

Dr. Shane A. Snyder

Professor of Chemical and Environmental Engineering
Professor (Joint) of Soil, Water and Environmental Science
Professor (Joint) – Mel and Enid Zuckerman College of Public Health
University of Arizona
1133 E. James E. Rogers Way; Harshbarger 108
Tucson, Arizona 85721-0011
Tel. (520) 621-2573
E-mail: snyders2@email.arizona.edu

Education

- | | |
|-----------|--|
| 1994-2000 | Michigan State University, East Lansing, Michigan
Doctorate of Philosophy
Environmental Toxicology and Zoology
Dissertation Title: <i>Instrumental and Bioanalytical Measures of Endocrine Disruptors in Water</i>
Advisor: Dr. John P. Giesy (Distinguished Professor) |
| 1990-1994 | Thiel College, Greenville, Pennsylvania
Department of Chemistry
Bachelor of Arts: <i>Magna Cum Laude</i>
Major: Chemistry
Minor: Medical Biology |

Funded Research Projects

- | | |
|-----------|---|
| 2012-2014 | Principal Investigator – Suez Environment: “Investigation of Treatment Technologies for Fresh Water Reverse Osmosis Brine” |
| 2012-2013 | Co-Principal Investigator – WateReuse Research Foundation: “Equivalency of Advanced Treatment Trains for Potable Reuse” – Project# 11-02 |
| 2012-2013 | Co-Principal Investigator – Water Research Foundation: “Decision Support System for EDCs and PPCPs” – Project# 4386 |
| 2012-2014 | Co-Principal Investigator – WateReuse Research Foundation: “Monitoring for Reliability and Process Control of Potable Reuse Applications” – Project# 11-01 |
| 2012-2013 | Co-Principal Investigator – WateReuse Research Foundation: “Role of Retention Time in the Environmental Buffer of Indirect Potable Reuse Projects” - Project# 10-05 |
| 2012-2013 | Co-Principal Investigator – Water Environment Research Foundation: “Holistic Assessment of CECs in Wastewater & Receiving Water” - Project in conjunction with City of Sacramento, CA |
| 2012-2013 | Principal Investigator – PWN Water, The Netherlands: “The Potential Formation of Mutagenic Nitrogenous Compounds during UV Treatment of Waters Containing Nitrate” |
| 2012 | Principal Investigator – PWN Technologies, The Netherlands: “Surface Chemistry and Formation of Hydroxyl Radical by Ozone or Hydrogen Peroxide in Combination with Ceramic Membrane” |
| 2012 | Co-Principal Investigator - Charoen Pokphand Foods Public Company, Bangkok Thailand: “Studies Intended to Determine the Etiology of the 30 Day Mortality Syndrome, also Known as the Early Mortality Syndrome (“EMS”)” |
| 2012 | Principal Investigator – Consumer Specialty Products Association: “Occurrence of DEET in Water: Analytical Confirmation and Alternative Sources” |

- 2011-2013 **Co-Principal Investigator – WateReuse Research Foundation:** “Development of Bio-Analytical Techniques to Assess the Potential Human Health Impacts of Recycled Water” – Project# 10-07
- 2011-2013 **Co-Principal Investigator – California State Water Resources Control Board:** “Evaluating Bioanalytical Methods as Screening Tools for Monitoring of CECs in California Recycled Water Applications” – Administered by Southern California Coastal Water Research Project 10-096-250
- 2011-2012 **Principal Investigator – USGS:** “Iodinated Disinfection Byproduct Formation from Water Reuse Practices”
- 2011-2012 **Principal Investigator – United Water:** “Water and Energy Sustainability at United Water Facilities” – Project 11-CHE-319
- 2011-2012 **Co-Principal Investigator – Water Sustainability Program (University of Arizona):** Fate of Trace Organic Contaminants during Effluent Infiltration along the Lower Santa Cruz River – Effects on Aquifer Water Quality”
- 2011 **Principal Investigator – Southern California Coastal Water Research Project:** “Screening Study for Constituents of Emerging Concern (CECs) in Selected Freshwater Rivers in the Los Angeles Region” Funded by California State Water Resources Control Board 10-085-140
- 2010-2011 **Principal Investigator – WateReuse Research Foundation:** “Use of UV and Fluorescence Spectra as Surrogate Measures for Contaminant Oxidation and Disinfection in the Ozone/H₂O₂ Advanced Oxidation Process” – Project# 09-10
- 2010-2011 **Co-Principal Investigator – WateReuse Research Foundation:** “Effect of Prior Knowledge of Unplanned Potable Reuse on the Acceptance of Planned Potable Reuse” – Project# 09-01
- 2010-2011 **Principal Investigator – Water Sustainability Program (University of Arizona):** “Parallel Evaluation of Ozone and UV Advanced Oxidation for Reducing Toxicity in Reclaimed Water”
- 2009-2011 **Principal Investigator – WateReuse Research Foundation:** “Use of Ozone in Water Reclamation for Contaminant Oxidation” – Project# 08-05
- 2009-2011 **Co-Principal Investigator – Water Environment Research Foundation:** “Trace Organic Compounds Removal during Wastewater Treatment – Categorizing Wastewater Treatment Processes by their Efficacy in Reduction of a Suite of Indicator TOrCs” – Project# CEC4R08
- 2009-2011 **Principal Investigator (with Brett Vanderford – SNWA Research Chemist) – Water Research Foundation:** “Evaluation of Analytical Methods for EDCs and PPCPs via Interlaboratory Comparison” – Project# 4167
- 2009-2011 **Principal Investigator (with Benjamin Stanford – SNWA Post-Doctoral Researcher) – WateReuse Foundation:** “Pilot-Scale Oxidative Technologies for Reducing Fouling Potential in Water Reuse and Drinking Water Treatment Membrane Systems” – Project# 08-008
- 2008-2009 **Principal Investigator – American Water Works Association/American Water Works Association Research Foundation:** “Hypochlorite – An Assessment of Factors That Influence the Formation of Perchlorate and Other Contaminants” – Project# 712/4147
- 2008-2010 **Principal Investigator – American Water Works Association Research Foundation:** “Role of bromamines on disinfection byproduct formation and impact on application of chloramination and ozonation” – Project# 4159
- 2007-2009 **Principal Investigator – WateReuse Foundation:** “Comparisons of Chemical Composition of Reclaimed and Conventional Waters” Project# 06-006
- 2007-2008 **Principal Investigator – WateReuse Foundation:** “Identifying Hormonally Active Compounds, Pharmaceutical Ingredients, and Personal Care Product Ingredients of Most Health Concern From Their Potential Presence in Water Intended for Indirect Potable Reuse” Project# 05-005

- 2007-2009 **Principal Investigator (with Fernando Rosario – SNWA Post-Doctoral Researcher) – WaterReuse Foundation:** “Optimization of Advanced Water Treatment Processes for Water Reuse” Project# 06-012
- 2006-2009 **Co-Principal Investigator – WaterReuse Foundation:** “Development of Surrogates To Determine The Efficacy Of Groundwater Recharge Systems For The Removal Of Trace Organic Chemicals” Project# 05-004
- 2007-2009 **Co-Principal Investigator – American Water Works Association Research Foundation:** “Low Dose Risks from Bromate: The Relationship between Drinking Water Concentrations and the Actual Dose to Susceptible Organs in Rats and Humans” Project#4042
- 2005-2007 **Co-Principal Investigator – WaterReuse Foundation:** “Reaction Rates and Mechanisms of Advanced Oxidation Processes for Water Reuse” Project# 04-017
- 2005-2006 **Principal Investigator – American Water Works Association Research Foundation:** “Comprehensive Utility Guide for Endocrine Disruptors and Pharmaceuticals in Drinking Water” Project# 3033
- 2004-2006 **Principal Investigator – American Water Works Association Research Foundation and WaterReuse Foundation:** “Toxicological Relevance of EDC and Pharmaceuticals in Drinking Water” AwwaRF # 3085 & WRF 04-003
- 2004-2006 **Co-Principal Investigator – WaterReuse Foundation:** *Colorado School of Mines as PI* “Development of Indicators and Surrogates for Chemical Contaminant Removal during Wastewater Treatment and Reclamation” Project# WRF-03-014
- 2004-2006 **Co-Principal Investigator – WaterReuse Foundation:** *Carollo Engineers as PI* “Reclaimed Water Aquifer Storage and Recovery: Potential Changes in Water Quality” Project# WRF-03-009
- 2004-2006 **Co-Principal Investigator – Water Environment Research Foundation:** *Colorado School of Mines as PI.* “Contributions of Household Chemicals to Sewage and their Relevance to Municipal Wastewater Systems and the Environment” Project# 03-CTS-21UR
- 2002-2005 **Principal Investigator - American Water Works Association Research Foundation:** “Evaluation of Conventional and Advanced Treatment Processes to Remove Endocrine Disruptors and Pharmaceutically Active Compounds” Project #2758
- 2001-2004 **Principal Investigator - Strategic Environmental Research and Development Program (for Department of Defense):** “Toxicological Impact of Ammonium Perchlorate on Fish” Project# 1222
- 1998-2000 **Principal Investigator - Southern Nevada Water Authority/U.S. Bureau of Reclamation/National Park Service:** “Toxicity Identification and Evaluation of Xenobiotic Compounds in Lake Mead, Nevada”
- 1998-2000 **Principal Author - Chemical Manufacturers Association:** “Identification and Quantitation of Alkylphenols from Fish Tissues”
- 1997 **Principal Author - Las Vegas Valley Water District:** “Screening of Drinking Water for Possible Endocrine Disrupting Compounds”
- 1997 **Principal Author - Chemical Manufacturers Association:** Instrument grant for alkylphenol analyses

