

**ROSANNA TONIOLO**  
**CURRICULUM VITAE ET STUDIORUM**

Prof. Rosanna Toniolo took her degree in Chemistry at the Faculty of Science of the University of Padua in 1986.

**1987-1988.** She carried out her research activity at the Department of the Environmental Sciences of the University of Venice, profiting of an E.N.I. fellowship - "Project Albatros" to study heavy metals speciation in seawater.

**1988-1989.** She was employed by Eniricerche, at Eniricerche Monterotondo (Rome). Analytical Chemistry Section. The activity conducted in this period dealt with the development and optimization of analytical methods for the control of industrial waste.

**1989-1990.** She carried out her research activity with a National Research Council (CNR) Fellowship at the Institute of Polarography and Preparative Electrochemistry (IPELP), Research area of Padua. The activity conducted in this period was focused on electroanalytical investigations concerning the development of modified electrodes.

**1990-2000** University Researcher-Scientific Disciplinary Sector CHIM/01: Analytical Chemistry. Department of Chemical Science and Technology, University of Udine.

**2000-2020** Associate professor- Scientific Disciplinary Sector CHIM/01: Analytical Chemistry. University of Udine. Department of Chemical Sciences and Technology of University of Udine, until 2010, which converged first in the Department of Food Science and now in the Department of Agrifood, Environmental and Animal Science of the University of Udine.

**2017** She gained the National Scientific Habilitation for the role of Full Professor of Analytical Chemistry by Italian Ministry of Education University and Research.

**Research activities:**

-Development of innovative analytical methods for applications to food and environment. Design and assembly of electrochemical sensors based on ionic liquids (RTILs-room temperature ionic liquids), eutectic solvents (DESs deep eutectic solvents) and solid polymer electrolytes for the determination of chemical species in gas phase.

-Design and assembly of miniaturized and portable analytical devices (lab-on-chip) with conventional and low-cost materials (paper-based analytical devices, pencil-drawn electrodes).

-Development of microfluidic supports, by means of conventional and innovative microfabrication techniques, for analytical applications.

-Development of aptasensors for detecting food allergens and pathogens in food.

-Evaluation of redox properties of bio-active molecules.

-Study of photocatalytic processes for applications to food industry.

-Optimization of ion-chromatographic (IC) and spectroscopic (ICP-MS and ICP-OES) methods for applications to food, biological and nutraceutical matrices.

**Rosanna Toniolo is author of 76 scientific publications in international journal peer-reviewed, 4 book chapters (all dealing electroanalytical techniques), 1 patent application and of more than 70 communications at national and international scientific Meetings, h-index: 23 (Scopus).**

## Teaching Activities

### *Teaching assignments as associate professor.*

#### **2019/20**

**Advanced Instrumental Analytical Chemistry (5 ECTS)**, Food Science and Technology, Master (class LM 70).

**Analytical Chemistry (11 ECTS)**, Food Science and Technology, Bachelor (class L26).

#### **2013/14--2018/19**

**Advanced Instrumental Analytical Chemistry (5 ECTS)**, Food Science and Technology, Master (class LM 70).

**Analytical Chemistry (12 ECTS)**, Food Science and Technology, Bachelor (class L26).

#### **2012/13**

**Advanced Instrumental Analytical Chemistry (5 ECTS)**, Food Science and Technology, Master (class LM 70).

**Analytical Chemistry (12 ECTS)**, Food Science and Technology, Bachelor (class L26).

**Analytical Chemistry of Industrial Processes (2 ECTS)**, optional course, Food Science and Technology, Bachelor (class L26).

#### **2009/10-2011/12**

**Analytical Chemistry I (7 ECTS)**, module of the Analytical Chemistry and Physical Chemistry course, Food Science and Technology, Bachelor (class L26).

**Analytical Chemistry II (8 ECTS)**, Food Science and Technology, Bachelor (class L26).

**Analytical Chemistry of Industrial Processes (3 ECTS)**, optional course, Food Science and Technology, Bachelor.

#### **2008-09**

**Analytical Chemistry I (7 ECTS)**, module of the Analytical Chemistry and Physical Chemistry course, Food Science and Technology, Bachelor (class L26).

