Division Name: Water Quality and Technology Division

Chair: David Hartman  Vice Chair: Quirien Muylwyk

Number of Committees: 13  Number of volunteers: 411

Division Meetings

<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
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<tbody>
<tr>
<td>November 12, 2011</td>
<td>Phoenix, AZ</td>
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<tr>
<td>November 15, 2011</td>
<td>Phoenix, AZ</td>
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<tr>
<td>June 9, 2012</td>
<td>Dallas, Texas – ACE</td>
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<tr>
<td>June 13, 2012</td>
<td>Dallas, Texas – ACE</td>
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<tr>
<td>Various</td>
<td>Conference calls</td>
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June 2011–June 2012 Completed Deliverables

Conferences

2011 Annual Conference and Exposition (ACE); Washington, DC; June 2011:
Quirien Muylwyk coordinated Division activities. The Division sponsored 11 sessions (two residuals sessions jointly with WS&RD) and 3 workshops. The Coagulation and Filtration Committee sponsored a workshop: “Filtration Principles and Troubleshooting for Granular Media” which was held offsite at the Patuxent Water Filtration Plant. The Emerging Water Quality Issues Committee and Organisms in Water Committee co-sponsored a workshop: “Impacts of Algae and Algal Toxins on Water Treatment Plants”. The Disinfection Systems Committee sponsored a workshop: “UV Disinfection for the Real World: Back to Basics.” The Distribution System Water Quality Committee developed a special session on “Fundamentals and Control of Internal Corrosion in Drinking Water Distribution Systems.” The Disinfection Systems Committee developed a special session on “Chemical Security Issues and the Continued Need for Chlorination: Critical Information for Utilities”. The Source Water Protection Committee (WQ&TD and WS&RD) sponsored or supported the following three special sessions: “Source Water Protection: Tools and Applications”, “Challenges and Solutions for Sustainable Water Supply” and “Ensuring Your Water Supply Into the Future.”

9th IWA Symposium on Off-Flavors in the Aquatic Environment; Aberdeen, Scotland; August 2011: Several of the Taste and Odor Committee members are members of the conference planning committee.

2011 DSS Conference; Nashville, TN; September 2011: Jan Routt served on the planning committee.

2011 Water Quality & Technology Conference (WQTC); Phoenix, AZ; November 2011:
The WQ&T Division and representatives from WR&SD, WRSD, DPOD and MAC served as the WQTC Planning Committee. This conference was chaired by Jonathan Pressman. Uday Gandhe, Wilson Engineers, was the Local Host Committee Chair. The Disinfection Systems Committee sponsored a workshop: “Advances in Chlorine Dioxide Generation and Use.” The Distribution System Water Quality and Disinfection Systems Committees co-sponsored a special topic session on “Nitrification in Drinking Water Distribution Systems: Emerging Issues Advances in Prevention, Detection and Control.” The Emerging Water Quality, Inorganics, and Source Water Protection Committees (WQ&TD and WS&RD), and Health Effects Research Committee (WS&RD), along with the Regulatory Agencies TAW developed a special topic session: “Emerging Inorganic Water Quality Issues: Chromium-6, Arsenic and Fluoride.” The Emerging Water Quality Committee and Distribution System Water Quality Committee co-sponsored a special session titled “Partial Lead

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Service Line Replacement.” The Organisms in Water Committee sponsored two Workshops titled: “Real-time Quantitative PCR: You’ve got Questions, We’ve Got Answers” and “Quantitative Microbial Risk Assessment – New Applications, New Techniques and Taking Stock of Challenges” (co-sponsored with Microbiological Contaminants Research Committee) along with three special topic sessions: “Microbial Water Quality at the Consumer Tap: An Emerging Issue” (co-sponsored with Microbial Contaminant Research Committee), “Is your Source Ground Water, Surface Water, or something In-between?” (Co-sponsored with Groundwater and Source Water Protection Committees), and “Moving Molecular Techniques into Methods” (co-sponsored with Microbial Contaminant Research Committee). The Source Water Protection Committee (WQ&TD and WS&RD) sponsored two special topic sessions: “Impacts of Climate Change on Surface Water Quality” and “Wastewater Impacts on Drinking Water Sources.” The Taste and Odor Committee developed a workshop: “How to Respond to T&O Problems Caused by Source Waters and Treatment Problems.”

IV International Giardia and Cryptosporidium Conference, Wellington, New Zealand; January 31st-February 3, 2012: Organisms in Water Committee member George Di Giovanni, served on the scientific planning committee.