Recent Volunteer Efforts

- 2012-2015 **US Environmental Protection Agency – Science Advisory Board’s Drinking Water Committee:** Member of expert panel to advise the EPA Administrator on technical issues underlying EPA policies and decision making.
- 2008-2012 **National Academy of Science – National Research Council:** Member of Water Reuse expert panel

2010-Present	WaterReuse Association: Member of the Board of Directors
2009-2010	National Association of Clean Water Agencies and Association of Metropolitan Water Agencies: Co-chair of expert panel to author <i>Pharmaceuticals in the Water Environment</i>
2008-2011	Water Research Foundation: Member of EDC Strategic Initiative Expert Panel
2008-2011	American Water Works Association: Appointed Trustee of the Water Science & Research Division
2008-Present	WaterReuse Research Foundation: Research Advisory Council (RAC) member
2008-2010	United Nations University & Gwangju Institute of Science and Technology: Science Advisory Committee member.
2008-2009	American Water Works Association: Chair of the Planning Committee for the Organic Contaminants Research Symposium – Austin Texas February 2009
2006	Expert Panel Member: US EPA Contaminant Candidate List Classification Process Meeting
2004-2006	Federal Advisory Committee Member: Endocrine Disruptor Methods Validation Advisory Committee (EDMVAC)
2004-Present	American Water Works Association: Source Water Protection Committee – (Vice-Chair 2004-2006)
2002-Present	American Water Works Association: Organic Contaminants Research Committee – (Chair 2005-2008)
2002-2005	Henderson Blue Ribbon Commission: Member of special committee to promote educational excellence in Southern Nevada
2001-2004	National Advisory Council for Environmental Policy and Technology: Member of the US EPA Federal Advisory Committee “ <i>Endocrine Disruptor Methods Validation Subcommittee (EDMVS)</i> ”
2000-2001	American Water Works Association: Endocrine Disruptor & the Water Industry Symposium planning committee

Employment Experience

2010-Present	University of Arizona – Professor of Chemical and Environmental Engineering. Provide leadership and teaching in the areas of water treatment, contaminant fate and transport, and public/environmental health implications of water pollution.
2010-Present	Arizona Laboratory for Emerging Contaminants (ALEC) – Co-Director. State-of-the-art analytical facility at University of Arizona with a focus on identification and quantification of emerging contaminants, such as pharmaceutical, endocrine disrupting compounds, and nanoparticles.
2000-2010	Research and Development – Project Manager. Southern Nevada Water Authority, Las Vegas, Nevada. Develop and manage diversity of drinking and wastewater projects related to emerging contaminants, conventional and advanced treatment technologies, and modern analytical method development. Achieve external research funding to support team of chemists, engineers, graduate students, and post-doctoral researchers.
1998 – Present	Owner/Consultant. Total Environmental Solutions Inc., Boulder City, Nevada. Provide professional consultation, expert witness services, and build teams of experts capable of solving a diversity of challenging environmental issues.
1994-2000	Graduate Student. Michigan State University, East Lansing, Michigan. Department of Zoology and Institute of Environmental Toxicology. Developed novel analytical and bioanalytical approaches to identify and quantitate endocrine disrupting compounds and pharmaceuticals in the aquatic environment.
Summer 1995	Research Internship. Bayer Corp., Biotechnology Division, Leverkusen, Germany. Synthesized and analyzed DNA and PNA strains for pharmaceutical discovery. Utilized DNA/PNA synthesizers

- and sequences. Purified strains using HPLC and verified molecular weights using Time of Flight Mass Spectrometry.
- Summer 1994 **Research Internship.** Bayer Corp., New Martinsville, West Virginia. Developed spectral library using newly developed open-path FTIR instrumentation used to monitor potential leaks at industrial sites.

Additional Relevant Experience

- 2012 **Member.** National Water Research Institute. Expert Panel on Biologically Degradable Organic Carbon (BDOC) as a Surrogate for Organics Removal in Groundwater Recharge
- 2011-2013 **Chair.** National Water Research Institute. Expert Panel on Water Reuse in Tucson, Arizona
- 2011-2015 **Visiting Professor.** National University of Singapore – National Environmental Research Institute.
- 2010-Present **Science Advisory Panel Member.** King Abdullah University of Science and Technology, Saudi Arabia.
- 2010-2012 **Science Advisory Panel Member.** Southern California Coastal Water Research Program. *Constituents of Emerging Concern in Coastal and Marine Ecosystems*
- 2010-Present **Adjunct Professor.** Environmental Science & Engineering, Gwangju Institute of Science and Technology, South Korea
- 2009-2010 **Science Advisory Panel Member.** California Water Resources Control Board. *Constituents/Contaminants of Emerging Concern in Recycled Water*
- 2009 **Effective Media Communications.** Professional training for communicating with news media. *The Ammerman Experience.* Houston, Texas
- 2009 **Advanced Presentations Training.** Professional training in presentation of data in public forums
- 2008-Present **Fellow.** University of California, Santa Cruz. Center for Integrated Water Research
- 2007-2008 **West Basin Water District Expert Panel.** Provide expert advice regarding water quality and technology issues related to water reuse operations at West Basin, California
- 2006-2011 **Pepsi Corporation Water Quality Advisory Council.** Provide expert advice and scientific opinion regarding global water quality and treatment technology issues
- 2000 – 2010 **Adjunct Faculty.** University of Nevada, Las Vegas. Act as a committee member for various graduate research programs. Aid in research efforts of faculty and students. Instruct classes and serve as a visiting lecturer
- 2000 – 2007 **Adjunct Faculty.** State College of Southern Nevada, Las Vegas, Nevada. Instruct undergraduate science classes. Work with other faculty on local environmental issues
- 1997 – Present **Peer Reviewer.** Peer reviewer for several journals including: *Analytical Chemistry, Environmental Science and Technology, Water Research, Journal of the American Water Works Association, Chemosphere, and others*
- 2000 & 2008 **Invited Speaker.** National Public Radio (NPR) recorded in Las Vegas, Nevada. Interview regarding pharmaceuticals and personal care products in Lake Mead, Nevada

Invited Presentations and Seminars (Previous Years Available on Request)

- November 2012 **Long Beach, California – SETAC Meeting** – Invited presentation on untargeted analysis in environmental samples
- November 2012 **Golden, Colorado – Colorado School of Mines** – Invited seminar for NSF Engineering Research Center on bioanalytical approaches for comprehensive screening of complex mixtures
- November 2012 **East Lansing, Michigan - Michigan State University** – Invited seminar speaker on emerging water quality and sustainability issues
- October 2012 **Raleigh, North Carolina – National Institute for Environmental Health Sciences (NIEHS)** –

