

*Curriculum Vitae*  
**Sharon L. Walker, Ph.D., F. AEESP, AAAS, AIMBE**  
College of Engineering  
Drexel University, Philadelphia, PA 19104  
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**Current Position**

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|---|----------------|
| Dean and Distinguished Professor<br>College of Engineering<br>Drexel University<br>Philadelphia, Pennsylvania   | 2018 – Present |
| Executive Director (ELATES@Drexel)<br>Executive Leadership for Academics in Technology, Engineering and Sciences<br>Drexel University<br>Philadelphia, PA | 2021 – Present |

**Education**

|  |             |
|--|-------------|
| Ph.D., Environmental Engineering, Yale University<br>New Haven, Connecticut<br>Dissertation Title: Mechanisms of Bacterial Adhesion to Solid Surfaces<br>in Aquatic Systems<br>Dissertation Advisor: Menachem Elimelech<br>Graduation with distinction (Defense 2004, Degree conferred 2005) | 2000 – 2004 |
| M.S., Chemical Engineering, Yale University<br>New Haven, Connecticut  | 1999 – 2000 |
| B.S., Environmental Engineering, University of Southern California<br>Los Angeles, California<br>Major: Environmental Engineering  | 1994 – 1998 |
| B.S., Environmental Studies, University of Southern California<br>College of Letters, Arts and Sciences; Environmental Studies Program<br>Los Angeles, California<br>Major: Environmental Studies – Biological Emphasis  | 1994 – 1998 |

**Administrative Appointments**

|   |             |
|---|-------------|
| Interim Dean<br>Marlan & Rosemary Bourns College of Engineering<br>University of California, Riverside<br>Riverside, California                             | 2016 – 2018 |
| Associate Dean, Student Academic Affairs<br>Marlan & Rosemary Bourns College of Engineering<br>University of California, Riverside<br>Riverside, California | 2015 – 2016 |
| Associate Dean, Recruitment, Retention and Student Success  | 2014 – 2015 |

University of California, Riverside  
Graduate Division  
Riverside, California

Graduate Advisor, Recruitment and Enrolled Student Management 2010 – 2014  
University of California, Riverside  
Department of Chemical and Environmental Engineering  
Riverside, California

### Academic Appointments

Distinguished Professor 2018 – Present  
Department of Civil, Architectural and Environmental Engineering  
Courtesy appointment, Department of Chemical and Biological Engineering  
Courtesy appointment, Department of Biodiversity, Earth and Environmental  
Science (BEES)  
Drexel University  
Philadelphia, Pennsylvania

Professor & The John Babbage Chair in Environmental Engineering 2014 – 2018  
Associate Professor & The John Babbage Chair in Environmental Engineering 2010 – 2014  
Assistant Professor & The John Babbage Chair in Environmental Engineering 2005 – 2010  
Marlan & Rosemary Bourns College of Engineering  
University of California, Riverside  
Riverside, California

### Advisory Boards

Dean's Leadership Council Member 2020 – Present  
School of Engineering and Applied Science  
Yale University  
New Haven, CT

Scientific Advisory Board Member 2020 – Present  
Zuckerberg Institute for Water Research  
Ben Gurion University  
Sede Boqer, Israel

Advisory Board Member 2020 – Present  
Department of Civil and Environmental Engineering  
Princeton University  
Princeton, NJ

Advisory Board Member 2020 – Present  
Department of Civil and Environmental Engineering  
Villanova University  
Villanova, PA

Diversity and Culture of Inclusion Advisory Board Member 2020 – Present  
NSF ERC: Internet of Things for Precision Agriculture  
University of Pennsylvania (lead)  
Partners: Purdue, University of Florida, and the University of California, Merced  
Philadelphia, PA

|   |                                  |
|---|----------------------------------|
| Advisory Board Member<br>Environmental Science: Nano<br>Royal Society of Chemistry<br>Cambridge, United Kingdom   | 2020 – Present                   |
| Science Advisory Board Member<br>Board of Trustees Member<br>Academy of Natural Sciences<br>Drexel University<br>Philadelphia, PA                           | 2020 – Present<br>2021 – Present |
| ELATES Program Advisory Board Member<br>Executive Leadership for Academics in Technology, Engineering and Sciences<br>Drexel University<br>Philadelphia, PA | 2020-2021                        |

### Highlights of Administrative Experience and Diversity, Equity and Inclusion Initiatives

#### Dean, College of Engineering (COE), Drexel University (September 2018-present)

- Serves as the chief executive officer of the college functioning as the chief academic officer, administrator, and official representative for community and corporate engagement, recruitment, and fundraising.
- Serves as academic leader in the prioritization, development, and growth of the educational and research missions (including leading the strategic planning process for our recently launched [plan](#))
- Represents and leads all engagement with the campus administration regarding all campus level activities, strategic planning, and policy.
- Manages hiring, promotion, and retention of the 101 tenured/tenure track faculty, 26 teaching faculty (full-time), ~75 adjunct faculty (part-time), and 70 staff members.
- Oversees all school financial resources (~\$62 million/year) and space utilization (in ten buildings at ~292,800 sf).
- Oversees the academic activities supporting ~3100 undergraduate students (one of the largest private engineering college in the US), ~260 masters and ~400 PhD students. Approximately 1700 of these students participate in cooperative education (co-op) activities each year. Additionally, ~240 of these students participate in online education programming (prior to pandemic).
- Supervises and coordinates development and fundraising efforts for the college in partnership with the university's Office of Institutional Advancement (~\$10 million/year for COE) and the Office of Research and Innovation (~\$20 million/year for COE). Drexel was promoted to R1 status in fall 2018.
- Supervises the accreditation activities for the college's academic programs for ABET (including a fall 2019 site visit), the American Council for Construction Education, and the Middle States Commission on Higher Education (MSCHE).
- Notable activities targeting *diversity, equity, and inclusion (DEI)* include:
  - 1) In fall 2018, signed the ASEE Diversity Pledge and submitted an application for the American Society of Engineering Education (ASEE)'s Diversity Recognition Program (<https://diversityrecognition.asee.org/>). ASEE awarded the Bronze Award for our inclusive efforts in 2019.
  - 2) Led the application for Drexel's acceptance in the Kern Family Foundation's KEEN network (<https://engineeringunleashed.com/>) in 2018. This program has provided key resources for curricular updating. As part of this effort, social justice and community engagement content is being integrated into courses throughout the curriculum, from first year student design through the capstone course. This is also being done in partnership with the Lindy Center for Civic Engagement (<https://drexel.edu/lindycenter/>).

- 3) Instituted faculty and staff training, topics include: inclusive pedagogy, best practices for empathetic and inclusive classrooms, combatting microaggressions and bullying, etc.
- 4) Created a new Associate Dean for Faculty Affairs position in the summer of 2018. Outcomes of this position include extensive series of programs and activities to provide mentoring for faculty at all career stages, opportunities for faculty professional development, and targeted initiatives to ensure inclusion and diversity consideration in hiring, tenure and promotion processes.
- 5) Established a Diversity, Equity and Inclusion (DEI) committee comprised of faculty, staff, and students and an external DEI advisory board including alumni and community leaders (launched in winter 2021), both convened with the intention of advising the dean on best practices in the fall of 2018.
- 6) Solicited and secured a gift to endow the Margaret C. Burns Chair in Engineering to recognize a faculty member who has shown sustained commitment to and support of our underrepresented students in engineering in the summer of 2020.
- 7) Secured a gift sufficient to institutionalize our DELTA program supporting the onboarding of first year students from traditionally underrepresented backgrounds in engineering (<https://drexel.edu/engineering/academics/experiential-learning-co-op/special-programs/summer-delta/>) in the spring of 2020.
- 8) Launched a new Student Leadership Advisory Council (SLAC) in the spring of 2020. Student leaders from all engineering-themed organizations are invited to serve to provide a forum for students to provide candid feedback on their curricular, co-curricular, and extra-curricular experiences such that we can have continuous improvement in all of our activities. Diversity is a fundamental theme across all SLAC programming.
- 9) Sponsors a series of events to support the ongoing dialogue and learning of our community around issues of DEI. Examples include inviting distinguished thought leaders such as Dr. Bettina Love (re: abolitionist teaching) and Dr. Donna Riley (engineering education and ethics speaking).
- 10) Identified two programs for our college to sponsor intended to create a pipeline of underrepresented talent into STEM fields. Our college is actively partnering with Girls Inc. of Greater Philadelphia and Southern New Jersey (<https://girlsincpa-nj.org/eureka/>) and the Academy of Natural Sciences (affiliated with Drexel University) (<https://ansp.org/education/programs/wins/>) in providing mentors, educators, curricular materials, and facilities for ongoing programs for middle and high school aged inner-city girls.
- 11) Serving as an elected member of the ASEE Engineering Deans Council board (re-elected to serve through 2023), specifically on that body's Diversity Committee.
- 12) Expanded and diversified the membership of the Executive Advisory Board for the College. This includes tripling the number of women on the Board and inviting the first-ever people of color to join.

Interim Dean, Marlan & Rosemary Bourns College of Engineering, UC Riverside (July 2016- August 2018)

- Served as the chief officer of the college functioning as the executive head, administrator, and official public representative for goodwill, recruitment, and fundraising.
- Provided intellectual and academic leadership in the prioritization, development and growth of the educational (undergraduate and graduate curriculum and degree programs) and research missions of the college
- Represented and led all engagement with the campus administration and the Academic Senate on campus-wide initiatives and policy creation.
- Managed hiring, promotion, and retention of the 125 tenured/tenure track faculty, 20 Lecturers (full- and part-time), 10 Specialists (paid and unpaid), 12 Project Scientists, and 101 staff members.
- Oversaw all school financial resources (~\$79 million/year) and space utilization (in three buildings at ~283,663 sf).
- Supervised and coordinated development and fundraising efforts for BCOE in partnership with

the Office of University of Advancement and the Office of Research and Economic Development.

- Notable activities targeting *diversity, equity and inclusion (DEI)* included:
  - 1) Awarded funds from the University of California, Office of the President to pilot a hiring initiative targeting faculty from underrepresented backgrounds in 2016-17 (<https://www.ucop.edu/faculty-diversity/files/advancing-faculty-diversity-rfp/afd-recruitment-rfp.pdf> - see page 7). Outcomes: hiring of three women tenure track faculty (including two African American women).
  - 2) Signed the ASEE Diversity Pledge on behalf of the university in 2017 (<https://diversityrecognition.asee.org/>).
  - 3) In the summer of 2017, established a new Associate Dean for Faculty Affairs position. Outcomes: targeted initiatives to ensure inclusion and diversity consideration in hiring, tenure and promotion processes (i.e., implicit bias training for all search committee members and implementation of a diversity statement in the search process)

Associate Dean of Student Academic Affairs, Marlan & Rosemary Bourns College of Engineering, UC Riverside (July 2015-July 2016)

- Responsible for ~2600 enrolled undergraduate students, freshman and transfer admissions, student advising and outreach, 15 fulltime student affairs staff, and coordination with all five departments and two programs in the college. College has a highly diverse undergraduate student population consisting of ~33% underrepresented minorities, with 40% underrepresented students entering in the 2016 freshmen class.
- Represented the college in broader initiatives including: 1) serving as college liaison for undergraduate affairs on campus-wide Academic Senate committees; 2) partnering with the Vice Provost for Undergraduate Education on initiatives in predictive analytics, the “Finish in Four” campaign (to increase 4- and 6-year graduation rates), and working with the University Innovation Alliance (<http://www.theuia.org/>, UCR is one of 11 partners); and 3) co-chairing taskforce in the consolidation of all STEM student advising for UCR to optimize student success and retention.
- Oversaw the Graduate Preparation Program targeted at Chinese engineering students’ preparation for graduate study in the US.
- Led new initiatives including 1) development and implementation of innovation and entrepreneurship themes across the curricula; 2) grant writing for new scholarship and student programming (nine submitted in one year).
- Supervised college level ABET record keeping and planning for 2018 renewal.
- Notable activities targeting *diversity, equity and inclusion (DEI)* included:
  - 1) Oversaw a range of outreach and pipeline development programs including 1) MESA (Mathematics, Engineering, and Science Achievement, <http://www.engr.ucr.edu/mesa/>); Department of Education and NSF-funded programs for community college student outreach and recruitment.
  - 2) Partnered with the UC Office of the President and UC Davis in fundraising effort and solicitation of gift from Intel and Chevron to support transfer student programming (resulted in the formation of the Avenue E program at UC Davis).

Associate Dean of Recruitment, Retention and Student Success, Graduate Division, UC Riverside (July 2014-July 2015)

- Supervised ongoing success programming for graduate students (including faculty and peer mentoring, summer bridge program for new PhD students, graduate writing center, student wellness programs, and extensive professional development activities) and developed a rigorous data acquisition program for monitoring attendance and utilization.
- Initiated the development of 1) a university-level graduate student recruitment strategy; and a campus wide grant writing workshop series for graduate students (with focus on NSF

- Graduate Student Fellowship Program).
- Managed internal scholarship and funding opportunities for graduate students through quarterly competitions and faculty reviews.
- Notable activities targeting *diversity, equity and inclusion (DEI)* included:
  - 1) Oversaw university wide summer undergraduate research programs developed to recruit underrepresented students to graduate programs (Mentoring Summer Research Internship Program, MSRIP)
  - 2) Created a new summer program to target HBCU students (recruiting students from Howard University, North Carolina A&T, and Jackson State)
  - 3) Sponsored the initiation of the first O-STEM (Out in STEM, a LGBTQ+ special interest group) chapter at UCR and their participation in the national conference (2015)

Graduate Advisor, Department of Chemical and Environmental Engineering, UC Riverside (2010-2014)

- Supervised department's graduate program and progress for all enrolled students.
- Managed the recruitment and admissions processes for all new MS and PhD students achieving the following: 1) grew the graduate student population ~30% to ~100 students, of which ~90% are PhD students; 2) increased the domestic population of the graduate students from approximately 30% to 50%; and 3) initiated the BS-MS program (4+1year program for undergraduate students with 3.4 GPA or higher to earn MS).
- Strategized and implemented recruitment at regional private and public universities.
- Chaired the graduate program committee, which oversees all curricular and programmatic elements.
- Notable activities targeting *diversity, equity and inclusion (DEI)* included:
  - 1) Successfully wrote as co-PI an NSF IGERT and Department of Education GAANN grants.
  - 2) Developed targeted recruiting events for domestic graduate students at regional Hispanic Serving Institutions.

Leadership and Development Training

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|---|-----------|
| <p><i>HERS Leadership Institute</i><br/>         Professional development and leadership program for academic women.<br/>         CBL Scholarship recipient<br/> <a href="http://hersnet.org/institutes/what-are-the-institutes/">http://hersnet.org/institutes/what-are-the-institutes/</a></p>  | 2018      |
| <p><i>University of California CORO Leadership Program</i><br/>         Professional development and leadership program for academic and staff leaders across UC system.<br/>         Year-long fellowship: <a href="http://www.ucop.edu/human-resources/coro/index.html">http://www.ucop.edu/human-resources/coro/index.html</a></p>   | 2016      |
| <p><i>Executive Leadership in Academic Technology, Engineering and Sciences (ELATES)</i><br/>         Leadership development program for senior women faculty in science, technology, engineering, mathematics (STEM) and related disciplines.<br/>         Year-long fellowship: <a href="http://www.drexel.edu/engineering/programs/special-programs/ELATE/">http://www.drexel.edu/engineering/programs/special-programs/ELATE/</a></p> | 2014-2015 |
| <p><i>NSF Advance Program at UCR</i><br/>         Ongoing professional development programming for women faculty supported by the NSF.<br/>         CO-PI for UCR's Advance grant.</p>  | 2012-2015 |



## Honors and Awards

### Academic

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|---|------------|
| <i>Fellow</i> , American Institute for Medical and Biological Engineering (AIMBE)   | 2022       |
| <i>Fellow</i> , American Association for the Advancement of Science (AAAS)  | 2019       |
| Fulbright Fellowship (Ben Gurion University of the Negev, Israel) (granted but not taken)   | 2018-2019  |
| Association of Environmental Engineering and Science Professors (AEESP)/<br>Mary Ann Liebert Award for Publication Excellence in <i>Environmental Engineering Science</i> (inaugural award) | 2018       |
| <i>Fellow</i> , Association of Environmental Engineering and Science Professors (AEESP)   | 2017       |
| <i>Environmental Science and Technology</i> Journal's Excellent Reviewer Award  | 2014       |
| Chancellor's Award for Excellence in Undergraduate Research & Creative Achievement  | 2011       |
| NSF Career Award  | 2010-2015  |
| Fulbright Fellowship (Ben Gurion University of the Negev, Israel)   | 2009-2010  |
| John Babbage Chair in Environmental Engineering   | 2005-2018  |
| UC Regents Faculty Fellowship   | 2005, 2007 |
| UC Faculty Senate Research Award  | 2005, 2008 |
| U.S. Environmental Protection Agency STAR Fellowship  | 2001-2004  |
| American Chemical Society Certificate of Merit, Environmental Chemistry Division  | 2003       |
| American Chemical Society Graduate Student Award in Environmental Chemistry   | 2002       |
| National Water Research Institute Graduate Fellowship   | 2000-2003  |
| Yale University Graduate Fellowship   | 1999-2000  |
| Yale University Becton Scholarship  | 1999-2000  |
| USC-Anita Wilson Environmental Scholarship  | 1998       |
| USC- Hugo R. Santora Fellowship   | 1998       |
| USC- Deans' Scholarship   | 1994-1998  |
| Tyler Environmental Scholar   | 1996-1997  |
| USC- Golden State Scholarship   | 1994-1997  |
| USC- Merit Research Scholarship Recipient   | 1994-1997  |

### Honors Societies

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| Golden Key National Honors Society – honorary member | 2013 |
| Tau Beta Pi: National Engineering Honors Society     | 1997 |
| Chi Epsilon: Civil Engineering Honors Society        | 1997 |