2012 Membrane Technology Conference & Exposition (Jointly sponsored by AWWA and American Membrane Technology Association (AMTA)); Glendale, AZ; February 27 - March 1, 2012. The Membrane Processes Committee had two members serve on the planning committee Bob Bergman, served as chair, and Brent Alspach. The Membrane Processes Committee sponsored two workshops one on “Back-to-Basics: MF/UF” and the other on “Back-to-Basics: NF/RO.”

2012 Annual Conference and Exposition (ACE); Dallas, Texas; June 2012: Betsy Shepherd coordinated Division activities. The Division sponsored 11 sessions (two residuals sessions jointly with WS&RD). The Emerging Water Quality Issues Committee developed a special topic session: “Sustainable Buildings and the Net Zero Challenge: Drinking Water Quality and Related Issues.” The Membrane Processes Committee sponsored a session titled “Medium Pressure UV: State of Affairs in a Changing Environment.” (Co-sponsored by AWWA Government Affairs)

Manuals of Practice
M07 – Problem Organisms in Water Identification and Treatment, 3rd edition. The Organisms in Water Committee obtained approval of the manual outline from the Division and TEC.

M56 - Fundamentals & Control of Nitrification, 1st edition. The Distribution System Water Quality Committee review of the revised draft manual is complete and is in the process of updating the draft based on received comments.

M64 - Aeration and Air Stripping Gas Transfer Applications, 1st edition. The Inorganics Committee obtained approval of the manual outline for this new manual from the Division and TEC

M65 – On-Site Generation of Hypochlorite, 1st edition. The Disinfection Systems Committee obtained approval of the outline for this new manual from the Division and TEC.

Other Publications
The Membrane Processes Committee published two Opflow articles (September 2011) entitled “Membrane Troubleshooting Ideas”, and (January 2012) entitled “Membrane Filtration Residuals and Their Management”.

The Coagulation and Filtration Committee submitted a Committee Report to JOURNAL AMERICAN WATER WORKS ASSOCIATION for publication.

The Water Treatment Plant Residuals Management Committee provided support to the WS&RD Residuals Research Committee in developing a report entitled “Update on Residuals Management for Low-Pressure Membranes” which was ballot to the committees.
Policy Statements
The Division with assistance from the Source Water Protection Committee (WQ&TD and WS&RD) reaffirmed the Protecting the Allocation of Surface Water Reservoirs Storage Capacity & Yield for Water Supply Purposes Policy which was approved by TEC and submitted to the Board who reaffirmed, June 2011.

The Division with assistance from the Inorganics Committee revised the Fluoridation of Public Water Supplies Policy which was approved by TEC and submitted to the Board who approved, January 2012.

The Division with assistance from the Distribution System Water Quality Committee revised the Water Quality Control in the Distribution System Policy which was approved by TEC and submitted to the Board who approved, June 2012.

The Division with assistance from the Distribution Water Quality Committee, and the Source Water Protection Committee (WQ&TD and WS&RD) revised the Drinking Water Quality Policy which was returned to the Division for further revision by TEC, June 2012.

Awards List
2010 Division Best Paper: Andrzej Wilczek, David Hokanson, R. Rhodes Trussell, Manouchehr Boozarpour and Andrew DeGraca – presented June 2011 at ACE

2011 Golden Spigot: James Malley and Patricia Klonicki – presented November 2011 at WQTC

2011 Exemplary Source Water Protection Award: Presented by the Source Water Protection Committee (WQ&TD and WS&RD) June 2011 at ACE to - City of Clare, Michigan, Crystal Falls Township, Michigan & City of Wilmington, Delaware

2011 ACE Best Poster: Vincent Hill, Kathy Seiber, Jothikumar Narayanan & Amy Kahler – presented June 2011 at ACE


2011 WQTC Division Best Poster: Sarah Bounty, Roberts Rodriguez, and Karl Linden - presented November 2011 at WQTC

2011 Division Best Paper: Benjamin Stanford, Aleksey Pisarenko, Shane Snyder, & Gilbert Gordon - presented June 2012 at ACE Note: also received the AWWA Publication Award at ACE 2012

2012 MTC Student Best Papers: Laure Dramas, and Syed Zaki Abdullah – presented March 2012 at MTC

2012 Exemplary Source Water Protection Award: Presented by the Source Water Protection Committee (WQ&TD and WS&RD) June 2012 at ACE to - City of Desoto, Iowa, Portland Water District, Maine & City of Sacramento Dept. of Utilities, California

2012 ACE Best Poster: Paul Berg and Enoch Nicholson – presented June 2012 at ACE

YP Engagement
The WQ&T Division has encouraged all committee chairs to invite YP to join and become involved in their committees. Committee chairs are also encouraged to provide mentoring, and engage YPs in committee activities. The WQ&T Division has approximately 56 YPs, representing approximately 14% of total committee membership, with all committees having YP members. YPs currently serve as vice-
chair on the Distribution System Water Quality Committee and the Disinfection Systems Committee. Additionally, the Coagulation and Filtration Committee has an YP heading up their web survey project, and the Membrane Processes Committee has an YP representing them on the Desalination Community steering committee. The Distribution System Water Quality Committee has established an YP subcommittee.