- Invited expert panelist for discussion on in vitro bioassays for use in screening complex mixtures.
- October 2012 **Boise, Idaho** – Invited speaker for workshop on emerging contaminants in water reuse for State of Idaho
- October 2012 **Brownwood, Texas** – Invited seminar on direct potable water reuse and findings of the NRC Panel
- October 2012 **Utrecht, The Netherlands** – Invited presentation for the KWR research center. *Potable Water Reuse: Trends in Monitoring, Treatment, and Health*
- October 2012 **Leeuwarden, The Netherlands** – Invited presentation for the 9th Annual Wetsus Conference. *AOP and Water Sustainability: Reuse and Contaminant Issues facing a Thirsty World.*
- September 2012 **Busan, S. Korea** – Invited Harremöes Lecture (closing plenary keynote). *Trace Organic Contaminants: An International Perspective on an Emerging Issue*
- September 2012 **Incheon, S. Korea** – Invited seminar by the Korean National Institute for Environmental Research, *The US Regulatory Process for Monitoring and Control of Emerging Water Quality Contaminants*
- September 2012 **Busan, S. Korea** – Invited presentation and panel member in special session on water reuse by the International Water Association
- September 2012 **Busan, S. Korea** – Invited presentation and panel member for the workshop on “How Safe is Safe.”
- September 2012 **Busan, S. Korea** – Invited presenter and panel member for the International Water Association special workshop on biosolids. *Emerging Contaminants in Biosolids: Implications for Disposal*
- September 2012 **Tucson, Arizona** – Invited Webcast at the request of the Arizona Department of Environmental Quality. Emerging issues for water sustainability in the arid Southwest.
- August 2012 **Houston, Texas** – Invited seminar for Rice University, College of Engineering, on water reuse as a critical portion of the US water portfolio
- August 2012 **Los Angeles, California** – Invited presentation for the National Water Research Institute on the findings of the National Academy of Science’s NRC Panel on Water Reuse
- August 2012 **Hanoi, Viet Nam** – Invited seminar for the Ministry of the Environment, Viet Nam. Presentation based on opportunities for monitoring and health assessment of the Mekong Delta.
- July 2012 **Kuala Lumpur, Malaysia** – Invited presentation for the University Kebangsaan Malaysia regarding the identification and health relevance of emerging water quality contaminants
- July 2012 **Singapore** – Invited presentation at Singapore International Water Week on the use of ozone and UV AOP technologies for potable water reuse
- June 2012 **Ho Chi Minh City, Viet Nam** – Invited presentation on state of the art techniques for monitoring water quality in surface and ground waters
- June 2012 **Brisbane, Australia** – Invited expert panel member and presenter for special workshop on potable water reuse for International Water Association
- June 2012 **Brisbane, Australia** – Plenary keynote presentation for International Water Association’s Leading Edge Technology meeting
- May 2012 **Goslar, Germany** – Invited presentation on the use AOPs in water reuse (delivered by Sylvain Merel due to travel conflict)
- May 2012 **Seoul, S Korea** – Invited keynote speakers at Smart Water Grid Symposium (delivered by Glenn Schrader due to travel conflict)
- April 2012 **Gwangju, S. Korea** – Invited speaker at Pacific Basin Consortium for Environment and Health.
- April 2012 **Shanghai, China** - Invited presentation on emerging contaminants and water reuse
- April 2012 **Shanghai, China** – Invited presentation at Jiaotong University symposium of Environmental Engineering
- March 2012 **Jeddah, Saudi Arabia** – Invited seminar at King Abdullah University of Science and Technology

- (KAUST)
- March 2012 **Olympia, Washington** – Invited speaker at water reuse workshop for LOTT Alliance
 - December 2011 **Las Vegas, Nevada** – Invited speaker at Agilent Technologies Annual Meeting
 - December 2011 **Flagstaff, Arizona** – Invited speaker and panel member for public meeting on water reuse
 - November 2011 **Genoa, Italy** – Invited speaker for symposium on EDCs in water supplies
 - November 2011 **Santa Clara, California** – Invited seminar for Agilent Technologies
 - November 2011 **Phoenix, Arizona** – Invited speaker for Water Quality Technology Conference (WQTC) – reuse special session
 - October 2011 **Phoenix, Arizona** – Invited speaker for Western Coalition of Arid States (WESTCAS)
 - September 2011 **Barcelona, Spain** – Invited keynote presentation at International Water Association Water Reclamation and Reuse Conference
 - August 2011 **Dallas, Texas** – Invited presentation for EPA Region 9 Workshop
 - July 2011 **Singapore** – Invited presentation at the Singapore International Water Week
 - June 2011 **Amsterdam Netherlands** – IWA Leading Edge Technology meeting – Invited Keynote on Water Reuse and Emerging Water Quality Issues
 - May 2011 **Beijing China** – Peking University – Invited Presentation on Water Reuse
 - May 2011 **Beijing China** – Tsinghua University – Invited Plenary Presentation at Symposium EDCs, PPCPs, and DBPs in Water
 - April 2011 **Cambridge MA** – Harvard University – Invited Presentation at Symposium on R&D and Technology for Water
 - February 2011 **Northridge CA** – University of California, Northridge – Invited Presentation on PPCPs in Water Supplies: Sustainable Solutions
 - November 2010 **Raleigh NC** – US EPA Research Triangle Park – Invited Presentation on Emerging Contaminants and Water Reuse
 - September 2010 **Washington DC** – Congressional Briefing on Pharmaceuticals in the Environment
 - July 2010 **Singapore** – **Singapore International Water Week**. Invited Session Chair and Speaker
 - June 2010 **Holderness, NH** – Gordon Research Conference: Water – Invited Presentation regarding Water Reuse and Emerging Water Quality Challenges
 - May 2010 **Racine, WI** – Wingspread Meeting on Environmental Estrogens – Invited Panelist
 - May 2010 **Cape Cod, MA** – Waquoit Bay Reserve – Invited Presentation regarding Emerging Contaminants in Septic Systems and Groundwater
 - March 2010 **Boston, MA** – Tufts University – Invited Presentation for the National Academy of Engineering
 - November 2009 **Gwangju, S. Korea** – United Nations University – Science Advisory Board
 - November 2009 **Boston, MA** – Harvard School of Public Health – Invited Presentation on DBPs
 - October 2009 **Princeton, NJ** – FASTER Meeting – Invited Presentation
 - September 2009 **Brisbane, Australia** – International Water Association WRRS – Invited Keynote
 - September 2009 **Tokyo, Japan** – International Ozone Association – Invited Keynote
 - August 2009 **Washington, DC** – ACS National Conference – Invited Keynote
 - August 2009 **Mount Holyoke, MA** – Gordon Research Conference on Disinfection Byproducts
 - June 2009 **Singapore** – IWA Leading Edge Technology Meeting – Invited Keynote

June 2009	San Francisco, CA – IWA Micropol Meeting – Invited Keynote Presentation
June 2009	Toronto, Canada – Ontario Ministry of the Environment – Invited Presentation
May 2009	Boise, ID – Idaho Water Reuse Symposium – Invited Presentation
May 2009	Salem, OR – Pacific Northwest Awwa meeting – Invited Presentation
April 2009	Costa Mesa, CA – So. Cal. Coastal Water Research Program – Invited Presentation
March 2009	Boston, MA – Harvard University’s School of Public Health – Invited Seminar
March 2009	Washington, DC – US Senate – Invited Briefing
March 2009	New York, NY – Hazen & Sawyer – Invited Seminar
March 2009	San Diego, CA – Association of Environmental Health Sciences – Invited Keynote
March 2009	Las Vegas, NV – US/Japan Joint Water Conference – Invited Presentation
February 2009	Washington DC – US House of Representatives – Invited Briefing
February 2009	Phoenix, Arizona – Arizona Water Association – Invited Seminar
February 2009	Austin, Texas – Awwa Emerging Contaminant Symposium – Conference Chair
January 2009	Delft, The Netherlands – Vakantiecursus in Drinkwatervoorziening – Invited Presentation
January 2009	Greenville, South Carolina – Southeastern Regional Water Technology Transfer Conference – Invited Presentation
November 2008	East Lansing, Michigan – Michigan State University – Invited Seminar
November 2008	Cincinnati, Ohio – Water Quality Technology Conference – Invited Presentation
October 2008	Monterey, California – WateReuse Foundation – Invited Presentation on agricultural water reuse
October 2008	Gwangju, S. Korea – United Nations University – Science Advisory Board Meeting
September 2008	Tucson, Arizona – University of Arizona – Invited Seminar
August 2008	Orlando, Florida – International Ozone Association – Invited Plenary Presentation
June 2008	Singapore – Invited delegate for World Water Leaders Summit
March 2008	Long Beach, California – California Water Environment Association – Invited Presentation
March 2008	Cork, Ireland – Invited presentation on emerging water quality issues
March 2008	Zurich, Switzerland – Invited Seminar for EAWAG on emerging contaminants
March 2008	Lyon, France – Invited speaker for EU NORMAN meeting on bioassay techniques
February 2008	Mumbai, India – Invited expert panel member for Pepsi Corporation FEMA meeting
December 2007	University of California, Berkeley – Invited Seminar for Department of Engineering
November 2007	Canberra, Australia : EDC/PPCPs in Australia – Invited Keynote Presentation
November 2007	Brisbane, Australia – Invited Seminar for Queensland Water
November 2007	Gwangju, South Korea – Invited Presentation at Opening of National Desalination Program (SeaHERO)
October 2007	Costa Mesa, California : National Groundwater Association – Keynote Presentation
October 2007	Seattle, Washington : Association of Metropolitan Water Agencies – Invited Presentation
September 2007	University of Massachusetts, Amherst – Invited Seminar in Water Sustainability Lecture Series
September 2007	Tampa, Florida : WateReuse Association – Invited Panelist in Closing Plenary Session
August 2007	Los Angeles, California : International Ozone Association – Invited Keynote Presentation
August 2007	Carson City, Nevada : Nevada Water Resources Association – Invited Keynote Presentation
August 2007	Water Environment Federation – Webcast on Emerging Issues – Invited Presentation

