

## CURRICULUM VITAE

**NAME:** Jennifer N. Walker, PhD

**PRESENT TITLE:** Assistant Professor

**WORK ADDRESS:** The University of Texas Health Science Center at Houston  
McGovern Medical School  
Department of Microbiology and Molecular Genetics  
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**UNDERGRADUATE EDUCATION:** University of Missouri-St. Louis, 2005-2008  
B.S. Biology, 05/2008

Pierre Laclède Honors College  
University of Missouri-St Louis, 2005-2008  
Certificate in Humanities (Honors), 05/2008

**GRADUATE EDUCATION:** University of Iowa, 2008-2013  
Ph.D. Microbiology, 06/2013  
Mentor: Dr. Alexander Horswill, Ph.D.

**POSTGRADUATE TRAINING:** Washington University School of Medicine, 2013-2019  
Postdoctoral Fellow, Department of Molecular Microbiology  
Mentors: Drs. Scott J. Hultgren, Ph.D. and Michael Caparon, Ph.D.

**ACADEMIC APPOINTMENTS:** McGovern Medical School at UTHealth  
Department of Microbiology and Molecular Genetics  
Assistant Professor, 2019-present  
Appointment: 80%, tenure department

The University of Texas Health Science Center at Houston  
School of Public Health  
Department of Epidemiology, Human Genetics, and  
Environmental Sciences  
Assistant Professor, 2019-present  
Appointment: 20%

McGovern Medical School at UTHealth  
Department of Microbiology and Molecular Genetics  
Assistant Professor, 2019-2021  
Appointment: 40%

McGovern Medical School at UTHealth  
Department of Internal Medicine, Division of Infectious Diseases  
Assistant Professor, 2019-2021  
Appointment: 40%

**PROFESSIONAL ORGANIZATIONS:**

REGIONAL: American Society for Microbiology Texas Branch  
Gulf Coast Consortium

NATIONAL: American Society for Microbiology  
American Heart Association, 2011-2018

INTERNATIONAL: Urinary Tract Infection Global Alliance

**HONORS AND AWARDS:**

- American Heart Association Pre-Doctoral Fellowship, 2011-2013
- International Conference on Gram-positive Pathogens Graduate Student Travel Award, 2012
- Cold Spring Harbor-Asia, Bacterial Infection and Host Defense Best Poster Award, 2019
- UT System Rising STAR award, 2019
- 2022-2023 Deans Teaching Excellence Award, 2023

**EDITORIAL POSITIONS:**

- Invited editor, mBio, 2021
- Review editor, Frontiers in Molecular Bacterial pathogenesis, 2021-present
- Guest Co-Editor, Special Issue, Pathogens, 2021-present
- Ad-hoc reviewer for Cell Host & Microbe, Nature Communications, Science Advances, mBio, Microbiology Spectrum, Applied and Environmental Microbiology, Nanoscale, Plastic and Reconstructive Surgery, MicroOrganisms, Pathogens, Frontiers in Cellular and Infection Microbiology, AIMS microbiology, and Doody Books.

**SERVICE ON NATIONAL GRANT REVIEW PANELS, STUDY SECTIONS, COMMITTEES:**

- Review panelist, Dunn Collaborative Research Awards, 2023
- Early Career Reviewer, NIH Bacterial Virulence Study Section, Fall 2023

**SERVICE ON THE UNIVERISTY OF TEXAS MCGOVERN MEDICAL SCHOOL COMMITTEES:**

- Senator, Faculty Senate, UTHealth, 2021-present

**SERVICE ON GRADUATE SCHOOL COMMITTEES:**

- Member, Microbiology and Infectious Diseases (MID) Program Steering committee, GSBS, Fall 2023-present
- Member of advisory/supervisory committees:

<u>Student</u>	<u>Advisory/Supervisory</u>	<u>Degree</u>
Shane Cristy (UTHGSBS)	A	M.S. 2021
Shezeen Gilliani (UTHSPH)	A	MPH 2021
Jesus Duran Ramirez (UTHSPH)	S	MPH 2022
Rufeng Li (UofH)	A	PhD 2022
Mengfan Wang (UofH)	A	PhD 2023
Jacob Zulk (BCM)	A	2020-present
Shelby Simar (UTHSPH)	A	2022-present
Adrianna Maliga (UTHSPH)	A	2022-present
Jana Gomez (UTHGSBS)	S	2022-present
Shane Cristy (UTHGSBS)	S	2022-present

Jennifer N Walker, PhD

Gretchen Morrison (UTHGSBS)	A	2022-present
Dylan Chirman (BCM)	A	2022-present
Jesus Duran Ramirez (UTHGSBS)	S	2023-present
Ghalya Alrousan (UTHGSBS)	A	2023-present