Other
The Division is in the process of updating the Water Quality and Treatment Division Strategic Plan along with the supportive work plan. A subcommittee has been working on developing the drafts for review by the Division.

The Biological Drinking Water Treatment Committee developed a webinar entitled “Implementing Full-Scale Biological Drinking Water Treatment: The Utility Perspective” which was accepted by AWWA.

The Coagulation and Filtration Committee is working with AWWA staff in developing a filtration surveillance video.

The Distribution System Water Quality Committee submitted and received a TEC funded project to develop a web-based educational product on Preserving High Quality Water in Plumbing and Taps. The Committee was also involved in developing and serving as facilitators and speakers for 3 webinars - Storage Tank Inspection on April 11th, Cleaning Mains – Pig or Dig on April 25th, and Stage 2 D/DBP Rule: What are My O&M Options on May 9th.

The Inorganics Committee in conjunction with the Inorganic Contaminant Research Committee in developing the final report for the TEC project titled “An Assessment of the State of Nitrate Alternatives.” An article was published Streamlines, July 12, 2012, which provided a link to the full report posted on the TEC webpage. Additionally, the results were submitted to the EPA for inclusion in their Nitrate Treatability database. The Committee was also involved in a webinar called State of the Art Nitrate Treatment Alternatives which was held on March 14th. The Committee also developed three OpFlow articles on ammonia. The April edition was an Introduction to Ammonia article, the May article covered Assessing Ammonia Treatment Options and the June article presented Ammonia - Three Case Studies.

The Membrane Processes Committee was involved in the development of the Desalination Community of Interest on the AWWA website.

The Taste and Odor Committee submitted the final report for a 2011 TEC project on Taste and Odor Survey of Water Utilities. The Committee also developed the second draft of a special report for publication in JOURNAL AMERICAN WATER WORKS ASSOCIATION titled “Guidelines for Conducting Drinking Water Tasting Contests.”

The Source Water Protection Committee (WQ&TD and WS&RD) developed an article for the March 2012 edition of Opflow. Additionally, they were involved in the development and presentation of two webinars sponsored by the Illinois AWWA Section. The webinars were held on April 18 and 25, 2012. The Committee approved the SWP Five-year plan update in December 2011. The Committee has also been very active in reaching out to a variety of organizations.

The Water Quality Laboratory Committee submitted comments to TNI on the proposed 2011 TNI Laboratory Standards. They also provided training resources and documentation to stakeholders of the newly implemented 2009 TNI Laboratory Standards. Several of the Committee members met with EPA to discuss specific laboratory comments on the proposed Method Update Rule and the Sufficiently Sensitive Methods Rule. The Committee has also worked with the AOAC Methods Committee to develop QA/QC requirements for the AOAC water and wastewater methods.
**Division Meetings**

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<td>November 3, 2012</td>
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<td>November 6, 2012</td>
<td>Toronto, Ontario, Canada</td>
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<tr>
<td>June 8, 2013</td>
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<td>June 12, 2013</td>
<td>Denver, CO – ACE</td>
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<tr>
<td>Various as required</td>
<td>Conference calls</td>
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**Conferences**