July 2007	Flagstaff, Arizona: Arizona Water Reuse Association – Invited Presentation
July 2007	Los Angeles, California: California Urban Water Association – Invited Seminar
May 2007	Sacramento, California: California EPA DTSC – Invited Presentation
May 2007	Tampa, Florida: World Environmental & Water Resources Congress – Keynote Presentation
April 2007	Santa Rosa, California – Invited Seminar for the Public Utilities Board
April 2007	Greensboro, North Carolina – Syngenta’s Distinguished Speaker Series
April 2007	Athens, Georgia: Society for Environmental Toxicology and Chemistry – Invited Lecturer
February 2007	Sacramento, California: California DHS Meeting – Invited Seminar
February 2007	New York, New York: AwwaRF/KIWA CEO Conference – Invited Presentation
January 2007	Okinawa, Japan: Japanese-U.S. Conference on Water Quality and Wastewater Control – Invited Presentation

Publications (from Web of Knowledge March 2013: h-index = 29; times cited = 3498)

125. 2013 Drewes JE, Anderson P, Denslow N, Olivieri A, Schlenk D, **Snyder SA**, and K.A. Maruya. *Designing monitoring programs for chemicals of emerging concern in potable reuse - what to include and what not to include?* Water Science and Technology. **67**(2): 433-439.
124. 2013 Makris KC, Andra S, Jia A, Herrick L, Christophi C, **Snyder SA**, Hauser R. *The Association between Water Consumption from Polycarbonate Containers and Bisphenol-A Intake during Harsh Environmental Conditions in Summer.* Environmental Science & Technology (in press).
123. 2013 Park M, Lee J, Hong S, **Snyder SA**, Kim JH. *Modeling of Colloidal Fouling in Forward Osmosis Membrane: Effects of Reverse Draw Solution Permeation.* Desalination (in press).
122. 2012 Mawhinney DB, Vanderford BJ, **Snyder SA**. *Transformation of 1H-Benzotriazole by Ozone in Aqueous Solution.* Environmental Science & Technology. **46**(13):7102-7111.
121. 2012 Lekkerkerker-Teunissen K, Benotti MJ, **Snyder SA**, van Dijk HC. *Transformation of atrazine, carbamazepine, diclofenac and sulfamethoxazole by low and medium pressure UV and UV/H2O2 treatment.* Separation and Purification Technology. 96:33-43.
120. 2012 Wright L, Devitt DA, Young MH, Gan J, Vanderford BJ, **Snyder SA**, McCullough M, Dodgen L. *Fate and Transport of Thirteen Pharmaceutical and Personal Care Products in a Controlled Irrigated Turfgrass System.* **105**(5):1244-1254.
119. 2012 Vidal-Dorsch, DE, Bay SM, Maruya K, **Snyder SA**, Trenholm RA, Vanderford BJ. *Contaminants of emerging concern in municipal wastewater effluents and marine receiving water.* Environmental Toxicology & Chemistry. **31**(12):2674-2682.
118. 2012 Bull RJ, Kolisetty N, Zhang XL, Muralidhara S, Quinones, Lim KY, Guo ZX, Cotruvo JA, Fisher JW, Yang XX, Delker D, **Snyder SA**, Cummings BS. *Absorption and disposition of bromate in F344 rats.* Toxicology. **300** (1-2):83-91.
117. 2012 Holady JC, Trenholm RA, **Snyder SA**. *Use of Automated Solid-Phase Extraction and GC-MS/MS to Evaluate Nitrosamines in Water Matrices.* American Laboratory. **44**(3):25-30.
116. 2012 Bao LJ, Maruya KA, **Snyder SA**, Zeng EY. *China's water pollution by persistent organic pollutants.* Environmental Pollution. 163:100-108.
115. 2012 Pisarenko AN, Stanford BD, Yan DX, Gerrity D, **Snyder SA**. *Effects of ozone and ozone/peroxide on trace organic contaminants and NDMA in drinking water and water reuse applications.* Water Research. **46**(2):316-326.
114. 2011 **Snyder SA**. *“Occurrence of Pharmaceuticals in US Drinking Water.”* In Contaminants of Emerging Concern in the Environment: Ecological and Human Health Considerations. Rolf Halden (Editor), ACS Symposium Series, American Chemical Society, Washington, DC, USA. Chapter 3:69-80.
113. 2011 Stanford BD, Pisarenko AN, Holbrook RD, **Snyder SA**. *Preozonation Effects on the Reduction of*

- Reverse Osmosis Membrane Fouling in Water Reuse. *Ozone: Science & Engineering*. **33**(5):379-388.
112. 2010 Holbrook RD, Motabar D, Quinones O, Stanford BD, **Snyder SA**. *Titanium distribution in a swimming pool - The case for dissolution*. *Geochimica et Cosmochimica Acta*. **74**(12): A410-A410.
111. 2011 Gerrity D, Gamage S, Holady JC, Mawhinney DB, Quinones O, Trenholm RA, **Snyder SA**. *Pilot-scale evaluation of ozone and biological activated carbon for trace organic contaminant mitigation and disinfection*. *Water Research* 45(5):2155-2165.
110. 2011 Laws BV, Dickenson ERV, Johnson TA, **Snyder SA**, Drewes JE. *Attenuation of contaminants of emerging concern during surface-spreading aquifer recharge*. *Science of the Total Environment*. 409:1087-1094.
109. 2011 Gerrity D and **Snyder SA**. *Review of Ozone for Water Reuse Applications: Toxicity, Regulations, and Trace Organic Contaminant Oxidation*. *Ozone Science and Engineering*. 33:253-266.
108. 2011 Mawhinney DB, Young RB, Vanderford BJ, Borch T, **Snyder SA**. *The Artificial Sweetener Sucralose in U.S. Drinking Water Systems*. *Environmental Science and Technology*. 45:8716-8722
107. 2011 Sarp S, Stanford B, **Snyder SA**, Cho J. *Ozone oxidation of desalinated seawater, with respect to optimized control of boron and bromate*. *Desalination and Water Treatment*. 27:308-312.
106. 2011 Gerrity D, Trenholm RA, **Snyder SA**. *Temporal variations in pharmaceuticals and illicit drugs in wastewater during a major sporting event*. *Water Research*. 45(17):5399-5411.
105. 2011 Gerrity D and **Snyder SA**. *The Economic Value of Water in Metropolitan Areas of the United States*. *Water Policy*. 13:443-458.
104. 2011 Vanderford BJ, Mawhinney DB, Trenholm RA, Zeigler-Holady JC, **Snyder SA**. *Assessment of sample preservation techniques for pharmaceuticals, personal care products, and steroids in surface and drinking water*. *Analytical and Bioanalytical Chemistry*. 339:2227-2234.
103. 2011 Stanford BD, Pisarenko AN, **Snyder SA**, Gordon G. *Perchlorate, bromate, and chlorate in hypochlorite solutions: guidelines for utilities*. *Journal of the American Water Works Association*. 103(6):71-83. (**yielded Best Paper Award from the AWWA for 2011**)
102. 2011 Dickenson ERV, **Snyder SA**, Sedlak DL, Drewes JE. *Indicator Compounds for Assessment of Wastewater Effluent Contributions to Flow and Water Quality*. *Water Research* 45:1199-1212.
101. 2010 Makris KC and **Snyder SA**. *Screening of pharmaceuticals and endocrine disrupting compounds in water supplies of Cyprus*. *Water Science & Technology* 62.11:2720-2728.
100. 2010 Bruce GM, Pleus RC, **Snyder SA**. *Toxicological Relevance of Pharmaceuticals in Drinking Water*. *Environmental Science & Technology*. 41(14):5619-5626.
99. 2010 Stanford BD, Trenholm RA, Holady JC, Vanderford BJ, **Snyder SA**. *Estrogenic Activity of US Drinking Waters: A Relative Exposure Comparison*. *Journal of the American Water Works Association*. 110(11):55-65.
98. 2010 Stanford BD, Benotti MJ, **Snyder SA**. *“Impact of Endocrine Disruptors on the Water Industry” In Endocrine Toxicology*. J.T. Stevens and J.C. Eldridge (Editors).
97. 2010 Gerrity D, Benotti MJ, Reckhow DA, **Snyder SA**. *Pharmaceuticals and Potential Endocrine Disrupting Compounds in Drinking Water*. In Biophysio-Chemical Processes of Anthropogenic Compounds in Environmental Systems, Volume 3. B. Ying (eds.), IUPAC-Wiley.
96. 2010 **Snyder SA** and Benotti MJ. *Endocrine Disruptors and Pharmaceuticals: Implications for Water Sustainability*. *Water Science and Technology*. 61.1:145-154.
95. 2010 Anderson P, Denslow N, Drewes JE, Oliveri A, Schlenk D, **Snyder SA**. *Monitoring Strategies for Chemicals of Emerging Concern (CECs) in Recycled Water*. A report for the State of California – State Water Resources Control Board. 220 pgs.
94. 2010 Rosario-Ortiz FL, Wert EC, **Snyder SA**. *Evaluation of UV/H₂O₂ Treatment for the Oxidation of Pharmaceuticals in Wastewater*. *Water Research*. 44:1440-1448.
93. 2010 Gerrity D, Stanford BD, Trenholm RA, **Snyder SA**. *An Evaluation of a Pilot-Scale Nonthermal*