- Member of Ph.D. candidacy examination committees:

<u>Student</u>	<u>Chair</u>	<u>Date</u>
Rufeng Li (UofH)		2020
Mengfan Wang (UofH)		2020
Melissa Martinez (UTH)		2021

#### **SERVICE ON DEPARTMENTAL COMMITTEES:**

- MMG Faculty Search Committee Member, Fall 2020

#### **SERVICE TO THE COMMUNITY:**

##### **Education & Outreach- focused service**

- Poster Judge for Medical School Retreat, 2020
- CPRIT Undergraduate Summer Internship Applicant Interviews, 2020
- Graduate School of Biomedical Sciences Applicant Interviews, 2020
- Faculty Reviewer, Postdoctoral Dean's Excellence in Research Award, 2020
- Graduate School of Biomedical Sciences Applicant Interviews, 2021
- Poster Judge for MMG/MID Virtual Retreat, 2021
- Faculty reviewer, GSBS Kopchick Research Award, 2021
- Poster Judge for MMG/MID retreat, 2022
- Oral Presentation Judge for MMG/MID retreat, 2022
- Presenter and Panelist, Discover Biomedicine Session-Research Spotlights from UTHealth Houston, 2022
- Poster Judge, Texas Branch ASM Fall Meeting, 2022
- Careers In STEM Panelist, Texas Branch ASM Fall Meeting, 2022

##### **Scientific Community-focused service**

- Session Co-Chair, TMC Antimicrobial Resistance and Stewardship Conference, Houston, TX, 2020
- Session moderator, Molecular Basis of Infectious Disease retreat, Houston, TX, 2021
- Moderator, Writing a Review Article, Career Development Series, UTI Global Alliance, 2021
- Organizer, Annual MMG/MID retreat, 2022
- Moderator, UTI Hour, UTI Global Alliance, Feb 2023

#### **SPONSORSHIP OF CANDIDATES FOR POSTGRADUATE DEGREE:**

- Jesus Duran Ramirez, MPH, UTHSPH, 2022
- Jana Gomez, Ph.D., UTHGSBS, 2022-present
- Shane Cristy, Ph.D., UTHGSBS, 2022-present (funded by an MBID fellowship starting 08/2023)
- Jesus Duran Ramirez, Ph.D., UTHGSBS, 2023-present

#### **SPONSORSHIP OF UNDERGRADUATE STUDENTS:**

(\*) denotes students who have co-authored lab publications

- Aayush Purohit, MicroSURP student (From UNC), UTH, Virtual Summer 2020
- Mikaela Daum, GradSURP student (From Texas Tech), UTH, Summer 2021
- \*Tayler Hunter, undergraduate research technician (From UC Berkeley), UTH, Summer 2021-summer 2022; fall 2022-present
- \*Taha Isa, undergraduate research technician (From UofH), UTH, Fall 2021-present
- \*Tayler Hunter, MicroSURP student (From UC Berkeley), UTH, Summer 2022
- Maristhela Alvarez, MicroSURP student (From Amherst College), Charles Hamilton Houston Program Internship recipient, UTH, Summer 2023

### **SPONSORSHIP OF VISITING SCHOLARS**

- Ender Volkan, Visiting Faculty from Cyprus International University (Funded as a Fulbright Scholar), Fall 2022-Spring 2023

### **SPONSORSHIP OF GRADUATE STUDENT TUTORIALS:**

- Sabona Simbassa (Fall 2020)
- Jana Gomez (Fall 2021 – joined)
- Samantha Hitt (Spring 2022)
- Shane Cristy (Spring 2022 – joined)
- Jesus Duran Ramirez (Spring 2023 – joined)

### **CURRENT AND PAST TEACHING ACTIVITIES:**

- MICR2158 General Microbiology Laboratory, Graduate Teaching Assistant, U of Iowa, 2010
- MICR8202 Principles of Infectious Disease Laboratory, Graduate Teaching Assistant, U of Iowa, 2011
- Bio5217 Graduate Grant Writing Course, Grant Reviewer, WashU, 2016-2018
- Postdoc Certificate Training Course, 1 Lecture, Postdoc Association, UTHealth, Spring 2020
- 2202PH-2998 Current Topics in Infectious Disease Epidemiology, Course Director/instructor, UTHealth School of Public Health, Summer 2020-2022
- Career Seminar Series, panel discussion, Postdoc Association, Texas A&M, Fall 2020
- Postdoc Certificate Training Course, 1 Lecture, Postdoc Association, UTHealth, Spring 2021
- GS07 1015 Microbial Genetics and Physiology Course, 1 lecture, 2 discussions, MMG/MID, UTHealth, Spring 2021
- GS07 1015 Microbial Genetics and Physiology Course, 2 lectures, 2 discussions, MMG/MID, UTHealth, Spring 2022
- GS07 1015 Microbial Genetics and Physiology Course, 1 lecture, 1 discussion, MMG/MID, UTHealth, Spring 2023
- PH2793 Current Topics in Infectious Disease Epidemiology, Course Director/instructor, UTHealth School of Public Health, Summer 2023

