

MATTHEW ALAN MULVEY, PhD

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ACADEMIC APPOINTMENTS and TRAINING

- July 1, 2023 – **Professor**, School of Biological Sciences, Henry Eyring Center for Cell and Genome Science, U of Utah.
- 2012 – 2023 **Professor**, Division of Microbiology & Immunology, Pathology Department, U of Utah.
- 2007 – 2012 **Associate Professor**, Division of Microbiology & Immunology, Pathology Department, U of Utah.
- 2001 – 2007 **Assistant Professor**, Division of Microbiology & Immunology, Pathology Department, U of Utah.
- 1995 – 2001 **Postdoctoral fellow**, Department of Molecular Microbiology Washington University School of Medicine, St. Louis, MO, USA and Biomedical Centre, Uppsala, Sweden; lab of Scott J. Hultgren.
- Structural studies of bacterial periplasmic chaperone-pilus subunit complexes.
 - Host-pathogen interactions involving uropathogenic *Escherichia coli*.
- 1990 – 1995 **Graduate student**, Department of Biology, U of Texas at Austin, USA; lab of Dennis T. Brown.
- Folding and assembly of Sindbis virus glycoproteins.

EDUCATION

- 1990 – 1995 **University of Texas at Austin**, PhD in Biology, lab of Dennis T. Brown.
- 1988 – 1990 **University of Texas at Austin**, BS in Molecular Biology
- 1986 – 1988 **University of Texas at El Paso**, undergraduate

PERSONAL STATEMENT

My laboratory is working to define mechanisms by which pathogenic strains of *Escherichia coli* colonize diverse host niches, persist, and spread in the face of numerous environmental stresses, innate and adaptive host defenses, aggressive competition with other microbes, and exposure to antibiotics. We are especially interested in understanding how intraspecies genetic diversity and bacterial adaptive responses impact host-microbe interactions and the manifestation of variable disease phenotypes. Our ongoing work indicates that even closely related bacterial strains can vary markedly in their ability to cause disease, dependent in part on host and environmental cues, input from neighboring microbes (the microbiota), and the specific gene sets carried by individual pathogens. To understand how environmental and evolutionary forces shape host-pathogen interactions, my lab employs a variety of experimental approaches and disciplines, including microbiology, microscopy, cell and molecular biology, biochemistry, bioinformatics, genetics, and genomics, as well as cell culture, mouse, and zebrafish models of localized and systemic infections.

AWARDS/FUNDING

Current Support

- **R01 GM134331**, *Impact of Flagellin Variants and Receptors on the Progression and Outcomes of Sepsis*
 NIH/NIGMS, 08/01/2019 – 04/30/2023 (in no-cost extension until 4/30/2024)
 This research addresses how flagellin variants and flagellin receptors affect the progression of disease in septic children by modulating host inflammatory responses.
 PI: Mulvey (20% effort); \$250,000 direct/year
- **T32 AI055434**, *Training Program in Microbial Pathogenesis*
 NIH/NIAID, 08/01/21–07/31/26
 This training grant supports 4 graduate students and 3 post-doctoral fellows working in the area of microbial pathogenesis.
 MPI: Mulvey (contact) and Planelles (10% effort); \$385,647 direct/year
- **W81XWH-22-1-0800 (SC210103)**, *Combating Multi-Drug Resistant Urinary Tract Infections in Spinal Cord Injury Patients*
 DoD Spinal Cord Injury Research Program (SCIRP) Translational Research Award
 09/01/22 – 08/31/25
 The major objective of this proposal is to develop strategies and tools that can be used to better prevent and treat chronic and recurrent UTI in individuals with spinal cord injury.
 Mulvey (PI, 10% effort); co-Is are W Brazelton, J Brown, S Lenherr, S Owen, J Winter.
 \$1,248,042 direct (\$1,903,264 total) over 3 years
- **R01 AI137331**, *Exploiting Synergistic and Antagonistic Interactions with Antifungal Drugs to Improve Disease Treatment*
 NIH/NIAID, 08/08/2019 – 07/30/2023
 This research aims to identify new, more effective drug combinations for combatting *Cryptococcus* and other fungal pathogens.
 PI: Brown, JC; Mulvey (co-I, 5% effort)
- **Research Education Interest Group Funding**, *Support for the Microbial Pathogenesis Interest Group activities.*
 SVPHS Research Unit, U of Utah
 Applied for and received \$4,000 – \$5,000 each year, 2015 – 2023.

Completed Support

- **3i Initiative and Molecular Medicine Program's 2020 Program Project Planning Grant**, *Defining Novel Bacterial and Host Regulators of Pediatric Sepsis*
 University of Utah, 04/01/21–03/31/22 (in no-cost extension)
 This work examines how Hyaluronan degradation and Neutrophil Extracellular Traps (NETs) impact disease outcomes in septic children.
 Contact PI: Mulvey; co-PIs are C. Yost, A. Blaschke, H. Crandall, A. Petrey; \$100,000 direct
- **Margolis Foundation grant**, *Surveillance of Emerging Resistance Patterns in Urinary Tract Infections*
 Ben B. and Iris M. Margolis Foundation, 01/01/2022-12/31/2023
 The goal of this study is to investigate the ongoing evolution of the “resistome” -set of genes among all microbes that are capable of conferring antibiotic resistance in urban water systems in Salt Lake City.
 PI: Winter, J; co-Is: MA Mulvey, William Brazelton, Jessica Brown, Shawn Owen; \$50,000
- **R01 GM134331-03S1**, *Equipment Supplement for R01 GM134331*
 NIH/NIGMS, 2021
 Funds for an Echo microscope system
 PI: Mulvey; \$88,687 direct

- **T32 AI055434, Training Program in Microbial Pathogenesis**
 NIH/NIAID, 09/01/16–08/31/21
 This training grant supported 3 graduate students and 3 post-doctoral fellow working in the area of microbial pathogenesis. Renewed 08/01/21.
 MPI: Mulvey (contact, 10% effort) and JJ Weis (10% effort); \$295,956 direct/year
- **R21AI135918, Mechanisms of ExPEC Persistence within the Gut**
 NIH/NIAID, 05/21/18–04/30/21
 The major goal of this proposal was to determine how ExPEC strains are able to establish long-lasting reservoirs within the intestinal tract in the face of numerous host defenses, intense competition from the resident microbiota, and antibiotic treatments.
 PI: Mulvey (16% effort); \$275,000 direct
- **3I Initiative Team Building Grant, Identification of ExPEC-encoded sRNA Targets**
 U of Utah, 2019 – 2021
 This work am to adapt state-of-the-art approaches to define specific bacterial sRNA targets, which we hypothesize include both bacterial and host mRNAs.
 MPI: Mulvey (contact) and D Cazalla; \$35,000
- **W81XWH-17-1-0145 (PR161900), Development of Novel Subunit Vaccines against Multidrug-Resistant ExPEC**
 DoD/Congressionally Directed Medical Research Programs (CDMRP), 05/15/17–06/15/20
 The primary goal of this grant is to identify functionally redundant ExPEC-associated factors that can be used to generate effective anti-ExPEC vaccines.
 PI: Mulvey (27% effort); \$199,998 direct
- **R21AI128720, Sub-lytic Activities of the Pore Forming Toxin Alpha-hemolysin**
 NIH/NIAID, 01/12/18–12/31/20
 This research aimed to define the mechanisms and consequences of α -hemolysin toxin-induced activation and re-localization of the host serine protease TRY4 (mesotrypsin).
 PI: Mulvey (18% effort); \$275,000 direct
- **3I Initiative Team Building Grant, Virulence Determinants of Haemophilus influenzae Type A (Hia)**
 U of Utah, 2019 – 2020
 This research leveraged clinical outcomes data from children with invasive Hia disease, comparative genomics, and zebrafish models of sepsis and meningitis to define mediators of Hia virulence, fitness, and host immune responses.
 MPI: A Blaschke (contact), MA Mulvey, H Crandall, M Yandell; \$30,000
- **Margolis Foundation grant, High-throughput identification of synergistic antimicrobial drug pairs to combat resistant infections**
 Ben B. and Iris M. Margolis Foundation, 2019
 This grant aimed to expand our use of the overlap2 method (O2M) to identify and develop synergistic combination treatments to better combat multidrug resistant 'superbugs'.
 MPI: J Brown (contact), MA Mulvey, Kim Hanson
- **Pathology Department Seed Grant, Impact of Flagellin Variants on Sepsis Progression and Outcomes**
 U of Utah Pathology Department, 03/01/17–02/18/18
 This study examined links between flagellin variants, TLR5 and NLRC4 signaling, and sepsis caused by ExPEC.
 PI: Mulvey

- **R01 AI095647**, *Bacterial Invasion and Trafficking within the Bladder*
 NIH/NIAID, 05/01/11–04/30/16
 The major goal of this project was to define the mechanisms by which uropathogenic *Escherichia coli* colonize and persist within the bladder.
 PI: Mulvey; \$250,000 direct
- **Pathology Department Seed Grant**, *Evolving Microbiological Features of UPEC Isolates from Patients with Recalcitrant UTIs*
 U of Utah Pathology Department, 02/01/14–02/01/16
 This study used next generation sequencing and comparative genomics to examine serial bacterial isolates recovered over time from patients with chronic, recurrent UTIs.
 PI: Mulvey
- **University of Utah Funding Incentive Seed Grant**, *Sub-lytic Activities of the Pore Forming Toxin α -hemolysin*.
 U of Utah, 07/01/15–07/30/16
 These funds were used to develop molecular tools for the identification and analysis of host factors that are engaged and manipulated by the bacterial toxin α -hemolysin.
 PI: Mulvey
- **R21 AI088086**, *Control of ExPEC virulence by small RNAs*
 NIH/NIAID, 06/01/10 – 05/31/12
 The major goals of this project were to identify the spectrum and functional attributes of small regulatory RNAs that are expressed by Extraintestinal Pathogenic *E. coli* in response to environmental stresses both *in vitro* and *in vivo* during the course of an infection.
 PI: Mulvey; \$275,000 direct
- **R21 AI090369**, *Deciphering ExPEC virulence mechanisms*
 NIH/NIDDK, 02/15/11 – 01/31/13
 This study was aimed at developing a high-throughput zebrafish infection model for identification of bacterial and host factors that modulate the ability of Extraintestinal Pathogenic *E. coli* to cause disease during both systemic and localized infections
 PI: Mulvey; \$275,000 direct
- **R01 DK068585**, *Bacterial invasion and trafficking within the bladder*
 NIH/NIAID, 06/01/04 – 08/30/12
 The major goal of this project was to define the mechanisms by which uropathogenic *Escherichia coli* colonize and persist within the bladder.
 PI: Mulvey; \$250,000 direct
- **Supplement for R01 DK068585**, *Bacterial invasion and trafficking within the bladder*
 NIH/NIAID, 01/10/10 – 12/31/10
 PI: Mulvey, \$66,418 direct
- **USTAR Technology Commercialization Grant**, *Efficacy study of new antibiotics*
 USTAR, 01/15/10 – 06/30/11
 This was a collaborative effort with Dr. Cheng-Wei Chang (Utah State University) to test the effectiveness of novel antimicrobial compounds against Gram-positive pathogens using *in vivo* infection models.
 PI: C-W Chang; Mulvey (co-I)
- **University of Utah Funding Incentive Seed Grant**, *Initiation and execution of host cell death by uropathogens*

U of Utah, 07/01/07–06/30/08
PI: Mulvey

- **R21 DK069526**, *Control of bladder infections by NF-kappaB*
NIH/NIDDK, 10/01/2004 – 08/31/07
The primary objective of this study was to determine if NF-kappaB could promote the establishment and dissemination of uropathogenic *E. coli* within bladder epithelial cells.
PI: Mulvey; \$225,000 direct
- **Equipment for JMRB Building Researchers**
University of Utah Research Instrumentation Fund, 2005
These funds were used to help purchase common equipment (centrifuges and plate readers) for use by Pathology and Biochemistry researchers upon moving their labs to the new Emma Eccles Jones Building in the Fall of 2005.
PI: Mulvey; \$68,000 direct
- **University of Utah Funding Incentive Seed Grant**, *Effects of Bacterial Infection on Bladder Cell Carcinogenesis*.
U of Utah, 07/01/02 – 06/30/03
The main goal of this study was to determine if normal versus transformed bladder epithelial cell lines respond differently to infection with uropathogenic *E. coli*
PI: Mulvey; \$31,500 direct
- **K22 Research Scholar Development Award AI01807**, *Bacterial Interactions with the Bladder Mucosa*
NIH/NIAID, 03/01 – 02/03
PI: Mulvey; \$225,000 direct

Pending Support

- **R21 (AI186071-01)**, *Initiation and Execution of Host Cell Exfoliation by Uropathogens*
NIH; Submitted Oct 2023 (will be reviewed Feb 13-24, 2024)
This work will define bacterial and host factors that trigger bladder cell exfoliation during the course of a UTI.
PI: Mulvey
- **R01**, *Mechanisms and Consequences of PasTI-mediated Bacterial Stress Resistance and Persistence*
NIH; June 5, 2024 submission
This proposal aims to determine how the PasTI system encoded by ExPEC strains and other pathogens coordinates oxidative stress resistance, ribosome rescue pathways, and the development of antibiotic-tolerant persister cells.
MPI: Mulvey (contact), Christine Dunham (Emory), Ken Keiler (Penn State U)
- **R21**, *Deciphering ETEC Fitness and Virulence Factors within the Gut*
NIH; under revision
This proposal aims to use genetic screens and other assays with zebrafish and mouse models of infection to define functionally conserved factors that promote the fitness and virulence of Enterotoxigenic *E. coli*.
PI: Mulvey
- **R01**, *Vaccination Strategies to Combat Antimicrobial Resistant ExPEC*
NIH; planned 2024 re-submission