**2012 DSS Conference; St Louis, MO; September 2012:** Randy Moore serves on the planning committee.

**2012 Water Quality & Technology Conference; Toronto, Ontario, Canada November 2012:** The WQ&T Division and representatives from WR&SD, WRD, DPOD and MAC serves as the WQTC Planning Committee. This conference will be chaired by Quirien Muylwyk. Lee Anne Jones, CH2M Hill, is the Local Host Committee Chair. The WQTC Planning Committee rated abstracts and developed sessions. In April, the Conference Planning Committee met in Denver, CO to develop the program. The Organisms in Water Committee and the WS&RD Microbiological Contaminant Research Committee along with the, Emerging Water Quality Issues Committee, Taste and Odor Committee, Source Water Protection Committee (WQTD and WS&RD), and Water Quality Laboratory Committee submitted a Workshop on “Analysis of Algae in Water Supplies – Applications of Alternative Methods”. The Organism in Water Committee proposed a special topic session on “Managing Risk in Utility Operations – New Tools and Taking Stock of Challenges.” The Emerging Water Quality Issues Committee, Membrane Processes Committee and Organisms in Water Committee submitted a session on “Nanomaterials in Water Treatment.” The Distribution System Water Quality Committee and Disinfection Systems Committee submit a proposed special topic session on “Distribution System Strategies to Meet the Stage 2 DBPR.” The Biological Drinking Water Treatment Committee proposed a session on “Harnessing Nature for Drinking Water Treatment.” The Disinfection Systems Committee proposed a session on “Advanced Oxidation of Organic Contaminants” and a session titled “Synergy with Multiple Disinfection Barriers to Meet Water Quality Goals.” The Inorganics Committee and the WS&RD Inorganic Contaminant Research Committee submitted a session on “Raw Water Ammonia: Treatment and Traps.” The Distribution System Water Quality Committee and Organism in Water Committee submitted a session on “Utility Case Studies of Microbial/Disinfection By-Product (M/DBP)-Related Impacts from Changing Weather.” The Disinfection Systems Committee along with the Disinfection Byproduct and Microbial TAW submitted a session titled “Medium Pressure UV Disinfection – Updating the State of the Science.”

**2013 Inorganics Contaminants Symposium; February 5-6, Sacramento, CA:** AWWA is working with the California/Nevada Section and the Water Research Foundation on this symposium. Representatives from the Inorganics Committee and its sister WR&SD Inorganic Contaminant Research Committee along with section representatives serve as the planning committee. The section will manage the symposia and assume all financial responsibilities.

**2013 Membrane Technology Conference & Exposition (AWWA and AMTA); San Antonio, Texas February, 2013:** Planning is going forward for this 2013 joint effort with AMTA. The Membrane Processes Committee will have representation on the planning committee.

**2013 Biological Treatment Symposium; Denver, CO, March 28-29:** This event is sponsored by the Water Science & Research Division with members from the WQ&TD Biological Drinking Water Treatment Committee serving on the planning committee including one as co-chair.

**2013 Annual Conference and Exposition (ACE); Denver, CO; June 2013:** The Division and Committees will develop and submit workshops and approximately 10 sessions (8 regular and 2
residual track sessions jointly with WS&RD). The Taste and Odor Committee intends to develop a workshop entitled “Sensor Techniques for Taste and Odor Detection.”

2014 International Symposium on Water Pathogens: The Organisms in Water Committee submitted a proposal for the symposium, and will identify a planning committee and begin work when approved.

Manuals of Practice
M07 – Problem Organisms in Water: Identification and Treatment, 3rd edition. The Organisms in Water Committee will develop the content of the manual during 2012-2013. The revisions are being supported by members from the Membrane Processes Committee, Distribution System Water Quality Committee, Biological Drinking Water Treatment Committee, and the WS&RD Distribution System Research Committee.

M12 – Simplified Procedures for Water Examination, 3rd edition. The Water Quality Laboratory Committee will develop the content of the manual during 2012-2013.

M30 – Precoat Filtration, 2nd edition. The Coagulation and Filtration Committee will develop the content of the manual targeting the end of 2012 for completion.

M38 - Electrodialysis and Electrodialysis Reversal, 2nd edition. The Membrane Processes Committee has established a target date of August 2012 for formalizing the committee organization and October 2012 for submitting a proposed outline, list of authors and schedule to the Division for approval.


M53 - Microfiltration/Ultrafiltration, 2nd edition. The Membrane Processes Committee has established a target date of September 2012 for submitting to the Division for review and approval.

M56 - Fundamentals & Control of Nitrification, 1st edition. The Distribution System Water Quality Committee plans to submit to the Division for review and approval by end of 2012.


M62 - Membrane Applications in Water Reuse, 1st edition. The Membrane Processes Committee has established October 2012 as the target date for completing the draft content of the manual.

M64 - Aeration and Air Stripping Gas Transfer Applications, 1st edition. The Inorganics Committee will develop the content of the manual during 2012-2013.


Other Publications
The Membrane Processes Committee is preparing a committee report entitled “Metrics and Methods for MF/UF System Optimization” for publication in JOURNAL AMERICAN WATER WORKS ASSOCIATION. They are also developing, in collaboration with the Desalting Committee, a membrane themed Best Papers book which will consist of a select group of peer reviewed papers from ten AWWA conferences (ACE: 2008-2010; WQTC: 2008-2011; and MTC: 2009 and 2011).