### **MENTORING ACTIVITIES:**

- Certificate in Mentor Training, Mentorship Training Program, Center for the Improvement of Mentored Experience in Research, WashU, 2018
- Mentoring of additional lab members:

- Jesus Duran Ramirez (research assistant I) 2019-present
- Participant in GSBS workshop “Mentoring Works!”, 2021
- Community Preceptor for UTHSPH students’ Practicum:
  - Jesus Duran Ramirez (MPH student) Fall 2021
- Academic Advisor for UTHSPH PhD students:
  - Juliet Ezegeiwe; 2021-present
- Academic Advisor for UTHSPH MPH students:
  - Ruchi Pavaskar; 2022-2022
  - Yashaswi Patel; 2022-present
  - Roshitha Ramisetty; 2022-present
  - Anne Kinsley; 2022-present
  - Faith Ihongbe; 2023-present
  - Jordin Hodges; 2023-present
- Faculty Mentor for UTHSPH students’ Practicum:
  - Anne Knisely (MPH student) Fall 2023

**CURRENT FUNDING SUPPORT:**

Title: Defining host-pathogen interactions in CAUTI to guide novel drug development  
Type of Grant: K01  
Principle Investigator: Walker  
Role: Principal Investigator  
Funding Agency: NIDDK, NIH  
Award Period: 12/2021-11/2026  
Amount: \$971,980

**PENDING FUNDING SUPPORT:**

Title: Understanding how antifouling coatings affect biofilm formation and bacterial interference against CAUTI  
Type of Grant: R01  
Principle Investigator: Cai  
Role: Co-Investigator  
Funding Agency: BMBI, NIH

**PAST GRANT SUPPORT:**

Title: Rising STAR (Science and Technology Acquisition and Retention) Award  
Principle Investigator: Jennifer N Walker  
Funding Agency: The University of Texas System  
Award Period: 10/2019-03/2023  
Amount: \$250,000

Title: CCTS pilot grant ‘COVID-19 and SARS-CoV-2 infection surveillance of high-risk community members in the Houston area’  
Type of Grant: CCTS pilot grant  
Principal Investigator: Hanson; UTH  
Role: Co-Investigator  
Funding Agency: The University of Texas Health Science Center  
Award Period: 05/2020-04/2021

Amount: \$30,000

Title: Influence of Pocket Irrigants on Breast Implant Infections

Type of Grant: Investigator Initiated Foundation Award

Principle Investigator: Walker and Myckatyn, Wash U

Role: Co-Principal Investigator

Funding Agency: Plastic Surgery Foundation

Award Period: 07/2020-06/2022

Amount: \$50,000 (\$48,000 to Walker)

Title: Predoctoral Fellowship 'ArIRS Regulation of Aggregation and Pathogenesis in MRSA'

Type of Grant: Pre-doctoral Investigator Initiated Foundation Award

Principle Investigator: Walker

Role: Principal Investigator

Funding Agency: American Heart Association

Award Period: 07/01/11-06/30/13

Amount: \$50,000

## **PUBLICATIONS:**

### **A. Abstracts**

#### **Abstracts presented as oral presentations (presenter marked with an asterisk):**

1. Gomez J\*, Duran Ramirez JM, **Walker JN**. Untangling the Complex Regulatory Networks Controlling Urease Activity Among Chronic *Staphylococcus aureus* Urinary Catheter Isolates. 6<sup>th</sup> Annual Texas Medical Center Antimicrobial Resistance and Stewardship Conference. Rapid Fire Talk. Jan 18-20, 2022. Houston, TX, USA
2. Duran Ramirez J\*, Pinkner CL, Doresy D, Hultgren S, **Walker JN**. Characterization of Antibiotic Susceptibility Patterns and Virulence Mechanisms in *Staphylococcus aureus* Isolates Colonizing Urinary Catheters. 2022. 5<sup>th</sup> Annual Texas Medical Center Antimicrobial Resistance and Stewardship Conference. Rapid Fire Talk. Jan 19<sup>th</sup>-21<sup>st</sup>. Houston, TX. USA
3. Pinkner C, Hultgren SJ, Myckatyn TM, **Walker JN\***. Characterization of the Antimicrobial Susceptibility Patterns and Virulence Mechanisms Promoting Staphylococcal Medical Device Infections. 2021. 4<sup>th</sup> Annual Texas Medical Center Antimicrobial Resistance and Stewardship Conference. Rapid Fire Talk. Jan 26-28<sup>th</sup>. TMC. Houston, TX. USA.
4. **Walker JN\***, Desai A, Caparon MG, Hultgren SJ. Urinary catheter-induced inflammation sets the stage for biofilm formation and urinary tract infection. 2019. Tissue Resident Immune Cells: Concepts in Geroscience Postdoctoral Fellows Symposium. June 3-6<sup>th</sup>. NIH. Bethesda, MD, USA.

