

Corrella (Corrie) Scott Detweiler, Ph.D.

Associate Professor

Department of Molecular Cellular & Developmental Biology

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EDUCATION AND RESEARCH

Research Interests Antimicrobial discovery, bacterial exploitation of macrophages

Education

PhD 1998 (Biochemistry) University of California San Francisco
Mentor: Dr. Joachim Li; Department of Microbiology & Immunology
The Role of CDC6 in Yeast DNA Replication

AB 1991 (Biochemistry) Bowdoin College, Brunswick ME
magna cum laude

Post-Doctoral Research Experience

1998 – 2003 Stanford University Medical School, Stanford CA
Mentor: Dr. Stanley Falkow; Dept of Microbiology & Immunology
Host-Pathogen Interactions

Faculty Appointments

2017 – 2018 Visiting Scientist, Pasteur Institute, France

2010 – present Associate Professor with Tenure, University of Colorado at Boulder
Department of Molecular Cellular & Developmental Biology

2014 – 17 Faculty Director for the Office of the Vice Chancellor for Research

2003 – 10 Assistant Professor, University of Colorado at Boulder
Department of Molecular Cellular & Developmental Biology

Awards, Honors, Distinctions

2019 Dean's Award for Research Excellence, University of Colorado at Boulder
to fund travel to chair *Salmonella* Gordon Research Conference

2018 Colorado Office of Economic Development Advanced Industry Accelerator
Award to fund antibiotic research

2017 Burroughs Wellcome Fund Collaborative Research Travel Grant
to fund sabbatical travel at the Pasteur in Paris, France

2017 Dean's Award for Research Excellence, University of Colorado at Boulder
to fund travel to for sabbatical research

2017 College Scholar Award, University of Colorado at Boulder
to fund sabbatical leave in Paris, France

2016 Leadership Individual Growth Grant, University of Colorado at Boulder
to fund pilot screen in the area of antimicrobial discovery

2015 Innovative Seed Grant Award, University of Colorado at Boulder

2014 to fund a new research direction, antimicrobial discovery
 Seed Grant Award, Butcher Foundation
 to fund *in vivo* imaging of macrophages
 2010 Awarded Tenure at University of Colorado at Boulder
 2006-9 Dean's Awards for Research Excellence, University of Colorado at Boulder
 to fund travel to international meetings
 2006-7 National Academies Education Fellow in the Life Sciences
 2006 Research & Creative Work Seed Grant, University of Colorado at Boulder
 2005-6 Butcher Foundation Genomics & Biotechnology Collaborative Award
 2005 Junior Faculty Development Award, University of Colorado at Boulder
 2004 Butcher Foundation Genomics & Biotechnology Collaborative Award
 2001 Henzl-Gabor Travel Award, Stanford University
 1999-2 Postdoctoral Fellowship, American Cancer Society
 1992-5 Pre-doctoral Research Fellowship, National Science & Engineering, DOD
 1991 Graduation with honors, *magna cum laude*, Bowdoin College
 1989 Organic Chemistry Laboratory Award, Bowdoin College

Grant Support – Current

Title: New Drugs to Combat Antimicrobial Resistant Bacteria

Agency: State of Colorado
 Type: Advanced Industry Accelerator Award
 Role: Principal Investigator
 Costs: \$130,000 direct total
 Dates: 7/18 – 4/20

Title: A Novel Screen for Antibacterials that Are Non-Toxic to Mammals

Agency: NIH (NIAID)
 Type: R33 AI121365A
 Role: Principal Investigator, Co-PI X. Wang (Associate Professor in CHEM)
 Costs: \$460,280 total per year; \$304,912 direct per year
 Dates: 12/17 - 11/20

Title: Macrophages, Granulomas and Bacterial Persistence

Agency: NIH (NIAID)
 Type: R21 AI121474
 Role: Principal Investigator, Co-PI Toni Nagy (SRA in the Detweiler lab)
 Costs: \$423,448 total; in no cost extension
 Dates: 6/16 - 5/19

Title: Chemical Probes for Bacteria-Macrophage Interactions

Agency: NIH (NIAID)
 Type: R21 AI126453

Role: Principal Investigator
Costs: \$423,448 total; in no cost extension
Dates: 7/16 - 6/19