The primary goals of this proposal are to test novel combinatorial vaccines that can be deployed to counter the rising tide of antibiotic resistant ExPEC strains and related pathogens, and to highlight key host factors that modulate the effectiveness of anti-ExPEC immune responses.
MPI: Mulvey (contact), Scott J. Hale

PUBLICATIONS

Google Scholar (h-index = 44; i10-index = 61):

https://scholar.google.com/citations?hl=en&user=ZjkwDooAAAAJ&view_op=list_works&sortby=pubdate

NCBI: <https://www.ncbi.nlm.nih.gov/myncbi/matthew.mulvey.1/bibliography/public/>

Peer-Reviewed Articles

1. Lewis AJ*, Richards AC*, Dhakal BK, Jones TA, Sundsbak JL, Eto DS, Rousek AA, **Mulvey MA** (2024). Plant phenolics inhibit focal adhesion kinase and ablate host cell invasion by uropathogenic *Escherichia coli*. *Infect Immun*. *In press*. *Equal contributors.
bioRxiv [Preprint]. 2023 Nov 23:2023.11.23.568486. doi: 10.1101/2023.11.23.568486. PMID: 38045282; PMCID: PMC10690256.
2. Bring Horvath ER, Brazelton WJ, Kim MC, Cullum R, **Mulvey MA**, Fenical W, Winter JM (2024). Bacterial diversity and chemical ecology of natural product-producing bacteria from Great Salt Lake sediment. *ISME Comm*. *In press*.
bioRxiv [Preprint]. 2023 Nov 8:2023.11.07.565188. doi: 10.1101/2023.11.07.565188. PMID: 37986792; PMCID: PMC10659378.
3. Munhoz DD*, Richards AC*, Santos FF, **Mulvey MA**[#], Piazza RMF[#] (2023). *E. coli* common pili promote the fitness and virulence of a hybrid aEPEC/ExPEC strain within diverse host environments *Gut Microbes*. 15(1):2190308. doi: 10.1080/19490976.2023.2190308. PMID: 36949030; PMCID: PMC10038029. *equal contributors; [#]corresponding authors
4. Hancock SJ, Lo AW, Ve T, Day CJ, Tan L, Mendez AA, Phan M-D, Nhu NTK, Peters KM, Richards AC, Fleming BA, Forde BM, Haselhorst T, Goh KGK, Beatson SA, Jennings MP, **Mulvey MA**, Kobe B, Schembri MA (2022). Fine-tuning of Ucl fimbriae expression modulates extraintestinal pathogenic *Escherichia coli* gut colonization. *PLoS Pathog*. 18(6):e1010582. doi: 10.1371/journal.ppat.1010582. PMID: 35700218. PMCID: PMC9236248.
5. Fleming BA*, Blango MG*, Rousek AA*, Kincannon WM, Tran A, Lewis AJ, Russell CW, Zhou Q, Baird LM, Barber AE, Brannon JR, Beebout CJ, Bandarian V, Hadjifrangiskou M, Howard MT, **Mulvey MA** (2022). A tRNA modifying enzyme as a regulatory nexus for control of bacterial stress responses and virulence. *Nucleic Acids Res*. gkac116. doi: 10.1093/nar/gkac116. PMID: 35212379. *equal contributors
Preprint: *BioRxiv* doi: <https://doi.org/10.1101/2021.02.02.429414>
**Press related to this paper includes:
<https://healthcare.utah.edu/publicaffairs/news/2022/03/why-infections-persit.php>
6. Li J, Ma Y, Paquette JK, Richards AC, **Mulvey MA**, Zachary JF, Teuscher C, Weis JJ (2022). The Cdkn2a gene product p19 alternative reading frame (p19ARF) is a critical regulator of IFN β -mediated Lyme arthritis. *PLoS Pathog* 18(3):e1010365. doi: 10.1371/journal.ppat.1010365. PMID: 35324997; PMCID: PMC8946740.
7. Meng F, Fleming BA, Jia X, Rousek AA, **Mulvey MA**, Ward DM (2022). Lysosomal iron recycling in mouse macrophages is dependent upon both reductases LcytB and Steap3. *Blood Adv*. 6(6):1692-1707. doi:10.1182/bloodadvances.2021005609. PMID: 34982827; PMCID: PMC8941456.

8. Olson MA, Grimsrud A, Richards AC, **Mulvey MA**, Wilson E, Erickson DL (2021). Bile salts regulate zinc uptake and capsule synthesis in a mastitis-associated extraintestinal pathogenic *Escherichia coli* strain. *Infect Immun* 6;IAI0035721. doi: 10.1128/IAI.00357-21
9. Crandall H, Kapusta A, Killpack J, Heyrend C, Nilsson K, Dickey M, Daly JA, Ampofo K, Pavia AT, **Mulvey MA**, Yandell M, Hulten KG, Blaschke AJ (2020). Clinical and molecular epidemiology of invasive *Staphylococcus aureus* infection in Utah children; continued dominance of MSSA over MRSA. *PLoS One*, 15(9): e0238991. PMID: PMC7500648
10. Libbey JE, MS, Sanchez JMS, Fleming BA, Doty DJ, DePaula-Silva AB, **Mulvey MA**, Fujinami RS (2020). Modulation of experimental autoimmune encephalomyelitis through colonization of the gut with *Escherichia coli*. *Beneficial Microbes*, 11(7):669-684. PMID: 33045841
11. Trivedi S, Labuz D, Anderson CP, Araujo CV, Blair A, Middleton EA, Tran A, **Mulvey MA**, Campbell RA, Hale JS, Rondina MT, Leung DT (2020). Mucosal-associated invariant T (MAIT) cells mediate protective host responses in sepsis. *eLife* 9: e55615. PMID: PMC7679140
12. Forde BM, Roberts LW, Phan M-D, Peters KM, Fleming BA, Russell CW, Lenherr SM, Myers JB, Barker AP, Fisher MA, Chong T-M, Yin WF, Chang KG, Schembri MA*, **Mulvey MA***, Beatson SA* (2019). Population dynamics of an *Escherichia coli* ST131 lineage during recurrent urinary tract infection. *Nature Comm.*, 10(1):3643. doi: 10.1038/s41467-019-11571-5. PMID: PMC6692316. *Co-corresponding authors.
**Press related to this paper includes an article by S Zhang in *The Atlantic*, Sept 3, 2019, <https://www.theatlantic.com/science/archive/2019/09/woman-recurring-utis-for-48-years/597199/>
13. Russell CW, Fleming BA, Jost CA, Tran A, Stenquist AT, Wambaugh MA, Bronner MP, **Mulvey MA** (2018). Context-dependent requirements for FimH and other canonical virulence factors in gut colonization by extraintestinal pathogenic *Escherichia coli*. *Infect Immun*. 86(3): pii: e00746-17. PMID: PMC5820936.
14. Wambaugh MA, Shakya VPS, Lewis AJ, **Mulvey MA**, Brown JCS (2017). High-throughput identification and rational design of synergistic small molecule pairs for combating and bypassing antibiotic resistance. *PLoS Biol*. 15(6): e2001644. <https://doi.org/10.1371/journal.pbio.2001644>. PMID: PMC5478098.
**Press related to this paper includes:
<https://healthcare.utah.edu/publicaffairs/news/2017/06/brown-synergistic.php>
<https://www.sciencedaily.com/releases/2017/06/170620143110.htm>
<https://sciworthy.com/choosing-a-weapon-against-antibiotic-resistance-just-got-easier/>
15. Russell CW, Richards AC, Chang AS, **Mulvey MA** (2017). The rhomboid protease GlpG promotes the persistence of extracellular pathogenic *Escherichia coli* within the gut. *Infect Immun*. 85(6):e00866-16. PMID: PMC5442614.
16. Biswas S, McCullough BS, Ma ES, LaJoie D, Russell CR, Brown DG, Round JL, Ullman KS, **Mulvey MA**, Barrios AM (2017). Dual colorimetric and fluorogenic probes for visualizing tyrosine phosphatase activity and high throughput screening. *Chem Commun (Camb)*. 53(14): 2233-2236.
17. Kjelstrup CK, Barber AE, Norton JP, **Mulvey MA**, L'Abée-Lund TM (2017). *Escherichia coli* O78 isolated from septicemic lambs shows high pathogenicity in a zebrafish model. *Vet Res*. 48(1):3. PMID: PMC5264452.
18. Erman A, Hergouth VK, Blango MG, Kos MK, **Mulvey MA**, Veranič P (2017). Repeated treatments with chitosan in combination with antibiotics completely eradicate uropathogenic *Escherichia coli* from infected mouse urinary bladders. *J Infect Dis*. 216(3): 375-381. PMID:28119486.

19. Barber AE, Fleming BA, **Mulvey MA** (2016). Similarly lethal strains of extraintestinal pathogenic *Escherichia coli* trigger markedly diverse host responses in a zebrafish model of sepsis. *mSphere* 1(2). pii: e00062-16. PMC4894679.
 **Highlighted on *This Week in Microbiology* (TWiM) podcast, episode #126:
<https://www.microbe.tv/twim/twim-126/>
20. Lewis AJ, Dhakal BK, Liu T, **Mulvey MA** (2016). Histone deacetylase 6 regulates bladder architecture and host susceptibility to uropathogenic *Escherichia coli*. *Pathogens*. 5(1). Pii: E20. PMC4810141.
21. Russell CW and **Mulvey MA** (2015). The extraintestinal pathogenic *Escherichia coli* factor RqII constrains the genotoxic effects of the RecQ-like helicase RqIH. *PLoS Pathogens*. 11(12):e1005317. PMC4670107.
22. Blango MG, Ott EM, Erman A, Veranic P, and **Mulvey MA** (2014). Forced resurgence and targeting of intracellular uropathogenic *Escherichia coli* reservoirs. *PLOS One*. 9(3): e93327. doi:10.1371/journal.pone.0093327. PMC3965547.
 **Press related to this paper includes:
 - Medical Daily: <http://www.medicaldaily.com/urinary-tract-infection-treatment-early-experiments-show-chitosan-capable-stopping-utis-272546>
 - Fox News: <http://www.foxnews.com/health/2014/03/26/study-finds-potential-new-way-to-end-recurrent-bladder-infections/>
 - Deseret News, LA's Women's Health Examiner:
23. Wiles TJ, Norton JP, Russell CW, Dalley BK, Fischer KF, and **Mulvey MA** (2013). Combining quantitative genetic footprinting and trait enrichment analysis to identify fitness determinants of a bacterial pathogen. *PLOS Genetics*. 9(8):e1003716. PMC3749937.
24. Wiles TJ, Norton JP, Smith SN, Lewis AJ, Mobley HLT, Casjens SR, and **Mulvey MA** (2013). A phylogenetically rare gene promotes the niche-specific fitness of an *E. coli* pathogen during bacteremia. *PLOS Pathogens* 9(2):e1003175. PMC3573123.
25. Donovan GT, Norton JP, Bower JM, and **Mulvey MA** (2013). Adenylate cyclase and the cAMP receptor protein (CRP) modulate the resistance and virulence capacity of uropathogenic *Escherichia coli*. *Infect Immun*. 81(1):249-258. PMC3536135.
26. Debnath I, Barber AE, Dhakal BK, Kulesus RR, Norton JP, and **Mulvey MA** (2012). The Cpx stress response system potentiates the fitness and virulence of uropathogenic *Escherichia coli*. *Infect Immun*. 81:1450-1459. PMID 23429541.
27. Kraemer BF, Campbell RA, Schwertz H, Franks ZG, Viera de Abreu A, Grundler K, Kile BT, Dhakal BK, Rondina MT, Kahr WHA, **Mulvey MA**, Blaylock RC, Zimmerman GA, Weyrich AS (2012). Bacteria differentially induce degradation of Bcl-X_L, a survival protein, by human platelets. *Blood*. 120(25):5014-5020. PMC3525025.
28. Norton JP and **Mulvey MA** (2012). Toxin-antitoxin systems are important for niche-specific colonization and stress resistance of uropathogenic *Escherichia coli*. *PLOS Pathogens* 8(10):e1002954. PMC3464220.
 **Highlighted by *Faculty of 1000 Biology*.
29. Erman A, Lakota K, Mrak-Poljsak K, Blango MG, **Mulvey MA**, Sodin-Semrl S, Veranic P (2012). Uropathogenic *Escherichia coli* induces serum amyloid A in mice following urinary tract and systemic inoculation. *PLOS One* 7(3):e32933. PMC3299708.
30. Dhakal BK and **Mulvey MA** (2012). The UPEC pore forming toxin α -hemolysin triggers proteolysis of host proteins to disrupt cell adhesion, inflammatory and survival pathways. *Cell Host Microbe* 11:58-69. PMC3266558.
 **Press related to this paper includes:
 - WBUR (Boston NPR station) CommonHealth: <https://www.wbur.org/news/2012/01/19/uti>