## Leadership and Service

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| Winifred Burks-Houck Professional Leadership Award<br><i>National Organization for the Professional Advancement of Black Chemists and Chemical Engineers</i> | 2021      |
| Honoree, Girls Inc. of Greater Philadelphia and Southern New Jersey  | 2021      |
| ELATES Fellow<br><i>Executive Leadership Program for Academic Women in STEM fields (Drexel University)</i>   | 2014-2015 |
| AEESP Distinguished Service Award<br><i>Assoc. of Environmental Engineering &amp; Science Professors (for service as Chief Information Officer 2011-14)</i>  | 2014      |
| Woman of the Year, Sisters in Strength (Women's service group at UCR)  | 2013-2014 |
| Woman of Distinction, Girl Scouts of San Geronio Award   | 2008      |
| Women in Science at Yale (WISAY), Undergraduate Mentoring Program  | 2000-2004 |
| Graduate Affiliate, Trumbull College, Yale University  | 2000-2002 |
| USC Order of Troy - Senior Excellence Award  | 1998      |
| USC Order of the Torch – Top ten students in graduating class  | 1998      |
| Girl Scout Gold Award – highest honor  | 1992      |

## Professional Memberships, Leadership, and Services

### Memberships

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|---|--------------|
| American Association for the Advancement of Science (AAAS)              | 2013-present |
| Association of Women in Science (AWIS)                                  | 2010-present |
| Association of Environmental Engineering and Science Professors (AEESP) | 2005-present |
| Society of Women Engineers (SWE)  | 2005-present |
| American Institute of Chemical Engineers (AIChE)                        | 2005-present |
| American Chemical Society (ACS)   | 2000-present |
| Society of Environmental Toxicology and Chemistry (SETAC)               | 2011-2013    |

### Professional Leadership

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|---|-----------|
| Director, ASEE Engineering Deans Council Executive Board                            | 2019-2023 |
| Chair, 2017 Gordon Research Conference in Environmental Nanotechnology<br>(elected) | 2015-2017 |



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|---|-----------|
| Committee Member, AEESP Foundation, Financial Investment Committee<br>(by nomination)   | 2014-2017 |
| Vice-Chair, 2015 Gordon Research Conference in Environmental Nanotechnology<br>(elected)  | 2013-2015 |
| Organizer, 87th Colloid & Surface Science Symposium, American Chemical Society<br>Hosted at UC Riverside (selected from national competition to host) | 2013      |
| Chief Information Officer, AEESP  | 2011-2014 |
| Division Officer, ACS Division of Colloid and Surface Science   | 2009-2013 |
| Symposium Committee Standing Member (elected)   |           |

Professional Service (advisory boards listed separately)

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| ASEE Engineering Deans Council, Diversity Committee member   | 2019-present |
| National Science Foundation Engineering Research Center Site Visit Team<br>member, ReNUWit Engineering Research Center at Stanford University  | 2019-present |
| Visiting committee member, Colorado School of Mines' Civil and Environmental<br>Department   | 2017         |
| External review committee member, University of Texas, San Antonio's Department<br>of Civil and Environmental Engineering  | 2016         |
| External review committee member, University of Arizona's Department of<br>Chemical and Environmental Engineering  | 2014         |
| AEESP Education Committee  | 2010-2011    |
| AWIS Educational Awards Committee Member   | 2009-2011    |
| Co-organizer of "Fate and Transport of Graphene in the Environment" session<br>248th ACS National Meeting (San Francisco, CA)  | 2014         |
| Co-organizer of "Starting out on the right foot: Tips for success for aspiring and new<br>faculty", workshop organized for the AEESP National Meeting Golden, CO                                   | 2013         |
| Co-Organizer - Nanoparticle Interactions at Key Environmental Interfaces" Session<br>Environmental Chemistry Division, ACS National Meeting  | 2012         |
| Co-organizer of "Environmental Implications of Nanomaterials:<br>Microbial Interactions" and "Environmental Implications of Nanomaterials:<br>Fate and Transport" Sessions, AIChE National Meeting | 2011         |
| Co-organizer of "Navigating the Pre-Tenure Years" workshop<br>organized for the AEESP National Meeting   | 2011         |

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|--|------|
| Co-organizer of “Environmental Implications of Nanomaterials: Microbial Interactions” and “Environmental Implications of Nanomaterials: Fate and Transport” Session, AIChE National Meeting  | 2010 |
| Co-organizer of “Nano and Colloidal Materials: Environmental Applications and Implications” Symposium, 84th Colloid & Surface Science Symposium, American Chemical Society   | 2010 |
| Co-organizer of “Water Sustainability” session, Association for Environmental Engineering and Science Professors Meeting   | 2009 |
| Co-organizer of “Bacterial Adhesion Phenomena” Symposium, 83rd Colloid & Surface Science Symposium, American Chemical Society  | 2009 |
| Co-organizer of “Understanding and Controlling Bacterial Adhesion at Molecular to Macro-Scales” Session, AIChE and ACS Joint National Meeting  | 2008 |
| Co-organizer of “Colloidal Fouling in Water Treatment Applications” Sessions (Parts I and II), AIChE National Meeting  | 2007 |
| Co-organizer of “Water Quality Sensing and Detection Methods” Session AIChE National Meeting   | 2007 |
| Co-organizer of “Colloid & Interfacial Phenomena in Environmental Systems” Symposium, 81st Colloid & Surface Science Symposium, American Chemical Society  | 2007 |
| Co-organizer of “Colloidal & Interfacial Phenomena in Aquatic Systems” Symposium, Topical 1: Water Resource Conservation: Purification, Reclamation and Reuse (T1), AIChE National Meeting   | 2007 |
| Co-organizer of “Water Quality Sensing and Detection Methods” Symposium, Topical 1: Water Resource Conservation: Purification, Reclamation and Reuse (T1), AIChE National Meeting  | 2006 |
| Co-organizer of “Understanding and Controlling Biofouling in Aquatic Systems” Symposium, Division of Environmental Chemistry and Association of Environmental Engineering and Science Professors (AEESP) Joint-Session, 232nd American Chemical Society National Meeting | 2006 |
| Co-organizer of “Colloid Separation and Transport in Aquatic Environments” Symposium, Division of Colloid and Surface Chemistry, 229th American Chemical Society National Meeting  | 2005 |

**Graduate Student, Post-Doctoral Fellow, Undergraduate Student, and Visiting Scholar Mentoring**

*PhD students (Ph.D. in Chemical and Environmental Engineering – unless otherwise stated): (16 defended/graduated to date; 6 of 16 PhD students are women and 1 URM) Gexin Chen (Jan. 2005-*

Aug. 2009) Berat Haznedaroglu (Sept. 2005-Dec. 2009), Hyunjung Kim (Sept. 2005-Aug. 2009), Amy Gong (Sept. 2006-Aug. 2011), Indranil Chowdhury (Sept. 2008-June 2012), Ian Marcus (Sept. 2008-December 2012), Ryan Honda (Sept. 2010- Jun 2014), Alicia Taylor (Sept. 2011-Feb 2015, Environmental Toxicology Graduate Program), Jacob Lanphere (Sept. 2011-Jun 2014), Travis Waller (Sept. 2013-March 2018), Chen Chen (Sept. 2013-March 2018, Drew Story (Sept. 2013-May 2018), Caroline Kim (Sept. 2014-June 2019), Holly Mayton (Sept 2014-Dec 2018), Unnati Rao (Sept 2015-August 2020); Daniel White (September 2017-July 2021);

*Master students (M.S. in Chemical and Environmental Engineering – unless otherwise stated):* Olgun Zorlu (Sept. 2008-June 2010), Parham Javadinajjar (Sept. 2010-August 2011), Kelsey Whittaker (Sept. 2010- August 2011), Jessamine Quijano (March 2012-Dec. 2013; Microbiology Program)

*Post-doctoral advisor:* (6 post-doctoral scholars to date) Saeed Torkzaban (2007 PhD, University of Utrecht; 1/2007-1/2008); Yongsuk Hong (2007 PhD, Lehigh University; 1/2008-9/2009); David Ginsburg (2006 PhD, University of Southern California; 1/2008- 1/2009); Nichola Kinsinger (2013 PhD, UCR, 10/2013-8/2015); Avner Ronen (2014 PhD, Technion, 7/2014-6/2016), Ian Marcus (2012 PhD, UCR, 8/2016-8/2017)

*Graduate student committee member (Ph.D.)* Chemical and Environmental Engineering (30 students), Env. Sciences (8 students), Chemistry (4 students), Microbiology (7 students), Bioengineering (2 students), Env. Toxicology (5 students), Material Science and Engineering (1 student)

*Graduate student committee member (M.S. in Chemical and Environmental Engineering):* Dora Iliana Medina, Wenling Huang (co-chair), Nicole McBean, Mandeep Kular, Dawit Wardofa, Matthew Chen, Katie Curnyn, Katherine Muller

*Visiting scholars:* Shiva Shojaei Tazehkand (MS candidate, University of Utrecht; 2005-2007); Saeed Torkzaban (PhD candidate, University of Utrecht; 2005-2006); Dr. Karin Westerling (Science Teacher, Matthew Gage Middle School; Summer 2009); Cristina Pablos (PhD candidate, University Rey Juan Carlos, Spain; Summer 2011); Dr. Cai Peng (Associate Professor at Huazhong Agricultural University, China; August 2011-September 2012); Jenia Gutman (PhD candidate, Ben Gurion University, Israel; Summer 2012); Meirav Cohen (PhD student, Ben Gurion University, Israel; Summer 2012); Diana Ferrando (PhD student, Ben Gurion University, Israel; Fall 2012); Monica Palomo (Associate Professor at Cal Poly Pomona; March 2015-September 2015).

*Undergraduate research advisor:*

Environmental Engineering students: Christopher Salam (05-07, UC LEADS); Hahn Phuc Nyguyen (05, MSRIP); Breanne Borneman (05-07); Troy Ezech (07, MSRIP; 08, UC LEADS), Matthew Graham (07-08); Ryan Honda (08-10, MY BEST); Rosalva Chavez (08-09), James Gutierrez (08-09), Adam Alonzo (10-11), Alexander Duchon (10-12), Stephen Opot (10-12, CCRAA), Jose Valle (10-13, CCRAA), Shanin Quazi (11-12, UC LEADS), Tyler Abercrombie (11-12, UC Leads), Risa Guysi (11-13), Brian Cruz (12-14; MY BEST); Melanie Zecca (2013); Tim Chow (2012-14), Diego Novoa (14-16); Carola Acurio (15-16); Andrew Sanchez (2015-2016), Stephen Boggs (2016-17), Christian Urena (2016-18), Israel Sanchez (2017-18).

Non-Environmental Engineering students: Dewi Nilasari (05-07 – Chemical Eng.); Teresa Buckingham (05- 06– Chemical Eng.); Su New (05-06– Chemical Eng.), Parham Javadinajjar (09-10– Chemical Eng.), James Kim (10-11– Chemical Eng.), Elizabeth Hortsman (11-12, MY BEST– Chemical Eng.), Hailey Wilder (11-12, UC LEADS – bioengineering student), Corey Luth (12-14); Vinh Hue (14, RISE); Stacey A. Nwagbara (13-16 – biology); Aaron Coyoca (12-16 – biochemistry); Madeline Luth (14-16, microbiology); Robin Riehn (14-16, – Chemical Eng.); Igor Irianto (14-15, – Chemical Eng.); Lahari

Suma Kuchibhotla (15-16 – bioengineering); Randy Ly (15-16 – chemistry), Rachel Alfred (17-18– biology).

Visiting students: Crystal Bray (06, UC Berkeley, MSRI), Matthew Yates (06 and 07, UC Davis), Magda Benavides (07, MSRI, Univ. of Maryland), Kathy Nguyen Huynh (07, BRITE REU, UCLA), James Gutierrez (08, BRITE REU, RCC), Melissa Sy (08, BRITE REU, Cal Poly Pomona), Samantha Begnoche (09, BRITE REU, Clarkson Univ.), Chad Thompson (09, Oregon State University), Clarisse Rangel Ottero (2014, Brazilian exchange student), Christina E. Gerges (2013-2014, Martin Luther King High School student), Stephanie Lara (2015, Cal Baptist Univ); Lan Cheng (2015-2016, Wuhan Institute of Technology, China), Chantel McKoy (2016, North Carolina A&T); Catherine Xu (Summer 2016, North High School student); Mengwan Li (2016-2017, Harbin Institute of Technology, China), Claudia Smith (Summer 2017, Riverside Polytechnic High School student); Chassidy Carter (Summer 2017, Jackson State University); Maria Villamil (Summer 2017, UNAM, Mexico); MacKenzie Nelson (Summer 2017, University of Wisconsin, Madison)

Community College students: DJ Cummings (06-07), Jose Avila (06-07), Yasmine Salas (07-08), Juan Lucio (07-08), Karynn Kirby (08-09), Melissa Reimer (08-09), Brian Perez (09); Louise Daniels (11-12); Valerie Keene (12-13); Brandon Rodgers (12-13); Cassandra Bennett (12-13); Christine Brown (13-14); Cody Gonzalez (13-14), Diana Iwias (13-14); William Wellman (13-14); Cody Taylor (14-15); Alex Burton (14-15); Daniel White (Summer 14), Danielle Fierro (Summer 15), David Huxley (15-16)

## Teaching Experience

### Courses taught at the University of California, Riverside

#### *Undergraduate:*

ENVE 142 – Water Quality Engineering

ENVE 171 – Introduction to Environmental Engineering

ENVE 146 – Fate and Transport of Chemicals in the Environment

CEE 158 – Professional Development for Chemical and Environmental Engineers

Honors 150 – Research and Creativity Across Disciplines (co-taught) (UCR Honors Program)

Honors 151 – Individual Projects Research/Creative Activity (co-taught) (UCR Honors Program)

#### *Graduate:*

CEE 225 – Physical and Chemical Separation Processes in Aquatic Environments

CEE 265 – Special Topics in Microbial Fate and Transport in Aquatic Environments

### Course taught at Ben Gurion University (during Fulbright Fellowship)

Graduate Seminar: Physical, Chemical, and Biological Processes Controlling Fate of Particles in Aquatic Environments

## Publications (peer reviewed journal articles) (Underlined authors are undergraduate students)

h-index of 54 and 8971 citations (as of 10/12/2021 on Google Scholar)

1. Walker, S.L.; Bhattacharjee, S.; Hoek, E.M.V.; Elimelech, M. (2002) "A Novel Asymmetric Clamping Cell for Measuring Streaming Potential of Flat Surfaces", *Langmuir*, 18: 2193-2198.
2. Redman, J.A., Walker, S.L. and Elimelech, M. "Bacterial Adhesion and Transport in Porous Media: Role of the Secondary Minimum", *Environmental Science and Technology*, 2004, 38, 1777-1785.
3. Walker, S. L., J. A. Redman, and M. Elimelech. 2004. "Role of Cell Surface Lipopolysaccharides in Escherichia coli K12 Adhesion and Transport." *Langmuir* 20:7736-7746.
4. Walker, S.L., Hill, J., Redman, J.A. and Elimelech, M., 2005 "The Influence of Growth Phase on Adhesion Kinetics of *Escherichia coli* D21g" *Applied and Environmental Microbiology*, 71:3093-3099.

5. Walker, S.L. 2005 "The Influence of Bacterial Surface Polymers on Bacterial Adhesion and Transport in Groundwater Environments" *Journal of Harbin Institute of Technology* (new series), 12: 19-26.
6. Walker, S.L., Redman, J.A., and Elimelech, M. 2005 "Influence of Growth Phase on Bacterial Deposition: Interaction Mechanisms Involved in Packed-Bed Column and Radial Stagnation Point Flow Systems" *Environmental Science and Technology*, special issue "Particles and Interfaces in Aquatic Systems, A tribute to Prof. Charles R. O'Melia" 39: 6405-6411.
7. Walker, S.L. 2005 "The Role of Nutrient Presence on the Adhesion Kinetics of *Burkholderia cepacia* G4g and ENV435g" *Colloids and Surfaces B: Biointerfaces* 45: 181-188.
8. Bradford, S.A., Simunek, J., and Walker, S.L., 2006 "Transport and Straining of *E. coli* O157:H7 in Saturated Porous Media" *Water Resources Research*, Special Section: Colloid Transport in Subsurface Environments 42 (12), W12S12, doi:10.1029/2005WR004805.
9. Bolster, C.H., Walker, S.L., and Cook, K.L. 2006 "Comparison of *Escherichia coli* and *Campylobacter jejuni* Transport in Saturated Porous Media" *Journal of Environmental Quality* 35: 1018-1025.
10. Torkzaban, S., Bradford, S.A., and Walker, S.L., 2007, "Resolving the coupled effects of hydrodynamics and DLVO forces on colloid attachment to collector surfaces" *Langmuir* 23 (19), 9652 -9660. (10.1021/la700995e S0743-7463(70)00995-2).
11. Chen, G. and Walker, S.L., 2007 "The role of solution chemistry and ion valence on the adhesion kinetics of groundwater and marine bacteria" *Langmuir* 23 (13) 7162-7169, doi:10.1021/la0632833.
12. Bradford, S.A., Torkzaban, S., and Walker, S.L., 2007 "Coupling of physical and chemical mechanisms of colloid deposition in saturated porous media" *Water Research* 41: 3012-3024, doi:10.1016/j.watres.2007.03.030.
13. Tazehkand, S.S., Torkzaban, S., Walker, S.L., and Bradford, S.A. 2008, "Cell preparation methods influence *E. coli* D21g surface chemistry and transport in saturated porous media" *Journal of Environmental Quality* 37:2108-2115.
14. Torkzaban, S., S. S. Tazehkand, S. L. Walker, and S. A. Bradford, 2008, Transport and fate of bacteria in porous media: Coupled effects of chemical conditions and pore space geometry, *Water Resour. Res.*, 44, W04403, doi: 10.1029/2007WR006541.
15. Torkzaban, S., Bradford, S.A., and Walker, S.L., 2008, "Colloid transport in unsaturated porous media: The role of water content and ionic strength on particle straining" *Journal of Contaminant Hydrology* 96:113-127.
16. Haznedaroglu, B., Bolster, C.H., and S. L. Walker, 2008, "The role of starvation on bacterial adhesion and transport in saturated porous media" *Water Research* 42:1547-1554.
17. Chen, G., Hong, Y., and S.L. Walker, 2009 "Colloidal and Bacterial Deposition: Role of Gravity" *Langmuir* 26(1)314-319 (doi: 10.1021/la903089x).
18. Hong, Y., Honda, R.J., Myung, N., and Walker, S.L. 2009 "Transport of iron-based nanoparticles: Role of magnetic properties" *Environmental Science and Technology* 43 (23) 8834–8839.
19. Bradford, S.A., Kim, H.N., Haznedaroglu, B.Z., Torkzaban, S., and S. L. Walker 2009 "Coupled factors influencing concentration dependent colloid transport and retention in saturated porous media" *Environmental Science and Technology* 43, 6996–7002.
20. Gong, A.S., Bolster, C., Benavides, M., and S.L. Walker 2009 "Extraction and Analysis of Extracellular Polymeric Substances (EPS): Comparison of Methods and EPS Levels in *Salmonella pullorum* SA 1685" *Environmental Engineering Science* 26, 10 (1523-1532).
21. Kim, H.N., Bradford, S.A., and Walker, S.L. 2009 "Surface Characteristics of Pathogenic *E. coli* O157:H7: Role of Solution Chemistry and Surface Macromolecules" *Biomacromolecules* 43: 4340-4347 (doi: 10.1021/bm900516y).
22. Haznedaroglu, B.Z., Haznedaroglu, I.C., Walker, S.L., Bilgili, H., Goker, H., Kosar, A., Aktas, A., Captug, O., Kurt, M., Ozdemir, O., Kirazli, S., and Firat, H.C. 2009 "Ultrastructural and Morphological Analyses of the *in vitro* and *in vivo* hemostatic effects of Ankaferd Blood Stopper", *Clinical and Applied Thrombosis/Hemostasis* 16(4)446-453 (doi:10.1177/1076029609343706).