Grant Support – Past

Title: Using Functional Microscopy to Understand How New Antimicrobials Work

Agency: Burroughs Wellcome Fund
Type: Collaborative Research Travel Grant
Role: Principal Investigator
Costs: \$10,000 direct
Dates: 7/17 to 6/18

Title: A Novel Screen for Antibacterials that Are Non-Toxic to Mammals

Agency: NIH (NIAID)
Type: R21 AI121365A
Role: Principal Investigator, Co-PI X. Wang (Associate Professor in CHEM)
Costs: \$433,572 total
Dates: 12/15 - 11/17

Title: Hemophagocytic Macrophages And Systemic *Salmonella* Infection

Agency: NIH (NIAID)
Type: R01 AI095395
Role: Principal Investigator
Costs: \$1,660,958 total
Dates: 3/12 – 2/17

Title: Developing New Antibacterials

Agency: University of Colorado at Boulder
Type: Leadership Education Individual Growth Grant
Role: Principal Investigator
Costs: \$9,000 direct
Dates: 7/16 - 6/17

Title: A Novel In-Cell Screen for Antibacterials

Agency: University of Colorado at Boulder
Type: Innovative Seed Grant
Role: Principal Investigator
Costs: \$50,000 direct
Dates: 6/14 - 12/16

Title: Developing a Platform for *in vivo* Imaging of Bacterial Infection

Agency: Butcher Foundation
Type: Seed Grant

Role: Principal Investigator
Costs: \$75,000 direct
Dates: 4/14 - 3/15

Title: Host Pathways that Enable *Salmonella* Replication In Macrophages
Agency: NIH (NIAID)
Type: R21 AI099593
Role: Principal Investigator
Costs: \$419,375 total
Dates: 4/12 - 3/14

Title: Hemophagocytic Macrophages And Systemic *Salmonella* Infection
Agency: NIH (NIAID)
Type: R56 AI095395
Role: Principal Investigator
Costs: \$376,281 total
Dates: 9/11 – 2/12

Title: Persistent Systemic Infection of Mice by *Salmonella Enterica*
Agency: NIH (NIAID)
Type: R01 AI072492
Role: Principal Investigator
Costs: \$1,853,525 total
Dates: 6/07 – 5/13

Title: A Mammalian Cellular Niche for Chronic Bacteria
Agency: NIH (NIAID)
Type: R21AI076682
Role: Principal Investigator
Costs: \$323,525 total
Dates: 12/07 – 11/09

Title: The *Salmonella* RcsC Phosphorelay System and Virulence
Agency: NIH (NIAID)
Type: R56 AI063116
Role: Principal Investigator
Costs: \$320,257 total
Dates: 9/05 – 8/06

Fellowships that supported the research program

Title: Role of Host Lipids in *Salmonella* Replication within Macrophages
Agency: NIH (NIAID)
Type: NRSA Individual Post-Doctoral Fellowship Program