- Highlighted by *Faculty of 1000 Biology*.
 - Justice SS and Hunstad DA (2012). UPEC Hemolysin: More than Just for Making Holes. *Cell Host Microbe*. 11:4-5.
 - Jermy A (2012). UPEC Help Host to Exfoliate. *Nature Rev Microbiol*. 10:159.
31. Vigil PD, Wiles TJ, Engstrom MD, Prasov L, **Mulvey MA**, Mobley HLT (2012) The repeat-in-toxin (RTX) family member TosA mediates adherence of uropathogenic *Escherichia coli* and survival during bacteremia. *Infect. Immun*. 80(2):493-505. PMC3264304.
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 32. Blango MG and **Mulvey MA** (2010). Persistence of uropathogenic *Escherichia coli* in the face of multiple antibiotics. *Antimicrobiol. Agents Chemother*, 54(5):1855-63. PMC2863638.
**Highlighted by *Faculty of 1000 Biology*.
 33. Wiles TJ, Bower JM, Redd MJ, **Mulvey MA** (2009). Use of zebrafish to probe the divergent virulence potentials and toxin requirements of extraintestinal pathogenic *Escherichia coli*. *PLOS Pathogens*, 5(12):e1000697. PMC2785880.
**Highlighted by *Faculty of 1000 Biology*.
 34. Bower JM, Gordon-Ragaas, HB, **Mulvey MA** (2009). Conditioning of uropathogenic *Escherichia coli* for enhanced colonization of the host. *Infect. Immun*. 77(5): 2104-2112. PMC2681758.
 35. Kulkarni R, Dhakal BK, Slechta ES, Kurtz Z, **Mulvey MA**, and Thanassi DG (2009). Roles of putative type II secretion and type IV pilus systems in the virulence of uropathogenic *Escherichia coli*. *PLOS ONE* 4(3): e4752. PMC2649431.
 36. Dhakal BK and **Mulvey MA** (2009). Uropathogenic *Escherichia coli* invade host cells via an HDAC6-modulated microtubule-dependent pathway. *J. Biol. Chem*. 284(1): 446-454. PMID: 18996840.
 37. Eto ES, Gordon HB, Dhakal DK, Jones TA, and **Mulvey MA** (2008). Clathrin, AP-2, and the NPXY-binding subset of alternate endocytic adaptors facilitate FimH-mediated bacterial invasion of host cells. *Cell. Microbiol*. 10(12): 2553-2567. PMID:18754852.
 38. Kulesus RR, Diaz-Perez K, Slechta ES, Eto DS, and **Mulvey MA** (2008). Impact of the RNA chaperone Hfq on the fitness and virulence potential of uropathogenic *Escherichia coli*. *Infect. Immun*. 76(7):3019-3026. PMC2446724.
 39. Wiles TJ, Dhakal BK, Eto DS, and **Mulvey MA** (2008). Inactivation of host Akt/Protein kinase B signaling by bacterial pore-forming toxins. *Mol. Biol. Cell*, 19(4): 1427-1438. PMC2291440.
 40. Eto DS, Jones TA, Sundsbak JL and **Mulvey MA** (2007). Integrin-mediated invasion of host cells by type 1-piliated uropathogenic *Escherichia coli*. *PLOS Pathogens*, 3(7):e100. PMC1914067.
 41. Eto DS, Sundsbak JL, and **Mulvey MA** (2006). Actin-gated intracellular growth and resurgence of uropathogenic *Escherichia coli*. *Cell. Microbiol*. 8:704-717. PMID: 16548895.
**Highlighted by *Faculty of 1000 Medicine*.
 42. Bower JM and **Mulvey MA** (2006). Polyamine-mediated resistance of uropathogenic *Escherichia coli* to nitrosative stress. *J. Bacteriol*. 188:928-933. PMC1347364.
 43. Schilling JD, Martin SM, Hunstad DA, Kunal PP, **Mulvey MA**, Justice SS, Lorenz RG, and Hultgren SJ (2003). CD14- and Toll-Like receptor-dependent activation of bladder epithelial cells by lipopolysaccharide and type 1 piliated *Escherichia coli*. *Infect. Immun*. 71:1470-1480. PMC148872.
 44. Mysorekar IU, **Mulvey MA**, Hultgren SJ, and Gordon JI (2002). Molecular regulation of urothelial renewal and host defenses during infection with uropathogenic *E. coli*. *J. Biol. Chem*. 277: 7412-7419. PMID: 11744708.

45. **Mulvey MA***, Schilling JD*, and Hultgren SJ (2001). Establishment of a persistent *E. coli* reservoir during the acute phase of a bladder infection. *Infect. Immun.* 69:4572-4579. PMC98534. *Equal contributors.
46. Schilling JD, **Mulvey MA**, Vincent CD, Lorenz RG, and Hultgren SJ (2001). Bacterial invasion augments epithelial cytokine responses to *Escherichia coli* through an LPS-dependent mechanism. *J. Immunol.* 166:1148-1155.
47. Martinez JJ*, **Mulvey MA***, Schilling JD, Pinkner J, and Hultgren SJ (2000). Type 1 pilus mediated bacterial invasion of bladder epithelial cells. *EMBO J.* 19:2803-2812. *Equal contributors. PMC203355. *Equal contributors.
48. **Mulvey MA**, Lopez-Boado YS, Wilson CL, Roth R, Parks WC, Heuser J, and Hultgren SJ (1998). Induction and evasion of host defenses by type 1-piliated uropathogenic *Escherichia coli*. *Science* 282:1492-1497. PMID: 9822381.
49. Knight S, **Mulvey M**, and Pinkner J (1997). Crystallization and preliminary X-ray diffraction studies of the FimC-FimH chaperone-adhesin complex from *Escherichia coli*. *Acta Cryst. D53*: 207-210. PMID: 15299958.
50. Carleton M, Lee H, **Mulvey M**, and Brown DT (1997). The role of glycoprotein PE2 in formation and maturation of the Sindbis virus spike. *J. Virol.* 71:1558-1566. PMC191213.
51. **Mulvey M** and Brown DT (1996). Assembly of the Sindbis virus spike protein complex. *Virology* 219:125-132. PMID: 8623521.
52. **Mulvey M** and Brown DT (1995). Involvement of the molecular chaperone BiP in maturation of Sindbis virus glycoproteins. *J. Virol.* 69:1621-1627. PMC188759.
53. **Mulvey M** and Brown DT (1994). Formation and rearrangement of disulfide bonds during maturation of the Sindbis virus E1 glycoprotein. *J. Virol.* 68:805-812. PMC236517.

Invited Commentaries, Book Chapters, and Reviews

54. Fleming BA, **Mulvey MA** (2019). Commensal strains of *Neisseria* use DNA to poison their pathogenic rivals. *Cell Host Microbe*, 26(2):156-158. doi: 10.1016/j.chom.2019.07.014.
55. Brannon JR, **Mulvey MA** (2019). Jekyll and Hyde: Bugs with double personalities that muddle the distinction between commensal and pathogen. *J Mol Biol.*, 431(16):2911-2913. <https://doi.org/10.1016/j.jmb.2019.06.014>.
56. **Mulvey MA**, Klumpp DJ, Stapleton AE (2017). Preface. In Urinary Tract Infections: Molecular Pathogenesis and Clinical Management, 2nd Edition, **Mulvey MA**, Stapleton AE, Klumpp DJ, Eds (ASM Press, Washington, D.C.). pgs xix-xx.
57. Lewis AJ, Richards AC, **Mulvey MA** (2017). Invasion of host cells and tissues by uropathogenic bacteria. In Urinary Tract Infections: Molecular Pathogenesis and Clinical Management, 2nd Edition, **Mulvey MA**, Stapleton AE, Klumpp DJ, Eds (ASM Press, Washington, D.C.). Ch 16, pgs 359–382.
 Also published as: Lewis AJ, Richards AC, **Mulvey MA (2016). Invasion of host cells and tissues by uropathogenic bacteria. *Microbiol Spectr* 4(6):UTI-0026-2016. PMCID: PMC5244466.
58. Fleming BA and **Mulvey MA** (2016). Toxin-antitoxin systems as regulators of bacterial fitness and virulence. In Stress and Environmental Regulation of Gene Expression and Adaptation in Bacteria, F.J. de Bruijn, Ed. (John Wiley & Sons, Inc., Hoboken, NJ). Ch 6.2, pgs 437–445.

59. Barber AE*, Norton JP*, Wiles TJ, **Mulvey MA** (2016). Strengths and limitations of model systems for the study of urinary tract infections and related pathologies. *Microbiol Mol Biol Rev* 80(2): 351-367. PMC4867371 *Equal contributors.
60. **Mulvey MA** and Tantin D (2014). Opinion: An ecclesiastical approach to peer review. *The Scientist*, September; <http://www.the-scientist.com/?articles.view/articleNo/40901/title/Opinion-An-Ecclesiastical-Approach-to-Peer-Review/>.
61. Lewis AJ, Ott EM, Wiles TJ and **Mulvey MA** (2014). Invasion of host cells by pathogenic *E. coli*. In *Pathogenic Escherichia coli: Molecular and Cellular Microbiology* (Chapter 13, pgs. 231-254); S Morabito, Ed (Caister Academic Press, Norfolk, United Kingdom).
62. Russell CW and **Mulvey MA** (2014). Type 1 and P pili of uropathogenic *Escherichia coli*. In *Bacterial Pili: Structure, Synthesis and Role in Disease* (Chapter 4, pgs. 49-70), part of the *Advances in Molecular and Cellular Microbiology* series; M Borrochi and JL Telford, Eds (CAB International, Boston, MA).
63. Barber AE and **Mulvey MA** (2013). Reply to Kaye and Sobel (Letter to the editor). *Clin. Infect. Dis.* 58(3):444-5. PMC3890335.
64. Barber AE, Norton JP, Spivak AM, and **Mulvey MA** (2013). Urinary tract infections: Current and emerging management strategies. *Clin. Infect. Dis.* 57:719-724. PMC3739462.
65. Wiles TJ and **Mulvey MA** (2013). The RTX pore-forming toxin α -hemolysin of uropathogenic *Escherichia coli*: Progress and perspectives. *Future Microbiol.* 8(1):73-84. PMC3570152.
66. Dhakal BK, Bolwer JM, **Mulvey MA** (2009). Pili, Fimbriae. In *Encyclopedia of Microbiology*, 3rd Edition, M. Schaechter, Ed (Elsevier, Oxford); pgs. 470-489.
Also published as: Dhakal BK, Bower JM, **Mulvey MA (2009). Pili, Fimbriae. In *The Desk Encyclopedia of Microbiology*. 2nd Edition, M. Schaechter, Ed (Elsevier, Oxford); pgs. 861-880.
67. Blango MG and **Mulvey MA** (2009). Bacterial Landlines: contact-dependent signaling in bacterial populations. *Curr. Opin. Microbiol.* 12:1-5. PMID:19246237.
68. Dhakal BK, Kulesus RR, **Mulvey MA** (2008). Mechanisms and consequences of bladder cell invasion by uropathogenic *Escherichia coli*. *Europ. J. Clin. Investig.* 38(s2): 2- 11. PMID: 18616559.
69. Wiles TJ, Kulesus RR, **Mulvey MA** (2008). Origins and virulence mechanisms of uropathogenic *Escherichia coli*. *Exp. Mol. Path.* 85:11-19. PMID:18482721.
70. Eto DS and **Mulvey MA** (2007). Flushing bacteria out from the bladder. *Nat. Medicine*, 13(5):531-532. PMID: 17479092.
71. Slechta ES and **Mulvey MA** (2006). Contact-dependent inhibition: Bacterial brakes and secret handshakes. *Trends Microbiol.* 14(2): 58-60. PMID: 16387500.
72. Bower JM*, Eto DS*, and **Mulvey MA** (2005). Covert operations of uropathogenic *Escherichia coli* within the urinary tract. *Traffic* 6: 18-31. *Equal contributors. PMC2523259.
73. Bower JM and **Mulvey MA** (2002). Gripping tales of bacterial pathogenesis. *Cell* 111:447-448.
74. **Mulvey MA**. Adhesion and entry of uropathogenic *E. coli*. *Cell. Microbiol.* 2002, 4: 257-271. PMID: 12027955.
75. Chapman MR, **Mulvey MA**, Hultgren SJ (2001). Fimbriae and Pili. In *Molecular Medical Microbiology*, M. Sussman, Ed. (Academic Press, London); pgs.177-198.

76. Schilling JD, **Mulvey MA**, and Hultgren SJ (2001). Dynamic interactions between host and pathogen during acute urinary tract infections. *Urology* 57(s6A):56-61. PMID: 11378051.
77. Schilling JD, **Mulvey MA**, and Hultgren SJ (2001). Structure and function of *Escherichia coli* type 1 pili: new insights into urinary tract infection pathogenesis. *J. Infect. Dis.* 183 (Suppl 1): S36-S40. PMID: 11171011.
78. **Mulvey MA** (2000). A RIVETing Story. *Trends Microbiol* 8(3):109.
79. **Mulvey MA**, Hultgren SJ, and Langermann S (2000). Development of an adhesin vaccine to prevent urinary tract infection. In Development of Novel Antimicrobial Agents: Emerging Strategies, K. Lohner, Ed. (Horizon Scientific Press, Norfolk, England); pgs. 123-138.
80. **Mulvey MA**, Schilling JD, Martinez JJ, and Hultgren SJ (2000): Bad bugs and beleaguered bladders: interplay between uropathogenic *E. coli* and innate host defenses. *Proc Natl Acad Sci USA.* 97: 8829-8835. PMC34019.
81. **Mulvey MA** and Hultgren SJ. Bacterial Spelunkers (2000). *Science* 289:732-733. PMID: 10950716.
82. Sauer FG, **Mulvey MA**, Schilling JD, Martinez JJ, and Hultgren SJ (2000): Bacterial pili: Molecular mechanisms of pathogenesis. *Curr. Opin. Microbiol.* 3: 65-72. PMID: 10679419.
83. **Mulvey MA**, Hultgren SJ: Adhesion, Bacterial (2000). In Encyclopedia of Microbiology, 2nd Edition, J. Lederberg et al, Eds (Academic Press, New York); pgs. 42-52.
84. **Mulvey MA**, Dodson KW, Soto GE, Hultgren SJ (2000). Fimbriae, Pili. In Encyclopedia of Microbiology, 2nd Edition, J. Lederberg et al, Eds (Academic Press, New York); pgs. 361-379.
85. Authored 25 article evaluations for *Faculty of 1000* (now *Faculty Opinions*) since 2012.