- Plasma Advanced Oxidation Process for Trace Organic Compound Degradation*. Water Research. 44(2):493-504.
92. 2010 Yoon Y, Ryu J, Oh J, Choi BG, **Snyder SA**. *Occurrence of Endocrine Disrupting Compounds, Pharmaceuticals, and Personal Care Products in the Han River (Seoul, South Korea)*. Science of the Total Environment. 408(3):636-643.
91. 2010 Benotti MJ, Stanford BD, **Snyder SA**. *Impact of Drought on Wastewater Contaminants in an Urban Water Supply*. Journal of Environmental Quality. 39(4):1196-1200.
90. 2009 Pisarenko AN, Stanford BD, Quiñones O, Pacey GE, Gordon G, **Snyder SA**. *Rapid Analysis of Perchlorate, Chlorate and Bromate Ions in Concentrated Sodium Hypochlorite Solutions*. Analytica Chimica Acta. 659:216-223.
89. 2009 Stanford BD, Leising JF, Bond RG, **Snyder SA**. *Inland Desalination: Current Practices, Environmental Implications, and Case Studies in Las Vegas, NV*. In Sustainable Water for the Future: Water Recycling Versus Desalination. Escobar I and Schäfer A (eds). Elsevier, The Netherlands. Chapter 11 pages 327-350.
88. 2009 Lavado R, Loyo-Rosales JE, Floyd E, Kolodziej EP, **Snyder SA**, Sedlak DL, Schlenk D. *Site-Specific Profiles of Estrogenic Activity in Agricultural Areas of California's Inland Waters*. Environmental Science & Technology. 43(24):9110-9116.
87. 2009 Quiñones O and **Snyder SA**. *Occurrence of Perfluoroalkyl Carboxylates and Sulfonates in Drinking Water Utilities and Related Waters from the United States*. Environmental Science & Technology. 43(24):9089-9095.
86. 2009 Redding AM, Cannon FS, **Snyder SA**, Vanderford BJ. *A QSAR-Like Analysis of the Adsorption of Endocrine Disrupting Compounds, Pharmaceuticals, and Personal Care Products on Modified Activated Carbons*. Water Research. 43(15):3849-3861.
85. 2009 **Snyder SA**, Stanford BD, Pisarenko AN, Gordon G, Asami M. *Hypochlorite – An Assessment of the Factors That Influence the Formation of Perchlorate and Other Contaminants*. American Water Works Association. 141 pgs.
84. 2009 Even-Ezra I, Mizrahi A, Gerrity D, **Snyder SA**, Salvesson A, Lahav O. *Application of a novel plasma-based advanced oxidation process for efficient and cost effective destruction of refractory organics in tertiary effluents and contaminated groundwater*. Desalination and Water Treatment. 11:236-244.
83. 2009 Dickenson ERV, Drewes JE, Sedlak DL, Wert EC, **Snyder SA**. *Applying Surrogates and Indicators to Assess Removal Efficiency of Trace Organic Chemicals during Chemical Oxidation of Wastewaters*. Environmental Science & Technology 43(16):6242-6247.
82. 2009 Benotti MJ and **Snyder SA**. *Pharmaceuticals and Endocrine Disrupting Compounds: Implications for Ground Water Replenishment with Recycled Water*. Ground Water 47(4):499-502.
81. 2009 Mawhinney DB, Rosario FL, Baik S, Vanderford BJ, **Snyder SA**. *Characterization of Fulvic Acids by Liquid Chromatography-Quadrupole Time-of-Flight Mass Spectrometry*. Journal of Chromatography A 1216(9):1319-1324.
80. 2009 Wang Q, **Snyder SA**, Kim J, Choi H. *Aqueous Ethanol modified Nanoscale Zerovalent Iron in Bromate Reduction: Synthesis, Characterization, and Reactivity*. Environmental Science & Technology. 43(9):3292-3299.
79. 2009 Benotti MJ, Trenholm RA, Vanderford BJ, Holady JC, Stanford BD, **Snyder SA**. *Pharmaceuticals and Endocrine Disrupting Compounds in U.S. Drinking Water*. Environmental Science & Technology. 43(3):597-603.
78. 2009 Rossner A, **Snyder SA**, Knappe DRU. *Removal of Emerging Contaminants by Alternative Absorbents*. Water Research. 43:3787-3796.
77. 2009 Park N, Vanderford BJ, **Snyder SA**, Sarp S, Kim SD, Cho J. *Effective Controls of Micropollutants included in Wastewater Effluent using Constructed Wetlands under Anoxic Condition*. Ecological Engineering. 35:418-423.

76. 2009 Wert EC, Rosario FL, **Snyder SA**. *Effect of Ozone Exposure on the Oxidation of Trace Organic Contaminants in Water*. Water Research. 43:1005-1014.
75. 2009 Trenholm RA, Vanderford BJ, **Snyder SA**. *On-line Solid Phase Extraction LC-MS/MS Analysis of Pharmaceutical Indicators in Water: A Green Alternative to Conventional Methods*. Talanta. 79:1425-1432.
74. 2009 Benotti MJ, Stanford BD, Wert EC, **Snyder SA**. *Evaluation of a Photocatalytic Reactor Membrane Pilot System for the Removal of Pharmaceuticals and Endocrine Disrupting Compounds from Water*. Water Research. 43:1513-1522.
73. 2009 Wert EC, Rosario FL, **Snyder SA**. *Using UV Absorbance and Color to Assess Pharmaceutical Oxidation during Ozonation of Wastewater*. Environmental Science & Technology. 43(13):4858-4863.
72. 2008 **Snyder SA**, Trenholm RA, Snyder EM, Bruce GM, Pleus RC, and Hemming JDC. *Toxicological Relevance of EDCs and Pharmaceuticals in Drinking Water*. American Water Works Association Research Foundation. Project 3085.
71. 2008 Rosario FL, Mezyk SP, Doud DFR, **Snyder SA**. *Quantitative Correlation of Absolute Hydroxyl Radical Rate Constants with Non-Isolated Effluent Organic Matter Bulk Properties in Water*. Environmental Science and Technology. 42(16):5924-5930.
70. 2008 Lim MH, **Snyder SA**, Sedlak DL. *Use of Biodegradable Dissolved Organic Carbon (BDOC) to Assess the Potential for Transformation of Wastewater-Derived Contaminants in Surface Waters*. Water Research. 42:2943-2952.
69. 2008 Trenholm RA, Rosario FL, **Snyder SA**. *Analysis of Formaldehyde Formation in Wastewater using On Fiber Derivatization Solid Phase Microextraction Gas Chromatography Mass Spectrometry*. Journal of Chromatography A. 1210:25-29.
68. 2008 **Snyder SA**. *Occurrence, Treatment, and Toxicological Relevance of EDCs and Pharmaceuticals in Water*. Ozone Science & Engineering. 30:65-69
67. 2008 **Snyder SA**, Vanderford BJ, Drewes J, Dickenson E, Snyder EM, Bruce GM, Pleus RC. *State of Knowledge of Endocrine Disruptors and Pharmaceuticals in Drinking Water*. American Water Works Association Research Foundation Report #91228
66. 2008 Ikehata K, El-Din MG, **Snyder SA**. *Ozonation and Advanced Oxidation Treatment of Emerging Organic Pollutants in Water and Wastewater*. Ozone Science & Engineering. 30(1):21-26.
65. 2008 Rosario-Ortiz FL, Mezyk SP, Doud DFR, Wert EC, **Snyder SA**. *Effect of Ozone Oxidation on the Molecular and Kinetic Properties of Effluent Organic Matter*. Journal of Applied Oxidation Technologies. 11(3):529-535
64. 2008 Trenholm RA, Vanderford BJ, Drewes JE, **Snyder SA**. *Analysis of Household Chemicals Using Gas Chromatography and Liquid Chromatography with Tandem Mass Spectrometry*. Journal of Chromatography A. 1190(1-2):253-262.
63. 2008 Vanderford BJ, Mawhinney DB, Rosario-Ortiz FL, **Snyder SA**. *Real-Time Detection and Identification of Emerging Contaminant Transformation Products by QTOF-MS*. Analytical Chemistry. 80(11):4193-4199
62. 2008 **Snyder SA**, Lei H, Wert EC. "Removal of Endocrine Disruptors and Pharmaceuticals during Water Treatment" In Fate of Pharmaceuticals in the Environment and in Water Treatment Systems. Diane S. Aga (Editor), CRC Press, Taylor & Francis Books, FL, USA. Chapter 11:229-259
61. 2007 Lei H and **Snyder SA**. *3D QSPR models for the removal of trace organic contaminants by ozone and free chlorine*. Water Research 41:3271-3280
60. 2007 **Snyder SA**, Lei H, Wert EC, Yoon Y, Westerhoff P. *Removal of EDCs and Pharmaceuticals in Drinking and Reuse Treatment Processes*. American Water Works Association Research Foundation Report #91188
59. 2007 Vanderford BJ, Rosario-Ortiz FL, **Snyder SA**. *Analysis of p-Chlorobenzoic Acid in Water by Liquid Chromatography/Tandem Mass Spectrometry*. Journal of Chromatography A. 1164(1-