#### **Abstracts presented as posters (presenter marked with an asterisk)**

1. Duran Ramirez JM\*, Gomez J, Hanson BM, Isa T, Myckatyn TM, **Walker JN**. ASM Microbe. Houston, TX, June 15<sup>th</sup>-19<sup>th</sup>, 2023. "*Staphylococcus aureus* Breast Implant Infection Isolates Display Recalcitrance to Antibiotic Pocket Irrigants."
2. Gomez J\*, Duran Ramirez JM, **Walker, JN**. ASM Microbe. Houston, TX, June 15<sup>th</sup>-19<sup>th</sup>, 2023. Untangling the complex regulatory networks controlling urease activity among chronic *Staphylococcus aureus* urinary catheter isolates.
3. Gomez J\*, Duran Ramirez JM, Cristy, S, **Walker JN**. MMG/MID retreat. Navasota, TX, April 13-14, 2023. "Untangling the Complex regulatory Networks Controlling Urease Activity Among Chronic *Staphylococcus aureus* Urinary Catheter Isolates."
4. Gomez J\*, Duran Ramirez JM, Cristy, S, **Walker JN**. 6<sup>th</sup> Annual Texas Medical Center Antimicrobial Resistance and Stewardship Conference. Houston, TX, Jan 18-10, 2023.

- “Untangling the Effects of *Staphylococcus aureus* Urease on Biofilm Production and Antibiotic Recalcitrance in Clinical Isolates.”
5. Cristy S\*, Gomez J, Lorenz MC, **Walker JN**. 6<sup>th</sup> Annual Texas Medical Center Antimicrobial Resistance and Stewardship Conference. Houston, TX, Jan 18-10, 2022. “*Interactions Between Candida and Staphylococcus Species in Polymicrobial Catheter-associated Urinary Tract Infections.*”
  6. Duran Ramirez JM\*, Gomez J, Hanson BM, Isa T, Myckatyn TM, **Walker JN**. 6<sup>th</sup> Annual Texas Medical Center Antimicrobial Resistance and Stewardship Conference. Houston, TX, Jan 18-10, 2022. “*Staphylococcus aureus Breast Implant Infection Isolates Display Recalcitrance to Antibiotic Pocket Irrigants.*”
  7. Gomez J\*, Duran Ramirez JM, Hunter TS, **Walker JN**. 4<sup>th</sup> Clinical and Scientific Advances in UTI Conference. Virtual. 2022. “Untangling the Complex Regulatory Networks Controlling Urease Activity Among Chronic *Staphylococcus aureus* Urinary Catheter Isolates.”
  8. Crisy S\*, Lorenz MC, **Walker JN**. 4<sup>th</sup> Clinical and Scientific Advances in UTI Conference. Virtual. 2022. “*Candida albicans* biofilm development in urinary catheters.”
  9. Duran Ramirez JM\*, Hunter TS, **Walker JN**. 4<sup>th</sup> Clinical and Scientific Advances in UTI Conference. Virtual. 2022. “*Staphylococcus aureus* strains chronically colonizing urinary catheters exhibit increased urease activity over time.”
  10. Cristy S\*, **Walker JN**, Lorenz MC. GSEC. Houston TX, 2022. “*Candida albicans* biofilm development in urinary catheters.”
  11. Hunter, TS\*, Duran Ramirez JM, Hanson BM, Bier N, Myckatyn, TM, **Walker JN**. ASM TMC 1<sup>st</sup> Annual TMC-Microbe Virtual Symposium. Houston, TX. 2022. “Investigating the Efficiency of Antibiotic Pocket Irrigants During Breast Reconstruction.”
  12. Duran Ramirez J\*, Gomez J, Pinkner CL, Doresy D, Hultgren S, **Walker JN**. MBID Research Retreat. Houston, TX. 2021. “Characterization of Virulence Mechanisms in *Staphylococcus aureus* Isolates Colonizing Urinary Catheters”
  13. Pinkner C, Hultgren SJ, Myckatyn TM, **Walker JN\***. 5<sup>th</sup> Annual Texas Medical Center Antimicrobial Resistance and Stewardship Conference. Houston, TX. 2022. “Characterization of the Antimicrobial Susceptibility Patterns and Virulence Mechanisms Promoting Staphylococcal Medical Device Infections”.
  14. Hunter, TS\*, Duran Ramirez JM, Hanson BM, Bier N, Myckatyn, TM, **Walker JN**. 5<sup>th</sup> Annual Texas Medical Center Antimicrobial Resistance and Stewardship Conference. Houston, TX. 2022. “Investigating the Efficiency of Antibiotic Pocket Irrigants During Breast Reconstruction.”
  15. Duran Ramirez J\*, Pinkner CL, Doresy D, Hultgren S, **Walker JN**. 4<sup>th</sup> Annual Texas Medical Center Antimicrobial Resistance and Stewardship Conference. Houston, TX. 2021. “Characterization of Antibiotic Susceptibility Patters and Virulence Mechanisms in *Staphylococcus aureus* Urinary Catheter-associated Isolates.”
  16. Pinkner CL, Doresy D, Hultgren S, Myckatyn, T. **Walker JN\***. 4<sup>th</sup> Annual Texas Medical Center Antimicrobial Resistance and Stewardship Conference. Houston, TX. 2021. “Characterization of Antibiotic Susceptibility Patters and Virulence Mechanisms in *Staphylococcal* Medical Infections.”
  17. Li R\*, Qin G, Wang M, Christopher T, **Walker JN**, Cai C. American Society for Mass Spectrometry. Houston, TX (virtual). 2020. “Mass Spectrometry Analysis of Urinary Protein Deposition on Catheters and its Effect on Biofilm Formations.”
  18. **Walker JN\***, Caparon MG, Hultgren SJ. 3<sup>rd</sup> Annual Texas Medical Center Antimicrobial Resistance and Stewardship Conference. Houston, TX. 2020. “Deposition of Host Proteins on Medical Devices Provide a Bed for MRSA Biofilms.”
  19. **Walker JN\***, Flores-Mireles AL, Pinkner CL, Caparon MG, and Hultgren SJ. Bacterial Infection and Host Response CSH-Asia. Suzhou, China. 2019. “Deposition of Host Proteins on Medical Devices Provide a Bed for Staphylococcal Biofilms”
  20. **Walker JN\***, Flores-Mireles AL, Pinkner CL, Caparon MG, and Hultgren SJ. NIDDK CAUTI Technology Workshop. NIH. Bethesda, MD. 2019. “Elucidating the Host-Pathogen Interactions that Facilitate Staphylococcal Medical Device-associated Infections”