23. Kim, H.N., Bradford, S.A., and Walker, S.L. 2009 "Escherichia coli O157:H7 Transport in Saturated Porous Media: Role of Solution Chemistry and Surface Macromolecules" *Environmental Science and Technology* 43, 4340-4347.
24. Bradford, S.A., Kim, H.N., Haznedaroglu, B.Z., Torkzaban, S., and S. L. Walker 2009 "Coupled factors influencing concentration dependent colloid transport and retention in saturated porous media" *Environmental Science and Technology* 43, 6996–7002.
25. Prado, O. J.; Popat, S. C.; Chen, G.; Walker, S. L.; Lafuente, J.; Gabriel, D.; Dehussess, M. A.; 2009, "The effect of packing hydrophilization on bacterial attachment and the relationship with the performance of biotrickling filters" *Biotechnology and Bioengineering* 103(6) 1060-1067.
26. Lin, H.K., Pryadko, L.P., Walker, S.L., and Zandi, R., 2009, "Attachment and detachment rate distributions in deep bed filtration" *Physical Review E* 79, 046321.
27. Kim, H.N., and Walker, S.L., 2009, "Escherichia coli transport in porous media: Influence of cell strain, solution chemistry, and temperature" *Colloids and Surfaces B: Biointerfaces* 71:1(160-167) (doi:10.1016/j.colsurfb.2009.02.002).
28. Hong, Y., Rheem, Y, Lai, M. Cwiertny, D.M., Walker, S.L. and Myung, N.V., 2009, "Electrochemical synthesis of Fe<sub>x</sub>Ni<sub>1-x</sub> nanostructures for environmental remediation" *Chemical Engineering Journal* 151 (2009) 66–72.
29. Haznedaroglu, B.Z, Kim, H.N., Bradford, S.A., and Walker, S.L., 2009, "Relative Transport Behavior of Escherichia coli O157:H7 and Salmonella enterica serovar pullorum in Packed Bed Column Systems: Influence of Solution Chemistry and Cell Concentration" *Environmental Science and Technology* 43, 6: 1838-1844.
30. Bolster C.H., Cook, K.L., Haznedaroglu, B.Z., and Walker, S.L., 2009, "The Transport of Mycobacterium avium subsp. paratuberculosis through Saturated Aquifer Materials" *Letters in Applied Microbiology* 48:307–312.
31. Chen, G., Bedi, R., Beving, D, Yan, Y., and Walker, S.L., 2009, "Initial Bacterial Deposition on Bare and Zeolite-Coated Aluminum Alloy and Stainless Steel" *Langmuir* 25 (3), 1620-1626.
32. Kline, T.R., Chen, G., and Walker, S.L., 2008, "Colloidal deposition on remotely controlled charged micropatterned surfaces in a parallel plate flow chamber" *Langmuir* 24 (17), 9381-9385.
33. Bolster, C.H., Haznedaroglu, B., and Walker, S. L., 2009, "Diversity in cell properties and transport behavior among 12 environmental Escherichia coli isolates" *Journal of Environmental Quality* 38:465–472.
34. Chowdhury, I., Hong, Y., and Walker, S. L. 2010 "Container to Characterization: Impacts of Metal Oxide Nanoparticle Handling, Preparation and Solution Chemistry on Particle Stability" *Colloids and Surfaces A*. 368(1-3) 91-95. doi: 10.1016/j.colsurta.2010.07.019.
35. Chen, G., Bedi, R.S., Yan, Y. and S. L. Walker 2010 "Initial Colloid Deposition on Bare and Zeolite-Coated Stainless Steel and Aluminum: Influence of Surface Roughness" *Langmuir* 26 (15) 12605-12613.
36. Bolster, C., Cook, K., Marcus, I., Haznedaroglu, B.Z., and Walker, S.L. 2010 "Correlating Transport Behavior with Cell Properties for Eight Porcine Escherichia coli Isolates" *Environmental Science and Technology* 44 (13) 5008-5014.
37. Vanoyan, N., Gillor, O., Walker, S.L., and Herzberg, M., 2010 "Reduced Bacterial Deposition and Attachment by The Quorum Sensing Inhibitor, 4-nitro-pyridine-N-oxide: The Role of Physicochemical Effects" *Langmuir* 26 (14) 12089-12094.
38. Haznedaroglu, B.Z., Zorlu, O., Hill, J.E., and Walker, S.L., 2010. "Identifying the Role of Flagella in the Transport of Motile and Nonmotile Salmonella enterica Serovars" *Environmental Science and Technology* 44 (11)4184-4190.
39. Wang, Y., Li, Y, Kim, H., Walker, S.L., Abriola, L.M., and Pennell, K.D. 2010 "Transport and Retention of Fullerene Nanoparticles (nC<sub>60</sub>) in Natural Soils" *Journal of Environmental Quality* 39: 1925-1933.



42. Orgad, O; Oren, Y.; Walker, S.; Herzberg, M. 2011 "The Role of Alginate in *Pseudomonas aeruginosa* EPS Adherence, Viscoelastic Properties, and Cell Attachment" *Biofouling* 27(7):787-798.
43. Chowdhury, I., Hong, Y., Honda, R., Walker, S. L. 2011 "Mechanisms of TiO<sub>2</sub> nanoparticle transport in porous media: Role of solution chemistry, nanoparticle concentration, and flowrate" *Journal of Colloid and Interface Science* 360(2):548-555 doi:10.1016/j.jcis.2011.04.111.
44. Magal, Einat; Weisbrod, Noam; Yechieli, Yoseph; Walker, Sharon L.; and Yakirevich, Alexander 2011 "Colloid Transport in Porous Media: Impact of Hyper-saline Solutions" *Water Research* 45(11):3521-3532.
45. Fang, L.; Cao, Y.; Huang, Q.; Walker, S.L.; Cai, P. 2012 "Reactions between bacterial exopolymers and goethite: A combined macroscopic and spectroscopic investigation" *Water Research* 46(17):5613-5620.
46. Chowdhury, I.; Duch, M.C.; Gits, C.C.; Hersam, M.C.; Walker, S.L. 2012 "Impact of Synthesis and Purification Methods on the Transport of Single Walled Carbon Nanotubes in the Aquatic Environment" *Environmental Science and Technology* 46(21):11752-60.
47. Priester, J.H.; Ge, Y; Mielke, R.E.; Horst, A.M.; Cole Moritz, S.; Espinosa, K.; Gelb, J.; Walker, S.L.; Nisbet, R.M.; An, Y-J; Schimel, J.P.; Palmer, R.G.; Hernandez-Viezcas, J.A.; Zhao, L.; Gardea-Torresdey, J.L.; Holden, P.A. 2012 "Soybean Susceptibility to Manufactured Nanomaterials: Evidence for Food Quality and Soil Fertility Interruption" *PNAS* 109, (37), E2451–E2456.
48. Chen, G. and Walker, S.L. 2012 "Fecal Indicator Bacteria Transport and Deposition in Saturated and Unsaturated Porous Media" *Environmental Science and Technology* 46(16):8782-90.
49. Abit, S.M.; Bolster, C.H.; Cai, P.; Walker, S.L. 2012 "Influence of feedstock and pyrolysis temperature of biochar amendments on transport of *Escherichia coli* in saturated and unsaturated soil" *Environmental Science and Technology* 46 (15), pp 8097–8105 DOI: 10.1021/es300797z.
50. Zhao, W.; Liu, X.; Huang, Q.; Walker, S.L.; Cai, P. 2012 "Interactions of pathogens *Escherichia coli* and *Streptococcus suis* with clay minerals" *Applied Clay Science* 69:37–42.
51. Chowdhury, I., Cwiertny, D. M. and Walker, S. L. 2012 "Combined Factors Influencing the Aggregation and Deposition of nano-TiO<sub>2</sub> in Presence of Humic Acids and Bacteria" *Environmental Science & Technology Special Issue* 46 (13), pp 6968–6976 DOI: 10.1021/es2034747.
52. Marcus, I.M.; Herzberg, M., Walker, S.L., Freger, V., 2012 "Pseudomonas aeruginosa Attachment on QCM-D Sensors: The Role of Cell and Surface Hydrophobicities", *Langmuir*, 28 (15), pp 6396–6402 DOI: 10.1021/la300333c.
53. Marcus, I.M.; Bolster, C.H.; Cook, K.L.; Opot, S.R.; and Walker, S.L 2012 "Impact of Growth Conditions on Transport Behavior of *E. coli*" *Journal of Environmental Monitoring* 14(3):984-991 DOI: 10.1039/C2EM10960C.
54. Chowdhury, I. and Walker, S. L. 2012 "Deposition Mechanisms of TiO<sub>2</sub> Nanoparticles in a Parallel Plate System" *Journal of Colloid and Interface Science* 369:16-22 DOI : 10.1016/j.jcis.2011.12.019.
55. Haznedaroglu, B.Z.; Yates, M.; Maduro, M.; Walker, S.L. 2012 "Effects of Residual Antibiotics in Groundwater on *Salmonella typhimurium*: Changes in Antibiotic Resistance, in vivo and in vitro Pathogenicity" *Journal of Environmental Monitoring* DOI: 10.1039/C1EM10723B; 14(1):41-47 (cover article of January 2012 edition).
56. Gong, A.; Lanzyl, C.; Cwiertny, D.; Walker, S. 2012 "Lack of Influence of Extracellular Polymeric Substances (EPS) Level on Hydroxyl Radical Mediated Disinfection of *Escherichia coli*" *Environmental Science and Technology* (published online 11/14/2011) 46(1) 241-249.
57. Haznedaroglu, B.Z., Beyazit, Y., Walker, S.L., and Haznedaroglu, I.C., 2012. "Pleiotropic Cellular, Hemostatic, and Biological Actions of Ankaferd Hemostat", *Critical Reviews in Oncology/Hematology* 83:21-34; doi:10.1016/j.critrevonc.2011.10.006.

58. Marcus, I.M.; Wilder, H.A.; Quazi, S.J.; Walker, S.L. 2013 "Linking Microbial Community Structure to Function in Representative Simulated Systems" *Applied and Environmental Microbiology* 79(8):2552-9.
59. Lanphere, J.; Luth, C.; Walker, S. 2013 "Effects of Solution Chemistry on the Fate and Transport of Graphene Oxide in Saturated Porous Media". *Environmental Science & Technology* 47:4255-4261.
60. Cai, P.; Huang, Q.; Walker, S.L., 2013 "Deposition and survival of *Escherichia coli* O157:H7 on clay minerals in a parallel plate flow system" *Environmental Science and Technology* 47 (4):1896–1903.
61. Weisbrod, N.; Meron, H.; Walker, S.; Gitis, V., 2013 "Virus Transport in a Discrete Fracture" *Water Research* 47(5): 1888–1898.
62. Pablos, C.; van Grieken, R.; Maragan, J.; Chowdhury, I.; Walker, S.L. 2013 "Study of Bacterial Adhesion onto Immobilized TiO<sub>2</sub>: Effect on the Photocatalytic Activity for Disinfection Applications" *Catalysis Today*, 209:140–146.
63. Gutman, J.; Walker, S.L.; Fregar, V.; Herzberg, M. 2013 "Bacterial attachment and fluidity: Physicochemical and motility effects analyzed with QCM-D" *Environmental Science and Technology* 47(1):398-404 DOI: 10.1021/es303394w.
64. Chowdhury, I.; Walker, S.L.; Mylon, S.E. 2013 "Aggregate Morphology of nano-TiO<sub>2</sub>: Role of Primary Particle Size, Solution Chemistry, and Organic Matter", *Journal of Environmental Monitoring* Special issue "Anthropogenic Nanoparticles in the Environment" **15**, 275-282.
65. Gutman, J.; Walker, S.L.; Herzberg, M 2014 "Biofouling of Reverse Osmosis Membranes: Positively Contributing Factors of *Sphingomonas*" *Environmental Science and Technology* 48(23):13941-50, DOI: 10.1021/es503680s.
66. Bennett, K.M.; Walker, S.L; Lo, D.D., 2014 "Epithelial Microvilli Establish an Electrostatic Barrier to Microbial Adhesion" *Infection and Immunity* 82 (7): 2860-2871) (**cover article**).
67. Gutman, J.; Kawahara, K.; L. Walker, S.L.; Freger, V.; Herzberg, M. 2014 "Interactions between glycosphingolipids and lipopolysaccharides: Adsorption and viscoelastic properties". *Biomacromolecules* 15(6): 2128-37, DOI:10.1021/bm500245z.
68. Lanphere, J.D.; Rogers, B.; Luth, C.; Bolster,C.; Walker, S.L. 2014 Stability and Transport of Graphene Oxide Nanoparticles in Groundwater and Surface Water" *Environmental Engineering Science* Volume: 31 Issue: 7 Special Issue: SI Pages: 350-359 JUL 2014 (*invited submission to environmental nanotechnology issue*).
69. Zhao, W.; Huang, Q.; Walker, S.L.; and Cai, P. 2014 "Adhesion of bacterial pathogens to soil colloidal particles: Influence of cell strain, organic matter, and solution chemistry" *Water Research* 53:35-46.
70. Honda, R.J.; Keene, V.; Daniels, L., Walker, S.L., 2014 "Removal of TiO<sub>2</sub> during primary water treatment: Role of coagulant type, dose, and nanoparticle concentration" *Environmental Engineering Science* 31(3):127-134.
71. Taylor, A.A.; Chowdhury, I.; Gong, A.S.; Cwiertny, D.M.; and Walker, S.L. 2014"Deposition and Disinfection of *Escherichia coli* O157:H7 on Naturally Occurring Photoactive Materials in a Parallel Plate Chamber" *Environmental Science: Processes & Impacts* 16:194-202 DOI: 10.1039/C3EM00527E (**cover article**).
72. Abit, S.M.; Bolster, C.H.; Cantrell, K.B.; Flores, J.; Walker, S.L. 2014 "Transport of *Escherichia coli*, *Salmonella typhimurium*, and microspheres in biochar-amended soils with different textures" *Journal of Environmental Quality* 43:371-378.
73. Ronen, W. Duan, I. Wheeldon S.L. Walker and D. Jassby, 2015 "Microbial attachment inhibition through low voltage electrochemical reactions on electrically conducting membranes," *Environmental Science and Technology* 49(21):12741-12750.
74. Rapicavoli, J.N.; Kinsinger, N.; Perring, T.M.; Backus, E.A; Shugart, H.J.; Walker, S.L.; and Roper, M.C. 2015 "O-antigen modulates insect vector acquisition of a bacterial plant pathogen" *Applied and Environmental Microbiology* 81(23)1-10 – **selected as December 2015 cover article**.
75. Flores, J.Q.; Joung, Y.S.; Kinsinger, N.; Lu, X.; Buie, C.R.; and Walker, S.L. 2015 "Antimicrobial Behavior of Novel Surfaces Generated by Electrophoretic Deposition and Breakdown Anodization" *Colloids and Surfaces B: Biointerfaces* 134:204–212.