Books

86. Wild Wasatch Front (2024), Natural History Museum of Utah, Lisa Thompson, Ed (Timber Press, Portland, OR), 348 pgs. **MA Mulvey** contributed 9 photographs.
87. Urinary Tract Infections: Molecular Pathogenesis and Clinical Management, 2nd Edition (2017), **Mulvey MA***, Stapleton AE, Klumpp DJ, Eds (ASM Press, Washington, D.C.). *Lead editor.

Covers



Manuscripts in Preparation, Under Review, or Under Revision

- Bring Horvath ER, Matthews OJ, Brazelton WJ, Hernandez EJ, Crandall H, Lenherr SM, Winter JM, **Mulvey MA** (2024). Decoding the global footprint of an extensive multidrug resistance island and unveiling probabilistic resistance gene co-occurrence in *Escherichia coli*. *In preparation*.
- Bring Horvath ER, Stein MG, **Mulvey MA**, Hernandez EJ, Winter JM (2024). Resistance Gene Association and Inference Network (ReGAIN): A bioinformatics pipeline for assessing probabilistic co-occurrence between resistance genes in bacterial pathogens. *In preparation*.

- Enrico EM, Tran A, Fleming BA, Richards AC, Liu T, **Mulvey MA** (2024). Pore-forming toxins activate a cellular defense that sequesters rogue host serine proteases within nucleoli. *In preparation*.
- Richards AC, Mendez AA, Valdez LA, Bonkowsky S, Fleming BA, Nielsen S, **Mulvey MA** (2024). Xylose metabolism and sculpting of the K2 capsule modulate the fitness of extraintestinal pathogenic *Escherichia coli* within the mammalian gut. *In preparation*.
- Fleming BA*, Blango MG*, Matthews OJ, Nelson K, Mendez AA, Stenquist AT, Bonkowsky S, Kulesus RR, **Mulvey MA** (2024). Small RNAs promote the stress resistance, intracellular survival, and virulence of extraintestinal pathogenic *Escherichia coli*. *In preparation*. *Equal contributors.

HONORS/AWARDS

- 2021 3rd place, 3i 'Art as Science' competition, U of Utah.
- 2014 Distinguished Mentor Award, U of Utah.
- 2001 – 2003 K22 Research Scholar Development Award AI01807.
- 1998 – 2000 NIH Individual National Research Service Award (1 F32 AI09787).
- 1997 – 1999 Lucille P. Markey Special Emphasis Pathway in Human Pathobiology postdoctoral fellow.
- 1996 – 1997 NIH Fellow (Infectious Diseases Training Grant), Washington U SOM.
- 1991 – 1993 NIH Fellow (Cancer Training Grant), U of Texas at Austin.

TEACHING

- 2024 Co-Course Master and Lecturer, Cell Structure and Function (BIOL 5210).
- Oct 23, 2023 Guest lecturer, Biol 2870 (Faculty Research Seminar)
- 2022, 2023 Capstone Facilitator for MB/BC Graduate programs (MB/BC 6300)
- 2020 Guest discussant, graduate Cell Biology course lecture on Prokaryotic Biology.
- 2002 – 2022 Course Master, Host-Pathogen Interactions and Human Disease (Path 7310). Topics taught vary each year.
- 2002 – present PI/mentor for 16 PhD doctoral students.
- 2016 – present Lecturer for Dental students, Host and Defense (Dent 7135).
- 2014 – 2019 Lecturer for Medical School Phase 2, Host and Defense.
- 2017 Facilitator for medical students; Circulation, Respiration and Regulation (CRR).
- 2012 – 2015 Co-Course Master and lecturer, Mechanisms of Bacterial Pathogenesis (Path 5050).
- 2007, 2015 Organizer/facilitator; Journal Club & Grant Writing course for the MB/BC Graduate programs.
- 2011, 2013 Guest lecturer for Biology 2870, a Faculty Seminar Series required for students in the Bioscience/Neuroscience Undergraduate Research Program.
- 2006 Guest lecturer, Research Design and Evaluation (MD LB 5110) for MedTech students.
- 2004 – 2006 Lecturer, Genetics and Genomes, Microbial Genetics lectures (MB 6420).
- 2003 Organizer; Host-Microbial Interactions Journal Club (MBIOL 6100).

TRAINEES

Graduate (PhD) Students

- 2023 – present **Taylor Aucutt**; *Deciphering ETEC Fitness and Virulence Factors within*

the Gut.

- 2021 – present **Alexis Rousek**; *Impact of Flagellin Variants on Inflammatory Responses*. Microbial Pathogenesis T32 Training Grant recipient (AI055434; 2022 –).
- 2020 – present **Eli Brand Horvath**; *Multi-drug resistant E. coli*. Co-mentored with Jackie Winter (Medicinal Chemistry); 3i T32 Training Grant recipient (2022 – 2023).
- 2020 – present **O'Connor Matthews**; *Impact of Flagellin Variants and Receptors on the Progression and Outcome of Sepsis*. Genetics T32 Training Grant recipient (GM07464; 2021 – 2023).
- 2016 – 2023 **Amanda Richards**; *Multi-niche adaptation of ExPEC*. Microbial Pathogenesis T32 Training Grant recipient (AI055434; 2017 – 2019).
- 2013 – 2019 **Brittany Fleming**; *Post-transcriptional regulation of ExPEC virulence and fitness factors*. Postdoc with Dr. Olivia Steele-Mortimer, Rocky Mountain Laboratories, NIAID, Hamilton, MT (Nov 2019 – June 2022). Currently a Clinical Development Scientist, Gilead Sciences, Inc.
- 2012 – 2019 **Elizabeth Enrico**; *Modulation of host proteases by pore-forming toxins*. Genetics T32 Training Grant recipient (GM07464; 2014 – 2017). Initial position as Clinical laboratory scientist, Microbiology II, Infectious Diseases Section of the Utah Public Health Laboratory. Current position: Scientist III, ARUP Laboratories, Salt Lake City.
- 2012 – 2016 **Colin Russell**; *Defining ExPEC virulence factors*. Postdoc with Swaine Chen, National University of Singapore. Current position: Staff Bioinformatics Scientist at Illumina.
- 2011 – 2016 **Adam John Lewis**; *Inhibition of host cell invasion by ExPEC*. Hematology T32 Training Grant recipient (DK7115; 2012 – 2015). Postdoc at Center for Global Infectious Disease Research, Seattle, WA. Current position: Senior Scientist at Zoetis, Kalamazoo, Michigan.
- 2010 – 2016 **Amelia Barber**; *Modulation of host responses by ExPEC*. Current position: Group Leader, Fungal Informatics at Leibniz Institute for Natural Product Research and Infection Biology - Hans Knöll Institute; Jena, Germany.
- 2009 – 2013 **Jordan Paul Norton**; *ExPEC persistence within the host*. Genetics T32 Training Grant recipient (2012 – 2013). Earned law degree, BYU (2016). Current position: Senior Counsel and Director of Intellectual Property, Ancestry.
- 2007 – 2012 **Matthew G. Blango**; *Regulation of UPEC stress responses and persistence in the urinary tract*. Microbial Pathogenesis T32 Training Grant recipient (AI055434; 2010 – 2012). Postdocs with Dr. Brenda Bass (Department of Biochemistry, U of Utah) and Dr. Axel Brakhage (Hans Knöll Institute). Current position: Junior Research Group Leader at Leibniz Institute for Natural Product Research and Infection Biology; Hans Knöll Institute, Jena, Germany.
- 2007 – 2012 **Travis J. Wiles**, *Defining the multigenic basis of ExPEC fitness and virulence*. Microbial Pathogenesis T32 Training Grant recipient (AI055434; 2008 – 2010). Genetics T32 Training Grant recipient (2010 – 2012). Won the 2013 James W. Prah Memorial Award Outstanding Graduate Student in Biological or Biomedical Sciences.

- Runner-up for Nat L. Sternberg Thesis Prize (2013).
 Postdoc with Dr. Karen Guellemin, U of Oregon (2013 – 2020).
 Current position: Assistant Professor at UC Irvine.
- 2004 – 2009 **Bijaya Dhakal**; *Host cell invasion by UPEC*.
 Clinical Microbiology Fellow, ARUP Laboratories and U of Utah SOM (2012 – 2014).
 Current position: Director, Molecular Laboratory at Sonic Reference Laboratory, Austin, TX.
- 2004 – 2010 **Richard Kulesus**, *Adaptation of ExPEC to Stress*.
 Microbial Pathogenesis T32 Training Grant recipient (AI055434; 2006 – 2007).
 Current position: Sr. Marketing Operations Manager at Outlier AI, Longmont, CO.
- 2002 – 2008 **Danelle Eto**; *Invasion Mechanisms of Uropathogens*
 Microbial Pathogenesis T32 Training Grant recipient (AI055434; 2004 – 2005).
 Postdoc with Dr. Shane Crotty at La Jolla Institute of Allergy and Immunology.
 Current position: Research scientist, Neurocrine Biosciences, San Diego, CA.
- 2002 – 2008 **Jean M. Bower**; *Virulence and adaptation mechanisms of UPEC*.
 Genetics T32 Training Grant recipient (GM07464; 2003 – 2006)
 Current position: Director of Biotechnology Program at Salt Lake Community College.

Post-doctoral Fellows

- 2004 – 2007 **Sue Slechta**; *Pathogenic mechanisms of UPEC*.
 Microbial Pathogenesis T32 Training Grant recipient (2004).
 National Research Service Award (F32 DK070507-01A1; 2005 – 2007).
 Current position: Research and Development Investigator, ARUP Laboratories, Salt Lake City, UT.
- 2010 – 2012 **Irina Debnath**; *Stress resistance mechanisms of UPEC*.
 Current position: Assistant Biosafety Officer, UCSF
- 2011 – 2014 **Elizabeth Ott**, *Mechanisms of host cell invasion by UPEC*.
 Went on to be Research and Development Scientist, BioFire Diagnostics LLC (2014 – 2022).
 Current position: Clinical Trial Manager, W. L. Gore & Associates.
- Two graduate students continued as postdocs in the Mulvey lab while waiting for their next positions: **Bijaya Dhakal** (2009 – 2012); **Travis J. Wiles** (2012 – 2013)

Rotation Students

Danelle Eto (2001), Arthur Turlak (2001), Jean Bower (2002), Lisa Peterson (2002), Krishna Kanth Narra (2002), Erik Zimmerman (2003), George Eisenhoffer Jr. (2003), Bijaya Dhakal (2003), Jann Gardner (2004), Rich Kulesus (2004), Oscar Ruiz (2005), Sajjan Koirala (2006), Matthew Blango (2006), Travis Wiles (2007), Uchenna Emechebe (2007), Luke Donius (2007), Elizabeth Sloan (2007), Sydney Stringham (2008), Jordan Paul Norton (2008), Peter Ramirez (2009), Amelia Barber (2009), Laura Castillo (2010), Adam J. Lewis (2011), Brandon Henrie (2011), Colin Russel (2011), Hemant Raj Joshi (2011), Rachel Redman (2011), Kelsey Rogers (2011), Ray Soto (2012), Elizabeth Enrico (2012), Jackie Engel (2012), Jeremy Snook (2012), Brittany Flemming (2013), Khondaker Rifat Hasan Bhaskar (2013), Matt Szaniawski (2013), Steve Esquivel (2013), Justin Panich (2013), Sunghyu Koo (2013), David Kircher (2014), Alyssa Litwiller (2014), Jinze Li (2014), Morgan Wambaugh (2015), Lauren Dee Swanson (2015), Amanda Richards (2016), Krystal Chug (2018), Krystal Charlie (2018), Stephan Thomas (2019), O'Connor Matthew (2020), Eli Brand Horvath (2020), Alexis Rousek (2020),

Lourdes (Lulu) Valdez (2021), Taylor Aucutt (2022), Tom Knight (2022), Nathan David Raymond (2024).

Masters Students

- 2011 **Clint Christensen**; MS Biomedical Research student
- 2004 **Melissa Andersen**, Medical Laboratory Science Master's Program.