21. **Walker JN\***, Flores-Mireles AL, Pinkner CL, Caparon MG, and Hultgren SJ. 8<sup>th</sup> ASM Conference on Biofilms. Washington DC. 2018. "Elucidating the Host-Pathogen Interactions that Facilitate Staphylococcal Medical Device-associated Infections"
22. **Walker JN\***, Pinkner CL, Myckatyn T, and Hultgren SJ. ISSSI. Copenhagen, Demark. 2018. Poster. "Identifying the Mechanisms of Pathogenesis during MRSA Urinary Tract Infection"
23. **Walker JN\***, Flores-Mireles A, Pinkner CL, Schreiber HL, Pinkner J, Caparon MG, and Hultgren SJ. MMP Fall Retreat, Grafton, IL. 2017. "Understanding how foreign bodies increase the host's susceptibility to staphylococcal infections"
24. **Walker JN\***, Flores-Mireles A, Schreiber H, Pinkner CL, Pinkner J, Caparon MG, and Hultgren SJ. 9<sup>th</sup> International Conference on Gram-positive Microorganisms, Berlin, Germany. 2017. "Urinary Catheters alter the bladder environment by inducing the release of the host protein fibrinogen to promote MRSA pathogenesis"
25. **Walker JN\***, Flores-Mireles A, Pinkner CL, Schreiber HL, Caparon MG, and Hultgren SJ. MMP Fall Retreat, Grafton, IL. 2016. "Catheterization creates an ideal environment for MRSA urinary tract colonization"
26. **Walker JN\***, Flores-Mireles A, Schreiber H, Caparon MG, and Hultgren SJ. ASM General Meeting, Boston, MA. 2016. "Identifying the Mechanisms of Pathogenesis during MRSA Urinary Tract Infection"
27. **Walker JN\***, Flores-Mireles A, Pinkner CL, Schreiber HL, Caparon MG, and Hultgren SJ. MMP Fall Retreat, Grafton, IL. 2015. "Identifying the mechanisms of MRSA pathogenesis during urinary tract infection"
28. **Walker JN\***, Flores-Mireles A, Schreiber H, Pinkner C, Caparon MG, and Hultgren SJ. 8<sup>th</sup> International Conference on Gram-positive Microorganisms, Montecatini Terme, Italy. 2015. "Identifying the mechanisms of *Staphylococcus aureus* pathogenesis during urinary tract infections"
29. **Walker JN\***, Flores-Mireles A, Caparon MG, and Hultgren SJ. ASM, New Orleans, LA. 2015. "Identifying the Mechanisms of Pathogenesis during MRSA Urinary Tract Infections"
30. **Walker JN\***, Flores-Mireles A, Hultgren SJ. MMP Fall Retreat, Grafton, IL. 2014. "Understanding *Staphylococcus aureus* Mechanisms of Pathogenesis during CAUTI for the Development of Novel Therapies"
31. **Walker JN\***, Meyer S, Boyd JM, Voyich JM, Horswill AR. International Conference on Gram+ Pathogens, Omaha, NE. 2012. "The *Staphylococcus aureus* two-component system, ArlRS, regulates agglutination and pathogenesis."
32. **Walker JN\***, Meyer S, Voyich JM, Horswill AR. ISSSI, Lyon, France, 2012. "ArlRS Regulation of Aggregation and Pathogenesis in Methicillin-Resistant *Staphylococcus aureus*"