76. Xing, S.F.; Sun, X.F.; Taylor, A.A.; Walker, S.L.; Wang, Y.F.; Wang, S.G., 2015 "D-Amino Acids Inhibit Initial Bacterial Adhesion: Thermodynamic Evidence" *Biotechnology and Bioengineering* 112 (4): 696-704.
77. Zhao, W.; Walker, S.L.; Huang, Q.; and Cai, P. 2015 "Contrasting effects of extracellular polymeric substances on the surface characteristics of bacterial pathogens and cell attachment to soil particles" *Chemical Geology* DOI: 10.1016/j.chemgeo.2015.06.013.
78. Taylor, A.A.; Marcus, I.M.; Guysi, R.L.; and Walker, S.L. 2015 "Metal oxide nanoparticles induce phenotypic changes in a model colon gut microbiota" *Environmental Engineering Science* 32:7 (602-612).
79. Lin, S.; Taylor A.A.; Ji, Z.; Chang, C.H.; Kinsinger, N.M.; Ueng, W.; Walker, S.L.; Nel, A.E.. 2015 "Understanding the transformation, speciation, and hazard potential of copper particles in a model septic tank system using zebrafish to monitor the effluent" *ACS Nano* 9(2):2038-48.
80. Liu, H.; Lanphere, J.; Walker, S.L.; Cohen, Y. 2015 "The Effect of Hydration Repulsion on Nanoparticle Agglomeration Evaluated via a Constant Number Monte Carlo Simulation" *Nanotechnology* 26(4):045708.
81. Kinsinger, N.; Honda, R.J.; Keene, V.; Walker, S.L. 2015 "Titanium Dioxide Nanoparticle Removal in Primary Prefiltration Stages of Water Treatment: Role of Coating, Natural Organic Matter, Source Water, and Solution Chemistry" *Environmental Engineering Science* 32(4)292-300 (doi:10.1089/ees.2014.0288).
82. Lanphere, J.D.; Luth, C.J.; Guiney, L.M.; Mansukhani, N.D.; Hersam, M.C., and Walker, S.L. 2015 "Fate and Transport of Molybdenum Disulfide Nanomaterials in Sand Columns" *Environmental Engineering Science* 32(2):163-173.
83. Chowdhury, I., Zorlu, O., Walker, S. L. and Haznedaroglu, B.Z. 2015 "Impact of Growth Phase and Natural Organic Matter on the Attachment Kinetics of *Salmonella typhimurium* to Solid Surfaces" *Environmental Engineering Science* 32(2): 111-120.
84. Lin, D., Story, S.D., Walker, S.L., Huang, Q., and Cai, P. 2016 "Influence of Extracellular Polymeric Substances on the Aggregation Kinetics of TiO<sub>2</sub> Nanoparticles" *Water Research* 104:381-388 DOI: 10.1016/j.watres.2016.08.044.
85. Ronen, A., Walker, S.L. and D. Jassby, 2016 "Electroconductive and electroresponsive polymeric membranes for water treatment" *Reviews in Chemical Engineering* DOI 10.1515/revce-2015-0060.
86. Taylor, A. and Walker, S.L, 2016 "Effects of Various Copper Particles on a Model Septic System Function and Microbial Community" *Water Research* 91:350-360.
87. Ma, W.; Peng, D.; Walker, S.L.; Cao, B; Gao, C; Huang, Q.; and Cai, P. 2016 "Bacillus subtilis Biofilm Development in the Presence of Soil Clay Minerals and Iron Oxides" *Nature Publishing Group Biofilms and Microbiomes* 3(4). doi:10.1038/s41522-017-0013-6.
88. W. Duan, A. Ronen, S.L. Walker and D. Jassby 2016 "Polyaniline-Coated Carbon Nanotube Ultrafiltration Membranes: Enhanced Anodic Stability for In Situ Cleaning and Electro-Oxidation Processes" *ACS Applied Materials & Interfaces* 8(34):22574-22584.
89. Ouyang, Kai; Dai, Ke; Walker, Sharon; Huang, Qiaoyun; Fang, Linchuan; Cai, Peng "Efficient Photocatalytic Disinfection of Escherichia coli O157:H7 using C70-TiO<sub>2</sub> Hybrid under Visible Light Irradiation" *Scientific Reports* 2016, 6: 25702.
90. Taylor, A.A.; Khan, M.Y.; Helbley, J.; and Walker, S.L. 2017 "Safety evaluation of hair dryers marketed as emitting nano silver particles" *Safety Science* 93: 121-126. .
91. Kinsinger, N., Mayton H., Luth, M. and Walker, S. L., 2017 "*E. coli* O157:H7 Attachment Kinetics on Spinach Leaves: Efficacy of Rinsing and Disinfection Processes" *Food Microbiology* 62: 212-220.
92. Waller, T.; Chen, C.; Walker, S.L. 2017 "Food and Industrial Grade TiO<sub>2</sub> Impacts to the Gut Microbiota" *Environmental Engineering Science*, 34(8). doi:10.1089/ees.2016.0364
93. Liu, Xing; Gao, Chunhui; Ji, Dandan; Walker, Sharon L.; Huang, Qiaoyun; Cai, Peng 2017 "Survival of *Escherichia coli* O157:H7 in various soil particles: importance of metabolic activity in the attached bacterial phenotype" *Biology and Fertility of Soils* 53: 209.

94. Wenyan Duan, Gongde Chen, Chuxiao Chen, Riya Sanghvi, Sharon Walker, Haizhou Liu, Avner Ronen and David Jassby, 2017, "Electrochemical Removal of Hexavalent Chromium Using Electrically Conducting Carbon Nanotube/Polymer Composite Ultrafiltration Membranes" *Journal of Membrane Science*, 531, pp 160-171, DOI: 10.1016/j.memsci.2017.02.050.
95. Wordofa, D.; Walker, S.L.; and Liu, H., 2017 "Sulfate radical-induced disinfection of pathogenic *Escherichia coli* O157:H7 via iron activation persulfate" *Environmental Science and Technology Letters*, 4 (4), pp 154-160, DOI: 10.1021/acs.estlett.7b00035.
96. Chen, Chen; Waller, Travis; Walker, Sharon "Visualization of transport and fate of nano and micro-scale particles in porous media: modeling coupled effects of ionic strength and size" *Environmental Science: Nano*, 4, pp 1025-1036, DOI: 10.1039/C6EN00558F.
97. Lin, Di; Story, S.D.; Walker, Sharon L.; Huang, Qiaoyun; Liang, Wei; Cai, Peng 2017 "Role of pH and ionic strength in the aggregation of TiO<sub>2</sub> nanoparticles in the presence of extracellular polymeric substances from *Bacillus subtilis*" *Environmental Pollution*, 228, pp 35-42, DOI: 10.1016/j.envpol.2017.05.025.
98. Keller, Arturo; Adeleye, Adeyemi ; Conway, Jon ; Garner, Kendra; Zhao, Lijuan; Cherr, Gary; Hong, Jie; Godwin, Hilary; Hanna, Shannon ; Ji, Zhaoxia; Lin, Sijie; Lenihan, Hunter; Miller, Robert ; Nel, Andre; Peralta-Videa, Jose; Walker, Sharon; Taylor, Alicia; Torres-Duarte, Cristina ; Kaweeteerawat, Chitrada ; Zink, Jeffrey; Zuverza-Mena, Nubia; Gardea-Torresdey, Jorge, 2017, "Comparative environmental fate and toxicity of copper nanomaterials" *Nanoimpact*, 7, pp 28-40, DOI: 10.1016/j.impact.2017.05.003.
99. Cook, K.L., Givan, E.C., Mayton, H.M., Parekh, R.R., Taylor, R., Walker, S.L. 2017 *Using the Agricultural Environment to Select Better Surrogates for Foodborne Pathogens Associated with Fresh Produce*. International Journal of Food Microbiology. Vol. 262:80-88.
100. Kim, C.; Herzberg, M.; Walker, S.L., Jassby, D. 2018 "Impact of Physical and Chemical Cleaning Agents on Specific Biofilm Components and the Implications for Membrane Biofouling Management" *Industrial & Engineering Chemistry Research*, 57 (9), pp 3359–3370.
101. Waller, T.; Marcus, I.M.; Chen, C.; Walker, S.L. 2018 "Influence of Food and Industrial Grade TiO<sub>2</sub> Nanoparticles on Microbial Diversity and Phenotypic Response in Model Septic System" *Environmental Engineering Science*, 35 (10). (winner of EES-AEESP Best Paper Award for 2018).
102. Waller, Travis; Marcus, Ian M.; Walker, Sharon L. 2018 "Influence of Septic System Wastewater Treatment on Titanium Dioxide Nanoparticle Subsurface Transport Mechanisms" *Analytical and Bioanalytical Chemistry* 410 (24): 6125-6132.
103. Chen, Chen; Marcus, Ian M.; Waller, Travis; Walker, Sharon L. 2018 "Comparison of filtration mechanisms of food and industrial grade TiO<sub>2</sub> nanoparticles" *Analytical and Bioanalytical Chemistry* 410 (24): 6133-6140.
104. Rao, U.; Posmanik, R.; Hatch, L.E.; Tester, J.W.; Walker, S.L.; Barsanti, K.C.; Jassby, D. 2018 "Coupling Hydrothermal Liquefaction and Membrane Distillation to Treat Anaerobic Digestate from Food and Dairy Farm Waste" *Bioresource Technology* 267: 408-415.
105. Ouyang, K.; Walker, S.; Yu, X.; Gao, C.; Huang, Q.; Cai, P. 2018 "Metabolism, survival, and gene expression of *Pseudomonas putida* to hemite nanoparticles mediated by surface-bound humic acid" *Environ. Sci.: Nano* 5:682-695.
106. Cai, P.; Liu, X.; Ji, D.; Yang S.; Walker, S.L.; Wu Y.; Gao, C.; Huang, Q. 2018, "Impact of soil clay minerals on growth, biofilm formation, and virulence of *Escherichia coli* O157:H7" *Environmental Pollution*, 243B: 953-960.
107. Mayton, Holly M.; Marcus, Ian M.; Walker, Sharon L. 2019 "*Escherichia coli* O157:H7 and *Salmonella* Typhimurium adhesion to spinach leaf surfaces: Sensitivity to water chemistry and nutrient availability" *Food Microbiology* 78:134-142.
108. Jafarinejad, S.; Park, H.; Mayton, H.; Walker, S.L.; Jiang, S.C. 2019 "Concentrating ammonium in wastewater by forward osmosis using surface modified positively charged nanofiltration membranes" *Environ. Sci.: Water Res. Technol.* 5:246-255.

109. Mayton, H.; White, D.; Marcus, I.; Walker, S. 2019 "Influence of nano-CuO and TiO<sub>2</sub> on deposition and detachment of Escherichia coli in two model systems" *Environ. Sci.: Nano.* 6, 3268-3279.
110. Story, D. S.; Boggs, S.; Guiney, M.; Hershman, M. C.; Brinker, C. J.; Walker, S. L. 2020 "Aggregation Morphology of Planar Engineered Nanomaterials" *J. Colloid Interface Sci.* 561, 849-853.
111. Bogler, A.; Packman, A.; Furman, A.; Gross, A.; Kushmaro, A.; Ronen, A.; Dagot, C.; Hill, C.; Vaizel-Ohayon, D.; Morgenroth, E.; Bertuzzo, E.; Wells, G.; Kiperwas, H. R.; Horn, H.; Negev, Ido.; Zucker, I.; Bar-Or, I.; Moran-Gilad, J.; Balcazar, J. L.; Bibby, K.; Elimelech, M.; Weisbord, N.; Nir, O.; Sued, O.; Gillor, O.; Alvarez, P. J.; Cramer, S.; Arnon, S.; Walker, S.; Yaron, S.; Nguyen, T. H.; Berchencho, Y.; Hu, Y.; Ronen, Z.; Bar-Zeev, E. 2020 Rethinking wastewater risks and monitoring in light of the COVID-19 pandemic. *Nature Sustainability* 3:981-990.
112. White, D., Backus, E. A., Marcus, I.M., Walker, S.L., Roper, M. C., 2021. Functional Foregut Anatomy of the Blue-green Sharpshooter Illustrated Using a 3D Model. *Scientific Reports* 11 (6536).
113. Mayton, H. M., Walker, S. L., Berger, B. W., 2021. Disrupting Irreversible Bacterial Adhesion and Biofilm Formation with an Engineered Enzyme. *Appl. Environ. Microbiol.* 87 (12), e00265-21.
114. Balaban, N., Gelam, F., Taylor, A. A., Walker, S. L., Berstein, A., Ronen, Z., 2021. Degradation of Brominated Organic Compounds (Flame Retardants) by a Four-Stain Consortium Isolated from Contaminated Groundwater. *Applied Sciences* 11 (14), 6263.

### Patents / Patent Applications

1. P-2020 K. L. Spiller, S. Walker, C. Schauer, M. Marcolongo, A. Throckmorton, I. Marcus, A. Dudchencko, M. Kohanski, C. Rasskeh, T. Chao, "Intubation Protective Tent," Patent Pending S/N 63/000,106, March 26, 2020.
2. P-2020 K. L. Spiller, S. Walker, C. Schauer, M. Marcolongo, A. Throckmorton, I. Marcus, A. Dudchencko, M. Kohanski, C. Rasskeh, T. Chao, M. Waring, L. C. Lo, E. Kahle, "Intubation Protective Tent and Method of Use and Disinfecting," Patent Pending S/N 63/012,746, April 20, 2020.
3. P-2020 E. Kahle, M. Kohanski, M. Waring, L. C. Lo, S. Walker, K. L. Spiller I Marcus, M. Marcolongo, "Intubation Protective Tent and Method of Assembly and Disassembly," Patent Pending S/N 63/077,655, September 13, 2020.

### Invited Leadership Talks

(<https://drexel.edu/engineering/about/college-leadership/dean-sharon-walker/speeches/>)

1. Walker, S.L, Keynote speaker, ELATES Graduation Ceremony, Drexel University, March 20, 2019, Philadelphia, PA, USA.
2. Walker, S.L, Keynote speaker, Comcast Women in Tech Conference, Comcast Technology Center, March 21, 2019, Philadelphia, PA, USA.
3. Walker, S.L, Speaker, "A New Frontier for Engineering Education Predicated on Peace", USF Eminent Scholar Lecture Series, University of South Florida, February 28, 2020, Tampa Bay, FL, USA.
4. Walker, S.L, Panel, Dean's Panel Discussion on the COVID-19 Crisis: Challenges and Opportunities in Diversity, Equity & Inclusion, May 11, 2020, [Online webinar](#).
5. Walker, S.L, Speaker, "The Growth of Nanotechnology Through Interdisciplinarity", [Podcast: Stories from the NNI](#), May 18, 2020.
6. Walker, S.L., Interviewee, "Scholar, Leader, Champion", Podcast: [Under the Hood with Dr. Sunshine](#), August 16, 2021.

7. Walker, S.L., Speaker, "Resilient Women: Our Collective Role in Advocating for Each Other and the Future of Environmental Chemistry", ACS Special Symposium on "Women in Engineering" called "Resilience of Chemistry", August 22, 2021.

### Conference Presentations and Posters

(Underlined authors are undergraduate students)

1. Walker, S.L., Chen, J.C.; Elimelech, M., "Bacterial Transport in Groundwater" Spring 2001, Presented at the National Water Research Institute Research Advisory Board meeting, May 5, 2001, Irvine, CA, USA.
2. Chen, J.C.; Walker, S.L.; Elimelech, M., "Novel technique for studying the role of microscopic chemical heterogeneity on colloid and bacterial adhesion" Presented at the American Chemical Society 22<sup>nd</sup> National Meeting August 26-30, 2001, Chicago, IL, USA.
3. Walker, S.L., Chen, J.C.; Elimelech, M., "A novel technique for synthesizing microscopic chemical heterogeneity for studying colloidal and bacterial adhesion" Poster at the 5<sup>th</sup> Annual Environmental Chemistry Symposium, Pennsylvania State University, March 22-23, 2002, State College, PA, USA.
4. Redman, J., Walker, S.L., Elimelech, M., "Tailing in particle and bacterial breakthrough curves in flow through porous media" Presented at the American Chemical Society 76<sup>th</sup> Colloid and Surface Science Symposium, June 20, 2002, Ann Arbor, MI, USA.
5. Chen, J.C., Walker, S.L., Elimelech, M., "A novel technique for investigation the influence of microscopic surface chemical heterogeneity on the kinetics of colloid and bacterial deposition" Presented at the American Chemical Society 76<sup>th</sup> Colloid and Surface Science Symposium, June 20, 2002, Ann Arbor, MI, USA.
6. Walker, S.L., Bhattacharjee, S., Elimelech, M., "Measuring the streaming potential of flat surfaces using a novel asymmetric clamping cell" Presented at the American Chemical Society 76<sup>th</sup> Colloid and Surface Science Symposium, June 20, 2002, Ann Arbor, MI, USA.
7. Redman, J. A., Walker, S., Elimelech, M. "Observations of Tailing in Particle Breakthrough Curves in Porous Media" presented at the 224<sup>th</sup> American Chemical Society National Meeting, August 18, 2002, Boston, MA, USA.
8. Walker, S.L., Chen, J.C., Elimelech, M., "Colloid and Bacterial Deposition Kinetics onto Chemically Micropatterned Surfaces in a Stagnation Point Flow System" Presented at the 224<sup>th</sup> American Chemical Society National Meeting, August 18, 2002, Boston, MA, USA.
9. Walker, S.L., "Bacterial Adhesion and Transport in Groundwater Environments: The Role of Cell Surface Characteristics and Geochemical Heterogeneity " Presented at the National Water Research Institute Research Advisory Board meeting, November 2, 2002, Chicago, IL, USA.
10. Walker, S.L., Redman, J.A., and Elimelech, M., "The Role of LPS Composition on Bacterial Adhesion and Detachment under Flow Conditions" Presented at the 225<sup>th</sup> American Chemical Society National Meeting, March 24, 2003, New Orleans, LA, USA.
11. Walker, S.L., Redman, J.A., Elimelech, M., "Measuring Effect of Bacterial Lipopolysaccharides on Adhesion and Detachment Under Flow Conditions" Presented at the American Chemical Society 77<sup>th</sup> Colloid and Surface Science Symposium, June 16, 2003, Atlanta, GA, USA.
12. Walker, S.L. "The Role of LPS in Bacterial Adhesion and Transport in Aquatic Systems" Poster presented at the Gordon Research Conference, *Molecular Mechanisms of Microbial Adhesion*, Salve Regina University, July 27-August 1, 2003, Newport, RI, USA.
13. Walker, S.L., Redman, J.A., Elimelech, M., "Role of Secondary Minimum on Bacterial Adhesion and Transport" Presented at the 226<sup>th</sup> American Chemical Society National Meeting, *Symposium in Honor of Professor Walter J. Weber Jr.*, September 10, 2003, New York, NY, USA.
14. Redman, J.A., Walker, S.L., Hill, J.E., Elimelech, M., "Influence of Growth Phase on Bacterial Adhesion and Transport" Presented at the American Chemical Society 78<sup>th</sup> Colloid and Surface Science Symposium, June 22, 2004, New Haven, CT, USA.