Undergraduates

- Jan 2024 **Alana Field**; student in ACCESS Scholars Program, committed to advancing gender equity in STEM.
- June 2023 – **Zoe Rachel Masson**; undergraduate lab assistant.
- Jan 2023 – **Tessa Rhiannon Larsen**; undergraduate lab assistant.
- Feb 2022 – **Divyam Goel**; undergraduate lab assistant. Undergraduate Research Opportunities Program (UROP) trainee, Aug. 2022 – Dec. 2022.
- April 2024
- May 2022 – **Samuel Hendry**; undergraduate lab assistant. Undergraduate Research Opportunities Program (UROP) trainee, Aug. 2022 – Dec. 2022. Awarded U of Utah School of Medicine Outstanding Undergraduate Researcher, April 3, 2023.
- May 2023
- June 2022 – **Shannon (Mei) Anderson**; undergraduate lab assistant.
- 2018 – June 2022 **Alejandra A. Mendez**; Undergraduate Research Opportunities Program (UROP) trainee. Awarded Chevron Research Scholarship for women in STEM. Was lab manager in Mulvey lab for 2 years. Stared medical school at the U of Utah SOM, 2022. Returned Mar 2022 – Aug 2023 for interim tech position.
- 2017 – 2018 **Craig Hanson**; Undergraduate Research Opportunities Program (UROP) trainee. Awarded Student Veteran of the Year (2018). Earned MD at the U of Utah SOM 2023.
- 2017 – 2018 **Courtney Jost**; Undergraduate Research Opportunities Program (UROP) trainee.
- 2016 – 2018 **Brandon Olsen**; Undergraduate Research Opportunities Program (UROP) trainee (May 2017 – Jan 2018) and Work Study student.
- 2015 – 2018 **Alex Tran**; Undergraduate Research Opportunities Program (UROP) trainee (2015 – 2016) and Work Study student. won 1st place for Best Talk at ASM Tri-Branch meeting in Durango, CO (April 7, 2018). Currently a medical student at the U of Utah SOM.
- 2015 – 2016 **Alexander Chang**; Undergraduate Research Opportunities Program (UROP) trainee.
- 2015 **Chelsea Bybee**; Graduate Preparation Institute (GPI) student (4-week summer research and preparation program for under-represented college juniors and seniors in the STEM fields).
- 2015 **Kristen Clemons**; Summer Undergraduate Research Access for Minorities Program (URAMP) student.
- 2014 – 2016 **Sierra Kurian**; undergraduate research assistant and BioURP student.
- 2014 **Mai-Lan Trinh**; U of Utah ACCESS Program for Women in Science and Mathematics.
- 2014 – 2016 **Alan Stenquist**; lab assistant. Went on to graduate school at U of Wyoming.
- 2013 – 2016 **Kevin Nelson**; undergraduate research assistant and BioURP student. Went on to graduate school at Ohio State University.
- 2013 – 2014 **SooHeon (Sean) Park**; undergraduate research assistant.
- 2010 – 2012 **Grant Donovan**; undergraduate research assistant.
- 2011 **Nicsa Tanco**; undergraduate summer research student (part of BioURP at University of Utah). Visiting from Universidad del Este, Puerto Rico.

- 2010 – 2011 **Hamid Amiri**; undergraduate research assistant.
- 2010 **Arthur Valkenburg**; undergraduate researcher.
- 2008 – 2010 **Kristen Lilja**; undergraduate research assistant.
- 2007 **Blake Paullin**; undergraduate research assistant.
- 2006 – 2007 **Christina Cuevas**; undergraduate research assistant.
- 2006 **Karen Diaz-Perez**; student with the National Science Foundation Research Experiences for Undergraduates (REU) program and BioURP, U of Utah. Visiting from U of Puerto Rico, Mayaguez Campus.
- 2006 **Callie Costello**; Undergraduate research assistant.
- 2005 – 2006 **Tiffani Jones**; undergraduate research assistant. Went on to get a PhD via the Molecular Biology Program, U of Utah (2013).
- 2004 – 2005 **Andy Pavlovich**; undergraduate research assistant.
- 2003 **Mariquita Vigil**; Summer Research Opportunity Program (SROP).
- 2002 **Nate Grubbs**; Winter Undergraduate Research Program.
- 2001 – 2002 **Shane Wasden**; undergraduate research assistant.

Highschool Students

- 2019 – 2021 **Sam Bonkowsky**; Lab aid.
- 2016 **Riley Palmer**; Summer High School Student, Bioscience Research Program.
- 2015 **Brittany Critchfield**; Summer High School Student/Bioscience Research Program.
- 2014 **Grant Amann**; Skyline High School research assistant.
- 2014 **Sydney Wilson**; U of Utah Bioscience High School Summer Research Program (Davis High student).
- 2013 – 2014 **Adria Lam**; U of Utah Bioscience High School Summer Research Program (Roland Hall student)
- 2011 **Andy Law**; U of Utah Bioscience High School Summer Research Program.
- 2010 – 2011 **Andrew Andreasen**; Woods Cross High School student. Defined antibacterial effects of the vaccine components thimersol and 2-phenoxyethanol on *Staphylococcus aureus* and other bacterial pathogens. Won first prize in District and Regional contests, went on to compete at the Intel International Science and Engineering Fair in Los Angeles, CA in May 2011.
- 2008 **Maddie Hunt** and **Sami Safiullah**; West High School International Baccalaureate Program science fair project students. Won 3rd place grand prize with a study of the effects of antacids on *H. pylori* growth.

Visiting International Trainees

- 2019 (Nov) **Tadeja Kuret**; PhD student in lab of Dr. Snezna Sodin-Semrl Department of Rheumatology, University Medical Centre Ljubljana, Slovenia.
- 2018 (Sept – Dec) **Danielle Munhoz**; PhD student in lab of Dr. Roxane Maria Fontes Piazza, Laboratório de Bacteriologia, Instituto Butantan, São Paulo, Brazil.
- 2012 (Nov– Dec) **Elena Varljen Buzan**; visiting Assistant Professor from U of Primorska, Science and Research Centre and Faculty of Mathematics, Natural Sciences and Information Technologies (Koper, Slovenia).
- 2012 (Aug – Oct) **Cecilie Kjelstrup**; PhD student in lab of Trine L'Abée-Lund, Department of Food Safety and Infection Biology, Norwegian School of Veterinary Science (Oslo, Norway).
- 2011 (Nov) **Katja Lakota**; PhD student in lab of Dr. Snezna Sodin-Semrl Department of Rheumatology, University Medical Centre Ljubljana, Slovenia.

Others

- 2018 – 2020 **Qin Zhou**; lab technician.
- 2018 – 2021 **Whitney Louder**; lab aid. Currently working on a Physician Associates degree.
- 2012 – 2013 **Matt Mau**, lab technician.
- 2006 – 2008 **Hannah Gordon**; lab technician. Went on to get a PhD via the Molecular Biology Program, U of Utah (2013). Currently Vice President of Product at Enveda Biosciences.
- 2001 – 2006 **Jamie Sundsbak**; lab technician. Currently Sr. Manager - Mayo Clinic Platform Accelerate.
- 2001 – 2004 **Chuck Veltri**; lab technician. Went on to get a Ph.D. in Pharmacology, U of Utah (2009). Currently an Associate Professor, Midwestern University, College of Pharmacy, Glendale, AZ.

STUDENT THESIS AND MENTORSHIP COMMITTEESPhD Students (lab PI, department, year completed) – not including Mulvey lab members

- **Lauren Eads** (Talia Karosov, Biology, in progress)
- **Cheuk-Kiu (Eric) Cheung** (Jessica Brown, Biology, in progress)
- **Amber Thbeaux** (Ryan O'Connell and June Round, Pathology, in progress)
- **Evan Christensen** (Karen Eilbeck, Bioinformatics, in progress)
- **Kylie Beach** (Allison Carey, Pathology, in progress)
- **Michaela Murphy** (June Round, Pathology, in progress)
- **Fonseca-Romero** (Daniel Leung, Pathology, in progress)
- **Lourdes (Lulu) Valdez** (Edgar Javier Hernandez, Bioinformatics, in progress).
- **Aubrey Marie Hawks** (Talia Karosov, Biology, in progress)
- **Christian Moreau** (Jessica Brown, Pathology, in progress)
- **Rebecca Mellema** (Aaron Petrey, Pathology, in progress)
- **Sepehr Sebghati** (Ming Hammond, Chemistry, in progress)
- **Marcy Robins** (Michael Kay, Biochemistry, in progress)
- **Erica Hastings** (Paul Sigala, Biochemistry, in progress)
- **Magali Ayala** (Jessica Brown, Pathology, in progress)
- **Kendra Klag** (June Round, Pathology, in progress)
- **Krystal Chung** (Jessica Brown, Pathology, in progress)
- **Amanda Mixon** (Paul Sigala Biochemistry, in progress)
- **Jinze Li** (Janis Weis, Pathology, 2022)
- **Tyson Chiaro** (June Round, Pathology, 2022)
- **Seyi Falekun** (Paul Sigala, Biochemistry, 2022)
- **Rubayat Jamal** (Jennifer Weidhass, Civil Engineering, 2020)
- **Morgan Wambaugh** (Jessica Brown, Pathology, 2019)
- **Sarah Apple** (Michael Kay, Biochemistry, 2019)
- **Clay Carey** (Nels Elde, Human Genetics, 2019)
- **Raymond Soto** (Pathology, June Round lab, 2017)
- **Charisse Peterson** (June Round, Pathology, 2017)
- **Robert Lockhead** (Janis Weis, Pathology, 2014)
- **Xuesheng Han** (Sandy Parkinson, Biology, 2014)
- **Luke Donius** (John Weis, Pathology, 2013)
- **Matthew Cusick** (David Eckels, Pathology, 2010)
- **Mayukh Sarkar** (David Blaire, Biology, 2009)
- **Jason DeHart** (V. Planelles, Pathology, 2007)
- **Tian Zhang** (Ray Daynes, Pathology, 2007)
- **Devin Bolz** (Janis Weis, Pathology, 2006)

- **Josh Andersen** (V. Planelles, Pathology, 2006)
- **Hillary Crandall** (Janis Weis, Pathology, 2006)

PhD Students from outside the U of Utah (advisor, institute, year completed)

- **Sandeep Miryala** (C.S. Srinandan, SASTRA Deemed University – India, 2021).
- **Stafanie Vogt** (Tracy Raivio, University of Alberta, 2013). External examiner.
- **Ritwij Kulkarni** (D. Thanassi, Stony Brook University, Department of Molecular Genetics and Microbiology, 2007).

Master's Students (lab, department, year completed)

- **Lourdes (Lulu) Valdez**; (Mulvey, Bioinformatics practicum advisor 2021)
- **Fanjing Ming** (Diane Ward, Pathology, 2021).
- **Ricky Bell** (June Round, Pathology, 2020).
- **Rishna Shrestha**; MS Program in Laboratory Medicine and Biomedical Science (Diane Ward, Pathology, 2015).
- **Tyson Chiaro** (June Round, 2015).
- **Rob Cornelius Trauscht**; Professional Master of Science and Technology Internship (Richard Ajioka, BioFire Diagnostics, 2014).
- **Eun A. Kim**; Laboratory Medicine and Biomedical Science Program (David Blair, Biology, 2013).
- **Yang Zhang** (David Blair, Biology, 2012).
- **Danelle Elsberry**; Medical Laboratory Science Masters Program (N. Trede, OncSci, 2011).
- **Duanping Hong**; Masters in Experimental Pathology (V. Planelles, Pathology, 2009).
- **Matt Jones**; Professional Master of Science and Technology, Internship Program (2008).
- **Oluwatoroti Olusanya** (V. Planelles, Pathology, 2007).
- **Tom Trego**; Medical Laboratory Science Master's Program (2007)
- **Brandi Gorden** (P. Jensen, Pathology, 2007).
- **Koushik Paul** (David Blaire, Biology, 2006).
- **Abu Chowdhury**; Medical Laboratory Science Masters Program (2005).

Mentorship Committees

- 2023 Collaborator for Dr. Nicole Pershing's PCHF Early Career K12 Award.
- 2021 Scholarship oversight committee member **Dr. Nicole Pershing, MD/PhD** (Pediatrics).
- 2019 Co-mentor for **Dr. Hillary Crandall, MD/PhD** (Pediatrics) as part of her Primary Children's Hospital Foundation Early Career Development grant and K award application.
- 2010 – 2012 Member of the mentorship committee for **Dr. Siam Oottamasathien, MD** (Urology) as part of his NIH K08 application.

SCIENTIFIC COMMUNITY SERVICE

Editorial and reviewer experience

- 2019 Co-editor, *J Mol Biol* special issue, 'Dr. Jekyll and Mr. Hyde: Bugs with double personalities that muddle the distinction between commensal and pathogen.'
- 2018 – present Associate Editor for *PLoS Pathogens*.
- 2017 Lead editor, Urinary Tract Infections: Molecular Pathogenesis and Clinical Management, 2nd Edition, Mulvey MA, Stapleton AE, Klumpp DJ, Eds (ASM Press, Washington, D.C.).
- 2012 – present F1000 Faculty (Faculty Opinions) member, Cellular Microbiology and Pathogenesis Section.
- 2011 – 2018 Guest editor, *PLOS Pathogens*.

