

Roberta Congestri obtained her degree in Biological Sciences with honours at 'Sapienza' Rome University in 1993. In 2003 she obtained the Ph.D. in Biology of the Algae at the University of Messina. Since 2006 she has a position as Researcher in General Botany at the University of Rome 'Tor Vergata'. In 2014 obtained the National Scientific Qualification at the level of Associate Professor in Botany. Since 2003 she has been teaching Applied phycology, Phytoplankton systematics, Biology of the algae, Diversity of phototrophs and Environmental Botany. Since 2012 she supervised 8 PhD students.

Major research interests

- Taxonomy, ecophysiology and monitoring of microalgae and cyanobacteria in aquatic biofilms and coastal phytoplankton, especially toxic and bloom forming species; image analysis method for automatic cyanobacterial recognition, early warning, sensor-based, techniques for cyanotoxin detection
- Diversity, electron microscopy and structural-spectral analysis of biofilms by confocal microscopy. Applications in the field of biofilm based remediation of waters, *Ostreopsis* spp. Toxic bloom monitoring and biofouling control in industrial systems
- Biotechnological application of microalgal and cyanobacterial biomass for bioenergy, nanotechnology and nutraceuticals, integration into wastewater remediation with algal biomass. Diatom frustule photonics for random lasing and dye trapping applications. Diatom biomass production for siliceous frustules and exopolymeric substances, utilization in scaffolding and drug delivery applications.
- Studies for microalgae application for the bioremediation of wastewaters by removal of nitrogen, phosphorous and heavy metals

Scientific Experience and Positions held

- 1994-2004** collaboration as contract researcher with several institutions for regional, national and international programs focussed on phytoplankton research and monitoring
- 1998-2006** contract researcher at Laboratory of Biology of the Algae, Department of Biology, University of Rome "Tor Vergata", collaboration to the research activities in the field of studies on the biodiversity and ecophysiology of phototrophic biofilms from Italian wastewater treatment plant.
- 1998-1999** fellowship at Natural History Museum London (Travel and Mobility of Researchers' Programme, EU-DGXII) in the framework of 'Influence of treated sewage effluent discharges on coastal marine benthic cyanobacteria and microalgae', CRUI/MIUR-British Council
- 2002-2004** contract researcher in the field 'Application of phototrophic biofilms in waste water treatment plants', Tor Vergata University Research Grants,
- 2003-2006** contract researcher at Laboratory of Biology of the Algae, Department of Biology, University of Rome "Tor Vergata", collaboration to the research activities in the frame of 'PHOBIA' for an investigation of the "Phototrophic biofilms and their potential applications: towards the development of a unifying concept EU-Quality of Life (contract n° LFK3-CT2002-01938)

Research Awards as scientific responsible of research unit

- 2009-2011** *Ostreopsis ovata* e *Ostreopsis* spp: nuovi rischi di tossicità microalgale nei mari italiani' (ISPRA)..

- 2010-2014** Proprietà fotoniche e micromeccaniche delle diatomee FIRB 2008 “Futuro in Ricerca”..
- 2010- pres** Convenzione di collaborazione con Dipartimento di Ambiente e prevenzione Primaria – Igiene delle acque interne (Istituto Superiore di Sanità) per il controllo dei cianobatteri in acque destinate al consumo umano.
- 2011-2014** ACQUASENSE” Industria 2015 Bando Nuove Tecnologie per il Made in Italy, Ministero per lo Sviluppo Economico.
- 2012** Accordo ISPRA-CoNISMa ‘Marine Strategy’
- 2011-pres** Costituzione e lavori del Gruppo Nazionale per la Gestione del rischio Cianobatteri in Acque destinate al Consumo Umano (Istituto Superiore di Sanità,) ,
- 2014-2015** Convenzione di collaborazione biennale con CNR-ISAFOM, Istituto per i Sistemi Agricoli e Forestali del Mediterraneo UOS di Catania, per Applicazioni biotecnologiche di microalghe e cianobatteri’ per la selezione di ceppi algali oleaginosi e l’ottimizzazione della produzione in biodiesel
- 2014-2015** Progetto ‘PHANTOM – PHotonics ApplicatioN in diaTOM frustules’ (Uncovering Excellence 2014, University of Rome ‘Tor Vergata’ Grant,)
- 2012-2016** CyanoCOST-Cyanobacterial blooms and toxins in water resources: Occurrence, impacts and management” (European Cooperation in Science and Technology) Action ES1105 Management Committee member
- 2014-2018** EuAlgae-European network for algal-bioproducs (European Cooperation in Science and Technology) ESSEM COST Action ES1408 Management Committee Member and workpackage leader
- 2015-2017** Convenzione di collaborazione con ARPALazio per il Programma di monitoraggio della componente fitoplanctonica della Regione Lazio in ambito ‘Marine Strategy’
- 2016-2019** PRIN 2015 ‘L’evoluzione della fitochelatina sintasi dai cianobatteri alle tracheofite basali: il controllo dell’omeostasi del ferro e di altri micronutrienti metallici è una funzione primigenia e ubiquitaria dell’enzima?’(participant)

Knowledge transfer

2009 - pres Promoter of the University spin off AlgaRes s.r.l, past President of the Scientific and Technical Board