15. Walker, S.L., Redman, J.A., Elimelech, M, "Influence of Lipopolysaccharides on Bacterial Adhesion and Transport in Aquatic Systems" Presented at the American Chemical Society 78<sup>th</sup> Colloid and Surface Science Symposium, June 22, 2004, New Haven, CT, USA.
16. Walker, S.L., Redman, J.A., Elimelech, M, "Bacterial Transport and Deposition in Porous Media: Role of Cell Surface Lipopolysaccharides (LPS)" Presented at the 228<sup>th</sup> American Chemical Society National Meeting, *Symposium in Honor of Professor Charles O'Melia*, August 2004, Philadelphia, PA, USA.
17. Walker, S.L. "Adhesion Kinetics of *Burkholderia cepacia* G4g and ENV435g" presented at the 229<sup>th</sup> American Chemical Society National Meeting, March 13-17, 2005, San Diego, CA, USA.
18. Nilasari, D. and S. L. Walker, "Influence of Nutrient Condition on the Adhesion Kinetics of *Burkholderia cepacia* G4g and ENV435g" presented at the American Chemical Society 79<sup>th</sup> Colloid and Surface Science Symposium, June 12-15, 2005, Potsdam, NY, USA.
19. Walker, S.L. "Transport and Adhesion of *Burkholderia cepacia* G4g and ENV435g in Aquatic Environments" poster presented at the 105<sup>th</sup> General Meeting of the American Society for Microbiology, June 5-9, 2005, Atlanta, GA, USA.
20. Walker, S.L "The Influence of Bacterial Surface Polymers on Bacterial Adhesion and Transport in Groundwater Environments" presented at the International Workshop on Novel and Enhanced Water Treatment Technologies for Upgrading Water Quality, September 6, 2005, Tianjan, China
21. Chen G. and S.L. Walker "Adhesion kinetics of freshwater and marine bacteria: Role of solution chemistry" poster presented at the 106<sup>th</sup> General Meeting of the American Society for Microbiology, May 21-25, 2006, Orlando, FL, USA.
22. Bradford, S., S. Torkzaban, and S.L. Walker "Coupling of Physical and Chemical Mechanisms in Colloid Deposition" presented at the American Chemical Society 80<sup>th</sup> Colloid and Surface Science Symposium, June 18-21, 2006, Boulder, CO, USA.
23. Walker, S.L., S. Bradford, and W.P. Johnson, "A new paradigm for pathogen transport and deposition in porous media: The role of pore structure and colloid-colloid interactions" presented at the American Chemical Society 80<sup>th</sup> Colloid and Surface Science Symposium, June 18-21, 2006, Boulder, CO, USA.
24. Torkzaban, S., S. Bradford and S.L. Walker, "Colloid transport in unsaturated porous media: The role of water content and ionic strength on particle straining" presented at the American Chemical Society 80<sup>th</sup> Colloid and Surface Science Symposium, June 18-21, 2006, Boulder, CO, USA.
25. Tazehkand, S. and S.L. Walker, "The influence of cell preparation methods on bacterial deposition" poster presented at the American Chemical Society 80<sup>th</sup> Colloid and Surface Science Symposium, June 18-21, 2006, Boulder, CO, USA.
26. Walker, S.L. and G. Chen, "Influence of solution chemistry on the fate and transport of freshwater and marine bacteria" poster presented at the Gordon Research Conference, Environmental Sciences: Water, Holderness School, June 25-30, 2006, Plymouth, NH, USA.
27. Walker, S.L. and G. Chen, "Adhesion kinetics of freshwater and marine bacteria: Role of solution chemistry" to be presented at the 232<sup>nd</sup> American Chemical Society National Meeting, Division of Environmental Chemistry Symposia Co-Sponsored with Association of Environmental Engineering and Science Professors, September 10-14, 2006, San Francisco, CA, USA.
28. Kim, H., S. ShojaeTazehkand, and S. L. Walker, "*E. coli* deposition and transport in porous media: Influence of solution chemistry and bacterial surface polymers" presented at the American Institute of Chemical Engineers National Meeting, Topical 1: Water Resource Conservation: Purification, Reclamation and Reuse (T1), November 12-17, 2006, San Francisco, CA, USA.
29. Torkzaban, S., S.A. Bradford and S.L. Walker, "Hydrodynamic and DLVO Forces on Colloid Retention in Porous Media" presented at the Soil Physics Multi-State Research Group Annual Meeting, January 2-4, 2007, Las Vegas, NV, USA.
30. Haznedaroglu, B.Z., C.H. Bolster, and S.L. Walker "Establishing the influence of starvation upon the transport of environmental *Escherichia coli* isolates" poster to be presented at the 107<sup>th</sup> General Meeting of the American Society for Microbiology, May 20-24, 2007, Toronto, Canada.

31. Chen, G., S. Torkzaban, S.A. Bradford and S. L. Walker "Colloid deposition in a radial stagnation point flow system: The role of hydrodynamic and DLVO forces" presented at the American Chemical Society 81<sup>st</sup> Colloid & Surface Science Symposium, June 24-27, 2007, Newark, DE, USA.
32. Torkzaban, S., S. Bradford and S. L. Walker "Resolving the Coupled Effects of Hydrodynamic and Physicochemical Forces on Colloid Attachment in Porous Media" presented at the American Chemical Society 81<sup>st</sup> Colloid & Surface Science Symposium, June 24-27, 2007, Newark, DE, USA.
33. Kim, H.J. and S. L. Walker "*Escherichia coli* Deposition and Transport in Porous Media: The coupled role of temperature and solution chemistry" presented at the American Chemical Society 81<sup>st</sup> Colloid & Surface Science Symposium, June 24-27, 2007, Newark, DE, USA.
34. Bradford, S.A., S. Torkzaban, S. L. Walker, and J. Simunek "Colloid Retention in Porous Media at Different Scales: Processes and Models" presented at the American Chemical Society 81<sup>st</sup> Colloid & Surface Science Symposium, June 24-27, 2007, Newark, DE, USA.
35. Benavides, M., Gong, A., and S. L. Walker "Comparing Methods of Extraction of Extracellular Polymeric Substances of Salmonella through Protein and Sugar Analysis", poster presented at the Annual Biomedical Research Conference for Minority Students (ABRCMS), November 10, 2007, Austin, TX, USA.
36. Huilian Ma, Meiping Tong, Vishal Gupta, William P. Johnson, Saeed Torkzaban, Scott A. Bradford, H. Kim, and Sharon L. Walker, "A New Paradigm for Pathogen Transport and Deposition in Porous Media: The Role of Pore Structure and Colloid-Colloid Interactions", Poster presented at the 2008 NRI Water & Watersheds Project Directors Meeting, Feb. 3-7, 2008, Sparks, NV, USA.
37. Haznedaroglu, B.Z. and S.L. Walker "Establishing the influence of starvation upon the transport of environmental *Escherichia coli* isolates" presented at the Joint American Chemical Society and American Institute of Chemical Engineers Spring Meeting, April 6-10, 2008, New Orleans, LA, USA.
38. Block: K. B. Mika, C. M. Lee, V. Thulsiraj, D. W. Ginsburg, S. L. Walker, J. A. Jay, "Rapid Quantitative Methods for Fecal Source-Tracking in Southern California Urban Watersheds and Beach Areas", Poster presented at the 108<sup>th</sup> General Meeting of the American Society for Microbiology, June 1-5, 2008, Boston, MA, USA.
39. Gong, A.S., Benavides, M., and Walker, S.L. "Extraction and Analysis of Extracellular Polymeric Substances: Comparison of Methods and EPS Levels in Salmonella sp.", poster presented at the 108<sup>th</sup> General Meeting of the American Society for Microbiology, June 1-5, 2008, Boston, MA, USA.
40. Haznedaroglu, B.Z., and S. L. Walker, 2008. "Monitoring the Pathogenicity and Transport Behavior of *Escherichia coli* O157:H7 and *Salmonella enterica* spp. in Packed Bed Column Systems", poster presented at the 108<sup>th</sup> General Meeting of the American Society for Microbiology, June 1-5, 2008, Boston, MA, USA.
41. Chen, G., Beving, D.E., Bedi, R.S., Yan, Y. and Walker, S.L. "The Antifouling Effect of Zeolite Surfaces on Bacterial Deposition in a Parallel Plate Flow Cell" presented at the American Chemical Society 82nd Colloid & Surface Science Symposium, June 15-18, 2008, Raleigh, NC, USA.
42. Hong, Y., Walker, S.L. and Myung, N. "Electrochemical synthesis of Fe<sub>1-x</sub>Ni<sub>x</sub> nanoparticles" presented at the American Chemical Society 82nd Colloid & Surface Science Symposium, June 15-18, 2008, Raleigh, NC, USA.
43. Kim, H. N., Bradford, S. A., and S. L. Walker "*Escherichia coli* O157:H7 transport in saturated porous media: role of solution chemistry and surface macromolecules" presented at the American Chemical Society 82nd Colloid & Surface Science Symposium, June 15-18, 2008, Raleigh, NC, USA.
44. Kim, H.N. and Walker, S.L. "*Escherichia coli* O157:H7 transport in saturated porous media: Coupled role of solution chemistry and surface macromolecules" poster presented at the Gordon Research Conference, Environmental Sciences: Water, Holderness School, June 22-27, 2008, Plymouth, NH, USA.
45. Haznedaroglu, B.Z. and Walker, S.L. "Fate of Pathogenicity and Transport Characteristics of *Salmonella* and *E. coli* O157:H7 in Groundwater" poster presented at the Gordon Research Conference, Environmental Sciences: Water, Holderness School, June 22-27, 2008, Plymouth, NH, USA.

46. Walker, S.L. and Hong, Y., "Fe<sub>1-x</sub>Ni<sub>x</sub> Nanoparticles Fate and Transport in Aquatic Environments" poster presented at the Gordon Research Conference, Environmental Sciences: Water, Holderness School, June 22-27, 2008, Plymouth, NH, USA.
47. Cook, K.L., Bolster, C.H., and Walker, S.L. "Evaluation of *Mycobacterium Avium* Subsp. *Paratuberculosis* Transport in Saturated Porous Media" presented at the Geological Society of America Annual Meeting, October 5-9, 2008, Houston, TX, USA.
48. Chen, G., Hong, Y. and Walker, S.L. "Particle and Bacterial Deposition: Role of Gravity" presented at the American Institute of Chemical Engineers National Meeting, November 16-21, 2008, Philadelphia, PA, USA.
49. Haznedaroglu, B.Z., and S. L. Walker, 2008. "Determining the Extent and Influence of Flagella, Injection Concentration, and Solution Chemistry in *Salmonella* Transport, presented at the 100<sup>th</sup> Annual Meeting of American Institute of Chemical Engineers, November 16-21, 2008, Philadelphia, PA, USA.
50. Ryan Honda and Sharon L. Walker. "Studies on Electrochemical Synthesis, Characterization, and Fate of Nanoparticles in Aquatic Environments." Poster presentation at the Southern California Conference for Undergraduate Research. Cal Poly Pomona. Nov. 22, 2008, Pomona, CA, USA.
51. Hong, Y., Honda, R. J., Myung, N. V. and Walker, S. L. "Fate and transport of (Fe<sub>x</sub>Ni<sub>1-x</sub>)<sub>y</sub>O<sub>z</sub> nanoparticles in aquatic environments" poster presented at the AGU Fall Meeting, December 15-19, 2008. San Francisco, CA, USA.
52. Sharon L. Walker, William P. Johnson, and Scott A. Bradford, "A New Paradigm for Pathogen Transport and Deposition in Porous Media: The Role of Pore Structure and Colloid-Colloid Interactions", Poster presented at the 2009 NRI Water & Watersheds Project Directors Meeting, Feb. 8-11, 2009, St. Louis, MO, USA.
53. Jane E. Hill and Sharon L. Walker, "Bacterial Pathogen Transport: Determining the Influence of Motility on Adhesion and Counter-Current Travel" poster presented at the 2009 NRI Water & Watersheds Project Directors Meeting, Feb. 8-11, 2009, St. Louis, MO, USA.
54. Sharon L. Walker and David Cwiertny, "Photochemical disinfection of pathogens: Influence of extracellular polymeric substances on bactericidal capacity of reactive oxygen species" poster presented at the 2009 NRI Water & Watersheds Project Directors Meeting, Feb. 8-11, 2009, St. Louis, MO, USA.
55. Ferri, J.K., Mylon, S. E. and Walker, S. L. "Elastic Moduli of *E. coli* D21g Biofilms in Chemostatic Conditions at the Aqueous-Air Interface" presented at the 237<sup>th</sup> ACS National Meeting, March 22-26, 2009. Salt Lake City, UT, USA.
56. Hong, Y., Honda, R. J., Myung, N. V. and Walker, S. L. "Transport of iron-nickel oxide nanoparticles in porous media" presented at the 237<sup>th</sup> ACS National Meeting, March 22-26, 2009. Salt Lake City, UT, USA.
57. Kim, H. N., S. L. Walker, and S. A. Bradford, "Macromolecule Mediated Transport and Retention of *Escherichia coli* O157:H7 in Saturated Porous Media", poster presented at the Microbial Transport and Survival in the Subsurface: First International Conference, May 10-13, 2009, Ontario, Canada.
58. Haznedaroglu, B.Z., and Walker, S.L., "Changes in Antibiotic Resistance and Pathogenicity of *Salmonella* Exposed to Artificial Groundwater with Residual Antibiotics", poster presented at the First International Conference on Microbial Transport and Survival in Porous Media, May 10-19, 2009, Niagara-on-the-Lake, Ontario, Canada.
59. Haznedaroglu, B.Z., and Walker, S.L., "Determining the Extent of Virulence and Influence of Motility in *Salmonella* Transport", presented at the First International Conference on Microbial Transport and Survival in Porous Media, May 10-19, 2009, Niagara-on-the-Lake, Ontario, Canada.
60. Kim, H. N., S. L. Walker, and S. A. Bradford, "*Escherichia coli* O157:H7 and *Cryptosporidium parvum* Oocysts Transport in Saturated Porous Media: Role of Solution Chemistry and Surface Macromolecules", presented at the 13<sup>th</sup> IACIS International Conference on Surface and Colloid Science and the 83<sup>rd</sup> ACS Colloid & Surface Science Symposium, June 14-19, 2009, New York, NY, USA.

61. Haznedaroglu, B.Z., Hill, J., and Walker, S.L., "Determining the Influence of Flagella and Growth Phase in *Salmonella enterica* Transport", presented at the 13<sup>th</sup> International Association of Colloid and Interface Science International Conference on Surface and Colloid Science and the 83<sup>rd</sup> American Chemical Society Colloid and Surface Science Symposium, June 14-19, 2009, New York, NY, USA.
62. Ferri, J.K., Mylon, S.E., and Walker, S.L. "Mechanics of *Escherichia coli* D21g Biofilms at the Aqueous-Air Interface" presented at the 13<sup>th</sup> International Association of Colloid and Interface Science International Conference on Surface and Colloid Science and the 83<sup>rd</sup> American Chemical Society Colloid and Surface Science Symposium, June 14-19, 2009, New York, NY, USA.
63. Gong, A. S, Lanzl, C., Cwiertny, D. M, and Walker, S. L "Photochemical Disinfection of Pathogens: Bactericidal Capacity and Rate Studies of Reactive Oxygen Species in Systems with Nitrate" poster presented at the annual conference of Association of Environmental Engineering and Science Professors, July 26-28 2009, Iowa City, IA, USA.
64. Chowdhury, I., Hong, Y., and Walker, S.L "Container to Characterization: Impacts of Sonication, Nanoparticle Concentration, and Ionic Strength on Metal Oxide Nanoparticle Stability" poster presented at the First Annual CEINs Int'l Conference, September 9-11 2009, Washington, DC, USA.
65. Walker, S.L and Hong, Y. "Transport of TiO<sub>2</sub> Nanoparticles: Role of Solution Chemistry and Particle Concentration" presented at the First Annual CEINs Int'l Conference, September 9-11, 2009, Washington, DC, USA.
66. Chowdhury, I. and Walker, S. L., "Fate, Transport and Removal of Nanomaterials in Environment: Fundamental Mechanisms", invited talk given by PhD student at the University of California, Santa Barbara, January 13, 2010, Santa Barbara, CA, USA.
67. Gong, A. S, Lanzl, C., Cwiertny, D. M, and Walker, S. L "Photochemical Disinfection of Pathogens: Role of Bacterial Extracellular Polymeric Substances (EPS) Coverage in Reaction with OH" poster presented at the 2010 Land Grant and Sea Grant National Water Conference, February 21-25 2010, Hilton Head Island, SC, USA.
68. Gutman, J. Walker, S.L., Freger, V. and M. Herzberg. "Effect of physico-chemical factors and motility on bacterial adhesion to surfaces" poster presented at the Israeli Water Association Conference, March 17-18, 2010, Ramat-Gan, Israel.
69. Gong, A. S, Lanzl, C., Cwiertny, D. M, and Walker, S. L "Photochemical Disinfection of Pathogens: Role of Bacterial Extracellular Polymeric Substances (EPS) Coverage in Reaction with OH" poster presented at the 239<sup>th</sup> American Chemical Society National Meeting & Exposition, March 21-25 2010, San Francisco, CA, USA.
70. Chowdhury, I. and Walker, S.L., "A Novel Microscope-based Study on Deposition and Attachment Mechanisms of TiO<sub>2</sub> Nanoparticle on Surfaces", poster presented at the Second Annual CEINs Int'l Conference, May 11-13 2010, Los Angeles, CA, USA.
71. Chowdhury, I. and Walker, S.L., "A Novel Microscope-based Study on Deposition and Attachment Mechanisms of TiO<sub>2</sub> Nanoparticle on Surfaces", presented at the 84<sup>th</sup> American Chemical Society Colloid and Surface Science Symposium, June 20-23, 2010, Akron, OH, USA.
72. Gutman, J.; Freger, V.; Walker, S.L.; and M. Herzberg," Effect of physico-chemical factors and motility on bacterial adhesion", poster presented at the NAMS-North American Membrane Society, July 2010, Washington DC, USA.
73. Gutman, J.; Freger, V.; Walker, S.L.; and M. Herzberg,"Effect of physico-chemical factors and motility on bacterial adhesion", poster presented at the Gordon Research Conference "Membranes: Materials and processes", July 2010, New London, NH, USA.
74. Gutman, J.; Freger, V.; Walker, S.L.; and M. Herzberg,"Effect of motility on bacterial adherence and viscoelastic properties", poster presented at the Israeli Microbiological Society (ISM) annual meeting, October 2010, Ramat-Gan, Israel.
75. Opot, S.R., Marcus, I.M., and Walker, S.L., "Influence of Growth Media on *Escherichia coli* Surface Characteristics," presented at the 2010 National Organization of Black Chemists and Chemical Engineers, Western Regional Conference, October 15-16, 2010, San Diego, CA, USA.
76. Bolster, C.H., Cook, K.L., Marcus, I.M., Haznedaroglu, B.Z., and Walker, S.L., 2010. "Correlating Attachment Behavior with Cell Properties for Eight Porcine *Escherichia coli* Isolates", International

