

Maximizing Research Opportunities & Results Through Collaboration



**WATER
RESEARCH
FOUNDATION™**

ADVANCING THE SCIENCE OF WATER®

Clarifying Our Mission

- From “Awwa Research Foundation (AwwaRF)”
- To the “Water Research Foundation (Foundation)”



Awwa
Research
Foundation

Advancing the Science of Water®



WATER
RESEARCH
FOUNDATION™

ADVANCING THE SCIENCE OF WATER®



WATER
RESEARCH
FOUNDATION™

New Name, Same Mission

**Advancing the science of water to
improve the quality of life.**



What the Foundation Does

- Gathers input on and sponsors research to understand, manage, and solve water utilities' most pressing problems.
- Collaborates with national and international water and research organizations to leverage expertise and funding

>35 research organizations



Why Collaborate?

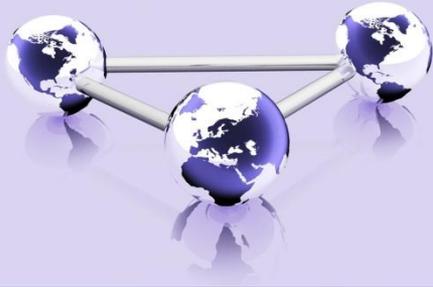




National Collaborators

- USEPA, WERF, WRF, AWWA, NWRI
- NCAR, USGS, California Energy Commission, Sandia, Bureau of Reclamation, Lawrence Livermore National Lab, CDC





International Collaborators

- GWRF, Water Quality Research Australia, KIWA NV, Water Technology Center (TZW), DWI, UK Water Industry Research, IWA, Public Utilities Board Singapore
- Gas Technology Institute, Iride Acqua Gas SpA



Research Opportunities

- Leveraging Research Dollars



- Increased Research Opportunities



Research Programs

- Solicited Program
- Unsolicited Program
- Tailored Collaboration Program
- Strategic Research Initiatives
 - Climate Change
 - Distribution System Water Quality
 - EDCs and PPCPs
- Rapid Response

Results and Impacts

- Regulation
 - MDBP Council
 - RICP
- Security
 - Data Assessment Tools
- Desalination
 - Energy Management
 - Concentration Management
 - Implementation Issues

Asset Management

Title: Tool for Risk Management of Water Utility Assets

Collaborators: WERF, UKWIR, Water Research Foundation

Results: Developed a Framework for utilities to assess risks to their assets covering cost, decision models, strategic security, the role of expert judgment, and the impact of asset standards on performance (including environmental), risk, customer service, and investment requirements (#4126)



Asset Management

Title: Sustainable Infrastructure Management Program Learning Environment (SIMPLE)

Collaborators: WERF, EPA and Water Research Foundation

Results: On-line asset management tool (#4013)

Asset Management

Title: Methodology for Cost and Benefit Valuation in Asset Management Decision Support

Collaborators: WERF, UKWIR, Water Research Foundation

Results: Will develop an electronic-based methodology to balance maximal service performance of assets with minimal cost of ownership (#4127)



Utility Collaborations

- Tailored Collaboration Program
 - Utility-directed research
 - Research Review Process
 - Project Management
 - Communication Process
- Regional Research Opportunities
 - Local contractors and universities
 - Network of topic experts



Utility Collaborations

2008

\$2 Million Foundation = \$4 Million Research

1. Establishing Guidelines for the Use of Ozone-GAC for Control of Endocrine Disruptors and Related Compounds in Water #4162
2. Zero Liquid Discharge of Waters with High Organic Content #4163
3. Biological Nitrate Removal Pre-Treatment System for a Drinking Water Application #4202
4. Joint Front Range Climate Change Vulnerability Study #4205
5. Enhancing Biofiltration to Achieve Sustained Removal of Multiple Inorganic and Organic Contaminants, including EDCs, MIB, and Geosmin #4215
6. Phase II Demonstration of an Electrochemical Reactor to Minimize Brominated DBPs in a Conventional Water Treatment Plant #4216
7. Demonstrate UV System Validation by Lagrangian Actinometry Using Dyed-Microspheres #4217
8. Removal of Unregulated Organic Chemicals in Full-Scale Water Treatment Processes #4221



PNW Section Research Participation



To date

Project Participation: 130

Research Value: \$57 Million

A Strategic Assessment of the Future of Water Utilities

Top Ten Trends

- 1. Population**
- 2. Political environment**
- 3. Finance constraints**
- 4. Total Water Management**
- 5. Customer Expectations**
- 6. Workforce Issues**
- 7. Technology**
- 8. Energy**
- 9. Increasing Risk**
- 10. Regulations**

The Cost of American Water

Water bills vary greatly by city



In 2003, USEPA estimated that water systems need \$276.8 billion over 20 years – this will double to triple water rates

Collaboration

Shared investment = Shared Results



Workforce
Source Water Protection
Treatment
Infrastructure
Communications
Capital Planning