## B. Refereed Original Research Articles in Journals

\* indicates authors contributed equally

1. Hannan TJ, Mysorekar IU, Chen SL, **Walker JN**, Jones JM, Pinkner JS, Hultgren SJ, Seed PC (2008) LeuX tRNA-dependent and -independent mechanisms of *Escherichia coli* pathogenesis in acute cystitis, Mol Microbiol. 67(1):116-28
2. Rosen DA, Pinkner JS, Jones JM, **Walker JN**, Clegg S, Hultgren SJ (2008) Utilization of an intracellular bacterial community pathway in *Klebsiella pneumoniae* urinary tract infection and the effects of FimK on type 1 pilus expression, Infect Immun. 76(7):3337-45
3. Rosen DA, Pinkner JS, **Walker JN**, Elam JS, Jones JM, Hultgren SJ (2008) Molecular variations in *Klebsiella pneumoniae* and *Escherichia coli* FimH affect function and pathogenesis in the urinary tract, Infect Immun. 76(7):3346-56



4. Henderson JP, Crowely JR, Pinkner JS, **Walker JN**, Tsukayama P, Stamm WE, Hooton TM, Hultgren SJ (2009) Quantitative metabolomics reveals an epigenetic blueprint for iron acquisition in uropathogenic *Escherichia coli*, PLoS Path. 5(2):e1000305
5. Mysorekar IU, Isaacson-Schmid M, **Walker JN**, Mills JC, and Hultgren SJ (2009) Bone morphogenetic protein 4 signaling regulates epithelial renewal in the urinary tract in response to uropathogenic infection, Cell Host Microbe. 5(5):463-75 *\*Selected by faculty of 1000 as being of 'special significance in the field' and a 'new finding', highlighted with a perspective in Cell host and Microbe Oct. 2009 issue, and Cover article*
6. Cegelski L, Pinkner JS, Hammer ND, Cusumano CK, Hung CS, Chorell E, Aberg V, **Walker JN**, Seed PC, Almqvist F, Chapman MR, Hultgren SJ. (2009). Small-molecule inhibitors target *Escherichia coli* amyloid biogenesis and biofilm formation. Nat Chem Biol. 5(12):913-9 PMID:19915538
7. Chen SL, Hung CS, Pinkner JS, **Walker JN**, Cusumano CK, Li Z, Bouckaert J, Gordon JI, Hultgren SJ. (2009). Positive selection identifies an in vivo role for FimH during urinary tract infection in addition to mannose binding. PNAS USA. 106(52):22439-44. PMID:20018753
8. Lin LY, Tiemann KM, Li Y, Pinkner JS, **Walker JN**, Hultgren SJ, Hunstad DA, Wooley KL. (2012). Synthetic polymer nanoparticles conjugated with fimH(A) from *E. coli* pili to emulate the bacterial mode of epithelial internalization. JACS. 134(9):3938-41. PMID:22360307
9. **Walker JN**, Horswill AR. (2012). A coverslip-based technique for evaluating *Staphylococcus aureus* biofilm formation on human plasma. Front Cell Infect Microbiol. 2(39):1-5 PMID:22919630
10. **Walker JN**, Spaulding A, Salgado-Pabon W, Schlievert PM, Boyd JM, Horswill AR. (2013). The *Staphylococcus aureus* ArlRS two-component system is a novel regulator of agglutination and pathogenesis. PLoS Path. 9(12):e1003819
11. **Walker JN\***, Flores-Mireles A\*, Bauman T\*, Potretzke A, Schreiber H, Park A, Pinkner J, Caparon MG, Hultgren SJ, Desai A. (2016). Fibrinogen release and deposition on urinary catheters placed during urological procedures. J of Urol. S0022-5347(16):206-208. PMID: 26827873
12. Flores-Mireles AL, **Walker JN**, Potretzke A, Schreiber HL 4th, Pinkner JS, Bauman TM, Park AM, Desai A, Hultgren SJ, Caparon MG. (2016). Antibody-Based Therapy for Enterococcal Catheter-Associated Urinary Tract Infections. mBio. Oct 25;7(5)PubMed PMID: 27795399; PubMed Central PMCID: PMC5080383.
13. **Walker JN**, Flores-Mireles AL, Pinkner C, Schreiber HL 4th, Joens MS, Park AM, Potretzke A, Bauman TM, Pinkner JS, Fitzparick AJA, Desai A, Caparon MG, Hultgren SJ. (2017). Catheterization alters the bladder ecology to potentiate *Staphylococcus aureus* infection of the urinary tract. PNAS. 114(41):E8721-E8730. PMID: 28973850 *\*invited to write a commentary by UroToday.com Feb 2018, highlighted on UroToday.com as a selected abstract of interest under Recent Abstracts Jan 14<sup>th</sup>, 2018 and cover image in Outlook Magazine Autumn 2017 issue*
14. **Walker JN**, Pinkner C, Pinkner JS, Hultgren SJ, Myckatyn T. (2019). The detection of bacteria and matrix proteins on clinically benign and pathologic implants: An observational Study. PRSGo. Feb 8;7(2)e2037. PMID: 30881821
15. **Walker JN**, Pinkner CL, Lynch AJL, Ortbal S, Pinkner JS, Hultgren SJ, Myckatyn T. (2019). Deposition of host matrix proteins on implant surfaces facilitates *Staphylococcus epidermidis* biofilm formation. Aesthet. Surg. J. Apr 6. DOI: 10.1093/asj/sjz099. PMID: 30953053