- Annual Meeting of American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America, October 31-November 3, 2010, Long Beach, CA, USA.
77. Chowdhury, I., and Walker, S. L., "Deposition of TiO<sub>2</sub> Nanoparticles on Surfaces in Parallel Plate Chamber: Role of Natural Organic Matter", presented at the National Meeting of American Institute of Chemical Engineers, November 7-12, 2010, Salt Lake City, UT, USA.
  78. Chowdhury, I. and Walker, S. L., "Fate, Transport and Removal of Nano-TiO<sub>2</sub> in Aquatic Environment: Fundamental Mechanisms and Implications", poster presented at UC Global Health Day, University of California, Irvine, November 30, 2010, Irvine, CA, USA.
  79. Walker, S.L. and Smith, H. "Building Bridges Across Riverside Through Nano-Water Research" poster presented at the USDA National Institute of Food and Agriculture 1890 Capacity Building Grants Project Directors meeting, November 29-December 2, 2010, Washington, DC, USA.
  80. Zorlu, O; Haznedaroglu, B.Z.; and S. L Walker, "Role of growth phase in attachment kinetics of *Salmonella enterica* Typhimurium", poster presented at Pacifichem 2010, December 15, 2010, Honolulu, HA, USA.
  81. Orgad, O; Oren, Y.; Herzberg, M.; and Walker, S.L., "Role of EPS in *Pseudomonas aeruginosa* adherence to surfaces", presented at Pacifichem 2010, December 15, 2010, Honolulu, HA, USA.
  82. Gutman, J.; Freger, V.; Walker, S.L.; and M. Herzberg, "Reclamation of tertiary wastewater with reverse osmosis membranes: Physico-chemical approaches for biofouling control", presented at Pacifichem 2010, December 14, 2010, Honolulu, HA, USA.
  83. Mylon, S.E., Ferri, J.K., and S.L. Walker "Elastic moduli of *E. coli* D21g biofilms at the aqueous-air interface" presented at Pacifichem 2010, December 15, 2010, Honolulu, HA, USA.
  84. Marcus, I.M, Freger, V., Walker, S.L., Herzberg, M., "Hydrophobic interactions of *Pseudomonas aeruginosa* at the interface: Molecular monitoring of water leaving the surface" presented at the Israeli Society of Microbiology, Bar Ilan University, April 12, 2011, Ramat-Gan, Israel.
  85. Sharon S. Sokolow, Indranil Chowdhury, Saji George, Allison M. Horst, Angela Ivask, Zhaoxia Ji, Elizabeth Suarez, Kenneth Bradley, Patricia Holden, Andre E. Nel, Sharon L. Walker, Jeffrey I. Zink, Hilary A. Godwin, "Towards a Unified Protocol for Suspension of Nanomaterials in Environmentally-relevant Media", poster presented at Third International Conference on Environmental Implications of Nanotechnology (ICEIN), May 9-10, 2011, Durham, NC, USA.
  86. Marcus, I.M., Bolster, C.H., Walker, S.L., "Effect of growth media on environmental *E. coli* isolates" poster presented at the American Society of Microbiology, May 24, 2011, New Orleans, LA, USA.
  87. Chowdhury, I., Kim, J., Honda, R. J., and Walker, S. L., "Influence of Bacteria on the Transport of Nano-TiO<sub>2</sub> in Aquatic Environments", poster presented at Gordon Research Conference on Environmental Nanotechnology, May 29- June 3, 2011, Waterville Valley, NH, USA.
  88. Chowdhury, I., J. Kim., Honda, R. J., and Walker, S. L., "Combined Factors Influencing the Deposition of Nano-TiO<sub>2</sub> in the Presence of Natural Organic Matter and Bacteria", presented at 85<sup>th</sup> Annual Symposium on Colloids and Surface Science, June 19-22, 2011, Montreal, Quebec, Canada.
  89. Chowdhury, I; Zorlu, O; and S. L Walker, "Influence of natural organic matter on attachment kinetics of *Salmonella Typhimurium*", poster presented at the American Geophysical Union National Meeting, December 5-9, 2011, San Francisco, CA, USA.
  90. Taylor, A.A., A. Gong, I. Chowdhury, D.M. Cwiertny, and S.L. Walker. "Influence of surface coatings and extracellular polymeric substances on *Escherichia coli* 0157:H7 attachment and disinfection." UCR Water Research Symposium, UC Riverside, April 17, 2012, Riverside, CA, USA.
  91. Chowdhury, I., Pokhrel, S., Mädler, L., Mylon, S. E. and Walker, S. L., "Transport of nano-TiO<sub>2</sub> Aggregate in Porous Media: Influence of Primary Particle Size and Heterogeneity in Nanoparticle Aggregate", presented at 243<sup>rd</sup> American Chemical Society National Meeting, March 25-29, 2012, San Diego, CA, USA.
  92. Taylor, A.A., A. Gong, I. Chowdhury, D.M. Cwiertny, and S.L. Walker. "Influence of surface coatings and extracellular polymeric substances on *Escherichia coli* 0157:H7 attachment and disinfection." Poster presented at the 2012 SoCal SETAC Annual Meeting, April 19-20, 2012, Costa Mesa, CA, USA.

93. van Grieken, R.; Marugán, J.; Pablos, C.; Walker, S.L. "Study of bacterial adhesion onto immobilized TiO<sub>2</sub>: Effect on the photocatalytic activity for disinfection application" poster presented at the 7th European Meeting on Solar Chemistry and Photocatalysis: Environmental Applications 17- 20 June, 2012. Porto, Portugal.
94. R. Honda, S. Walker. "Aggregation and sedimentation phenomena of bare and coated titanium dioxide nanoparticles in conventional treatment processes." 86th ACS Colloid and Surface Science Symposium, Johns Hopkins University, June 10-13, 2012, Baltimore, MD, USA.
95. Marcus, I.M., Walker, S.L., "From ideal to real: Understanding the behavior of pathogens in the environment", poster presented at Gordon Research Conference, Environmental Sciences: Water, June 23-29, 2012, Holderness, NH, USA.
96. Chowdhury, I., Duch, M. C., Hersam, M. C., and Walker, S. L. "Synthesis Methods and Residual Metal Catalysts Affecting the Transport of Single Walled Carbon Nanotubes in the Environment", poster presented at Gordon Research Conference on Environmental Sciences: Water, June 24-29, 2012, Holderness, NH, USA.
97. Chowdhury, I. and Walker, S. L., "Fate, Transport and Removal of Nanomaterials in Aquatic Environment", invited talk presented at University of California, Santa Barbara, March 16, 2012, Santa Barbara, CA, USA.
98. Valle, J., R. Guysi, A.A. Taylor, and S.L. Walker. "Evaluating the toxicity of nano silver hair dryers via physicochemical characterization and the Kirby-Bauer assay." 25th Annual Mentoring Summer Research Internship Program (MSRIP) Symposium, UC Riverside, August 15, 2012, Riverside, CA, USA.
99. Taylor, A.A., Jose Valle, Risa Guysi, and Sharon L. Walker. "Evaluating the toxicity of nano silver hair dryers via physicochemical characterization and the Kirby-Bauer assay." Poster presented at SETAC North America 33<sup>rd</sup> Annual Meeting, November 11-15, 2012, Long Beach, CA, USA.
100. Posmanik, R., Crohn, M.D., Walker, L.S., Nejdat, A., Gross, A. "The effect of various poultry manure management practices on emissions of ammonia and nitrous oxide" poster presented at the 10<sup>th</sup> IWA Specialized Conference on Biofiltration for Air Pollution Control, March 3-6, 2013, San Francisco, CA, USA.
101. Lanphere, J.D. and Walker, S. L. "Effects of Solution Chemistry on the Transport of Graphene Oxide in Saturated Porous Media" 245th ACS National Meeting, April 7-11, 2013. New Orleans, LA, USA.
102. Taylor, A.A. and S.L. Walker. "Fate and transport of micro copper in a model septic tank: effects on microbial community health and water treatment." UC-CEIN Nano EH&S Forum: Scientific Advances Towards Reducing Complexity in Decision Making, UCLA, May 8-9, 2013, Los Angeles, CA, USA.
103. Lanphere, J.D. and Walker, S.L. "Fate and Transport of Graphene Oxide Nanoparticles in Aqueous and Subsurface Environments" Poster presented at the Gordon Research Conference, June 2-7, 2013. Stowe, VT, USA.
104. Gutman, J.; Kaufman, Y. Kawahara, K., Walker, S.L. Arnusch, C. Helbley, J., Freger, V., Herzberg M. "Wastewater NF/RO Biofouling Research: Physico-Chemical Causes for *Sphingomonas* spp. Prevalence as Confirmed by QCM-D and Microfluidics" North American Membrane Society meeting, June 8-12, 2013, Boise, ID, USA.
105. Taylor, A. and S. Walker. "Effects of metal oxide nanoparticles on a model colon gut microbiome." Environmental Toxicology Annual Student Symposium, UC Riverside, June 21, 2013, Riverside, CA, USA.
106. Taylor A., I. Marcus, and S. Walker. "Effects of metal oxide nanoparticles on a model colon gut microbiome." 87<sup>th</sup> American Chemical Society Colloids & Surface Science Symposium, UC Riverside, June 23-26, 2013, Riverside, CA, USA.
107. Jessamine A. Quijano, Young Soo Joung, Cullen R. Buie, and Sharon L. Walker. "Antimicrobial Behavior of Novel Surfaces Generated by Electrophoretic Deposition and Breakdown Anodization" 87th ACS Colloid and Surface Science Symposium, UC Riverside, June 23-26, 2013, Riverside, CA, USA.



108. Lanphere, J.; Rogers, B.; Luth, C.; and Walker, S. "Effects of Natural Organic Matter, Surface Water, and Ground Water on the Fate and Transport of Graphene Oxide in Saturated Porous Media" 87th Colloid Surface & Science Symposium, June 23-26, 2013, Riverside, CA, USA.
109. Van Grieken, R.; Maragan, J., Pablos, C.; and Walker, S. "Study of bacterial adhesion onto immobilized TiO<sub>2</sub>: Effect on the photocatalytic activity for disinfection applications" presented at the 7<sup>th</sup> European Meeting on Solar Chemistry and Photocatalysis: Environmental Applications, June 17-23, 2013, Porto, Portugal.
110. Walker, S. and Herzberg, M. "Water sustainability in desert agriculture: Enhancing relationships and global competency of graduate students and faculty through collaboration with Israel" poster presented at the 68<sup>th</sup> International Annual Conference of the Soil and Water Conservation Society, July 21-24, 2013, Reno, NV, USA.
111. Honda, R. and Walker, S. "Titanium Dioxide Nanoparticle Removal: Role of Solution Chemistry, Natural Organic Matter, Coating, and Source Water" talk presented at the 87<sup>th</sup> ACS Colloid & Surface Science Symposium, UC Riverside, June 23-26, 2013, Riverside, CA, USA.
112. Walker, S. L. and Cwiertny, D. M, "Photochemical disinfection of pathogens: Influence of extracellular polymeric substances on bactericidal capacity of reactive oxygen species" talk presented at the 2013 Soil and Water Conservation Society International Annual Conference, July 22, 2013, Reno, NV, USA.
113. Cruz, B., A.A. Taylor, and S.L. Walker. "The use of Live/Dead and *C. elegans* assays to determine viability and virulence in disinfection surviving bacteria." 26<sup>th</sup> Annual Mentoring Summer Research Internship Program (MSRIP) Symposium, UC Riverside, August 16, 2013, Riverside, CA, USA.
114. Bolster, C.; Abit, S.; Cantrell, K.; Quijano, J. and Walker, S "Biochar and soil properties affecting microbial transport through biochar-amended soils" presented at the SETAC North American Annual Meeting, November 17-21, 2013, Nashville, TN, USA.
115. Ryan J. Honda and Sharon L. Walker. "TiO<sub>2</sub> Removal via Conventional Water Treatment: Role of Nanoparticle Coating, Natural Organic Matter, and Source Water." Poster presentation at Second Sustainable Nanotechnology Organization Conference. November 4, 2013. Santa Barbara, CA, USA.
116. Lanphere, J.D. and Walker, S.L. "Environmentally Relevant Conditions Impacting Graphene Oxide Transport in Aqueous Environments" oral presentation at the Sustainable Nanotechnology Organization Conference, November 3-5, 2013. Santa Barbara, CA, USA.
117. Cruz, B., A.A. Taylor, and S.L. Walker. "The use of Live/Dead and *C. elegans* assays to determine viability and virulence in disinfection surviving bacteria." Southern California Conferences for Undergraduate Research (SCCUR), Whittier College, November 23, 2013, Whittier, CA, USA.
118. Chow, T., A.A. Taylor, and S.L. Walker. "Effects of copper nanoparticles on a microbial community in a model septic tank." Southern California Conferences for Undergraduate Research (SCCUR), Whittier College, November 23, 2013, Whittier, CA, USA.
119. Coyoca, A., A.A. Taylor, and S.L. Walker. "Fate and partitioning of copper nanoparticles in a model septic system." Southern California Conferences for Undergraduate Research (SCCUR), Whittier College, November 23, 2013, Whittier, CA, USA.
120. Taylor, A.A., Z. Ronen, and S.L. Walker. "Impact of copper nanoparticles on the function of a model septic system and microbial community." Israel Society for Microbiology Annual Meeting, April 7, 2014, Haifa, Israel.
121. Lanphere, J.D. and Walker, S.L. "Aggregate Morphology, Stability, and Transport of Molybdenum Disulfide Nanoparticles in Subsurface Environments" oral presentation at the 88<sup>th</sup> ACS Colloid and Surface Science Symposium, June 22, 2014. Philadelphia, PA, USA.
122. Nichola Kinsinger and Sharon Walker, "Efficacy of Rinsing to Detach and Disinfect *E. coli* on Baby Spinach" poster presented at Gordon Research Conference – Environmental Sciences: Water, June 22-27, 2014, Holderness, NH, USA.
123. A.A. Taylor and S.L. Walker. "Impact and fate of copper nanoparticles on a model septic system." Poster presented at the Gordon Research Conference on Environmental Sciences: Water, June 22-27, 2014, Holderness, NH, USA.

124. Story, S.D., Lanphere, J.D., and Walker, S.L. "Environmentally relevant conditions impacting graphene oxide transport in aqueous environments" presented at the 248<sup>th</sup> ACS National Meeting, August 10-14, 2014, San Francisco, CA, USA.
125. A.A. Taylor and S.L. Walker. "Release and impact of copper nanoparticles on a model septic system." 248<sup>th</sup> ACS National Meeting, August 10-14, 2014, San Francisco, CA, USA.
126. Alex Burton, Igor Irianto, Daniel White, Travis Waller and Sharon Walker "Examining the Effects of *In Vitro* Gastric Digestion of Titanium Dioxide Nanoparticles" Mentoring Summer Research Internship Program (MSRIP) Symposium, UC Riverside, August 15, 2014, Riverside, CA, USA.
127. A.A. Taylor and S.L. Walker. "Use of a model laboratory-scale septic system for studying emerging contaminants." 2014 Annual Meeting of the Southern California Society of Toxicology, October 16, 2014. Third Place Poster Prize, San Diego, CA, USA.
128. A.A. Taylor, S. Lin, Z. Ji, C.H. Chang, N.M. Kinsinger, W. Ueng, S.L. Walker, and A.E. Nel. "Understanding the transformation, speciation, and hazard potential of copper-based particles in a model septic tank using a zebrafish high throughput screening assay." 54<sup>th</sup> Society of Toxicology Annual Meeting & ToxExpo, March 22-26, 2015, San Diego, CA, USA.
129. Ronen, W.Duan, I. Wheeldon, S.L.Walker, D. Jassby "Microbial attachment inhibition through low voltage electrochemical reactions on electrically conducting membranes", NAMS June 1, 2015, Boston, MA, USA.
130. Story, S.D., Brinker, C.J. Walker, S.L. "Aggregate Morphology: A Comparison of Spherical and 2-D Nanomaterials" poster presented at the 2015 Gordon Research Conference: Environmental Nanotechnology, June 21-26, 2015, West Dover, VT, USA.
131. Chen, Chen and Sharon L. Walker, "Investigation of Filtration Mechanisms Involved in the Removal of Nanoparticles from Water" Poster presented at the Gordon Research Conference: Environmental Nanotechnology, June 21-26, 2015. Mount Snow, VT, USA.
132. Waller, Travis and Sharon L. Walker, "Impacts of Food and Industrial Grade Titanium Dioxide on Anaerobic Wastewater Treatment" Poster presented at the Gordon Research Conference on Environmental Nanotechnology, June 21-26, 2015. Mount Snow, VT, USA.
133. A.A. Taylor and S.L. Walker. "Transformation and hazard potential of copper particles in a septic system using a zebrafish high-throughput screening assay to monitor effluent." Poster presented at the Gordon Research Conference on Environmental Nanotechnology, June 21-26, 2015. Mount Snow, VT, USA.
134. Story, S.D., Brinker, C.J. Walker, S.L. "Aggregate Morphology: A Comparison of Spherical and 2-D Nanomaterials" poster presented at the 2015 Gordon Research Seminar: Environmental Nanotechnology, June 20-21, 2015, West Dover, VT, USA.
135. Waller, Travis and Sharon L. Walker, "Impacts of Food and Industrial Grade Titanium Dioxide on Anaerobic Wastewater Treatment" Poster presented at the Gordon Research Seminar, June 20-21, 2015. Mount Snow, VT, USA.
136. Chen, Chen and Sharon L. Walker, "Investigation of Filtration Mechanisms Involved in the Removal of Nanoparticles from Water" Poster presented at the Gordon Research Seminar on Environmental Nanotechnology, June 20-21, 2015. Mount Snow, VT, USA.
137. A.A. Taylor and S.L. Walker. "Transformation and hazard potential of copper particles in a septic system using a zebrafish high-throughput screening assay to monitor effluent." Poster presented at the 2015 AEESP Research and Education Conference, June 13-16, 2015, New Haven, CT, USA.
138. Stephanie Lara, Travis Waller and Sharon Walker "The environmental effects of titanium dioxide nanoparticles inside a model colon" Mentoring Summer Research Internship Program (MSRIP) Symposium, UC Riverside, August 14, 2015, Riverside, CA, USA.
139. Diego Novoa, Travis Waller and Sharon Walker "Environmental impacts of titanium dioxide through a model colon and septic tank system" Mentoring Summer Research Internship Program (MSRIP) Symposium, UC Riverside, August 14, 2015, Riverside, CA, USA.
140. Nichola Kinsinger and Sharon L. Walker, "Is our salad safe? Efficacy of current disinfection rinses and potential photocatalytic technology to prevent foodborne outbreaks" presented at ACS Fall Meeting, August 2015, Boston, MA, USA.