**Analytical Chemistry II (8 ECTS)**, Food Science and Technology, Bachelor (class L26).

**Analytical Chemistry of Industrial Processes (3 ECTS)**, optional course, Food Science and Technology, Bachelor (class L26).

**Chemimetry (2 ECTS)**, optional course, Food Science and Technology, Bachelor (class L26).

**Analytical Chemistry (5 ECTS)**, Viticulture and Enology Bachelor and Environment and Nature Master.

#### **2000/01-2007/08**

**Analytical Chemistry I (9 ECTS)**, Food Science and Technology Degree.

**Analytical Chemistry (4 ECTS)**, Viticulture and Enology Degree and Environment and Nature Degree.

**Analytical Chemistry of Industrial Processes (4 ECTS)**, optional course, Food Science and Technology Degree.

### *Teaching assignments as researcher:*

#### **1995/96-1999/2000**

**Analytical Chemistry with Laboratory (5 ECTS)**, Viticulture and Enology Bachelor.

**Laboratory of Analytical Chemistry (2 ECTS)**, General and Inorganic Chemistry and Analytical Chemistry course, Agricultural Science Degree.

**Laboratory practice for courses:**

**Analytical Chemistry I**, Food Science and Technology Degree

**Analytical Chemistry II**, Food Science and Technology Degree

**1990/91-1993/94.**

**Laboratory practice for courses:**

**Analytical Chemistry I**, Food Science and Technology Degree

**Analytical Chemistry II**, Food Science and Technology Degree

**Other teaching activities**

**1998**

Professor at the School of Electroanalysis organized by the "Electroanalysis Group" of the Division of Analytical Chemistry of S.C.I. Alghero (SS)

**2001**

Professor at the School of Electroanalysis organized by the "Electroanalysis Group" of the Division of Analytical Chemistry of S.C.I. Numana (AN).

**Other Academic Activities**

**2015-present**

Member of the Academic Board for the PhD in "Food and Human Health", University of Udine.

**2012-present**

Member of the didactic commission, Food Science and Technology Bachelor/Master Degree University of Udine.

**2012 - 2015**

Coordinator of the Chemistry Section, Department of Food Science, University of Udine.

**2012 - 2015**

Member of the Department Board, Department of Food Science, University of Udine

**2007-2013**

Member of the Academic Board for the PhD in "Food Science", University of Udine.

**Academic year 2006**

Member of the Academic Board for the PhD in "Chemical Technologies and Energy", University of Udine.

**Membership in scientific societies**

Member of the Division of Analytical Chemistry of the Italian Chemical Society (SCI).

Member of the Consiglio Direttivo of the FVG Section of the Italian Chemical Society (SCI).

Member of the Editorial Board of Sensors (\*Chemical Sensors\* Section). Sensors (ISSN 1424-8220; CODEN: SENSC9) is published semi-monthly online by MDPI. Impact Factor: 3.031 (2018).

**Research projects**

**2014-2017**

FIRB RBFR13NZH9: "Development of innovative and sustainable methods and analytical devices for quality control and food safety (duration 36 months).

**2011 -2014**

Scientific responsible of activity No. 5 / OR2 within the project: FAR--FVG12\_00003 MIUR

**2011-2013**

Participant PRIN 2009: "Amperometric sensors based on electrodes modified with room temperature ionic liquids and/or functionalized polymers" (duration 24 months).

#### **2007-2009**

Coordinator of U.O. PRIN 2006:

"Modified electrodes for electroanalytical and piezoelectric sensors" (duration 24 months).

#### **2004-2006**

Coordinator of U.O. PRIN 2004:

"Electroanalytical and piezoelectric sensors based on modified electrodes" (duration 24 months).

#### **2003-2005**

Participant PRIN 2003:

"Development of innovative approaches for the determination and speciation of Se in biological matrices and for the evaluation of its interactions with heavy metals" (duration 24 months).

#### **2002-2007**

Participant for the University of Udine in the project: EU-COST D29 Action for Sustainable / Green Chemistry and Chemical Technology, W0006-03: Green Organic Electrochemistry

#### **2002-2004**

Participant PRIN 2002:

"Electroanalytical sensors based on modified electrodes" (duration 24 months).

#### **2002 - 2004**

Participant in the project: "Innovative methods of synthesis and analysis for the food and cosmetic industries" Financed by Friuli-Venezia Giulia region (duration 24 months).