16. **Walker JN**, Poppler L, Pinkner CL, Hultgren SJ, Myckatyn T. (2019) Establishment and characterization of a mouse model of bacterial infection of breast implants. *Aesthet. Surg. J.* Jul 1. DOI: 10.1093/asj/sjz190. PMID: 31259380
17. **Walker JN\***, Hanson BM\*, Pinkner CL, Simar SR, Pinkner JS, Parikh R, Clemens MW, Hultgren SJ, Myckatyn TM. (2019). Insights into the Microbiome of Breast Implants and Periprosthetic Tissue in Breast Implant-Associated Anaplastic Large Cell Lymphoma. *Nat. Sci. Rep.* Jul 17; 9(1):10393. DOI: 10.1038/s41598-019-46535-8. PMID:31316085
18. **Walker JN\***, Flores-Mireles AL\*, Lynch AJL, Pinkner C, Caparon MG, Hultgren SJ, Desai A. (2019). High Resolution Imaging Reveals Microbes Form Biofilms on Patient Urinary Catheters Despite Antibiotic Administration. *World J of Urol.* Dec. 2; 38(9):2237-2245. PMID: 31792577.
19. Duran Ramirez JM, Gomez J, Obernuefemann CLP, Gualberto NC, **Walker JN**. (2022). Semi-quantitative Assay to Measure Urease Activity by Urinary Catheter-associated Uropathogens. *Front. Cell. Infect. Microbiol.* March 22. PMID: 35392611.
20. Vuong LN, Dorsey D, Obernuefemann CL, Pinkner J, **Walker JN**, Hultgren SJ, Myckatyn TM. (2022). Characterization of Host-pathogen-device Interactions in *Pseudomonas aeruginosa* infection of Breast Implants. *PRS.* June 3. PMID: 35653545
21. Duran Ramirez JM, Gomez J, Hanson BM, Isa T, Myckatyn TM, **Walker JN**. (2022) *Staphylococcus aureus* breast implant infection isolates display recalcitrance to antibiotic pocket irrigants. *Microbiology Spectrum.* Dec. 2022. PMID: 36507629.
22. Paudel, S, Guedry S, Obernuefemann CLP, Hultgren SJ, **Walker JN**, Kulkarni R. (2023) Defining the roles of pyruvate oxidation, TCA cycle, and mannitol metabolism in methicillin resistance *Staphylococcus aureus* catheter-associated urinary tract infection. *Microbiology Spectrum.* June 2023. PMID: 37378538.
23. **Walker JN\***, Hanson BM\*, Hunter T, Simar SR, Duran Ramirez JM, Obernuefemann CLP, Parikh R, Tennenaum MM, Margenthaler JA, Hultgren SJ, Myckatyn TM. (2023) A Prospective Randomized Clinical Trial to Assess Antibiotic Pocket Irrigation on Tissue Expander Breast Reconstruction. *Microbiology Spectrum* July 31, 2023. In Press.
24. Nye TM\*, Zou Zongsen\*, Obernuefemann CLP, Lowry E, Kleinschmidt K, Pinkner JS, Bergeron K, Klim A, Dodson KW, Flores-Mireles A, **Walker JN**, Wong D, Desai A, Caparon MG, Hultgren SJ. (2023). Microbial Co-occurrence on Catheters from Long-term Catheterized Patients. (*Nat. Communications* under revision June 2023).

