



EDUCATION

Ph.D. in Environmental Engineering, 2006, ETH Zurich Switzerland
M.S., Physics, 1999, University of Milan, Italy

Ms. Foglia has been a Project Engineer or independent consultant with Larry Walker Associates (LWA) since April 2007. She has a MS in Physics (1999) from the University of Milan, Italy, and a Ph.D. in Civil and Environmental Engineering (2006) from the ETH in Zurich (Switzerland). At LWA, Ms. Foglia assists with projects in the areas of hydrological modeling; groundwater management assistance; and TMDL development. She was involved in the first Pilot Project promoted by the CV-SALTS coalition in 2009.

YEARS OF EXPERIENCE

With LWA: 8
With UC Davis: 8
With Technical University Darmstadt: 3

She collaborates part-time with the Civil and Environmental Engineering and the Land, Air, and Water Resources Department at UC Davis, teaching a graduate class on model calibration, supervising students, and working on the Scott Valley project for the assistance of the Scott Valley community with the development of the groundwater management plan.

PROFESSIONAL AFFILIATIONS

AGU, American Geophysical Union
EGU, European Geophysical Union
IAHS, International Association of Hydrological Sciences
Secretary of International Commission of Groundwater, IAHS

She worked for three years at the Technical University Darmstadt (TUDa), Germany, where she developed proposals related to water resources management and tools to assist authorities and stakeholders complying with the new EU Water regulation. The two main projects she actively involved with are MARSOL (www.marsol.eu) and FREEWAT (www.freewat.eu).

MARSOL aims at demonstrating that Managed Aquifer Recharge (MAR) is a sound, safe and sustainable strategy that can be applied with great confidence and therefore offering a key approach for tackling water scarcity in Southern Europe and around the world. Eight field sites in the Mediterranean area were selected that will demonstrate the applicability of MAR using various water sources, ranging from treated wastewater to desalinated seawater, and a variety of technical solutions. Results of the demonstration sites will be used to develop guidelines for MAR site selection, technical realization, monitoring strategies, and modeling approaches, to offer stakeholders a comprehensive, state of the art and proven toolbox for MAR implementation.

FREEWAT represents a key project in the framework of the new EU regulation and aims at promoting water management and planning by simplifying the application of the Water Directives. FREEWAT will be an open source and public domain GIS integrated modelling environment for the simulation of water quantity and quality in surface water and groundwater with an integrated water management and planning module. FREEWAT is expected to be a modelling tool widely applied by stakeholders in Europe and outside. Testing in US and California case studies are already in progress.

At TUDa, she also taught many modelling classes (groundwater and advanced groundwater modelling, unsaturated flow modelling). She currently supervises graduate students at UC Davis and at TUDa. Starting in January 2016, she will be adjunct Professor at UC Davis in the Land, Air, and Water Resources Department.

Most relevant University Research Grants

2007 Joint inversion of ground water flow and environmental tracer data for aquifer characterization, 2007-2009, UC Center for Water Resources, co PI (PI: Prof. Timothy Ginn).

2013 MARSOL-Grant Agreement no:619120 FP7-ENV-2013-WATER-INNO-DEMO Demonstrating Managed Aquifer Recharge as a Solution to Water and Drought, coordinated by Hydrogeology Group, TU Darmstadt (PI: Prof. Christoph Schueth, TU

Darmstadt). Total Costs: €8,039,988, EU Contribution: €5,176,078, December 2013-November 2016.

2014 North Coast Regional Board, California, grant extension for Scott Valley management plan. Principal Investigator: Prof. Thomas Harter, UC Davis.

2015 FREEWAT- H2020 - Water 2014 one stage: 642224 grant. EU Contribution: €1,411,078. Co-PI (PI: Dr Rudy Rossetto, SSSA, Pisa, Italy), April 2015-September 2017.

Journal articles (recent)

Rossetto, R., Borsi, I., Foglia, L., 2015, FREEWAT: FREE and open source software tools for WATER resource management, *Rend. Online Soc. Geol. It.*, Vol. 35 (2015), pp. 252-255, doi: 10.3301/ROL.2015.113.

Hill, Mary C., Kavetski D., Clark M., Ye M., Arabi M., Lu D., Foglia L., Mehl S.W., Practical use of computationally frugal model analysis, accepted, *Ground Water*.

Foglia, L. and Mehl, S.W. (2015), The Role of Regression Performance on Multimodel Analysis. *Groundwater*, 53: 130–139. doi: 10.1111/gwat.12144

Rasa E., Foglia L., Mackay D.M., and K.M. Scow, (2013) Effect of different transport observations on inverse modeling results: Case study of a long term tracer test at a high resolution groundwater monitoring site, *Hydrogeology Journal* 21: 1539-1554, DOI 10.1007/s10040-013-1026-8

Foglia, L., A. McNally, and T. Harter (2013), Coupling a spatiotemporally distributed soil water budget with stream-depletion functions to inform stakeholder-driven management of groundwater-dependent ecosystems, *Water Resour. Res.*, 49, doi:[10.1002/wrcr.20555](https://doi.org/10.1002/wrcr.20555).

Foglia, L., S. W. Mehl, M. C. Hill, and P. Burlando (2013), Evaluating model structure adequacy: The case of the Maggia Valley groundwater system, southern Switzerland, *Water Resour. Res.*, 49, doi:10.1029/2011WR011779.

Camarillo, M., Loge, F.J., Darby, J.L., Ginn, T.R., Basagaoglu, H., Foglia, L. (2011), Modeling the Inactivation of Microorganisms Occluded in Effluent Wastewater Particles to Enhance Operation of Filtration and Disinfection Systems, *Water Environment Research*; 83(4):313-25. DOI: 10.2175/106143010X12681059116851.

Foglia, L., Mehl, S.W., Hill, M.C., Perona, P., Burlando, P. (2010), Identifying important observations using crossvalidation and computationally frugal sensitivity analysis methods, *Procedia Social and Behavioral Sciences*, Volume 2, Issue 6, Pages 7650-7651, Sixth International Conference on Sensitivity Analysis of Model Output.

Work History

Adjunct Professor, LAWR, UC Davis, starting January 2016

Larry Walker Associates, Inc. 2007-present (not continuously)

Technical University of Darmstadt, Germany, Assistant Professor w/o tenure track, research group of Prof. Christoph Schueth. March 2013-December 2015

University of California, Davis, Department of Land, Air and Water Resources, Post-Doctoral associate, Prof. Thomas Harter. August 2011-June 2013

University of California, Davis, Civil and Environmental Engineering Department, Post-Doctoral associate, Prof. Tim Ginn. 2007-2009



USGS National Research Program, Boulder, Colorado, Visiting researcher, Dr. Mary Hill. October-December 2003, October-December 2004, June-July 2005, May 2006, March 2007

University of Applied Sciences, Southern Switzerland (SUPSI), Institute for Earth Sciences (IST), and ETH Zurich, Doctoral Student. 2002-2006

University of Applied Sciences, Southern Switzerland (SUPSI), Institute for Earth Sciences (IST), Scientific Collaborator. 1999-2002