- 2006 – present Member of the editorial board of *Infection and Immunity* (positioned renewed Jan 2024)
- 2001 – present Ad hoc reviewer for ~65 journals:
American Journal of Physiology–Renal Physiology/ Antimicrobial Agents and Chemotherapy/ Applied and Environmental Microbiology/ BMC Microbiology/ BMC Research Notes/ Cell Host and Microbe/ Cell Reports/ Cellular Microbiology/ Cellular and Molecular Life Sciences/ Clinical Microbiology Reviews/ Current Microbiology/ EBioMedicine/ Evidence-Based Complementary and Alternative Medicine/ Expert Review of Anti-infective Therapy/ FEMS Microbes/ FEMS Microbiology Reviews/ FEMS Immunology & Medical Microbiology/ Frontiers in Genetics/ Frontiers in Immunology/ Frontiers in Cellular and Infection Microbiology/ Future Microbiology/ Genome Biology and Evolution/ Global Advances in Health and Medicine on Women's Health (for the Office of Research in Women's Health)/ Gut Microbes/ Immunology/ Infection/ Infection and Immunity/ International Journal of Microbiology/ International J of Molecular Sciences/ Innate Immunity/ Journal of Bacteriology/ Journal of Cell Science/ Journal of Clinical Investigation/ Journal of Immunology/ Journal of Leukocyte Biology/ Journal of Microbiology, Immunology and Infection /Journal of Molecular Biology/ Journal of Urology/ Journal of Visualized Experiments/ mBio/ Microbial Drug Resistance/ Microbial Pathogenesis/ Microbiology/ Molecular Cell Research/ Molecular Microbiology/ mSphere/ mSystems/ Mucosal Immunology/ Nature Communications/ Nature Medicine/ Nature Microbiology/ Nature Reviews Microbiology/ Pathogens and Disease/ PNAS/ PLOS Biology/ PLOS Pathogens/ PLOS One/ Proteomics/ Research in Microbiology/ Science Translational Medicine/ Scientific Reports/ Toxins/ Trends in Microbiology/ Virulence

Study Sections/Grant Reviews

NIH study sections/ reviews (all *ad hoc*, 43 total)

- March, Nov 2023 Chair, Support for Research Excellence - First Independent Research (SuRE-First) R16 Awards study sections (ZAI1 HPW-D M1).
- June 2022 Ad hoc member, Board of Scientific Counselors (BSC) Review Meeting for the Division of Intramural Research (DIR), NIAID, NIH, Rocky Mountain Labs in Hamilton, MT.
- Nov 2023, Nov 29, 2022, Nov 31-Dec 1, 2021 Support for Research Excellence (SuRE) R16 Awards study section. Aimed at developing and sustaining research excellence in US higher education institutions that receive limited NIH research support and serve students from groups under-represented in biomedical research.
- July 14-15, 2021 Drug Discovery and Mechanisms of Antimicrobial Resistance (DDR) study section.
- 2021 BACP SEP, ZRG1 IDIA-B 02 study section.
- 2021 Topics in Bacterial Pathogenesis, ZRG1 IDIA-B (80) study section.
- 2020 NIH ZRG1 IDM SEP.
- 2019 Urology and Urogynecology ZRG1-DKUS-B(90) SEP study section.
- June 3-4, 2019 Bacterial Pathogenesis (BACP) study section.
- June 2019 ZRG1 OBT-W(50) US-China collaborative program study section.
- 2018 Bacterial Pathogenesis and Host Interactions SEP (ZRG1 IDM-R).
- 2018 ZRG1 IDM-R study section.
- Feb 2018 Bacterial Pathogenesis (BACP) study section.
- Feb 2017 Bacterial Pathogenesis (BACP) study section.
- 2017 Topics in Bacterial Pathogenesis (IDMB (81)) study section.
- 2016 Topics in Bacterial Pathogenesis (IDMB (81)) study section.

- 2016 George M. O'Brien Urology Cooperative Research Center Program (U54) review meeting.
- 2016 Chair/Reviewer, SEP.
- 2016 Investigator Initiated Clinical Trials grants (ZAI1 RRS-M (M3) 1).
- 2015 Topics in Bacterial Pathogenesis (IDMB (81)) study section.
- Dec 2015 Co-chair/Reviewer, Urological Small Business grants (ZRG1 DKUSG).
- 2015 Winter Urology Review (ZRG1 DKUS G 90) study section.
- June 2015 Diabetic Complications Consortium (DiaComp) Funding Program.
- July 2014 Diabetic Complications Consortium (DiaComp) Funding Program.
- 2014 George M. O'Brien Urology Cooperative Research Centers Program (U54) review study section.
- March 2014 ZRG1 UGPP study section.
- Dec 2013 ZRG1 UGPP study section.
- 2013 Microbial Pathogens SEP.
- 2013 George M. O'Brien Urology Cooperative Research Centers Program (U54) review study section.
- Feb 2012 Urologic and Genitourinary Physiology and Pathology (UGPP) study section.
- Feb 2012 Topics in Microbial Pathogenesis (ZRG1 IDM-S) study section.
- June 2011 Development and Genitourinary Diseases (UKGD) study section.
- Feb 2011 Development and Genitourinary Diseases (UKGD) study section.
- Feb 2010 Development and Genitourinary Diseases (UKGD) study section.
- 2010 NIH P01 grants, study section.
- June 2009 Development and Genitourinary Diseases (UKGD) study section.
- Oct 2008 Bacterial Pathogenesis (BACP) study section.
- Mar 2006 NIDDK Urology grants, study section.
- Oct 2006 Development and Genitourinary Diseases (UKGD) study section.
- Feb 2005 Development and Genitourinary Diseases (UKGD) study section.
- June 2004 Bacteriology and Mycology (BM-2) study section.
- 2004 NIDDK P01 grants, study section.
- Oct 2004 Urologic and Kidney Diseases study section.
- July 2002 Bacteriology and Mycology (BM-1) study section.

International grant review activities (all *ad hoc*)

- Jan 2024 Reviewer, Knowledge Foundation, Stockholm, Sweden.
- 2021 Reviewer, Fund for Scientific Research-FNRS (F.R.S.-FNRS) and the Research Foundation Flanders (FWO), Belgium.
- 2018, 2017 Reviewer, Natural Sciences and Engineering Research Council of Canada (NSERC).
- 2016 Reviewer, Multiple Sclerosis Society, UK.
- 2015 Reviewer, India-Israel Joint Research Program (Israel Science Foundation).
- 2014 Reviewer, French National Research Agency (ANR).
- 2014 Reviewer, The King's Health Partners R&D Challenge Fund; King's College, London.
- 2013 Reviewer, START Program, Austrian Science Foundation (FWF).
- 2011 Reviewer, Health Protection Agency PhD Studentship Fund, United Kingdom.
- 2008 Reviewer, Action Medical Research, United Kingdom.

Local grant review activities

- 2023 Reviewer, U of Utah Clinical and Translational Science Institute (CTSI) Peer

Grant Review Program.

- 2018, 2017, 2014, 2013, 2009, 2010, Reviewer, U of Utah VP Funding applications (seed grants).

Other reviewer activities (all *ad hoc*)

- 2020 Reviewer, Sigma Delta Epsilon, Graduate Women in Science (GWIS) National Fellowship Program.
- 2017 Reviewer, Center of Biomedical Research Excellence in Chemical Biology of Infectious Disease (CoBRE-CBID) proposal, U of Kansas.
- 2011 Reviewer, Sigma Delta Epsilon, Graduate Women in Science (GWIS) National Fellowship Program.
- 2008 Reviewer, NASA: "Research Opportunities for Fundamental Space Biology Investigations in Microbial, Plant and Cell Biology".
- 2007 Reviewer, US Civilian Research & Development Foundation.

Outreach

- 2021 (summer) Co-mentor for sophomore Gnoulein Tako as part of the Genomics Summer Research for Minorities (GSRM); Training Manager: Gloria Slattum.
- 2021 Interviewed by WIRED features editor Victoria Turk on topic of Antibiotic Resistance.
- July, Nov 2021 Interviewed by Phi Theta Kappa for Lone Star College Cyfair (Leslie Jewkes, organizer) on the impact of agriculture on Antibiotic Resistance the emergence of Superbugs.
- 2018 Lab hosted three 8th grade students from the Beehive Science and Technology Academy, helping them carry out a science fair project to test potential antibacterial effects of garlic extract (contact person: Kerrie Upenieks).
- April 16, 2017 Interviewed along with Jessica Brown by KCPW Radio on topic of Antibiotic Resistance.
- 2016, 2015, 2012, 2011 Mentor for U of Utah Bioscience High School Summer Research Program.
- Jan 6, 2014 Interviewed for KSL Radio, Antibiotic Resistance.
- Nov 2013 Interviewed by Kim Schuske, Utah Public Radio (KCPW), Antibiotic Resistant Pathogens.
- Feb 2014, Sept 2008, Feb 2008 Volunteer for the Comparative Medicine Center, Outreach Program, U of Utah.
- July 10, 2012 Speaker at the Natural History Museum of Utah and Utah Film Center 'Science Movie Night' viewing of "*Contagion*", Salt Lake City Main Library.

Other Training and Service-related Activities

- 2023 Outside reviewer for University of Louisiana at Lafayette faculty RPT.
- July 26, 2022 NIAID Training Directors' "Focus on Diversity" Workshop.
- 2021, 2022 Outside reviewer for Texas A&M faculty RPT.
- Nov 27–28, 2018 Attended the NIAID T32 Program Directors meeting in Washington, DC.
- Aug 2016 Co-organizer, International Conference on Clinical and Scientific Advances in Urinary Tract Infection; Columbus, OH.
- 2016 Organizer, ASM Intermountain Branch meeting, Salt Lake City, Utah.
- 2015–2016 President, ASM Intermountain Branch.
- June 2015 Co-convenor, ASM General Meeting symposium, "Small Genetic Change: Large Impact"; New Orleans, LA.

- 2011, 2009 Session Chair for Membrane Trafficking Symposium, U of Utah.

UNIVERSITY SERVICES

- 2024 School of Biological Sciences Post Tenure Faculty Review (TFR) committee member.
- 2024 Host for School of Biological Sciences (EEOB/MCEB Program) recruitment dinner.
- 2023 – present Co-chair, Facilities Committee, School of Biological Sciences.
- 2022 Chair, Pathology Department Safety committee.
- 2021 – 2023 Member, selection committee for Benning SOM lecture series.
- 2020 Summer SACNAS Writing Group mentor.
- 2021 – present SOM Benning Lecturer selection committee representative for Pathology.
- 2019 U of Utah Graduate Council Program Internal Reviewer (with Janis Louis), Department of Medicinal Chemistry.
- 2019 U of Utah School of Dentistry Post Tenure Review (TFR) committee member.
- 2019 – present Chair, 3i Microbial Pathogenesis/Antimicrobial Resistance Affinity Group.
- 2018 Interim Departmental Advisory Committee (DAC) Chair, Pathology Department.
- 2018–2022 Chair, Molecular Biology Graduate Program Advising Committee.
- 2018 Member of Tenured Faculty Review panel, Pathology Department.
- 2017–present Capstone examiner, Biosciences Program.
- 2016 Member, University of Utah, Immunity, Inflammation and Infection (III) Initiative Organizing Committee.
- 2016 Mentor, University of Utah Graduate Fellowship Writing Workshop (Med2Grad).
- 2015 – present Co-Director, NIH T32 Microbial Pathogenesis Training Grant (AI055434).
- 2015 – 2018 Member of U of Utah Molecular Biology Graduate Program Advising Committee.
- 2019, 2018, 2016, 2015 Mentor and lecturer for faculty Grant Writing Academy in Deer Valley.
- 2014 Chair for Immunity, Inflammation, and Infection (III) Summer Symposium (Zermatt Resort, Midway, UT).
- 2014 Panel member, Professional Developmental Workshop for Postdoc Appreciation Day, “Making the Most of Mentoring and Networking Opportunities”.
- 2013 – present Member of the Microbial Pathogenesis Training Grant Steering Committee.
- 2013 – 2014 Member of the search committee to recruit faculty in the area of Immunology, Inflammation, and Infectious Disease.
- 2012–2016 Departmental Advisory Committee (DAC) Chair, Pathology Department.
- 2008 – 2011 Member of the Institutional Biosafety Committee (IBC).
- 2008 – 2009 Chair, Pathology Department student preliminary examinations.
- 2006 – present Representative for the Microbiology/Immunology Interest Group within the Molecular Biology Graduate Program.
- 2006 – present Co-organizer/Organizer of the Microbial Pathogenesis Retreats, Symposia, and Seminar Series.
- 2006 – 2017 Host for Molecular Biology Program Faculty Recruitment dinners.
- 2005 – 2006 Member of Pathology Faculty Search Committee for the Division of Cell Biology and Immunology.
- 2005 – 2006 Member of Infectious Disease Faculty Search Committee.