Role: Mentor (T. Nagy, Fellow)
Costs: \$52,190 per year
Dates: 3/12 - 3/15

Invited Research Presentations

2018 NIAID Rocky Mountain Laboratory, Hamilton, NH
2018 Colorado State University, Fort Collins, CO
2017 University College of London, London, UK
2017 University of Edinburgh, Edinburgh, UK
2017 Pasteur Institute, Paris, France
2017 University of California Irvine Medical School, Irvine, CA
2017 Washington State University Veterinary School, Pullman WA
2017 University of California Davis Medical School, Davis, CA
2017 University of Georgia, Department of Microbiology, Athens, GA
2017 University of Nevada, Department of Biology, Las Vegas, NV
2016 American Society of Microbiology, *Salmonella* Meeting, Potsdam, Germany
2016 Wind River Conference on Prokaryotic Biology, Estes Park, CO
2015 FASEB Microbial Pathogenesis Meeting, Keystone, CO
2015 DARPA Technologies for Host Resilience, Denver, CO
2015 University of Washington Medical School, Seattle, WA
2014 NIH Rocky Mountain Laboratories, Hamilton, MT
2014 Stanford Research Institute International, Menlo Park, CA
2014 University of Colorado, Department of Microbiology, Denver, CO
2013 American Society of Microbiology, *Salmonella* Meeting, Boston, MA
2013 University of Ohio Medical School, Athens, OH
2013 American Society of Microbiology, General Meeting, Denver, CO
2013 State University of New York, Microbiology and Immunology, Buffalo, NY
2013 J. Craig Venter Institute, San Diego, CA
2012 Emory University, Department of Microbiology and Immunology, Atlanta, GA
2012 University of Illinois, Department of Animal Sciences, Urbana, IL
2012 University of Maryland, School of Medicine, Baltimore, MD
2012 NIAID Small Animal Models for Enteric Diseases Workshop, Bethesda, MD
2012 Wind River Conference on Prokaryotic Biology, Las Vegas, NV
2012 National Institute on Aging Post-Baccalaureate Program, Baltimore, MD
2012 Oregon State University College of Veterinary Medicine, Corvallis, OR
2012 Florida International University College of Medicine, Miami, FL
2011 Microbial Pathogenesis: Mechanisms Of Infectious Disease, Snowmass, CO
2011 Wind River Conference on Prokaryotic Biology, Estes Park, CO
2011 Keynote Speaker, American Society of Microbiology Rocky Mountain Branch
2009 American Society of Microbiology General Meeting, Philadelphia, PA
2009 Department of Microbiology, Ohio State University, Columbus, OH
2009 Tufts University Medical School, Boston, MA
2009 Wind River Conference on Prokaryotic Biology, Estes Park, CO

2009 Genetics and Molecular Biology, University of North Carolina, Chapel Hill, NC
2009 Microbiology Graduate Group, University of California, Davis, CA
2008 Department of Microbial & Molecular Pathogenesis, Texas A&M
2008 Mycobacteria Research Laboratory Seminar, Colorado State University
2007 FASEB Microbial Pathogenesis, Snowmass CO

The research presented was described in two meeting reviews:

1. Carruthers VB, Cotter PA, Kumamoto CA. Microbial pathogenesis: mechanisms of infectious disease. *Cell Host Microbe* 2007 Oct 11;2(4):214-9.
2. Lenz, LL, Andrews-Polymeris, HL. Silencing the alarm: insights into the interaction between host and pathogen. Conference on Microbial Pathogenesis: Mechanisms of Infectious Disease. *EMBO reports* 9, 27 - 32 (01 Jan 2008).

2007 American Society of Microbiology General Meeting, Toronto, Canada
2006 Medical Microbiology Department, University of Wisconsin, Madison, WI
2005 Applied Math Department, University of Colorado, Boulder, CO
2005 Molecular Biology Department, University of Wyoming, Laramie, WY
2005 Gordon Research Conference - Antimicrobial Peptides, Ventura, CA
2005 University of Colorado Health Sciences Immunology Retreat, Estes Park, CO
2005 Front Range Innate Immunity Meeting, Fort Collins, CO
2003 American Society of Microbiology Salmonella Conference, Sardinia, Italy

TEACHING

Pedagogy and Course Development

2015 Co-Development of an Antibiotic Discovery Research Laboratory Class with Dr. P. Harvey. This course is now one of three MCDB Freshman Discovery Labs.
2009 Integration of active learning techniques into MCDB4330 (Immunology) in collaboration with Science Teaching Fellow Dr. M. K. Smith.
2006 Participant, NSF & HHMI Summer Institute for Teaching, Madison WI

Non-classroom Teaching

1. Undergraduate researchers mentored in the laboratory:

E. Janko	Current
J. McLeod	Current, nontraditional student
C. Satterlee	Current, nontraditional student
J. Colmero	Nontraditional student
O. Bednarski	Undergraduate Research Opportunity Award (UROP)
M. Edwards	Honors <i>magna cum laude</i> (F2016) MCDB Caplan-Craig Researcher Award, 2016, UROP, 2015 Currently in graduate school at Cornell University
G. Kreitz	UROP, Independent study (2011-12)
K. Hanson	Honors <i>magna cum laude</i> (S2011) UROP, Independent study (2010)
K. Graham	Independent study (S2010)