141. Nichola Kinsinger and Sharon L. Walker, "Is our salad safe? Efficacy of current disinfection rinses and potential photocatalytic technology to prevent foodborne outbreaks" poster presented at USDA NIFA Project Directors Meeting, August 2015, Washington, DC, USA.
142. Mayton, H. and Walker S.L., Characterization of Potential Surrogates for Produce Pathogens. Poster presented at Chemical and Environmental Engineering Annual Student Symposium, UC Riverside, September 17, 2015, Riverside, CA, USA.
143. Liu, H.; Lanphere, J.; Walker, S.L.; Cohen, Y. "Agglomeration of Nanoparticles Evaluated Via a Constant Number Monte Carlo Simulation" presented at the American Institute of Chemical Engineers National Conference, November 2015, Salt Lake City, UT, USA.
144. Chen, C. and Walker, S. L., "Novel approach for investigating mechanisms of nanoparticle filtration" presented at 251st American Chemical Society National Meeting, March 13-17, 2016, San Diego, CA, USA.
145. Mayton, H., Cook, K., and Walker, S.L. Characterization of Potential Surrogates for Produce Pathogens. Poster presented at Grow Riverside Conference, UC Riverside, March 21, 2016. Awarded 3rd Place, Riverside, CA, USA.
146. Diego Novoa, Travis Waller, Sharon Walker "Environmental Impacts of Titanium Dioxide Through a Model Colon and Septic Tank System" UCR Undergraduate Research Symposium, April 18, 2016, Riverside, CA, USA.
147. Luth, M. and Walker, S.L. Effect of Material Properties on Bacterial Attachment to Thin Film Photocatalytic Titanium Dioxide. Presentation at UCR Undergraduate Research Symposium, UC Riverside, April 20, 2016, Riverside, CA, USA.
148. Mayton, H., Cook, K., and Walker, S.L. Characterization of Potential Surrogates for Produce Pathogens. Poster presented at Borlaug Summer Institute for Global Food Security, Purdue University, June 13, 2016, West Lafayette, IN, USA.
149. Chantel McKoy, David Huxley, Travis Waller, and Sharon L. Walker "The Use of Titanium Dioxide in the Breakdown of Organic Compounds in Wastewater" 29th Annual Mentoring Summer Research Internship Program (MSRIP) Research Symposium, UCR Aug 10, 2016, Riverside, CA, USA.
150. Story, S.D., Walker, S.L. "Investigating Aggregate Morphology of Planar Engineered Nanomaterials" presented at the International Conference on the Environmental Effects of Nanoparticles and Nanomaterials (ICEENN), August 15, 2016, Golden, CO.
151. Chen Chen and Sharon Walker "Investigation of Filtration Mechanisms Involved with Removal of Engineered Nanomaterials from Drinking Water with Food-grade and Industrial TiO<sub>2</sub>" 5<sup>th</sup> Sustainable Nanotechnology Organization (SNO) conference, Nov 12, 2016, Orlando, FL, USA.
152. Waller, Travis; Chen, Chen; and Walker, Sharon L. "Food and Industrial Grade TiO<sub>2</sub> Impacts to the Human Gut Microbiota" 5<sup>th</sup> Sustainable Nanotechnology Organization (SNO) conference, Nov 12, 2016, Orlando, FL, USA.
153. Chen, Chen, Waller, Travis, and Walker, Sharon L. " Role of Particle Chemistry on Filtration Mechanisms of Water Treatment- FITC Coated Food Grade and Industrial Grade TiO<sub>2</sub> with Al<sup>3+</sup>" poster presented at the Gordon Research Seminar: Environmental Nanotechnology, June 17, 2017, Stowe, VT
154. Chen, Chen, Waller, Travis, and Walker, Sharon L., "Role of Particle Chemistry on Filtration Mechanisms of Water Treatment- FITC Coated Food Grade and Industrial Grade TiO<sub>2</sub> with Al<sup>3+</sup>" poster presented at the Gordon Research Conference: Environmental Nanotechnology, June 18-23, 2017, Stowe, VT
155. Waller, Travis, Marcus, Ian M., and Walker, Sharon L. "Microbial Diversity and Response in Model Septic System Exposed to TiO<sub>2</sub> Particles" poster presented at 2017 Environmental Nanotechnology Gordon Research Seminar & Conference, Jun 17-Jun 23, Stoweflake, VT, USA.
156. Story, S.D., Guiney, L.M., Hersam, M.C., Walker, S.L. "Aqueous Stability of Black Phosphorus: Aggregation and Degradation Mechanisms of a Novel 2-Dimensional Nanomaterial" poster

- presented at the 2017 Environmental Nanotechnology Gordon Research Conference, June 18 – June 23, 2017, Stowe, VT.
157. Hersam, M.C., Walker, S.L. "Aqueous Stability of Black Phosphorus: Aggregation and Degradation Mechanisms of a Novel 2-Dimensional Nanomaterial" poster presented at the 2017 Environmental Nanotechnology Gordon Research Seminar, June 17 – June 18, 2017, Stowe, VT.
  158. Villamil, M., Marcus, I.M., Walker, S.L. Saving People From Pathogen Caused Illnesses, One Bacterium at a Time. MS RIP Undergraduate Research Seminar. August 18, 2017, UC Riverside.
  159. Carter, C., Waller, T., Marcus, I.M., Walker, S. Characterizing Environmental Behavior of Titanium Dioxide Nanoparticles. MS RIP Undergraduate Symposium. August 18, 2017, UC Riverside.
  160. Kim, C.Y., Walker, S.L., Jassby, D. "Comparison and Characterization of Biofilm Removal by Different Chemical Cleaning Solutions for Water Treatment Applications" presentation at the 2018 ACS National Meeting & Expo: Nexus of Food, Energy & Water, March 18 - 22, 2018, New Orleans, LA.
  161. White, D., Mayton, H. M., Marcus, I. M., Walker, S. L., "Influence of Environmental Nanomaterials on Aqueous Fate and Transport of Bacteria in Soil" poster presented at the Gordon Research Conference, *Nanoscale Science and Engineering for Agriculture and Food Systems*, Mount Holyoke College, June 3 - 8, 2018, South Hadley, MA, USA.
  162. Mayton, H.M., White, D., Marcus, I.M., Walker, S.L., "Influence of Engineered Nanomaterials on Aggregation & Adhesion of *E. coli* on Spinach Leaf Surfaces" poster presented at the Gordon Research Conference, *Nanoscale Science and Engineering for Agriculture and Food Systems*, Mount Holyoke College, June 3 - 8, 2018, South Hadley, MA, USA.
  163. H. Mayton, Walker, S.L., Berger, B. Disrupting Irreversible Bacterial Adhesion and Biofilm Formation with an Engineered Enzyme. Oral presentation at the International Association of Food Protection Annual Meeting, July 22, 2019, Louisville, KY.
  164. White, D., Marcus, I.M., Walker, S.L., Roper, M.C., "Influence of flow dynamics on transmission of *Xylella fastidiosa*" poster presented at Plant Health 2019, Huntington Convention Center, August 3 - 7, 2019, Cleveland, OH, USA.
  165. White, D., Marcus, I. M., Roper, M. C., Walker, S. L., "How Insects Spread a Grapevine Disease" Micro-Length pre-recorded talk presented at SciComm 2020, August 14, 2020, virtual conference.
  166. White, D., Marcus, I. M., Roper, M. C., Walker, S. L., "*Xylella fastidiosa* Transmission and Biofilm Formation Influenced by Fluid Dynamics" ePoster presented at Plant Health 2020, August 1 – 31, 2020, virtual conference.
  167. White, D., Marcus, I. M., Roper, M. C., Walker, S. L., "Fluid Dynamics Influence Biofilm Formation and Transmission of an Insect-Borne Plant Pathogen" ePoster presented at 2020 AIChE Annual Meeting (Meet the Faculty and Post-Doc Candidates Poster Session), November 15 – 20, 2020, virtual conference.
  168. White, D., Marcus, I. M., Roper, M. C., Walker, S. L., "Fluid Dynamics Influence Biofilm Formation and Transmission of an Insect-Borne Plant Pathogen" ePoster presented at 2020 AIChE Annual Meeting (Meet the Faculty and Post-Doc Candidates Poster Session), November 15 – 20, 2020, virtual conference.
  169. White, D., Marcus, I. M., Roper, M. C., Walker, S. L., "Plant Pathogenic Bacteria Transmission and Biofilm Life Cycles Influenced by Fluid Dynamics Inside Insect Mouthparts and Plant Xylem" ePoster presented at 2020 AIChE Annual Meeting (Poster Session: Environmental Division), November 15 – 20, 2020, virtual conference.
  170. White, D., Marcus, I. M., Roper, M. C., Walker, S. L., "Fluid Dynamics Inside Insect Mouthparts and Plant Xylem Influence Biofilm Formation and Transmission of an Insect-Borne Plant Pathogen" PreRecorded+ Talk presented at 2020 AIChE Annual Meeting (Session: Characterization of Biomaterials and Biological Systems), November 15 – 20, 2020, virtual conference.

171. White, D., Backus, E. A., Marcus, I. M., Walker, S. L., Roper, M. C., “Intuitive illustration of blue-green sharpshooter functional foregut anatomy” infographic presented at Entomology 2020, November 11 – 25, 2020, virtual conference.
172. White, D., Backus, E. A., Marcus, I. M., Walker, S. L., Roper, M. C., “3D illustrated anatomy of the blue-green sharpshooter (Hemiptera: Cicadellidae: Cicadellinae) functional foregut” student competition prerecorded talk presented at Entomology 2020, November 11 – 25, 2020, virtual conference.

### Invited Research Talks

1. Walker, S.L. “The Role of Cell Surface Macromolecules on Bacterial Adhesion and Transport in Aquatic Environments” California Institute of Technology, January 5, 2005, Pasadena, CA, USA.
2. Walker, S.L. “The Role of Cell Surface Polymers on Bacterial Adhesion and Transport” University of California, Los Angeles, February 8, 2005, Los Angeles, CA, USA.
3. Walker, S.L. “Investigation the Role of Bacterial Surface Polymers on Adhesion and Transport in Aquatic Systems” Worcester Polytechnic Institute, June 10, 2005, Worcester, MA, USA.
4. Walker, S.L. “Mechanisms of Bacterial Adhesion and Transport in Aquatic Systems” University of California, Berkeley, October, 20, 2006 Berkeley, CA, USA.
5. Walker, S.L. “What’s in Your Water? Challenges and Solutions to Pathogen Problems” presented at UCR, November 6, 2006 to the UCR Affiliates Group, Riverside, CA, USA.
6. Walker, S.L. “What’s in Your Water?” February 20, 2007 to the UCR Life Program at the UCR Extension, Riverside, CA, USA.
7. Walker, S.L. “Mechanisms of Bacterial Adhesion and Transport in Aquatic Systems” University of California, Davis February 26, 2007, Davis, CA, USA.
8. Walker, S.L. “Mechanisms of Bacterial Adhesion and Transport in Aquatic Systems” University of Sheffield, April 4, 2007, Sheffield, England.
9. Walker, S.L. “Evaluation of Bacterial Fate and Transport: Biological and Experimental Considerations” University of Utrecht, October 15, 2007, Utrecht, The Netherlands.
10. Walker, S.L. “Nanoparticle Fate and Transport in Aquatic Environments” UCLA/UCSB Nanotoxicology Training Program, University of California, Los Angeles, June 5, 2008, Los Angeles, CA, USA.
11. Walker, S.L. “Nanoparticle and Pathogen Fate and Transport in Aquatic Environments” University of California, Irvine, November 21, 2008, Irvine, CA, USA.
12. Walker, S.L. “Nanoparticle and Pathogen Fate and Transport in Aquatic Environments” Johns Hopkins University, December 16, 2008, Baltimore, MD, USA.
13. Walker, S.L. “Building Our Workforce Through Water Quality Research and Mentoring” presented at the 2009 NRI Water & Watersheds Project Directors Meeting, February 8-11, 2009, St. Louis, MO, USA.
14. Walker, S.L. “Water Quality and Food Safety” presented at UCR Palm Desert, March 4, 2009 as part of the Imagining the Future Lecture Series, Palm Desert, CA, USA.
15. Walker, S.L. “Fate and Transport of Metal Oxides Nanoparticles in Aquatic Environments” Bren School of the Environment and the Center for the Environmental Implications of Nanotechnology, University of California, Santa Barbara, April 22, 2009, Santa Barbara, CA, USA.
16. Walker, S. L. “*Salmonella* virulence and evolution as a function of exposure to transport in groundwater-like environments” Department of Biotechnology Engineering, Ben Gurion University of the Negev, January 4, 2010, Beersheba, Israel.
17. Walker, S.L. “The effect of extracellular and surface macromolecules on the deposition of pathogenic microorganisms in saturated porous media” Department of Desalination, Zuckerberg

Institute of Water Research, Ben Gurion University of the Negev, January 13, 2010, Beersheba, Israel.

18. Walker, S.L. "The effect of extracellular and surface macromolecules on the deposition of pathogenic microorganisms in saturated porous media" Department of Environmental Engineering, Ben Gurion University of the Negev, April 29, 2010, Beersheba, Israel.
19. Walker, S.L. "What is Research?" Community College STEM Institute, University of California, August 18, 2010, Riverside, CA, USA.
20. Walker, S.L. "Environmental Implications of Nanotechnology" Ecotoxicology Graduate Program Seminar, University of California, October 20, 2010, Riverside, CA, USA.
21. Walker, S. L. "Building Our Workforce Through Water Quality Research and Mentoring" USDA National Institute of Food and Agriculture 1890 Capacity Building Grants Project Directors meeting, November 29-December 2, 2010, Washington, DC, USA.
22. Walker, S.L. "Water Quality in California and Israel" University of Southern California's "Going Back to College Day" February 17, 2011, Los Angeles, CA, USA.
23. Walker, S.L. "Living in the Desert: Water Quality Issues from Riverside to Israel", UCR LIFE Society, March 1, 2011, Riverside, CA, USA.
24. Walker, S.L. "Fate and transport of nano-TiO<sub>2</sub> in aquatic environments" invited talk presented at the 241st ACS National Meeting & Exposition, Division of Colloid and Surface Chemistry session on "Reactivity, Transformation and Detection of Natural and Engineered Nanomaterials in the Environment" March 27-31, 2011, Anaheim, CA, USA.
25. Walker, S.L. "Fate, transport, and removal of nanomaterials in aquatic environments" invited talk presented at the UC Mexus "Toxic Earth: Toxic Bodies" Symposium, April 5, 2011, Riverside, CA, USA.
26. Walker, S.L. "Fate and transport of nano-TiO<sub>2</sub> in aquatic environments" invited talk presented at the National Institute of Standards and Technology (NIST), June 30, 2011, Gaithersburg, MD, USA.
27. Walker, S.L. "Fate and transport of nanomaterials in aquatic environments" invited talk presented at Missouri University of Science and Technology, Department of Civil, Architectural, and Environmental Engineering, October 26, 2011, Rolla, MO, USA.
28. Walker, S.L. "Fate and transport of nanomaterials in aquatic environments" invited talk presented at Washington University, Saint Louis, Department of Energy, Environment, and Chemical Engineering, October 28, 2011, Saint Louis, MO, USA.
29. Walker, S.L. "Role of Environmental Conditions on the Fate and Transport of Engineered Nanomaterials in the Subsurface" invited talk presented at the American Geophysical Union National Meeting, December 5-9, 2011, San Francisco, CA, USA.
30. Walker, S.L. "Fate and transport of nanomaterials in aquatic environments" invited talk presented at UCR's Microbiology Graduate Program Seminar Series, February 29, 2012, Riverside, CA, USA.
31. Chowdhury, I. and Walker, S. L., "Fate, Transport and Removal of Engineered Nanomaterials in the Aquatic Environment: Fundamental Mechanisms and Implications", invited talk presented at Gordon Research Seminar; Environmental Sciences Water, June 23-24, 2012 (presented by PhD student Chowdhury), Holderness, NH, USA.
32. Walker, S.L. and Taylor, A. "Linking Environmental and Human Health to Nanoparticle Exposure: Experimental and Educational Approaches" invited talk presented at the 2013 AEESP National Meeting, July 14-17, 2013, Golden, CO, USA.
33. Walker, S.L. "Environmental Implications of Nanotechnology" UCR Homecoming, November 16, 2013, Riverside, CA, USA.
34. Walker, S.L. "Fate and Transport of Nanomaterials in Aquatic Environments" Zuckerberg Institute of Water Research, Ben Gurion University of the Negev, March 30, 2014, Beersheba, Israel.