- 2004 – 2006 Member of the Joint Recruiting Committee for the Molecular Biology and Biological Chemistry Programs.
- 2002 – 2005, 2012 – 2014 Admissions Committee member for Molecular Biology Graduate Program.
- 2002 – present Served on dozens of preliminary exam committees for graduate students within the departments of Biology, Pathology, Oncological Sciences, Chemistry, Civil Engineering, Human Genetics, and Biochemistry.
- 2002 – present Host for invited speakers:
Travis J. Wiles (UC Irvine, 2023)/ Matthew G. Blango (Hans Knöll Institute, 2022)/ Charles M. Dozois (INRS, 2020)/ Dave Erickson (BYU, 2019)/ Joanne Engle (UCSF, 2019)/ Russell Vance (UC Berkely, 2019)/ Maria Hadjifrangiskou (Vanderbilt, 2018)/ Shelly Payne (UT Austin, 2018)/ Rod Welch (UW Madison, 2018)/ Matthew Bochman (Indiana U, 2017)/ David Tobin (Duke, 2017)/ Kim Lewis (Northeastern U, 2016)/ Evette Radisky (Mayo Clinic, Jacksonville, 2016)/ Wyndham Lathem (Northwestern, 2015)/ Melanie Pearson (NYU, 2015)/ Vic DiRita (Michigan State, 2014)/ Caroline Genco (Boston U, 2014)/ Jonathan Kagan (Harvard, 2013)/ Sheryl Justice (Ohio State, 2013)/ Tung-Tien (He/ nry) Sun (NYU, 2013)/ Harry Mobley (U Michigan, 2013)/ Jeffrey Cox (UC Berkely, 2012)/ Peggy Cotter (UC Santa Barbara, 2011)/ Tony Romeo (U of Florida, 2010)/ Jim Bliska (Stony Brook U, 2010)/ Susan Gottesman (NCI, 2009)/ Alison O'Brien (Uniformed Services U, 2009)/ Juan Martinez (U Chicago, 2008)/ Matthew Chapman (U Michigan, 2008)/ Ralph Isberg (Tufts, 2007)/ Tracy Raivio (U Alberta, 2007)/ Mike Caparon (Washington U SOM, 2006)/ Joe Vogel (Washington U SOM, 2006)/ Dennis T. Brown (North Carolina State, 2005)/ Maggie So (Oregon Health Sciences University, 2005)/ David Thanassi (Stony Brook U, 2005)/ Scott Hultgren (Washington U SOM, 2004)/ Tom Silhavy (Princeton, 2003)/ Melody N. Neely (Wayne State, 2003)/ Norma Andrews (Yale, 2002)

INVITED SEMINARS/LECTURES

National/international talks and workshops

- March 20–22, 2023 Mountain West Microbiome meeting, Snowbird, UT.
- Oct 20, 2021 Speaker, Columbia University O'Brien Urology (U54) Center symposium.
- Oct 25, 2019 Speaker, Columbia University O'Brien Urology (U54) Center Urothelium–Epithelia at the Front Line symposium. '*The Establishment & Eradication of Intracellular Bacterial Reservoirs within the Bladder*'.
- June 28-30, 2019 Keynote Speaker, Clinical and Scientific Advances in Urinary Tract Infections Conference (Columbus, OH).
- May 17, 2019 Keynote Speaker, Annual UT Southwestern Basic Science Urology Lectureship; (UTSW and UTD, two talks) Dallas, TX. '*Targeting Bacterial Toxins to Combat Sepsis and Urinary Tract Infection*' and '*Integrin-mediated Host Cell Invasion by Uropathogenic Escherichia coli*'.
- Nov 3, 2017 University of Wisconsin, Department of Medical Microbiology and Immunology lecture; Madison, WI. '*The Wrath and the Wiles of Extraintestinal Pathogenic Escherichia coli*'.
- Feb 11, 2016 Baylor College of Medicine lecture; Houston, TX. '*The Radicalization of Escherichia coli, from Comrade to Enemy Combatant*'.
- June 17-19, 2015 Plenary lecturer; 2nd International Workshop on Conservation Biology; U of Primorskem, Koper, Slovenia. '*Drugs, Disease, and Diabolical Diversity of Extraintestinal Pathogenic Escherichia coli*'.
- June 15, 2015 U of Ljubljana lecture; Ljubljana, Slovenia; '*Sepsis, Urinary Tract Infections, and the Maniacal Plans of Extraintestinal Pathogenic Escherichia coli for World Domination*'.
- Feb 27, 2015 NYU School of Medicine, Department of Urology lecture; New York.
- Feb 26, 2015 NYU School of Medicine, Department of Microbiology lecture; New York.

- Oct 22, 2014 Student-invited speaker for Infection, Immunity, and Transplantation (IIT) program, U of Toledo.
- Aug 25–27, 2014 Lecture, International Molecular UTI Conference: Molecular Advances and Novel Therapies; Lund University, Malmö, Sweden. '*Survival Strategies of Uropathogenic Escherichia coli*'.
- March 8, 2014 Lecture, American Society for Microbiology Intermountain Branch meeting; Provo, UT. '*Blood and Guts: The Ill-natured Adventures of Extraintestinal Pathogenic Escherichia coli*'.
- Feb 6, 2014 U of Michigan research seminar; Ann Arbor, MI. '*Blood, Bladders, and Bowels: The Inappropriate Journeys of Extraintestinal Pathogenic Escherichia coli*'.
- Nov 14, 2013 Meharry Medical College research seminar; Nashville, TN.
- Aug 28, 2013 U of Alberta research seminar; Edmonton, Alberta, Canada. '*Decoding the Virulence Mechanisms of Extraintestinal Pathogenic Escherichia coli*'.
- May 31 – June 2, 2013 Clinical and Scientific Advances in Urinary Tract Infections International Symposium; Nationwide Children's Hospital, Columbus, OH. '*Fishing for ExPEC Virulence Factors*'.
- Nov 19, 2012 North Carolina State University seminar; Raleigh, NC. '*Fishing for Virulence Factors in Extraintestinal Pathogenic Escherichia coli (ExPEC)*'.
- Nov 17, 2011 Brigham Young University seminar; Provo, UT.
- Sept 13–17, 2011 Microbial Pathogenesis and Host Response meeting; Cold Spring Harbor Laboratory. '*Disruption of Host Cell Survival and Inflammatory Pathways by the Pore-forming Toxin α -hemolysin*'.
- April 10, 2010 American Society for Microbiology Intermountain Branch meeting; Provo, UT. '*Uropathogenic Escherichia coli: Reeling and Dealing with Nitrosative Stress*'.
- May 28-31, 2009 American Society for Microbiology Conference for Undergraduate Educators; Fort Collins, CO.
- March 31, 2009 Southern Utah University seminar; Cedar City, UT.
- Oct 29, 2007 Microbial Seminar Series lecture; University of Chicago.
- June 17–22, 2007 Polyamine Gordon Conference; Waterville Valley, NH.
- Sept 22, 2006 University of Alberta Molecular Biology and Genetics Research Group seminar; Edmonton, Alberta, Canada.
- May 5-9, 2004 12th Biennial UA-UC Conference on Infectious Diseases; Banff, Alberta Canada.
- June 24, 2003 Rocky Mountain Laboratories seminar; NIH, NIAID, Hamilton, MT.
- Oct 2002 SUNY Stony Brook seminar.
- March 12, 2002 Wayne State University seminar.
- March 11, 2002 University of Michigan seminar; Ann Arbor, MI.
- Jan 17, 2002 Brigham Young University seminar; Provo, UT.
- Oct 2001 Microbial Pathogenesis and Host Response meeting; Cold Spring Harbor Laboratory. '*Mi casa es su bladder: Uropathogenic E. coli as Homemaker and home wrecker*'.
- Jul 29- Aug 3, 2001 Gordon Conference - Molecular Mechanisms of Microbial Adhesion; Newport, RI. '*Interplay between uropathogenic Escherichia coli and the bladder mucosa*'.
- Feb 2000 Consensus Conference on "The Inflammatory Process in the CF Lung"; Chantilly, VA.

- Dec 9-11, 1999 National Academy of Sciences Colloquium - Virulence and Defense in Host-Pathogen Interactions: Common Features between Plants and Animals; Beckman Center, Irvine, CA. '*Innate host defenses against uropathogenic E. coli*'.
- Aug 1-6, 1999 Gordon Conference- Molecular Mechanisms of Microbial Adhesion, Newport, RI. '*Innate host defenses triggered by uropathogenic E. coli*'.

Local talks

- Nov 9, 2023 Speaker at Microbiota and Gastrointestinal Immunology Consortia (MAGIC) interest group meeting, U of Utah; "ExPEC Adaptation within the Gut".
- Oct 19, 2023 Speaker at School of Biological Sciences retreat, U of Utah; '*How to not die: Lessons from bacterial persisters*'.
- Nov 17, 2022 Speaker for InfectED student club, U of Utah.
- Aug 10, 2019 M&I Retreat talk; '*Population dynamics of an Escherichia coli ST131 lineage during recurrent urinary tract infection*'.
- Aug 10, 2018 M&I Retreat talk
- May 2018 U of Utah, Membrane Trafficking Minisymposium; '*Collusion between Host Serine Proteases and Bacterial Pore-Forming Toxins*'.
- Jan 8, 2019 Speaker, GI Translational WIP; '*Survival Strategies of Extraintestinal Pathogenic Escherichia coli within the Gut*'.
- May 12, 2016 U of Utah, Membrane Trafficking Minisymposium; '*Colonization of the Bladder Mucosa by Uropathogenic Escherichia coli and Other Things to Consider while on your Honeymoon*'.
- Aug 8, 2015 Immunology, Inflammation, and Infectious Disease (III) Summer Symposium (Zermatt Resort, Midway, UT).
- May 19, 2015 U of Utah, RNA Interest Group talk; '*Post-translational Control of Stress Resistance and Virulence in Pathogenic Bacteria*'.
- Oct 13, 2014 Core Curriculum Conference, Division of Infectious Disease, U of Utah.
- Mar 2014 U of Utah, Membrane Trafficking Minisymposium. '*Pinot Noir and Shrimp Cocktails: New Approaches to Target Intracellular Uropathogenic Bacteria*'.
- May 16, 2013 U of Utah, Membrane Trafficking Minisymposium. '*Bacterial Penetration of the Urothelium*'.
- March 25, 2013 Genetics Interest Group lecture.
- March 2012 U of Utah, Membrane Trafficking Minisymposium.
- Nov 14, 2011 Pharmaceuticals and Pharmaceutical Chemistry seminar. '*Deciphering the Toxic Activities and Fitness Requirements of Extraintestinal Pathogenic Escherichia coli*'.
- March 2011 U of Utah, Membrane Trafficking Minisymposium.
- Mar 23, 2009 Genetics Interest Group lecture; '*Evolution or Eviltion? Construction and Deconstruction of Bacterial Pathogens*'.
- April 2, 2008 Research in Progress, Department of Biochemistry.
- Feb 2008 U of Utah, Membrane Trafficking Minisymposium.
- Nov 2007 U of Utah, Membrane Trafficking Minisymposium.
- Nov 2006 U of Utah, Membrane Trafficking Minisymposium; '*ROCK-n-Rho, Hoochie Koo: Host Cell Invasion by Uropathogenic Escherichia coli*'.
- Mar 2006 Alternate Thursday Prokaryotic (ATP) Interest Group meeting.
- Mar 2006 Genetics Interest Group lecture; '*Chemical Genetics*'.
- Jul 2005 Microbial Pathogenesis Training Grant lecture.
- Dec 2005 U of Utah, Membrane Trafficking Minisymposium.
- Feb 2002 Genetics Training Grant lecture.

- Sept 2001 Molecular Biology Program Symposium talk.
- Oct 2001 Microbial Pathogenesis Seminar Series lecture.

Poster Presentations and Abstracts

- June 5 – 9, 2023 Matthews OJ, Blango MG, Fleming BA, Mendez AA, Nelson K, Stenquist AT, Bonkowsky S, Kulesus RR, Mulvey MA; Wind River Conference on Prokaryotic Biology, Estes Park, CO; *'The Small RNA MicC Regulates Stress Resistance and Virulence in Extraintestinal Pathogenic Escherichia coli.'*
- Sept 16, 2022 Matthews O, Mulvey MA; Annual M&I Summer Symposium, Park City, UT. *'111 Nucleotides Pack a Punch: the Small RNA micC Influences Escherichia coli Virulence and Survival'*.
- Sep 21-24, 2021 Richards AR, Mendez AA, Bonkowsky S, Valdez LA, Jost CA, Fleming BA, Mulvey MA; *Microbial Pathogenesis and Host Response meeting* at Cold Spring Harbor, NY. *'The Intestinal Fortitude of Extraintestinal Pathogenic Escherichia coli'*.
- August 9, 2019 Richards AR, Mulvey MA; 7th Annual M&I Summer Symposium, Park City, UT. *'ExPEC secretes multiple toxins that together promote virulence in the bloodstream'*. Won Best Poster prize.
- Sep 10-14, 2019 Richards AR, Hanson CL, Wiles TJ, Louder WL, Schlaberg R, Mulvey MA; *Microbial Pathogenesis and Host Response meeting* at Cold Spring Harbor, NY. *'ExPEC-Associated Toxins Have Overlapping Phenotypic Effects during Sepsis'*.
- May 2018 Richards AR, Lewis AJ, Dhakal BJ, Jones TA, Sundsbak JL, Eto DS, Mulvey MA; 3i Spring symposium, U of Utah. *'Plant Phenolics Inhibit Host Cell Invasion by Multiple Pathogens'*.
- Sept 13, 2017 Fleming BA, Mulvey MA; *Microbial Pathogenesis and Host Response meeting*, Cold Spring Harbor. *'Balanced Input from the tRNA Prenyltransferase MiaA Controls the Stress Resistance and Virulence Potential of Extraintestinal Pathogenic E. coli'*. BA Fleming received a Graduate Student Travel Award from the U of Utah.
- Sept 13, 2017 Enrico EM, Mulvey MA; *Microbial Pathogenesis and Host Response meeting*, Cold Spring Harbor. *'Prodding your inner demon—How α -hemolysin triggers activation and re-localization of the host serine protease Trypsinogen 4'*. E Enrico received a Graduate Student Travel Assistance Award.
- July 9-15, 2016 Enrico EM, Mulvey MA; Gordon Research Conference on Microbial Toxins and Pathogenicity.
- May 30-Jun 2, 2015 Fleming BA, Kulesus R, Debnath I, Mulvey MA; ASM General meeting, New Orleans, LA. *'Tyrosine Nitration as a Functional Post-translational Modification that Alters the Activity of the RNA-binding Protein CsrA in Uropathogenic Escherichia coli'*. BAF received an ASM Student Travel Award.
- May 30-Jun 2, 2015 Lewis AJ, Nelson KE, Barber AE, Mulvey MA; ASM General meeting, New Orleans, LA. *'The Acute Phase Protein Serum Amyloid A Sensitizes Gram-Negative Pathogens to Oxidative Stress'*. AJL received an ASM Student Travel Grant Award.
- May 30-Jun 2, 2015 Enrico EM, Mulvey MA; ASM General meeting, New Orleans, LA. *'Identification and Functional Characterization of Host Factors that Promote the Toxic Effects of Alpha-Hemolysin'*.
- May 30-Jun 2, 2015 Barber AE, Mulvey MA; ASM General meeting, New Orleans, LA. *'Lethal Strains of Extraintestinal Pathogenic Escherichia coli Trigger Markedly Diverse Host Responses During Sepsis'*. AEB received U of

Utah Graduate School Travel Award and ASM Richard and Mary Finkelstein Travel Award.