- 2):219-223
58. 2007 Rosario-Ortiz FL, **Snyder SA**, Suffet IH. *Characterization of the Polarity of Natural Organic Matter under Ambient Conditions by the Polarity Rapid Assessment Method (PRAM)*. Environmental Science & Technology. 41:4895-4900
 57. 2007 Knappe DRU, Rossner A, **Snyder SA**, Strickland, C. *Alternative Adsorbents for the Removal of Polar Organic Contaminants*. American Water Works Association Research Foundation Report #91172
 56. 2007 Yoon Y, Westerhoff P, **Snyder SA**, Wert EC, Yoon J. *Removal of endocrine disrupting compounds and pharmaceuticals by nanofiltration and ultrafiltration membranes*. Desalination 202(1-3):16-23
 55. 2007 Rosario-Ortiz FL, **Snyder SA**, Suffet IH. *Characterization of Dissolved Organic Matter in Drinking Water Sources Impacted by Multiple Tributaries*. Water Research. 41:4115-4128
 54. 2007 Drury D, **Snyder SA**, Wert EC. *Investigation Ozone*. Water Environment & Technology. May issue:56-60
 53. 2007 Quiñones O, Oh JE, Vanderford BJ, Kim JH, Cho J. **Snyder SA**. *Perchlorate in the Nakdong and Yeongsan Watersheds, South Korea*. Environmental Toxicology and Chemistry. 26(7):1349-1354.
 52. 2007 Wert EC, Rosario-Ortiz FL, Drury DD, **Snyder SA**. *Formation of Oxidation Byproducts from Ozonation of Wastewater*. Water Research. 41:1481-1490
 51. 2007 Kim SD, Cho J, Kim IS, Vanderford BJ, **Snyder SA**. *Occurrence and removal of pharmaceuticals and endocrine disruptors in South Korean surface, drinking, and waste waters*. Water Research 41(5):1013-1021
 50. 2006 **Snyder SA**, Wert EC, Rexing DJ, Zegers RE, Drury DD. *Ozone Oxidation of Endocrine Disruptors and Pharmaceuticals in Surface Water and Wastewater*. Ozone Science & Engineering. 28:445-460
 49. 2006 Vanderford BJ and **Snyder SA**. *Analysis of Pharmaceuticals in Water by Isotope Dilution Liquid Chromatography/Tandem Mass Spectrometry*. Environmental Science & Technology. 40(23):7312-7320
 48. 2006 **Snyder SA**, Pleus RC, Vanderford BJ, Holady JC. *Perchlorate and Chlorate in Dietary Supplements and Flavor Enhancing Ingredients*. Analytica Chimica Acta 567:26-32
 47. 2006 **Snyder SA**, Adham S, Redding AM, Cannon FS, DeCarolis J, Oppenheimer J, Wert EC, Yoon Y. *Role of Membranes and Activated Carbon in the Removal of Endocrine Disruptors and Pharmaceuticals*. Desalination. 202:156-181
 46. 2006 Yoon Y, Westerhoff P, **Snyder SA**, Wert EC, Yoon J. *Removal of Endocrine Disrupting Compounds and Pharmaceuticals by Nanofiltration and Ultrafiltration Membranes*. Desalination. 202:16-23
 45. 2006 Quiñones, O, **Snyder SA**, Cotruvo JA, Fisher JW. *Analysis of Bromate and Bromide in Blood*. Toxicology. 221:229-234
 44. 2006 Kim SD, Cho J, Kim IS, Vanderford BJ, **Snyder SA**. *Occurrence and Removal of Pharmaceuticals and Endocrine Disruptors in South Korean Surface, Drinking, and Waste Waters*. Water Research 41:1013-1021
 43. 2006 Trenholm RA, Vanderford BJ, Holady JC, Rexing DJ, **Snyder SA**. *Broad Range Analysis of Endocrine Disruptors and Pharmaceuticals Using Gas Chromatography and Liquid Chromatography Tandem Mass Spectroscopy*. Chemosphere. 65:1990-1998
 42. 2006 Kim HB, Oh JE, Lee SY, Cho JW, **Snyder SA**. *The Analysis of Perchlorate in Nakdong River and Tap Water*. Journal of Korean Society of Environmental Engineers 28(7):776-781
 41. 2006 Yoon Y, Westhoff P, **Snyder SA**, Wert EC. *Nanofiltration and Ultrafiltration of Endocrine Disrupting Compounds, Pharmaceuticals, and Personal Care Products*. Journal of Membrane Science 270 (1-2):88-100