35. Walker, S.L. "Water Sustainability in Desert Agriculture: Enhancing relationships and global competency of graduate students and faculty through collaboration with Israel" invited talk presented at the USDA National Institute of Food and Agriculture, April 29, 2014, Washington, DC, USA.
36. Walker, S.L. "From Farm to Fork" talk presented to the UCR CNAS Learning Community on Agriculture and Environmental Sciences May 27, 2014, Riverside, CA, USA.
37. Walker, S.L. "From Farm to Fork: The Convergence of Water Quality and Food Safety" talk presented to the USDA NIFA Director Sonny Ramaswamy, July 21, 2014, Riverside, CA, USA.
38. Walker, S.L and Taylor, A.A. "From ideal to real: Utilizing a model colon and septic system to elucidate the impacts of bacterial and nanoparticle contamination" invited talk presented at the 2014 ACS National Meeting, August 12, 2014, San Francisco, CA, USA.
39. Walker, S.L. "Influence of nanomaterials on microbial communities in engineered systems" invited talk presented at Tufts University, June 29, 2015, Boston, MA, USA.
40. Walker, S.L. "Transformation and hazard potential of copper particles in a septic system using a zebrafish high-throughput screening assay" invited talk presented at the 2015 Pacificchem Meeting, December 16, 2015, Honolulu, HA, USA.
41. Walker, S. L. "Investigating the Impacts of Engineered Nanomaterials on Decentralized Wastewater Treatment" invited talk presented at Oregon State University's Department of Chemical, Environmental and Biological Engineering, May 23, 2016, Corvallis, OR, USA.
42. Walker, S.L. "Recruitment and Hiring for Diverse Faculty in Engineering" invited talk presented at the University of Pittsburgh's Faculty Diversity Round Table Discussion, March 9, 2016, Pittsburgh, PA, USA.
43. Walker, S.L. "Have we broken it yet? Musings of an engineering dean on the status of the glass ceiling for academic women in STEM" Invited talk for the American Association of University Women, Riverside Chapter, January 11, 2017, Riverside, CA, USA.
44. Walker, S. L. "Microbial community response to food and industrial grade titanium dioxide in decentralized wastewater treatment systems" invited talk presented at the "Advanced Materials, Discovery, Characterization, and Safety" session, American Chemical Society's national conference, April 4, 2017, San Francisco, CA, USA.
45. Walker, S.L. "Environmental Implications of Nanotechnology: A wastewater case study" Keynote speaker at the Southern California Academy of Sciences Annual Meeting, April 28, 2017, Santa Monica, CA, USA.
46. Walker, S.L. "Impact of Food and Industrial Grade Titanium Dioxide on Decentralized Wastewater Treatment Systems" Invited speaker at Peking University, August 2, 2017, Beijing, China.
47. Walker, S.L. "Environmental Implications of Nanotechnology" Invited speaker at Wuhan University of Science and Technology, August 19, 2017, Wuhan, China.
48. Walker, S.L. "Impact of Food and Industrial Grade Titanium Dioxide on Decentralized Wastewater Treatment Systems" Invited speaker at Huazhong Agricultural University, August 20, 2017, Wuhan, China.
49. Walker, S.L. "Agro-Bio-Nano Nexus: Implications for food safety from field to fork" Invited Speaker at Yale University, November 15, 2018, New Haven, Connecticut.
50. Walker, S.L. "From Ideal to Real: Addressing Water and Food Security Issues with Fundamentals of Chemical Engineering" Invited speaker to NOBCChe Master Scientist Series, Virtual, September 17, 2021.
51. Walker, S.L. "From Ideal to Real: Addressing Water and Food Security Issues with Fundamentals of Chemical Engineering" Invited speaker to University of Virginia Seminar Series, Virtual September 30, 2021.

## Sponsored Research

(~\$1.7 million active grants, ~\$12.2 million total since January 2005)

### Current Grants

|    | <u>Role</u>  | <u>Title</u>  | <u>Agency</u> | <u>Award Dates</u> | <u>Award Amount</u> |
|----|--|---|---------------|--------------------|---------------------|
| 1. | <b>PI</b> ; Co-PI Leslie McClure, Kristy Kelly, Maria Schultheis                 | Catalyzing STEM Gender Equity at Drexel: Building a Foundation for Systemic Transformation      | NSF           | 7/1/2021-6/30/2023 | \$300,000           |
| 2. | <b>Co-PI</b> along with PI Jacquie Genovesi, Ayana Allen-Handy, and Nancy Peters | Engaging Women in Engineering: Training Mentors to Make a Difference                            | NSF           | 5/1/19-4/30/22     | \$1,199,104         |
| 3. | <b>Co-PI</b> along with PI Caroline Roper  | Investigating bacterial mechanosensing as a regulator of virulence in a 3-D microfluidic system | NIFA          | 5/1/19-4/30/22     | \$184,000           |

### Previously Funded Grants

|    |  |   |                              |                       |           |
|----|--|---|------------------------------|-----------------------|-----------|
| 3. | <b>Co-PI</b> along with David Jassby and Jefferson Tester; PI Amit Gross | Energy, Nutrient and Water Recovery from Dairy Waste  | US-Israel BARD               | 11/1/17-10/31/2020    | \$500,000 |
| 4. | <b>PI</b> ; Co-PI Leanne Gilbertson                                      | Environmental Nanotechnology Gordon Research Conference and Seminar: A Platform for Cutting Edge Research in Nanotechnology Applications and Implications | EPA                          | 1/1/17 - 12/31/19     | \$14,400  |
| 5. | <b>Co-PI</b> along with Haizhou Liu; PI Stanley Grant                    | Fighting drought with stormwater: From research to practice   | UC MRPI (prime is UC Irvine) | 1/1/17 - 12/31/19     | \$209,201 |
| 6. | <b>PI</b> ; Co-PI David Jassby   | Sustainable use of dairy farm anaerobic digestate: from environmental pollutant to new source of water, energy, and nutrients                             | NIFA                         | 3/15/2016 - 3/14/2018 | \$126,181 |

|     |  |   |                                   |                       |             |
|-----|--|---|-----------------------------------|-----------------------|-------------|
| 7.  | <b>Co-PI</b> along with Bryan Wong, Haizhou Liu; PI Akua Asa-Awuku                             | UCR-HBCU ASPIRE: A Summer Program In Research Engineering   | UCOP                              | 8/1/15 - 7/31/18      | \$254,105   |
| 8.  | <b>PI</b> ; Co-PI David Jassby   | A Forensic Approach Towards Biofilm Management  | NSF                               | 2/1/2015 - 1/31/2018  | \$408,704   |
| 9.  | <b>Co-PI</b> along with Nosang Myung, Charles Wyman, Mark R. Matsumoto; PI Akua Asa-Awuku      | GAANN: Sustainable Energy and Environment Development Fellows (SEEDs) for the Future  | Office of Postsecondary Education | 8/16/2013 - 8/15/2018 | \$563,584   |
| 10. | <b>PI</b>  | Center for the Environmental Impact of Nanotechnology (CEIN)  | NSF (Prime is UCLA)               | 9/1/2008 - 8/31/2018  | \$1,229,377 |
| 11. | <b>Co-PI</b> along with Anil B. Deolalikar, Marylynn V. Yates, Peter Atkinson; PI Mary Gauvain | IGERT: Water SENSE - Water Social, Engineering, and Natural Sciences Engagement   | NSF                               | 7/1/2012 - 6/30/2018  | \$2,999,984 |
| 12. | <b>PI</b> ; Co-PI Leanne Gilbertson  | Environmental Nanotechnology Gordon Research Conference and Seminar: A Platform for Cutting Edge Research in Nanotechnology Applications and Implications | USDA                              | 3/17/17 - 7/23/17     | \$29,700    |
| 13. | <b>PI</b> ; Co-PI Leanne Gilbertson  | Environmental Nanotechnology Gordon Research Conference and Seminar: A Platform for Cutting Edge Research in Nanotechnology Applications and Implications | NSF                               | 3/17/17- 7/23/17      | \$32,400    |
| 14. | <b>PI</b>  | MESA Engineering Program  | UC MESA Program                   | 7/1/2015 - 6/30/2017  | \$30,000    |
| 15. | <b>PI</b>  | Investigation of Filtration Mechanisms Involved with Removal of Engineered Nanomaterial from Drinking Water   | NWRI                              | 11/1/2014 - 9/30/2016 | \$10,000    |
| 16. | <b>Co-PI</b> along with Lindsey E. Malcom, Marylynn  | Moving FORWARD for Women in STEM Fields at UC Riverside and Beyond  | NSF                               | 8/15/2011 - 7/31/2016 | \$599,219   |

V. Yates, Cynthia  
K. Larive; PI  
Yolanda Moses

|     |   |   |                                       |                       |           |
|-----|---|---|---------------------------------------|-----------------------|-----------|
| 17. | <b>PI</b>   | CAREER: Fundamentals of Nanoparticle Behavior in Water Treatment  | NSF                                   | 7/15/2010 - 6/30/2016 | \$423,032 |
| 18. | <b>PI</b>   | Selection of <i>E. coli</i> surrogates with attachment and survival patterns similar to those of human pathogens associated with produce              | USDA Agricultural Research Service    | 4/1/2014 - 11/30/2015 | \$24,065  |
| 19. | <b>PI</b>   | Photocatalytic Disinfection of Agriculturally Impacted Waters: Characterization of Solution Chemistry on Bacterial Adhesion and Disinfection          | NIFA                                  | 9/1/2013 - 8/31/2015  | \$132,359 |
| 20. | <b>PI</b>   | Water Sustainability in Desert Agriculture  | NIFA                                  | 9/1/2010 - 8/31/2015  | \$147,454 |
| 21. | <b>PI</b>   | Building Bridges Across Riverside through Nano-Water Research   | NIFA                                  | 8/1/2010 - 7/31/2015  | \$290,000 |
| 22. | <b>PI; Co-PIs</b> Victor Rodgers and Valentine Vullev | MY BEST @ UCR (Mentoring Year-round in Biological Engineering, Science and Technology at University of California, Riverside)                         | NSF                                   | 9/15/2007 - 8/31/2014 | \$591,431 |
| 23. | <b>PI; Co-PI</b> Francisco Zaera                      | Support for Student and Invited Speakers to participate in the 87th ACS Colloid and Surface Science Symposium at UCR, June 23-26, 2013                | NSF                                   | 7/1/2013 - 6/30/2014  | \$10,000  |
| 24. | <b>PI; Co-PI</b> Michael David Cwiertny               | Photochemical disinfection of agriculturally introduced pathogens: The influence of extracellular polymeric substances on bactericidal capacity       | NIFA                                  | 8/1/2008 - 7/31/2013  | \$400,000 |
| 25. | <b>PI</b>   | Fate of Motile Bacterial Pathogens in the Subsurface: Determining the extent and influence of motility and counter-current movement on cell transport | NIFA (Prime is University of Vermont) | 7/1/2007 - 6/30/2011  | \$182,165 |

|     |   |  |  |                        |           |
|-----|---|--|--|------------------------|-----------|
| 26. | <b>Co-PI</b> along with Victor Rodgers and Marko Princevac; PI Chinya Ravishankar   | Successful Partnerships for Increasing Recruitment into Technology (SPIRIT)  | NSF  | 11/1/2008 - 10/31/2010 | \$100,000 |
| 27. | <b>Co-PI</b> along with Samson Jerome Schultz and Marc Deshusses; PI Victor Rodgers | Graduate fellowship to address the national need for diverse doctoral chemical, environmental, and biological engineers in the professoriate (GAANN) | Office of Postsecondary Education                    | 8/14/2006 - 8/13/2010  | \$383,181 |
| 29. | <b>PI</b>   | A new paradigm for pathogen deposition and transport in porous media: the role of pore structure and colloid-colloid interactions                    | USDA Agricultural Research Service                   | 12/15/2006 - 8/31/2009 | \$160,196 |
| 30. | <b>PI</b>   | Coastal Environmental Quality Initiative 2007 – Multi-Campus Research Project Pre-Proposal for Year 2 Funding  | UC Marine Council                                    | 7/1/2008 - 8/31/2009   | \$250,000 |
| 31. | <b>PI</b>   | Building Bridges Across Riverside Through Water Quality Research   | NIFA (Prime is Riverside Community College District) | 7/1/2006 - 8/30/2009   | \$201,609 |
| 32. | <b>PI</b> ; Co-PI Nosang Myung  | Determining the Fate of Nanomaterials and Porous Media   | UC Toxic Substances Research & Teaching              | 7/1/2007 - 6/30/2009   | \$100,000 |
| 33. | <b>PI</b>   | Fate and Persistence of Fecal Indicator Bacteria and Human Specific Markers in Coastal Sediments of Santa Monica Bay                                 | UC Office of the President                           | 7/1/2007 - 1/31/2009   | \$100,000 |
| 34. | <b>PI</b>   | Water Resources Research Institute Annual Base program, dated January 12, 2006   | Geological Survey (USGS)                             | 3/1/2007 - 2/28/2008   | \$17,482  |
| 35. | <b>PI</b>   | The Role of Extracellular Polymeric Substances (EPS) on the Fate and Transport of Fecal Coliforms in Groundwater Environments                        | NWRI   | 8/1/2005 - 10/31/2007  | \$30,000  |

## University Committee and Administrative Service

### **Drexel University**

|   |              |
|---|--------------|
| Member, Drexel 2030 Strategic Plan Implementation CORE (Crafting Our Rise Everyday) Team                | 2021-present |
| Co-Chair, Drexel 2030 Strategic Plan Implementation Focus Areas Collaborative Council                   | 2021-present |
| Member, Advisory Board for EXCITE Center (Expressive & Creative Interaction Technologies Center)        | 2021-present |
| Member, Advisory Board for CASTLE (Center for the Advancement of STEM Teaching and Learning Excellence) | 2021-present |
| Member, Academy of Natural Sciences Science Advisory Council  | 2021-present |
| Member and Representative Dean, Provost's RCM Working Group   | 2021-present |
| Member, President's Corporate Relations Advisory Board  | 2018-present |
| Member, Provost's Academic Council  | 2018-present |
| Member, President's Executive Council   | 2018-present |
| Chair, Search committee for Dean of LeBow College of Business   | Fall 2020    |
| Member, Search committee for Executive Director of Diversity and Inclusion                              | Winter 2020  |
| Member, Drexel University Strategic Plan Pre-Planning Committee   | 2018-2019    |
| Chair, 5 <sup>th</sup> year review committee of Dean of Close School of Entrepreneurship                | Spring 2019  |

### **University of California, Riverside**

#### Department of Chemical and Environmental Engineering

|  |           |
|--|-----------|
| Graduate advisor                                       | 2010-2014 |
| Graduate committee                                     | 2010-2016 |
| Faculty Search Committee (Chair: 2005/2006, 2006/2007) | 2004-2011 |
| Faculty Search Committee (Chair: 2011/2012, 2015/2016) | 2014-2016 |
| Department Seminar Series Coordinator                  | 2007-2008 |
| Undergraduate Education Committee                      | 2005-2010 |
| ABET Committee   | 2005-2010 |
| Awards Committee                                       | 2006-2008 |
| Staff Recruitment and Search Committee                 | 2005      |

#### Bourns College of Engineering

|   |           |
|---|-----------|
| BCOE Executive Committee Member ( <i>Ex-Officio</i> ) | 2015-2018 |
| Associate Dean (Student Academic Affairs)             | 2015-2016 |
| BCOE Civil Engineering Faculty Search Committee       | 2008-2009 |
| BCOE Faculty Search Committee                         | 2005-2006 |
| BCOE Computer Systems Committee                       | 2005-2006 |
| Society of Women Engineers, Chapter Advisor at UCR    | 2005-2018 |
| Tau Beta Pi - Alpha Beta Chapter Advisor at UCR       | 2005-2018 |

#### University Level

|               |           |
|---------------|-----------|
| Deans Council | 2016-2018 |
|---------------|-----------|

|  |            |
|--|------------|
| Associate Vice Chancellor of Diversity and Inclusion Search Committee  | 2015       |
| Committee on Preparatory Education ( <i>Ex-officio</i> )   | 2015-2016  |
| Center for the Agriculture & Food Enterprise Executive Committee Member  | 2015-2018  |
| STEM Education Cluster Hire Committee  | 2015-2016  |
| Banner Implementation Supervisory Committee  | 2015-2016  |
| Vice Provost for Undergraduate Education Task Force: Finish in Four  | 2015-2016  |
| Associate Dean, Graduate Division (Recruitment, Retention & Student Success)   | 2014-2015  |
| Chair, Vice Chancellor for Academic Personal Search Committee  | 2014       |
| Executive Vice President and Provost Search Committee  | 2013-2014  |
| Graduate Student Mentoring Program   | 2013-2014  |
| College of Natural and Agricultural Sciences Redesign Committee<br>(Excellence in Service and Outreach)  | 2012-2013  |
| Chancellor's Budget Advisory Committee   | 2011-2014  |
| Endowed Chair Policy Revision Committee  | 2013       |
| Undergraduate Honors Program Faculty Advisor   | 2010-2015  |
| Vice Provost for Academic Personnel Hellman Award Committee  | 2011- 2013 |
| Athletic Director Search Committee   | 2011       |
| Advisory Council to the Associate Vice Provost for Faculty Equity & Diversity  | 2007       |
| Chancellor's Advisory Committee on Intercollegiate Athletics   | 2006-2018  |
| Vice Provost for Undergraduate Education Scholarship Committee   | 2007       |
| Vice Provost's Committee on Undergraduate Women in STEM Field  | 2006       |
| <br>   |            |
| Athletics Appeals Committee  | 2006-2018  |
| Academic Senate member   | 2006-2018  |
| <br>   |            |
| <u>University of California System Level</u>   |            |
| Council of Engineering Deans   | 2016-2018  |
| <i>University of California CORO Leadership Program Project Mentor</i>   | 2017       |
| Advising two teams investigating best practices for faculty development<br><a href="http://www.ucop.edu/human-resources/coro/index.html">http://www.ucop.edu/human-resources/coro/index.html</a> . |            |