D. Jorgenson	Honors <i>magna cum laude</i> (F2010) UROP, Independent Study (F2008 - S2010)
K. Tuttle	Honors (F2007); Independent study (S2007)
D. Yamamoto	Independent study (F2007)
J. Gilum	Independent study (S2007)
L. Saccomano	Independent study (F2006, S2007)
T. Fenn	Honors <i>summa cum laude</i> (F2006) UROP, Independent study (S2006)
C. Zielenski	Independent study (S2005)
J. Quinn	Honors (F2006) UROP (F2003, S2004), Independent study (S2006)
K. Metzler	Honors <i>magna cum laude</i> (S2005) UROP (F2004) Received PhD from the Max Planck in Berlin Regensburg, Germany exchange student (AY 2004-5)
F. Leuke	

2. Doctoral/Masters (PhD/MD) students thesis mentor:

J. Villanueva	MCDB 2015 – Stone Comprehensive Exam Awardee
A. Reens	MCDB 2013 - 2019 Signaling and Cellular Regulation Training Grant Awardee
E. McDonald	MCDB PhD 2016 Creative Training in Genetics Training Grant Awardee Current – Postdoctoral Fellow at the CDC, Fort Collins, CO
J. Myatt	MCDB MS 2007 Current – Boulder Language Technologies Project Tutor
R. Nix	MCDB MS 2007 Current – Automation Engineer, Myriad Genetics Salt Lake City, UT
S. Symons	Biochemistry MS 2007 Current – Case Specialist at USDA, Denver, CO

3. Post-doctoral fellows mentored:

J. Dombach, 2017-	
T. A. Nagy, 2010 -	Ruth Kirschstein NRSA Awardee 2012-15 Co-PI on NIH R21 (2016 -18)
J. Podoll, 2015 – 2017	Current – Senior Researcher at Recreo Pharmaceuticals, Boulder CO
H. Nick, 2013 -15	Current - Postdoctoral Fellow, National Jewish Research Center, Denver, CO
E. Silva-Herzog, 2007-8, 2012-15	Current – Masters in Public Health Program, George Washington University
M. C. Pilonieta, 2008 -15	

Abstract selected for oral presentation, 2011 American Society for Microbiology
General Meeting, New Orleans LA

Current – Instructor, Front Range Community College

C. English, 2011 - 2013

Current - Applications Scientist at Intelligent Imaging Innovations, Denver, CO

M. W. McCoy, 2008 - 11

Current – National Environmental Policy Act Reviewer at the US Environmental
Protection Agency

K. Erickson, 2003 - 7

NSF 2005 Travel Award

Current - Senior Research Associate, University of CO

Classroom Teaching

2018, 2017

MCDB Ethics Course, 1 discussion session per semester

2018, 2016, 2011-14, 2006-9

Immunology, MCDB 4300/5300, 3 credits, 55 - 96 students

1 semester per AY, 3 hours per week, managing TAs

Role: Course Organizer; New Course Development (2006)

2018, 2016

Antibiotic Discovery Laboratory Class, 1 lecture

2015

Antibiotic Discovery Laboratory Class, MCDB 1171

Course Organizer; New Course Development

2016, 2014

Integrated Physiology Ethics Course; 1 lecture

2016, 2014

Signaling and Cellular Regulation Course, Bchem, 2 lectures

2005-14

Graduate Core, MCDB 5210, 1-2 lectures

2004-5

Bacterial Disease Mechanisms, MCDB 4330, 3 credits, 20-30 students

1 semester per AY, 3 hours per week

Course Organizer; New Course Development

SERVICE

Department

2018 - Member, Teaching Evaluation Committee

2018 - Member, Mentoring Committee for Junior Faculty

2018 - Member, Graduate Admissions Committee

2015 - Supervisor, MCDB Undergraduate Research Director

2013-17 Member, Department Executive Committee

2013-17	Chair, Undergraduate Curriculum Committee
2012-13	Faculty Director, MCDB Transgenic Facility
2012-13, 2006-9	Member, Undergraduate Curriculum Committee
2010-14	Seminar Journal Club Faculty Representative
2005, 2011, 2015	Member, Faculty Search Committees
2010-11	Member, Comprehensive Examining Committees
2008-11	Member, Faculty Evaluation Committee
2004-08	Member, Graduate Admissions Committee

