

FEDERICA PINTO

Research interest

I am a biologist, been always interested in ecological processes. My research field has been quite wide, from Herpetological to Pharmaceutical studies. However, I remained intimately fascinated by ecology, and I decided to apply my microbiology skills in an ecological context. With my first years of PostDoc, I started discovering the enormous biodiversity of the microbial world and the complex relation between bacteria and viruses in aquatic ecosystems. My research field now focuses on genetical biodiversity of viruses, their interaction with their hosts and the microbial community responses to climatic changes in freshwater ecosystems.

Personal Information

email federica.pinto@unitn.it
Date of Birth 29 November 1979
Nationality Italian

Work Experience

- Nov 2016 – Oct 2018** **Marie Skłodowska-Curie Post-doctoral Research Fellowships.**
 Project MetaVirAlp: a multidisciplinary study combining metagenomics, microbiology, and advanced computation to characterise the genetic diversity, structure and function of viral and bacterial communities in freshwater sediments along an altitudinal gradient.
- Jan 2014 – Oct 2016** **Family break and maternity leave.** From February 2015 I started my second pregnancy.
- May 2010-Nov 2013** **Research Scientist** at Leibniz-Institut für Gewässerökologie und Binnenfischerei, Berlin, Germany.
1 year of Maternity leave
 - Development of two projects: 1) Effects of lake nutrients enrichments on the microbial community; 2) Assessment of changes in lake stratification on microbial community in collaboration with TemBi Project.
- 2006-2010** **Research Scientist** at the Welsh School of Pharmacy, Cardiff University, UK.
 - Development of three Projects 1) Validation of the effectiveness of using contact plates to monitor the microbial environment in collaboration with Arch Chemicals Inc.; 2) Investigating the mechanisms of action against non-enveloped viruses of PHMB-based biocides in collaboration with Arch Chemicals Inc. (**PhD**); 3) Testing the sporicidal activity of Phoraid against *Bacillus anthracis* spores in collaboration with the British Ministry of Defence.
- Feb 2005-Oct 2005** **Trainee in Ecosystem Management** at the Life Cycle System for Industrial Ecology Laboratory, EPFL, Lausanne, Switzerland.

2003 **Undergraduate Assistant** at the Herbarium, University of RomaTre, Rome.

2000-2001 **Undergraduate Assistant** at Chemistry Lab, University of RomaTre, Rome.

2001 **Trainee** at the Zoological Museum of Rome, Italy.
- Taxidermist and museum collections maintenance.

Teaching

25-29 June 2018 **Invited speaker** at the Summer School “Integrating ‘Omics’ Technologies into Aquatic Ecology: New perspectives in Metagenomic, Metabolomic and Bioinformatic applications in the study of aquatic ecosystems” at the Fondazione Edmund Mach, San Michele all’Adige, Trento.
Title: “Metagenomic applications : Aquatic Viral communities”

15 March 2018 **Invited speaker** at the student assembly at the High School Galilei
Title: “Microbiota: le dimensioni non contano”

21 October 2017 **Invited speaker** at the 4^o medical meeting: Le nuove frontiere della medicina at the Grand Hotel Terme di Comano, Trento
Title: “Viruses in lakes”

October 2017 **Invited speaker** at the primary school “Bernardi” , Trento
Title:” Il ciclo delle farfalle”

26-30 June 2017 **Invited speaker** at the Summer School “Integrated ‘Omics’ Technologies into Aquatic Ecology” at the Fondazione Edmund Mach, San Michele all’Adige, Trento.
Title:” Metagenomic applications : Viral community in aquatic environments”

Education

May-June 2015 **"Applications of High-Throughput Sequencing in Biodiversity Research course"** at the iDiv, Leipzig, Germany.

13-14 Nov 2014 **iSEQ-Methods and applications of Next Generation Sequencing in Evolutionary research Symposium.** Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany.

Sept 2004 **Tropical Biology Association field course** in tropical ecology, conservation, and management of tropical ecosystems, Kibale National Park, Uganda.

1999-2004 **Ms in Biology** at Department of Biology, University of Roma Tre, Rome, Italy.

Key Skills

Ecological field techniques Population and community assessment and monitoring, mark-recapture sampling method, reptile stomach-flashing method, bird ringing, water chemistry analysis and sediment sampling.

