

## Robert Paolo Scardina

### EDUCATION:

Ph.D. Civil Engineering, Virginia Polytechnic Institute, January 2004.

M.S. Environmental Engineering, Virginia Polytechnic Institute, February 2000.

B.S. Mining and Mineral Engineering, Virginia Polytechnic Institute, December 1997.

### RELEVANT WORK EXPERIENCE:

Assistant Professor of Practice, Virginia Polytechnic Institute

2010 – Present: Department of Civil and Environmental Engineering  
Responsible for Multiple Lecture Classes

Research Scientist and/or Research Associate, Virginia Polytechnic Institute

2004 – Present: Department of Civil and Environmental Engineering  
Post-Graduate Work in Drinking Water Systems and Applications

Temporary Instructor, Virginia Polytechnic Institute

2003 – 2009: Department of Civil and Environmental Engineering

Independent Consultant

2001 – Present

Consulting projects for Black and Veatch, Inc.; St. Marys, PA, Water Authority; City of Napa, CA; and City of Lakeport, CA, etc.

Graduate Research Assistant, Virginia Polytechnic Institute

1998 – 2004: Department of Civil and Environmental Engineering  
Laboratory and Field Work Related to Graduate Degrees.

### PEER-REVIEWED PUBLICATIONS:

Elfland, C., **Scardina, P.**, and M. Edwards. “Lead Contaminated Potable Water from Brass Devices in New Buildings.” *Journal American Water Works Association*, To be published in the October 2010.

O E Farooqi, G V Loganathan, J Lee, M A Edwards, **Paolo Scardina**, and Darrell J Bosch. “Criteria for Plumbing System Replacement.” *Journal of Water Resources Planning and Management*, pending, accepted 2008.

Edwards, M. and **P. Scardina, P.** “Addressing Problems with Gas Supersaturation at Potable Water Treatment Plants.” *Journal American Water Works Association*, Vol. 99, 5, pg 137, 2007.

**Scardina, P.**, R.D. Letterman, and M. Edwards. “Particle Count and On-Line Turbidity Interference from Bubble Formation.” *Journal American Water Works Association*, Vol. 98, 7, pg 97, 2006.

**Scardina, P.** and M. Edwards. “Fundamentals of Bubble Formation During Coagulation and Sedimentation Processes.” *Journal of Environmental Engineering*, Vol. 132, 6, pg 575, 2006.

**Scardina, P.** and M. Edwards. “Air Binding in Granular Media Filters.” *Journal of Environmental Engineering*, Vol. 130, No. 10, 1126-1138, 2004.

**Scardina, P.** and M. Edwards. “Practical Implications of Bubble Formation in Conventional Treatment.” *Journal American Water Works Association*, Vol. 94, 8, pg 85, 2002.

**Scardina, P.** and M. Edwards. “Prediction and Measurement of Bubble Formation in Water Treatment.” *Journal of Environmental Engineering*, Vol. 127, 11, pg 968, 2001.

## **AWARDED RESEARCH GRANTS:**

Boardman, G.D. and **P. Scardina**. “Characterization, Treatment and Toxicity of Waters and Soils Associated with Hydraulic Fracturing Operations.” Awarded Summer 2010 with Funding TBD via National Energy Technology Laboratory (NETL).

**Scardina, P.** and M. Edwards. “Distribution System Water Quality Strategic Initiative: Premise Plumbing Water Quality Changes.” \$75,000 via American Water Works Association Research Foundation.

Edwards, M., **P. Scardina**. “Helping Small Water Systems Develop and Manage a Corrosion Control Strategy.” \$75,000 via Environmental Protection Agency (EPA).

Edwards, M., **P. Scardina**. “Non-Uniform Corrosion in Copper Piping—Monitoring Techniques.”

\$400,000 via American Water Works Association Research Foundation.

Edwards, M., **P. Scardina**, G.V. Loganathan, D. Bosch, and S. Dwyer “Non-Uniform Corrosion in Copper Piping—Assessment.”

\$400,000 via American Water Works Association Research Foundation.

Edwards, M. and **P. Scardina**. “Gas Supersaturation and Treatment Plant Performance: A Fundamental Understanding for New Regulations.”

\$150,000 via American Water Works Association Research Foundation.

Edwards, M. and **P. Scardina**. “Role of Light and Algae and Dissolved Gas on Water Treatment.”

\$36,000 via Washington Suburbs Sanitation Commission (WSSC).

Edwards, M. and **P. Scardina**. “Investigation of UVT Improvements for the Potomac WFP Improvement Projects.”

\$35,000 via Washington Suburbs Sanitation Commission (WSSC).

## **PROFESSIONAL PRESENTATIONS:**

**Scardina, P.** “Recent Advances in the Understanding and Fundamental Science of Copper Pinhole Leaks.” AwwaRF Webcast, December 4, 2008.

**Scardina, P.** “A Plethora of Pipes.” Infrastructure Rehabilitation for Young Professionals, AWWA, Concord, NC, 2008.

**Scardina, P.** and M. Edwards. “Recent Advances in the Understanding of Copper Pinhole Leaks.” AWWA DSS Conference Workshop: Corrosion Control and Water Quality in the Distribution System, Phoenix, AZ, 2006.

Lattyak, R., M. Edwards, and **P. Scardina**. “Copper Pinhole Leaks.” American Water Works Association Annual Conference, San Antonio, TX, 2006.

**Scardina, P.** “Methods to Reduce Floating Floc Disruptions during Coagulation and Sedimentation.” American Water Works Association Annual Conference, San Francisco, CA, 2005.

Edwards M. and **P. Scardina**. “Lead, Chloramine, and Beyond.” VA AWWA Regional Seminars: Water Quality in Distribution Systems, Christiansburg, VA, 2005.

**Scardina, P.** “Effects of Dissolved Gas Supersaturation & Bubble Formation on Treatment Plant Performance.” Senior Operators Forum (VA), Charlottesville, VA, 2004.

Edwards, M., R. Letterman, and **P. Scardina**. “Dissolved Gas Interference to Particle Counting and Turbidity Measurements.” American Water Works Association Annual Conference, Orlando, FL, 2004.

**Scardina, P.**, M. Edwards, and R. Letterman. Poster: “Effects of Gas Supersaturation and Bubble Formation on Treatment Plant Performance.” American Water Works Association Annual Conference, Orlando, FL, 2004.

**PROFESSIONAL PRESENTATIONS: (continued)**

**Scardina, P.** and M. Edwards. “Understanding the Fundamentals of Air Bindings in Filters.” American Water Works Association Annual Conference, Anaheim, CA, 2003.

**Scardina, P.** and M. Edwards. “Understanding, Diagnosing, and Preventing Air Binding in Filters.” Advances in Rapid Granular Filtration in Water Treatment, London, England, 2001.

**Scardina, P.** and M. Edwards. “The Fundamentals and Practical Impacts of Bubble Formation in Water Treatment.” American Water Works Association Annual Conference, Denver, CO, 2000.