### C. Invited Reviews and Commentaries

25. **Walker JN**, Flores-Mireles A, Caparon MG, and Hultgren SJ. (2015). Urinary tract infections: epidemiology, mechanisms of infection, and treatment options. *Nat Rev Microbiol.* 13(5):269-84. PMID: 25853778
26. **Walker JN**, Caparon MG, Hultgren SJ. (2018). Catheterization Alters Bladder Ecology to Potentiate *Staphylococcus aureus* Infection of the Urinary Tract-Beyond the Abstract. *Urology Today.* <https://www.urotoday.com/recent-abstracts/pelvic-health-reconstruction/urinary-incontinence/101757-catheterization-alters-bladder-ecology-to-potentiate-staphylococcus-aureus-infection-of-the-urinary-tract-beyond-the-abstract.html>

27. **Walker JN**, Hanson BM, Myckatyn TM. (2019). Commentary on “Optimizing Breast Implant Pocket Irrigation: The Breast Implant-associated Anaplastic Large Cell Lymphoma (BIA-ALCL) Era”. *Aesthet Surg J*. doi: 10.1093/asj/sjz269
28. **Walker JN** and Myckatyn TM. (2020). Discussion: “Doxycycline-coated Silicone Breast Implants.” *Plastic and Reconstructive Surgery*. Nov 2020; 146(5):1042-1043. doi: 10.1097/PRS.00000000000007280. PMID 33136950.
29. **Walker JN** and Myckatyn TM. (2020). “Commentary on: Biofilm Formation on Breast Implant Surfaces by Major Gram-positive Bacterial Pathogens.” *Aesthetic Surgery Journal*. Sept 14, 2021; 41(10):1152. DOI: 10.1093/asj/sjaa400.
30. Myckatyn TM, Duran Ramirez JM, Hanson BM, **Walker JN**. (2023) “CME: Management of Biofilm with Breast Implant Surgery.” *Plastic and Reconstructive Surgery*. (In Press)

#### D. Book Chapters

- Celegski L, Smith CL, Hultgren SJ, updated by Flores-Mireles AL, **Walker JN**, Dodson KW, and Hultgren SJ. Microbial Adhesion. *Encyclopedia of Microbiology* (4<sup>th</sup> Edition), Reference Module in Biomedical Sciences, Academic Press, 978-0-12-811737-8, 93-102, 2014.

#### E. Other Professional Communications

##### 1. Presentations

###### *Local/Regional:*

1. Methodist Research Institute, ID Research Conference, Invited Speaker, 2023.
2. Texas Tech University, 11<sup>th</sup> Texas Tech Annual Biological Sciences Symposium, Keynote Speaker, 2023.
3. Texas Branch ASM Fall Meeting, Invited Speaker, 2022.
4. Methodist Research Institute, Seminar Series on Antimicrobial Resistance and Stewardship, Invited Speaker, 2022.
5. Texas Branch ASM Spring Virtual Meeting, Invited Speaker, 2021.
6. Texas A&M University, Department of Veterinary Pathobiology Seminar Program, Invited Speaker, 2020.
7. University of Texas Health Science Center at Houston, Molecular Basis of Infectious Diseases Data Club Meeting. 2020
8. Institute of Biosciences and Technology at Texas A&M University, Center for Infectious and Inflammatory Diseases Seminar Series. 2020.
9. University of Texas Health Science Center at Houston, Molecular Basis of Infectious Diseases Retreat, 2020.
10. University of Texas Health Science Center at Houston, Department of Microbiology and Molecular Genetics 30 year Celebration, 2019.

###### *National:*

1. 4<sup>th</sup> Clinical and Scientific Advances in Urinary Tract Infection. Virtual. July 19-27<sup>th</sup>. 2022.
2. Plastic Surgery The Meeting. Chicago, IL, USA. Sept 28-Oct 1. 2018.

###### *International:*

1. Cyprus International University, Faculty of Pharmacy Seminar Series, 2021.