Graduate Thesis Committees at U of Colorado (34 total)

MCDB (17)- Audelat, Bruni, Flood, Galati, Gonzalez, Hausberg, Janiszewski, Johnson, Menasche, Rickicki, Robertson, Ross, Spindler, Wichmann, Wright, Wrobel, Zabinsky

Biochemistry (8) - Gatzeva-Topalova, Hu, McQuate, Minson, Sandoval, Smith, Van Engelenburg, Young

Chemistry (3) - Barbor, Podoll, Townsend

Chemical Engineering (6) - Aunins, Courtney, Erikson, Mills, Reynolds, Steele

Graduate Thesis Committees at Pasteur Institute, Paris France - Rey

Undergraduate Thesis Committees (4) - Martiniko, Moreland, Roostan, Batan

Boulder Campus

2018-19	Member, Mentoring Committee
2018-19	Member, Teaching Evaluation Committee
2018-19	Member, Graduate Admissions Committee
2017-	Faculty Sponsor for 2017 Beckman Scholars Program to fund undergraduate research
2013-17	Chair, Institutional Animal Care and Use Committee (IACUC)
2016	Member, IACUC Coordinator Search Committee
2016	Member, Seed Grant Evaluation Committee
2015	Member, IACUC Director Search Committee
2015	Member, Veterinary Search Committee
2013	Member, Animal Program Task Force
2013	Member, Veterinary Search Committee
2005	Leadership Education for Advancement and Promotion Workshop

Scientific Community

1. Peer reviewer for scientific journals

Cell Host & Microbe

Cellular Microbiology

Infection & Immunity (Editorial Board 2010-20)

Microbiology and Molecular Biology Reviews (Editor, 2014-22)

Attended 2018 December Editors In Chief Meeting

Molecular Microbiology

Nature Communications
PLoS Pathogens

2. Peer reviewer of grant applications

2018 NIH Drug Discovery and Mechanisms of Antimicrobial Resistance SEP
2017-19 Continuous Submission Privileges at NIH based on study section service
2017 NIH Membrane Biology and Protein Processing SEP
2017 NIH Drug Discovery and Mechanisms of Antimicrobial Resistance SEP
2011-17 NIH Topics in Bacterial Pathogenesis SEP 1-2x per year
2016 NIH Biological Chemistry and Macromolecular Biophysics SEP
2016-17 American Kennel Club Canine Health Foundation
2016 NIH Membrane Biology and Protein Processing SEP
2014 NIH Bacterial Pathogens, Ad Hoc
2013 United States-Israel Bi-national Science Foundation
2013 Italian Ministry of Health
2012 NIH Dynamics of Host-Associated Microbial Communities
2011 NIH Centers of Biomedical Research Excellence (COBRE)
2010 NIH Enterics Investigational Network Cooperative Research Center
2008 NIH Bacterial Pathogens Ad Hoc

3. Scientific meeting organizer, session organizer

Corresponding Chair, 1st *Salmonella* Biology and Pathogenesis Gordon Research Conference, Summer 2019 (June 2-7)

Spearheaded successful application for a *Salmonella* Gordon Research Conference in June of 2017.

Executive Committee Member for the Wind River Conference on Prokaryotic Biology 2013 - Present

Organizer, 56th Wind River Conference on Prokaryotic Biology June, 2013

Symposium Co-Organizer (Animal Models of Chronic Infection) – American Society of Microbiology General Meeting, Philadelphia, PA, May 2009

Symposium Organizer (Persistent Bacterial Infections) – American Society of Microbiology General Meeting, Toronto, Canada, May 2007

Organizer, Front Range Innate Immunity Group Meeting, November 2004 and February 2006. Includes researchers from Boulder, UC Health Sciences Center, National Jewish Medical Research Center and Colorado State

PEER REVIEWED RESEARCH PUBLICATIONS

<http://www.ncbi.nlm.nih.gov/sites/myncbi/1h5uJU2Yze/bibliography/40136699/public/?sort=date&direction=descending>

Graduate School:

