



Andra L. Wilcox, M.Sc., PMP

Houston Advanced Research Center (HARC)

8801 Gosling Road | The Woodlands, TX | 77381

Phone: (281) 364.6036 Email: AWilcox@HARCresearch.org

Education:

2006: Master of Science in Strategic Leadership; Mountain State University

2004: Bachelor of Applied Arts and Sciences; Midwestern State University

Certification:

2017: Project Management Professional (PMP); Project Management Institute

2013: Graduate Certificate in Environmental Science; Texas A&M University, Commerce

Professional Experience:

Houston Advanced Research Center (HARC) – 2012 to Present

Research Scientist – Energy: 2016 to Present

- **Environmental Scientist; Energy and Sustainability**
 - Investigate current and emerging oil and gas industry sustainability, corporate social responsibility, and community relations programs across the US, Canada and Europe.
 - Research O&G reporting metrics regarding environmental footprint and community engagement programs/practices including GRI, IPIECA and SDGs.
 - Coordinate field activities/reviews to evaluate mitigation processes, track progress, identify gaps, and provide cost-effective recommendations to achieve goals.
 - Collaborate with regional academic institutions, national laboratories, regulatory agencies, NGOs, and external community stakeholders to support responsible exploration and production activities and best management practices.
 - Serve as liaison between O&G industry and stakeholders to help foster communication, assisting with maintaining industry's social license to operate.
 - Represent HARC at conferences, industry events, networking occasions and community engagement activities.
- **Principal Investigator; Flaring Issues, Solutions and Technologies – 2019 Project**

Department of Energy & National Energy Technology Laboratory (DOE NETL) funded project to address flaring/emissions across major U.S. shale plays.

 - Facilitate regional workshops with key stakeholders to collect data on BMPs/KPIs to mitigate flaring and maximize value of natural gas at the wellhead, identify applicable environmental regulations and risks, as well as potential adoption barriers.
 - Research emerging and applied technologies/trends to determine applicability in reducing emissions/addressing GHG associated with natural gas production.
 - Identify research, development and demonstration of technologies needed to further advance cost-effective solutions for natural gas production and provide responsible environmental stewardship throughout upstream and midstream.
 - Create communications and technology transfer content to effectively promote internal and external stakeholder engagement.



- **Petroleum and Refining Industry Outreach, SME; DOE Combined Heat and Power Technical Assistance Partnership (CHP-TAP):** Southcentral and Upper West Regions
 - Identify and establish working relationships across multiple states.
 - Identify potential partnerships and end users of CHP and/or Waste Heat to Power (WHP) technologies in upstream and midstream O&G operations.
 - Analyze and interpret policies impacting CHP/WHP deployment across industries.
 - Present at conferences and through webinars on CHP/WHP processes.
- **Project Manager; EFD Virtual Site** – Workforce Development and Stakeholder Outreach: Engage end users, promoting environmental stewardship in energy production.
- **Project Manager; The Water Challenge Permian Basin Pilot** – Address and advance water management strategies within O&G industry and track, monitor and report community and stakeholder engagement initiatives.

Additional Responsibilities

- Collaborate with fellow researchers on air, water, energy and resilience initiatives.
- Coordinate and assist with cross-industry workshops to facilitate transfer of unbiased information on technologies, projects, and relevant state/local rules/regulations and best management practices (CHP, WHP, Water Management, Stakeholder Engagement, etc.)
- Maintain and grow relationships with multiple partner research organizations; petroleum industry associations, academic institutions, environmental groups, and national laboratories.
- Review potential program development opportunities focusing on sustainability (waste minimization, water debris issues, community engagement, land restoration, etc.).
- Compose and submit project/program proposals for federal, regional and/or state agencies and foundations grants/funding opportunities.

Research Associate: 2013 – 2015

- Coordinated outreach efforts for Technology Integration Program (EFD-TIP) and Coastal Impacts Technology Program (CITP), funded by the U.S. Department of Energy.
- Assisted with research, updates, and recommendations for the *EFD Scorecard*, including new Scorecards for different phases of E&P development and varying ecosystems.
- Coordinated monthly reporting to Research Partnership to Secure Energy for America (RPSEA) and Department of Energy for EFD-TIP management and ~20 subcontractors.
- Conducted Gap Analyses on O&G Operators' Health, Safety, and Environmental Standards.
- Developed End-User Training Webinar for FracFocus 2.0 for the Interstate Oil and Gas Compact Commission (IOGCC).
- Assisted with mentorship of interning personnel.

Research Assistant: 2012 - 2013

- Compiled technical reports on various technologies aimed to mitigate impacts of O&G.
- Developed and distributed monthly newsletter and special announcement communications to ~4,500 global stakeholders.
- Published/presented articles/papers on Best Management Practices in energy production.



The Woodlands Township: Environmental Services Department – 2011 - 2012

Solid Waste/Recycling Auditor: 2012 – 2012

- Monitored and audited residential solid waste and recycling program.
- Ensured compliance with contractual procedures.
- Generated reports and correspondence between local governing board and clients.
- Performed educational outreach to approximately 120,000 residents.

Environmental Services Intern: 2011 - 2012

- Collected, analyzed and tracked specimen for identification of arbovirus vectors.
- Conducted field visits to investigate confirmed +West Nile Virus specimen/incidents.
- Ensured compliance in reporting and managing state database.
- Organized intern and county staff laboratory procedures.