#### **2001- 2003**

Participant CNR agency 2000 project: "Innovative methodologies investigation for the identification and quantification of minority components and antioxidants found in foods" (duration 24 months).

#### **1999-2000**

Participant PRIN 1998: "Development of electroanalytical sensors based on modified electrodes" (duration 24 months).

#### **1996**

Participant PRIN 1995: "Instrumental analytical methodologies and application" (duration 12 months).

#### **1995**

Participant PRIN 1994: "Instrumental analytical methodologies" (duration 12 months).

#### **1993**

Participant PRIN 1992: "Instrumental analytical methodologies" (duration 12 months).

#### **1991 -1996**

Participant MIUR-CNR project "Venice Lagoon System"

Subproject 1line 1.3 "Development of new direct methods of trace analysis in real matrices, also in order to improve the automation systems and processing data in the monitoring phase" (duration 60 months).

#### **1992**

Participant PRIN 1991: "Instrumental analytical methodologies" (duration 12 months).

#### **1991**

Participant PRIN 1990: "Instrumental analytical methodologies" (duration 12 months).

#### **1991**

Participant CNR strategic project "Quality and typical food: innovative methods of investigation (12 months).

### **Other Activities**

#### **2019**

Scientific responsible of a research collaboration contract between the Department of Agrifood, Environmental and Animal Science, University 'of Udine and ISVEA S.r.l “gestione del rischio di ossidazione nei vini da uva sangiovese” (oxyless), psr 2014-2020 regione Toscana, sottomisura 16.2.”

**2018-2019**

Scientific responsible of a research collaboration contract between Department of Agrifood, Environmental and Animal Science, University 'of Udine and ORO CAFFE’srl

**2013 -2014**

Scientific responsible of the research convention between the Department of Food Science, University 'of Udine and Bracco Imaging S.p.A. (Responsible dott. Marco Rossi). Subject of the agreement: "Investigation of the electrochemical behavior of Iopamidol and Iomeprol".

**2013**

Scientific Responsible of the research convention between the Department of Food Science, University 'of Udine and QID Srl (responsible dr. Stefano Gallucci). Subject: "Reduction Study of chlorate ion and related issues"

### **Refereeing activity**

Carried out activity as Referee for several international magazines such as:

Talanta, RSC Advances, Analytical Methods, Critical Reviews in Analytical Chemistry, Electroanalysis, ACS Applied Materials & Interfaces, Electrochimica Acta, Analytical Chemistry, Sensor Letters, Journal of Applied Electrochemistry, Journal of Agricultural and Food Chemistry, Current Analytical Chemistry, Scientific Reports-Nature.

Moreover, she carried out activity as Expert reviewer of national research projects (MIUR).

### **Bachelor/Master Degree and PhD Thesis**

#### **From 2000 until now**

Supervisor of various thesis of:

Food and Technology Science, Master

Food and Technology Science, Bachelor

Viticulture and Enology, Bachelor

Viticulture, Enology and Marketing, Master.

Supervisor of a PhD thesis, XXIV cycle, Food Science PhD, title: "Development and Characterization of HDPE / CaCO<sub>3</sub> / TiO<sub>2</sub> Films for Food Packaging Applications".

Supervisor of a PhD thesis, XXXI cycle, Food and Human Health PhD, title: “Development of innovative extraction and detection methods for gluten based on deep eutectic solvents and aptamers”

#### **Collaboration with foreign and Italian research centers:**

-Queen’s University di Belfast, (UK), Dr Andrew P. Doherty.

-Department of Chemistry, Federal University of Minas, Gerais Belo Horizonte, MG, Brazil, Prof. - Evandro Piccin.

-Institute of Chemistry at Saõ Carlos, University of Saõ Paulo, Brazil, Prof Emanuel Carrilho.

-University of Oviedo, Spain, Faculty of Chemistry, Prof. María Jesús Lobo Castañón.

-University of Torino, Dipartimento di Chimica Analitica, Prof. Ornella Abollino.

-University of Ca’ Foscari, Venice, Dipartimento of Scienze Molecolari e Nanosistemi, Prof. Salvatore Daniele.

-University of Basilicata, Department of Chemistry, Prof. Innocenzo G. Casella.

-University of Modena and Reggio Emilia, Department of Chemistry and Geology, Dr Fabio Terzi.