The Organic Contaminants Committee is developing an article on NDMA for publication in Opflow.
The Water Treatment Plant Residuals Management Committee provided support to the WS&RD Residuals Research Committee in developing a report entitled “Update on Residuals Management for Low-Pressure Membranes” for publication in JOURNAL AMERICAN WATER WORKS ASSOCIATION.

Policy Statements
The Division with assistance from the Distribution Water Quality Committee, and the Source Water Protection Committee (WQ&TD and WS&RD) will revise the Drinking Water Quality Policy based on TEC feedback. The revised policy delivery to the Division is targeted for November 2012.

The Division with assistance from the Source Water Protection Committee will complete the revision of the Quality of Water Supply Sources Policy. The target date for Division ballot is late August 2012.

Awards:
2012 Division Best Paper: - presented June 2013 at ACE

2013 Golden Spigot: – presented November 2013 at WQTC

2013 MTC Student Best Papers: – presented February 2013 at MTC

2013 Exemplary Source Water Protection Award: presented by the Source Water Protection Committee (WQ&TD and WS&RD) June 2013 at ACE

2013 ACE Best Poster: presented June 2013 at ACE

2013 WQTC Student Best Papers: presented November 2013 at WQTC

2013 WQTC Division Best Poster: presented November 2013 at WQTC

YP Engagement
The Division’s draft Water Quality and Technology Division Strategic Plan will have a strategic goal related to attracting, mentoring and engaging YPs. The Division will continue to work with committee chairs to invite YPs to join and become involved in their committees. Committee chairs will be encouraged to provide mentoring, and engage YPs in committee activities. The Distribution System Water Quality Committee’s YP subcommittee will continue to be engaged.

Other
The Division will finalize updating the Water Quality and Treatment Division Strategic Plan along with the supportive work plan. The Division will invite the Water Research Foundation to meeting to discuss ongoing research activities.

The Biological Drinking Water Treatment Committee will host a webinar entitled “Implementing Full-Scale Biological Drinking Water Treatment: The Utility Perspective” scheduled for delivery October 31, 2012.

The Coagulation and Filtration Committee and AWWA staff will finalize development of a filtration surveillance video.

The Distribution System Water Quality Committee will continue working on the 2012 TEC project “Preserving High Quality Water in Plumbing Taps” by developing a web-based educational product. The Committee plans on preparing three Opflow articles. The first article, Best Practices: Improve Storage Tank Performance and Reliability is planned for the July 2012 edition, the second article Best Practices Cleaning Mains: Clean, Pig, or Dig? for the August 2012 edition and the last article Operation and Maintenance Options for Complying with the US Environmental Protection Agency’s Stage 2 Disinfectants and Disinfection Byproducts Rule, publication date to be
determined. The **Committee** also plans on developing another three part distribution topic webinar series.

The **Emerging Water Quality Issues Committee** will finalize the Fluoride Subcommittee activities and determine the appropriate next steps. Also, the **Committee** will continue to identify appropriate issues for the **Committee** to address.

The **Membrane Processes Committee** in collaboration with the **USEPA, ASDWA, and NSF** intends to establish a new subcommittee which will interface with state regulators to provide as-needed technical information and resources.

The **Source Water Protection Committee** (WQ&TD and WS&RD) will continue to promote the SWP Standard and the associated SWP Operational Guide. The **Committee** is preparing a workshop proposal for presentation at the North American Lake Management Society. The **Committee** is preparing a SWP Committee Activities and Accomplishment Report for publication in **JOURNAL AMERICAN WATER WORKS ASSOCIATION**. The **Committee** is also working with the Environmental Finance Center at New Mexico Tech in developing Source Water IQ. Source Water IQ is a website where an operator/water manager answer a number of questions to determine where they stand on SWP.

The **Taste and Odor Committee** submitted will work on a TEC project “**Taste and Odor Survey of Water Utilities.**” The deliverables for the project include a **webcast** and a **JOURNAL AMERICAN WATER WORKS ASSOCIATION** article. The **webcast** titled “**An Update on Causes and Solutions for Taste and Odor Issues**” is scheduled for October 24, 2012.

The **Water Quality Laboratory Committee** will continue to work with TNI to develop laboratory standards that are acceptable to all stakeholders. They will also continue working with AOAC.

The **Water Treatment Plant Residuals Management Committee** will provide support to the WS&RD **Residuals Research Committee** on developing a report entitled “**Update on Residuals Management for Low-Pressure Membranes**” for publication in **JOURNAL AMERICAN WATER WORKS ASSOCIATION**. They are also working with their sister WSR&D committee on Chapter 18 of the AWWA WTP Design Manual, 5th edition.