Mountain State University – 2004 - 2011

Partnership Coordinator

- Reviewed and evaluated career and continuing educational training (OSHA, ISO, etc.).
- Established and managed organizational relationships.
- Maintained articulation agreements with partner colleges and learning institutions.

Publications:

“*Overview of Industry Advancements in Environmental Awareness.*” SPE 191463-MS (coauthor). SPE Annual Technical Conference. September, 2018.

“*The Water Challenge Program – Permian Basin Pilot Results.*” URTeC 28772246. Unconventional Resources Technologies & Exhibition Conference. July, 2018.

“*Environmentally Friendly Drilling Systems Scorecard.*” SPE 173572-MS (coauthor). SPE Health, Safety, Security & Environmental Conference. March, 2015.

“*Measuring Cost-Effective Practices to Address Environmental & Societal Issues Associated With O&G Development.*” SPE 173632-MS (coauthor). SPE Production Symposium. March, 2015.

“*Virtual Fracturing Site*” (coauthor). 2014 Annual GWPC Conference. April, 2014.

“*Environmentally Friendly Drilling (EFD) Scorecard*” (coauthor). Selected for IAIA Conference – Emerging Good Practices in Responsible Oil & Gas Operations. May, 2013.

“*Ralph and Rhonda Roughneck – Improving Environmental Awareness in the Oil Patch*” (coauthor). IADC Environmental Conference & Exhibition. April, 2013.

“*Working Towards Green E&P*” (author). Oilfield Technology Magazine. April, 2013.

Presentations:

- 10-2018 *Electrification in the Oil Field: Determining Opportunities for CHP and WHP in E&P.* International Petroleum Environmental Conference (IPEC), Denver, CO.
- 09-2018 *The Water Challenge Pilot – Permian Basin Pilot Results.* Groundwater Protection Council (GWPC) Annual Forum, New Orleans, LA.
- 07-2018 *The Water Challenge Pilot – Permian Basin Pilot Results.* Unconventional Resources Technical Conference (URTeC), Houston, TX.
- 02-2018 *The Water Challenge Pilot - Helping Companies Advance Water Management Strategies.* Groundwater Protection Council: UIC Conference, Tulsa, OK.
- 11-2017 *Piloting the Water Challenge: Helping Companies Reduce the Use of Potable Water.* Oil and Gas Environmental Conference, Houston, TX.



- 08-2017 *The Water Challenge Pilot*. Operators Workshop, The Woodlands, TX.
- 05-2017 *Interactive Engagement in O&G*. RPSEA booth Speaker Block, Offshore Technology Conference (OTC), Houston, TX.
- 02-2017 *CHP in the Oil Field*. Electrification in the Oil Field Workshop, Houston, TX.
- 06-2016 *Virtual O&G Site for Outreach*. 2016 National Energy Education Summit, Council on Energy Research and Education Leaders & National Council for Science and the Environment (CEREL & NCSE) Energy Education Summit, Washington, DC.
- 02-2016 *EFD Virtual Sites*. 2016 Mid-Continent Digital Oilfield Conference, Tulsa, OK.
- 01-2016 *Environmentally Friendly Drilling Program Virtual Sites*. Innovators in the Woods Lecture Series; The Woodlands, TX.
- 10-2015 *Stakeholder Engagement and Development of Water Management Strategies*. 2015 Groundwater Protection Council Annual Conference, Oklahoma City, OK.
- 03-2015 *Environmentally Friendly Drilling Systems Scorecard*. SPE-173572-MS. 2015 SPE E&P Health, Safety, Security, and Environmental Conference, Denver, CO.
- 10-2014 *Virtual Hydraulic Fracturing Site*. 2014 Groundwater Protection Council Annual Conference, Seattle, WA.
- 04-2014 *Developing Technologies & Best Management Practices to Minimize the Environmental Impacts of Natural Gas E&P*. – HSE for Unconventional Oil & Gas, San Antonio, TX.
- 10-2012 *Simple and Economic Testing of Groundwater for Contamination – Industrial & AgriBusiness*. – Integrated Petroleum Environmental Consortium, Denver, CO.
- 10-2012 *Reducing Environmental Tradeoffs along the Texas Coastal Areas*. – Gulf Coast Association of Geological Societies Annual Conference, Austin, TX.

Synergistic Activities:

- **Committee Member** – 2019 Society of Petroleum Engineers (SPE) Environment Subcommittee
- **Chair**, Clean Power in the Oilfield Technical Session – 2018 International Petroleum Environmental Conference (IPEC)
- **Health, Safety & Environment Committee** – IADC HSE Committee
- **Co-Chair**, ‘Informal Education’ – 2016 CEREL & NCSE
- **Selected** for SPE Forum Series: Health and Social Responsibility: The Role of the Oil and Gas Industry in Community Health
- **Committee Member**, SPE/AAPL – Joint Workshop
- **Selected** for SPE Forum Series: Quest to Reduce the Environmental Footprint of O&G
- **Past President**, The Woodlands Grass Roots Environmental Education Network (The Woodlands G.R.E.E.N.) – Volunteer-based community nonprofit organization; Chaired annual scholarship program; Coordinated multiple community events’ volunteer efforts

Awards/Honors:

- 2014 Breakthrough Award – ‘*Energize Our Communications*,’ – Dale Carnegie: Effective Communications and Human Relations training course
- 2008 Volunteer of the Year – The Woodlands Township