Scientific/Microbiology skills Medical and Pharmaceutical Laboratory maintenance (Biosafety level 1 and 2), sterilization processes, Good Laboratory Practices (GLP), Standard Operating Procedure (SOP).
PCR, SDS-page, ELISA, 2-D electrophoresis, DNA and RNA extraction, protein quantification and extraction, cell culture, bacteriophage culture, human virus culture, transmission electron microscope, scanning electron microscopy, epifluorescence microscopy, dynamic light scattering.

Management Lab Manager (7 years), supervision of Good Laboratory Practice (GLP), grants and budget management, database of university plants collections, assisting students during practical classes, organisation of exams and class schedule.

Computer skills Worked with range of database and computer packages including Statistica, R, Excel, Word, Endnote, Reference Manager and Access. Basic knowledge of Unix.

Languages Italian - mother tongue;
English - fluent speaking and writing;
German - good understanding, intermediate speaking (Class B1.2);

Publications

1. **Pinto F.** et al, 2018. Draft Genome Sequences of Novel *Pseudomonas*, *Flavobacterium*, and *Sediminibacterium* Species Strains from a Freshwater Ecosystem. *Genome Announc.*6 (5).
2. **Pinto F.** et al, 2017. Draft Genome Sequence of the Planktic Cyanobacterium *Tychonema bourrellyi*, Isolated from Alpine Lentic Freshwater. *Genome Announc.* 5(47).
3. Fuchs, A et al, 2017. Effects of artificial thermocline deepening on sedimentation rates and microbial processes in the sediment. *Hydrobiologia* 799(1):65-81.
4. **Pinto F.**, Larsen S., Casper P., 2013. Viriobenthos in aquatic sediments: variability in abundance and production and impact on the C-cycle. *Aquatic Sciences* 75(4), 571-579.
5. **Pinto F.** et al., 2010. Effect of surfactants, temperature and sonication on the virucidal activity of polyhexamethylene biguanide (PHMB). *American Journal of Infection Control* 38(5): 393-398.
6. **Pinto F.** et al., 2009. Polyhexamethylene biguanide exposure leads to viral aggregation. *Journal of Applied Microbiology* 108(6): 1880-1888.
7. **Pinto F.** et al, 2008. Evaluation of the effectiveness of commercially available contact plates for monitoring microbial environments. *Letters in applied microbiology*, 48(3):379-382.
8. **Pinto F.** et al., 2006. Effects of fire and forest restoration on two sympatric species of Lacertidae (Reptilia) in a Mediterranean ecosystem of Central Italy. *Revue d'Ecologie, La Terre et la Vie* 61(2):195-200.

Book Chapter

JY Maillard, SA Sattar, **F. Pinto**, 2013. Viricidal activity of microbiocides. In: Principles and Practice of Disinfection, Preservation and Sterilization. Russell, Hugo & Ayliffe's. 5th Edition. Blackwell Publishing. Pg:178-207.

Conferences and Oral Presentations

- Presentation of poster at the 17th International Symposium on Microbial Ecology (ISME) 12-17 August 2018, Leipzig, Germany.
- Presentation of poster at the 7th Congress of European Microbiologist (FEMS), 9-13 July 2017, Valencia, Spain.
- Presentation of poster at 7th Congress of European Microbiologists (FEMS 2017), 9-12 July Valencia, Spain.
- Presentation of poster at the Aquatic Sciences Meeting, 17-22 February 2013, New Orleans, Louisiana, USA.
- Presentation of poster at the 108th General Meeting of American Society of Microbiology, 1-5 June 2008, Boston, USA.
- Presentation and winner of poster at the 6th Annual Meeting CITER, 5-6 September 2007, Abergavenny, UK.
- Presentation of poster at the "All Wales Microbiology Meeting", 19-21 March 2007, Gregynog, UK.
- Presentation of the thesis' project in the V National Congress of the Societas Herpetologica Italica, September 2004, Calci (Pisa), Italy.

Grants and Awards

- Undergraduate scholarship 2000 (€2000).
- Undergraduate scholarship 2003 (€2000).
- Winner of herpetological Master thesis price "Francesco Barbieri", 2004 (€2000).
- President's Fund of Society of Applied Microbiology, 2008 (£1000).

- Fellowship award 2010 founded by IGB, Berlin (€27,200, duration 1 year).
- Travel Grant of the Society of General Microbiology, 2013 (£500).
- Early Career Travel Grant of ASLO, 2013 (\$500).
- Marie Skłodowska-Curie Individual Fellowship 2015 (€180,277.20).