- Apr 19-24, 2015 Barber AE, Mulvey MA;. Keystone Symposia Conference, Innate Immunity and Determinants of Microbial Pathogenesis, Squaw Creek, Olympic Valley, CA. '*Strains of Extraintestinal Pathogenic Escherichia coli Trigger Markedly Diverse Host Responses During Sepsis*'.
- Mar 1-6, 2015 Russell C, Mulvey MA; Keystone Symposia Conference, Gut Microbiota Modulation of Host Physiology: The Search for Mechanism. Keystone, CO. '*Gut Colonization by Extraintestinal Pathogenic Escherichia coli Requires Rqll, a Recently Discovered Regulator of the RqIH Helicase*'.
- Feb 9-13, 2014 Lewis AJ, Mulvey MA; Keystone Symposium, Molecular Cell Biology of Macrophages in Human Diseases; Santa Fe, NM.
- Aug 6-10, 2013 Russell C, Wiles TJ, Mulvey MA; Molecular Genetics of Bacteria and Phages; U of Wisconsin, Madison. '*Characterization of a Pathogen-Specific Protein Required for the Survival of Uropathogenic E. coli Strain F11 in Low Oxygen Conditions*'.
- July 9-13, 2013 Barber AE, Mulvey MA; 8th European Zebrafish Meeting; Barcelona, Spain. '*Fishing for a new sepsis model – using zebrafish embryos to study the innate immune response during septicemia*'.
- Jan 20–22, 2012 Barber AE, Mulvey MA; Salk/Foundation IPSEN/Nature Symposium on Biological Complexity: Immunity and Inflammation; Salk Institute, La Jolla CA. '*Strains of Extraintestinal Pathogenic Escherichia coli Elicit Markedly Diverse Responses in a Zebrafish Model of Septicemia*'.
- Sept 13–17, 2011 Norton JP, Mulvey MA; Microbial Pathogenesis & Host Response; Cold Spring Harbor Laboratory, NY. '*Toxin-Antitoxin Systems: Evidence for a Role in Fitness and Virulence of Uropathogenic Escherichia coli*'.
- Sept 13–17, 2011 Blango MG, Mulvey MA; Microbial Pathogenesis & Host Response; Cold Spring Harbor Laboratory, NY. '*Balanced Input from the Isopentenyl-tRNA Transferase MiaA Regulates the Virulence Potential of Uropathogenic Escherichia coli*'.
- Sept 13–17, 2011 Barber AE, Mulvey MA; Microbial Pathogenesis & Host Response; Cold Spring Harbor Laboratory, NY. '*Extraintestinal pathogenic Escherichia coli diversity critically impacts host response in a zebrafish model of septicemia*'.
- Aug 2–7, 2011 Blango MG, Mulvey MA; Molecular Genetics of Bacteria and Phages meeting; Madison, WI. '*The tRNA Prenyltransferase MiaA Modulates the Virulence Potential of Uropathogenic Escherichia coli*'.
- Aug 2–7, 2011 Norton JP, Mulvey MA. Molecular Genetics of Bacteria and Phages meeting; Madison, WI. '*Toxin-Antitoxin Systems: Evidence for a Role in Fitness and Virulence of Uropathogenic Escherichia coli*'. Chosen to be given as an oral presentation.
- June 25–29, 2011 Erman A, Lakota K, Mrak-Poljsak K, Blango MG, Mulvey MA, Sodin-Semrl S, Veranic P; 10th World Congress on Inflammation; Paris, France. '*Serum Amyloid A1 is Elevated in E. coli-infected Urothelia*'.
- March 7–11, 2011 Blango M, Mulvey MA; ASM Conference on Regulating with RNA in Bacteria; San Juan, Puerto Rico. '*Regulation of UPEC Stress Responses by sRNA*'.
- May 26–30, 2010 Blango M, Mulvey MA; Banff Conference on Infectious Diseases; Banff, Alberta, Canada. '*The Bacterial Small RNA Spot 42 Regulates Oxidative Stress Responses in Uropathogenic E. coli*'.
- May 26–30, 2010 Wiles TJ, Mulvey MA; Banff Conference on Infectious Diseases; Banff, Alberta, Canada. '*Interrogating a Bacterial Pathogen: Using Zebrafish to Explain the UnExPECTed*'.

- May 26–30, 2010 Kulesus RR, Mulvey MA; Banff Conference on Infectious Diseases; Banff, Alberta, Canada. '*CsrA-mediated Post-transcriptional Regulation of the Cpx Pathway in Uropathogenic Escherichia coli under Nitrosative Stress*'.
- July 19–24, 2009 Blango M, Mulvey MA; FASEB Microbial Pathogenesis Summer Research Conference; Snowmass, CO. '*Hard to Kill: Uropathogenic Escherichia coli Persist within the Urinary Tract Regardless of Antibiotic Treatment*'.
- July 19–24, 2009 Wiles TJ, Mulvey MA; FASEB Microbial Pathogenesis Summer Research Conference; Snowmass, CO. '*ExPEC Make Sushi out of Zebrafish: A New Perspective on the Virulence Strategies of Extraintestinal Pathogenic E. coli*'.
- July 26–31, 2009 Dhakal BK, Mulvey MA; Gordon Research Conference on Microbial Adhesion & Signal Transduction; Salve Regina University, Newport, RI. '*Targeted Proteolysis of Host Proteins Initiated by Sublytic Concentrations of the ExPEC-associated Toxin Alpha-hemolysin*'.
- June 22–27, 2008 Kulesus RR, Mulvey MA; Gordon Research Conference on Bacterial Cell Surfaces; Colby-Sawyer College, New London, NH. '*Growth Phase-Dependent Control of the Cpx Stress Response in Uropathogenic Escherichia coli by Reactive Nitrogen Species*'.
- Sept 15–19, 2007 Eto DS and Mulvey MA; Microbial Pathogenesis and Host Response meeting; Cold Spring Harbor Laboratory.
- Sept 15–19, 2007 Dhakal BK, Mulvey MA; Microbial Pathogenesis and Host Response meeting; Cold Spring Harbor Laboratory. '*Uropathogenic Escherichia coli Invade Host Cells via an HDAC6- and Microtubule-Dependent Rho Kinase-Modulated Pathway*'.
- May 24, 2007 Dhakal BK, Mulvey MA; ASM 107th General Meeting; Totonto, Canada. '*Invasion of Host Cells by Uropathogenic Escherichia coli Via a Microtubule-Dependent Rho Kinase-Modulated Pathway*'. BKD received a Richard and Mary Finkelstein Student Award (1 of 6 given), and was invited to give an oral presentation of his research at the meeting.
- Sep 23–28, 2006 Eto DS, Mulvey MA; EMBO Conference Series – Interface of Cell Biology and Cellular Microbiology, Sant Feliu de Guixol, Spain.
- Mar 16–18, 2006 Bower JM, Mulvey MA; International Conference on Women and Infectious Diseases; Atlanta, GA. '*Understanding Urinary Tract Infections: Nitrosative Stress Resistance in Uropathogenic Escherichia coli*'.
- Oct 12–16, 2005 Slechta ES, Mulvey MA; Analytical Genetics meeting, San Diego, CA. '*Growth Phase-Dependent Control of the Cpx Response in Uropathogenic E. coli*'.
- May 2004 Bower JM, Mulvey MA; ASM 104th General Meeting; New Orleans, LA. '*Polyamines Are Required for Nitrosative Stress Resistance in Uropathogenic Escherichia coli*'.
- May 2004 Sundsbak JL, Eto DS, Mulvey MA; ASM 104th General Meeting; New Orleans, LA. '*From Seeds to Pods: How the Host Cytoskeleton regulates Persistence, Intracellular Replication, and Re-emergence of Uropathogenic Escherichia coli*'.
- May 2002 Sundsbak JL, Mulvey MA; ASM 102nd General Meeting; Salt Lake City, UT. '*Who Let the Bugs Out? Exploration of the Mechanisms of Intracellular Replication and Efflux of Uropathogenic E. coli*'.
- May 2002 Veltri C, Hultgren SJ, Mulvey MA; ASM 102nd General Meeting; Salt Lake City, UT. '*NO Means NO: The Role of Nitric Oxide in Host-Pathogen Cross-Talk during Urinary Tract Infection*'.

Invited Trainee Talks

- June 5 – 9, 2023 Bring Horvath ER; Wind River Conference on Prokaryotic Biology, Estes

- Park, CO. *'Patterns of Antibiotic Resistance among Escherichia coli: from the Environment to the Clinic'*.
- June 5 – 9, 2023 Rousek A; Wind River Conference on Prokaryotic Biology, Estes Park, CO. *'More Than Motility: E. coli Flagella as Mediators of Sepsis Severity via Toll Like Receptor 5 Interactions'*.
 - April 7, 2023 Bring Horvath ER; 3i Initiative Spring symposium, U of Utah. *'Clinical Antibiotic Resistance and Overcoming Multidrug Resistant Bacterial Pathogens'*.
 - May 22, 2023 Matthews OJ, Genetics Training Grant retreat; Snowpine Lodge, Alta, UT. *'The Impact of TLR5 on Mortality during Sepsis'*.
 - June 17, 2019 Richards AR, Zebrafish Interest Group meeting, U of Utah.
 - Nov 8, 2019, Richards AR, Microbial Pathogenesis Training Grant Retreat, U of Utah.
 - Nov 2, 2018
 - May 30-Jun 2, 2015 Russell CW, *'The ExPEC Protein RqII Interacts with and Inhibits the RecQ-like Helicase'*. ASM General meeting, New Orleans, LA.
 - May 2014, Enrico E, Genetics Training Grant retreat; Snowbird and Deer Valley, UT.
 - May 2015
 - Aug 6-10, 2013 Wiles TJ, chosen for short talk; Molecular Genetics of Bacteria and Phages, U of Wisconsin, Madison. Runner up for Nat L. Sternberg Thesis Prize.
 - May 31-Jun 2, 2013 Ott EM, chosen for short talk; Clinical and Scientific Advances in Urinary Tract Infections International Symposium; Nationwide Children's Hospital, Columbus, OH.
 - May 31-Jun 2, 2013 Norton JP, chosen for short talk; Clinical and Scientific Advances in Urinary Tract Infections International Symposium; Nationwide Children's Hospital, Columbus, OH.
 - May 6–7, 2013 Norton JP, Genetics Training Grant retreat; Snowbird, UT.
 - Nov 9, 2012 Barber AE, Microbial Pathogenesis Training Grant retreat; Alta Club, Salt Lake City, UT.
 - Sept 25, 2012 Wiles TJ, student speaker at the Annual Bioscience Symposium (U of Utah), University Marriott Park Hotel.
 - Aug 2–7, 2011 Norton JP, Molecular Genetics of Bacteria and Phages meeting; Madison, WI.
 - May 2010, 2011, Wiles TJ, Genetics Training Grant retreat; Snowbird, UT.
 - 2012
 - May 26-30, 2010 Wiles TJ, Banff Conference on Infectious Diseases; Banff, Alberta, Canada.
 - Nov 2008 Wiles TJ, Microbial Pathogenesis Training Grant retreat; Park City, UT.
 - May 17, 2007 Dhakal BK, Membrane Trafficking Symposium; U of Utah.
 - May 24, 2007 Dhakal BK, Richard and Mary Finkelstein Student Award presentation, ASM 107th General Meeting; Toronto, Canada.
 - Nov 2006 Kulesus RR, Microbial Pathogenesis Training Grant retreat; Park City, UT.
 - May 5, 2006 Eto DS: Membrane Trafficking Symposium; U of Utah.
 - May 2004, 2005, Bower JM: Genetics Training Grant retreat; Snowbird, UT.
 - 2006
 - 2001 – present Trainees in the Mulvey laboratory often present posters at the recruitment dinners and the Bioscience Symposium for the Molecular Biology Graduate Program at the U of Utah.

MEMBERSHIPS

1998 – present	American Society for Microbiology
1995 – present	American Association for the Advancement of Science (AAAS)
2007 – 2008	American Society for Cell Biology