40. 2006 Shon HK, Vigneswaran S, **Snyder SA**. *Effluent Organic Matter (EfOM) in Wastewater: Constituents, Effects, and Treatment*. Critical Reviews in Environmental Science and Technology. 36(4):327-374
39. 2006 Mayer KP, Jackson WA, **Snyder SA**, Smith PN, Anderson TA. "State of Science: Background, History, and Occurrence." In Perchlorate Ecotoxicology. Kendall RJ and Smith PN (eds.), SETAC Press, Pensacola, FL, Chapter 1:1-20
38. 2006 Jackson WA, Anderson TA, Canas JE, **Snyder SA**, Tan K. "Environmental Fate of Perchlorate." In Perchlorate Ecotoxicology. Kendall RJ and Smith PN (eds.), SETAC Press, Pensacola, FL, Chapter 2:21-43
37. 2005 **Snyder SA**, Vanderford BJ, Rexing DJ. *Trace Analysis of Bromate, Chlorate, Iodate, and Perchlorate in Natural and Bottled Waters*. Environmental Science and Technology 39(12):4586-4593.
36. 2005 Schlenk D, Sapozhnikova Y, Irwin MA, Xie L, Hwang W, Reddy S, Brownawell BJ, Armstrong J, Kelly M, Montagne DE, Kolodziej EP, Sedlak D, **Snyder SA**. *In Vivo Bioassay-Guided Fractionation of Marine Sediment Extracts from the Southern California Bight, USA, for Estrogenic Activity*. Environmental Toxicology and Chemistry 24(11):2820-2826.
35. 2005 Mihaich EM, Borgert CJ, Brighty GC, Kortenkamp A, Laenge R, **Snyder SA**, Sumpter JP. "Evaluating Simple and Complex Mixtures Containing Pharmaceuticals in the Environment." Williams, RT (Ed.), In Human Pharmaceuticals: Assessing the Impacts on Aquatic Ecosystems. SETAC Press, Pensacola, FL, Chapter 7:239-262.
34. 2005 Snyder EM, Pleus RC, **Snyder SA**. *Pharmaceuticals and EDCs in the US Water Industry-An Update*. Journal of the American Water Works Association 97(11):32-36.
33. 2005 Sapozhnikova Y, Mcelroy A, **Snyder SA**, and Schlenk D. "Estrogenic activity measurement in wastewater using in vitro and in vivo methods" In Techniques of Aquatic Toxicology. Lewis Publishers, Boca Raton, FL, pp465-478.
32. 2005 Yoon Y, Westerhoff P, **Snyder SA**. *Adsorption of ³H-labeled 17-β Estradiol on Powdered Activated Carbon*. Water, Air, and Soil Pollution 166:343-351.
31. 2005 Westerhoff P, **Snyder SA**, Yoon Y, Wert EC. *Endocrine Disruptor, Pharmaceutical, and Personal Care Product Fate During Simulated Drinking Water Treatment Processes*. Environmental Science and Technology 39(17):6649-6663.
30. 2005 Scruggs C, Hunter G, Snyder EM, Long B, and **Snyder SA**. *EDCs in Wastewater: What's the Next Step?* Water Environment & Technology 17(3):24-31.
29. 2004 **Snyder SA**, Leising J, Westerhoff P, Yoon Y, Mash H, Vanderford BJ. *Biological Attenuation of EDCs and PPCPs: Implications for Water Reuse*. Ground Water Monitoring and Remediation 24 (2):108-188.
28. 2004 Yoon Y, Westerhoff P, Yoon J, **Snyder SA**. *Removal of 17-β Estradiol and Fluoranthene by Nanofiltration and Ultrafiltration*. Journal of Environmental Engineering-ASCE 130 (12):1460:1467
27. 2004 Snyder EM, **Snyder SA**, Kelly KL, Gross TS, Villeneuve DL, Fitzgerald SD, Villalobos SA, Giesy JP. *Reproductive responses of common carp (Cyprinus carpio) exposed in cages to influent of the Las Vegas Wash in Lake Mead, Nevada from late winter to early spring*. Environmental Science and Technology 38(23):6385-6395
26. 2003 **Snyder SA**, Vanderford BJ, Pearson RA, Quinones O, Yoon Y. *Analytical Methods to Measure Endocrine Disrupting Compounds in Water*. Practice Periodical of Hazardous, Toxic, and Radioactive Waste Management 7(4):224-234
25. 2003 **Snyder SA**, Westerhoff P, Yoon Y, Sedlak DL. *Pharmaceuticals, Personal Care Products, and Endocrine Disruptors in Water: Implications for the Water Industry*. Environmental Engineering Science 20 (5):449-469
24. 2003 Vanderford BJ, Pearson RA, Rexing DJ, **Snyder SA**. *Analysis of Endocrine Disruptors*,

- Pharmaceuticals, and Personal Care Products in Water using Liquid Chromatography/Tandem Mass Spectrometry*. Analytical Chemistry 75 (22):6265-6274
23. 2003 Vanderford BJ, Pearson RA, Cody RB, Rexing DJ, **Snyder SA**. "Determination of an Unknown System Contaminant using LC/MS/MS." In Liquid chromatography/mass spectrometry, MS/MS and Time-of-Flight MS. Ferrer, I. and Thurman, E.M. (eds.), *Symposium Series 850*; American Chemical Society, Washington, DC, Chapter 6:96-108
22. 2003 Yoon Y, Westerhoff P, **Snyder SA**, Esparza M. *HPLC-Fluorescence Detection and Adsorption of Bisphenol A, 17 β -Estradiol, and 17 α -Ethinyl Estradiol on Powdered Activated Carbon*. Water Research 37(14):3530-3537
21. 2003 Kannan K., Keith TL, Naylor CG, Staples CA, **Snyder SA**, Giesy JP. *Nonylphenol and nonylphenol ethoxylates in fish, sediment, and water from the Kalamazoo River, Michigan*. Archives of Environmental Contamination and Toxicology 44:77-82.
20. 2003 Giesy JP, Snyder EM, Nichols KM, **Snyder SA**, Villalobos SA, Jones PD, Fitzgerald SD. *Examination of reproductive endpoints in goldfish (Carassius auratus) exposed in situ to municipal sewage treatment plant effluent discharges in Michigan, USA*. Environmental Toxicology and Chemistry 22(10):2416-2431.
19. 2002 **Snyder SA**, Vanderford BJ, Pearson R, Rexing DJ. *Analytical Methods for Measuring Endocrine Disruptors in Water*. Water Quality Technology Conference Proceedings 2002.
18. 2001 **Snyder SA**, Keith TL, Snyder EM, Giesy JP. *Bioconcentration of Nonylphenol in Fathead Minnows (Pimephales promelas)*. Chemosphere 44(8):1697-1702.
17. 2001 **Snyder SA**, Villeneuve DL, Snyder EM, Giesy JP. *Identification and Quantification of Estrogen Receptor Agonists in Wastewater Effluents*. Environmental Science and Technology 35(18):3620-3625.
16. 2001 **Snyder SA**, Keith TL, Naylor CG, Staples CA, Giesy JP. *Identification and Quantification Method for Nonylphenol and Lower Oligomer Nonylphenol Ethoxylates in Fish Tissues*. Environmental Toxicology and Chemistry 20(9):1870-1873.
15. 2001 **Snyder SA**, Kelly KL, Grange AH, Sovocool GW, Snyder EM, Giesy JP. "Pharmaceuticals and Personal Care Products in the Environment: Methods, Analyses, and Sources." In Pharmaceuticals and Personal Care Products in the Environment: Scientific and Regulatory Issues, Daughton, C.G. and Jones-Lepp, T. (eds.), *Symposium Series 791*; American Chemical Society, Washington, DC, Chapter 7:116-139.
14. 2001 Nichols KM, Snyder EM, **Snyder SA**, Miles-Richardson SR, Pierens S, Giesy JP. *Effects of Nonylphenol Ethoxylate (NPEO) Exposure on Reproductive Output and Bioindicators of Environmental Estrogen Exposure in Fathead Minnows, Pimephales promelas*. Environmental Toxicology and Chemistry 20(3):510-522.
13. 2001 Keith TL, **Snyder SA**, Naylor CG, Staples CA, Summer CL, Kannan K, Giesy JP. *Identification and Quantitation of Nonylphenol Ethoxylates and Nonylphenol in Fish Tissues from Michigan*. Environmental Science and Technology 35(2):10-13.
12. 2000 **Snyder SA**, Snyder EM, Villeneuve DL, Kannan K, Villalobos SA, Blankenship A, Giesy JP. "Instrumental and Bioanalytical Measures of Endocrine Disruptors in Water." In Analysis of Environmental Endocrine Disruptors, Keith, L.H., Jones-Lepp, T.L., and Needham, L.L. (eds.), *Symposium Series 747*, American Chemical Society, Washington, DC, Chapter 6:73-95.
11. 2000 Roefer PA, **Snyder SA**, Zegers RE, Rexing DJ, Fronk JL. *Endocrine-Disrupting Chemicals in a Source Water*. Journal of the American Water Works Association 92(8):52-58.
10. 2000 Giesy JP, Pierens SL, Snyder EM, Miles-Richardson S, Kramer VJ, **Snyder SA**, Nichols KM, Villeneuve DL. *Effects of 4-Nonylphenol on Fecundity and Biomarkers of Estrogenicity in Fathead Minnows (Pimephales promelas)*. Environmental Toxicology and Chemistry 19(5):1368-1377.
9. 2000 Snyder EM, **Snyder SA**, Giesy JP, Blonde SA, Hurlburt GK, Summer CL, Mitchell RR, Bush DM. *SCRAM: A Scoring and Ranking System for Persistent, Bioaccumulative and Toxic Substances for the North American Great Lakes. Part I. Structure of the Scoring and Ranking System*.

