for the electrochemical determination of hazardous ions*, *Analytica Chimica Acta* 946 (2016) 9-39.

***Cultural heritage:***

Cecilia Pesce, Ligia Maria Moretto, Emilio Francesco Orsega, Giovanni Luca Pesce, Marco Corradi, Johannes Weber, Effectiveness and Compatibility of a Novel Sustainable Method for Stone Consolidation Based on Di-Ammonium Phosphate and Calcium-Based Nanomaterials, *Materials* (2019), 12, 3025-3037;

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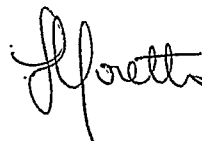
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