- Environmental Science & Pollution Research 7(1):51-61.
8. 2000 Snyder EM, **Snyder SA**, Giesy JP, Blonde SA, Hurlburt GK, Summer CL, Mitchell RR, Bush DM. *SCRAM: A Scoring and Ranking System for Persistent, Bioaccumulative and Toxic Substances for the North American Great Lakes. Part II. Bioaccumulation Potential and Persistence.* Environmental Science & Pollution Research 7(2):116-221.
 7. 2000 Snyder EM, **Snyder SA**, Giesy JP, Blonde SA, Hurlburt GK, Summer CL, Mitchell RR, Bush DM. *SCRAM: A Scoring and Ranking Model for Persistent, Bioaccumulative and Toxic Substances for the North American Great Lakes. Part III. Acute and Subchronic or Chronic Toxicity.* Environmental Science & Pollution Research 7(3):176-184.
 6. 2000 Snyder EM, **Snyder SA**, Giesy JP, Blonde SA, Hurlburt GK, Summer CL, Mitchell RR, Bush DM. *SCRAM: A Scoring and Ranking Model for Persistent, Bioaccumulative and Toxic Substances for the North American Great Lakes. Part IV. Results from Representative Chemicals, Sensitivity Analysis, and Discriminatory Power.* Environmental Science & Pollution Research 7(4):219-224.
 5. 1999 **Snyder SA**, Keith TL, Verbrugge DA, Snyder EM, Gross TS, Kannan K, Giesy JP. *Analytical Methods for Detection of Selected Estrogenic Compounds in Aqueous Mixtures.* Environmental Science and Technology 33(16):2814-2820.
 4. 1999 **Snyder SA** and Snyder EM. *Bad Medicine.* Resource 6(5):7-8.
 3. 1999 Khim JS, Villeneuve DL, Kannan K, Lee KT, **Snyder SA**, Koh CH, Giesy JP. *Akylphenols, Polycyclic Aromatic Hydrocarbons (PAHs), and Organochlorines in Sediment from Lake Shihwa, Korea: Instrumental and Bioanalytical Characterization.* Environmental Toxicology and Chemistry 18(11):2424-2432.
 2. 1999 Miles-Richardson SR, Pierens SL, Nichols KM, Kramer VJ, Snyder EM, **Snyder SA**, Render JA, Fitzgerald SD, Giesy JP. *Effects of Waterborne Exposure to 4-Nonylphenol and Nonylphenol Ethoxylate on Secondary Sex Characteristics and Gonads of Fathead Minnows (Pimephales promelas).* Environmental Research A 80:S122-S137.
 1. 1997 Froese KL, Verbrugge DA, **Snyder SA**, Tilton F, Tuchman M, Ostaszewski A, Giesy JP. *PCBs in the Detroit River Water Column.* Journal of Great Lakes Research 23(4):440-449.

Deposition, Testimony, and Briefings

- 2012 *Dennis Hagy, et al. vs. Equitable Production Co., Warren Drilling Co., BJ Services Co., and Halliburton Energy Services.* US District Court – Southern District of West Virginia.
- 2010 *United States House of Representatives – Science and Technology Committee.* Invited briefing entitled “Pharmaceuticals in Our Water: Concerns and Responses.” Sponsored by the American Chemical Society
- 2009 *United States Senate – Committee on Environment and Public Works.* Invited briefing entitled “Pharmaceuticals and Endocrine Disruptors in US Drinking Water: Occurrence, Treatment, & Relevance.” Sponsored by the Water Research Foundation.
- 2009 *Richard A. Rowe, et al. vs. E.I. du Pont de Nemours.* US District Court – District of New Jersey.
- 2009 *United States House of Representatives.* Invited briefing entitled “Pharmaceuticals in Drinking Water.” Sponsored by the Water Research Foundation.
- 2009 *William R. Rhodes, et al. vs. E.I. du Pont de Nemours.* US District Court – Southern District of West Virginia.
- 2008 *United States Senate – Committee on Environment and Public Works.* Invited testimony at hearing entitled “Pharmaceuticals in the Nation’s Water: Assessing Potential Risks and Actions to Address the Issue.”
- 2005-2007 *Castaic Lake Water Agency, Newhall County Water District, Santa Clarita Water Company, and Valencia Water Company vs. Whittaker Corporation, Santa Clarita, LLC., and Remediation Financial, Inc.* US District Court – Central District of California.

2005 | *Jayne Palmisano and Richard Palmisano vs. Olin Corporation and Standard Fusee Corporation.*
US District Court – San Jose California.

Professional Affiliations

2003 - Present | Water Environment Federation
 2000 – Present | American Water Works Association
 2000 – Present | International Ozone Association
 2000 – Present | International Water Association
 1997 – Present | American Association for the Advancement of Science
 1996 – Present | Sigma Xi
 1995 – Present | Society of Environmental Toxicology and Chemistry
 1991 – Present | American Chemical Society

Students Mentored

2012-Current | **Minkyu Park – University of Arizona** – Currently enrolled in Ph.D. program
 2012- Current | **Xuhao Nie – University of Arizona** – Currently enrolled in M.Sc. program
 2012-Current | **Jo-Anne Barcellano – University of Arizona** – Currently enrolled in M.Sc. program
 2011-Current | **Shimin Wu – University of Arizona** – Current enrolled in Ph.D. program.
 2011-Current | **Christopher Deason – University of Arizona** – Currently enrolled in M.Sc. program.
 2010-Current | **Tarun Anumol - University of Arizona** – Currently enrolled in Ph.D. program.
 2010 | **Sujanie Gamage – University of Nevada, Las Vegas** – Currently enrolled in Ph.D. program in Vern Hodge’s research group.
 2010 | **Dongxu Yan – University of Arizona** – Currently enrolled in Ph.D. program in Wendell Ella’s research group.
 2009 | **Ludwig Kim – Texas A&M University** – Currently enrolled in Ph.D. program in Robin Autenreith’s research group.
 2009-2010 | **Robert Young – Colorado State University** – Currently enrolled in Ph.D. program in Thomas Borch’s research group.
 2008-2009 | **Sarper Sarp – Gwangju Institute of Science & Technology, Korea** – Currently enrolled in Ph.D. program in Jaeweon Cho’s research group.
 2008-2009 | **Aleks Pisarenko – Miami University of Ohio** – Currently enrolled in Ph.D. program in Gilbert Pacey’s research group.
 2008-2010 | **Susanna Blunt – University of Nevada, Las Vegas & Desert Research Institute** – Currently enrolled in M.S. program in Duane Mosher’s research group.
 2008-2009 | **Deborah Dryer – University of Washington** - Currently enrolled in Ph.D. program in Gregory Korshin’s research group.
 2007-2008 | **Seungyun Baik – State University of New York, Buffalo** – Currently enrolled in Ph.D. program in Diana Aga’s research group.
 2006-2008 | **Mei Xin – University of Nevada, Reno** – Ph.D. granted in 2008; currently employed by Norit Carbon, Dallas Texas.
 2005-2010 | **Christy Meza – University of Nevada, Las Vegas** – Undergraduate research intern, B.S. awarded in 2008.
 2005-2009 | **Elaine Go – University of Nevada, Las Vegas** – Undergraduate research intern, B.S. expected in 2009.
 2004-2006 | **Fernando Rosario-Ortiz – University of California, Los Angeles** – D.Env. granted in 2006..

2003-2006 | **Yixin Wei – University of Nevada, Las Vegas** – Ph.D. granted in 2006.

2000-2004 | **Elisa Nemr – University of Nevada, Las Vegas** – M.S. granted in 2004.

Post-Doctoral Researchers Mentored

2012-Current | **Hye-Weon Yu** – Ph.D. from Gwangju Institute of Science & Technology with In S. Kim.

2011-Current | **Ai Jia** – Ph.D. from Peking University, China, with Professor Jianying Hu.

2010-2012 | **Bradley Clarke** – Ph.D. from RMIT, Australia, with Professor Judy Blackbeard.

2010-Current | **Sylvain Merel** – Ph.D. from University of Rennes, France, with Professor Oliver Thomas

2009-2010 | **Aleks Pisarenko** – Ph.D. from Miami University of Ohio with Professor Gilbert Gordon.

2008-2010 | **Daniel Gerrity** – Ph.D. from Arizona State University with Professors John Crittenden and Morteza Abbaszadegan as advisors.

2008-2010 | **Yongui Tan** – Ph.D. from Rensselaer Polytechnic Institute with Professor James Kilduff as primary advisor.

2007-2009 | **Benjamin Stanford** – Ph.D. from University of North Carolina, Chapel Hill with Professor Howard Weinberg as primary advisor. Currently employed as Director of R&D, Hazen and Sawyer, NYC.

2007-2009 | **Mark Benotti** – Ph.D. from State University of New York, Stony Brook with Professor Bruce Brownawell as primary advisor. Currently employed as private consultant.

2006-2008 | **Fernando Rosario-Ortiz** – D.Env. from University of California, Los Angeles with Professor Mel Suffet as primary advisor. Currently employed as Assistant Professor at the University of Colorado, Boulder.

2005-2007 | **Hongxia Lei** – Ph.D. from University of Illinois with Professor Benito J. Mariñas as primary advisor. Currently employed by Golden State Water, California.