1. **Detweiler CS**, Li JJ. Cdc6p establishes and maintains a state of replication competence during G1 phase. *J. Cell. Sci.* 1997;110 (Pt 6):753-63
2. Owens JC, **Detweiler CS**, Li JJ. CDC45 is required in conjunction with CDC7/DBF4 to trigger the initiation of DNA replication. *Proc. Natl. Acad. Sci. U.S.A.* 1997;94(23):12521-6.
3. **Detweiler CS**, Li JJ. Control of replication initiation in *Saccharomyces cerevisiae*. *Faseb Journal* 11 (9), A877-A877.
4. **Detweiler CS**, Li JJ. Ectopic induction of Clb2 in early G1 phase is sufficient to block prereplicative complex formation in *Saccharomyces cerevisiae*. *Proc. Natl. Acad. Sci. U.S.A.* 1998;95(5):2384-9.

Postdoctoral Fellow:

5. Lee AK, **Detweiler CS**, Falkow S. OmpR regulates the two-component system SsrA-ssrB in Salmonella pathogenicity island 2. *J. Bacteriol.* 2000;182(3):771-81.
6. Monack DM, **Detweiler CS**, Falkow S. Salmonella pathogenicity island 2-dependent macrophage death is mediated in part by the host cysteine protease caspase-1. *Cell. Microbiol.* 2001;3(12):825-37.
7. **Detweiler CS**, Cunanan DB, Falkow S. Host microarray analysis reveals a role for the Salmonella response regulator phoP in human macrophage cell death. *Proc. Natl. Acad. Sci. U.S.A.* 2001;98(10):5850-5.
8. Chan K, Baker S, Kim CC, **Detweiler CS**, Dougan G, Falkow S. Genomic comparison of Salmonella enterica serovars and Salmonella bongori by use of an S. enterica serovar typhimurium DNA microarray. *J. Bacteriol.* 2003;185(2):553-63.
9. **Detweiler CS**, Monack DM, Brodsky IE, Mathew H, Falkow S. virK, somA and rcsC are important for systemic Salmonella enterica serovar Typhimurium infection and cationic peptide resistance. *Mol. Microbiol.* 2003;48(2):385-400.

Pre-Tenure:

10. De Keersmaecker SCJ, Marchal K, Verhoeven TLA, Engelen K, Vanderleyden J, **Detweiler CS**. [Microarray analysis and motif detection reveal new targets of the Salmonella enterica serovar Typhimurium HilA regulatory protein, including hilA itself.](#) *J. Bacteriol.* 2005;187(13):4381-91.
11. Erickson KD, **Detweiler CS**. [The Rcs phosphorelay system is specific to enteric pathogens/commensals and activates ydel, a gene important for persistent Salmonella infection of mice.](#) *Mol Microbiol.* 2006;62(3):883-94.
12. Karimpour-Fard A, **Detweiler CS**, Erickson KD, Hunter L, Gill RT. [Cross-species cluster co-conservation: a new method for generating protein interaction networks.](#) *Genome Biol.* 2007;8(9):R185.
13. Nix RN, Altschuler SE, Henson PM, **Detweiler CS**. [Hemophagocytic Macrophages Harbor Salmonella enterica during Persistent Infection.](#) *PLoS Pathog.* 2007;3(12):e193. *Selected for a Faculty-1000 write-up.*
14. Pilonieta MC, Erickson KD, Ernst RK, **Detweiler CS**. [A protein important for](#)

- [antimicrobial peptide resistance, YdeI/OmdA, is in the periplasm and interacts with OmpD/NmpC](#). *J. Bacteriol.* 2009;191(23):7243-7252.
15. Brown DE, McCoy MW, Pilonieta MC, Nix RN, **Detweiler CS**. [Chronic Murine Typhoid Fever Is a Natural Model of Secondary Hemophagocytic Lymphohistiocytosis](#). *PLoS One*. 2010;5(2).
16. Silva-Herzog E, **Detweiler CS**. [Salmonella enterica Replication in Hemophagocytic Macrophages Requires Two Type Three Secretion Systems](#). *Infection and Immunity*. 2010;78(8):3369-77.

Post-Tenure:

17. Pilonieta MC, Nagy TA, Jorgensen DR, **Detweiler CS**. [A glycine betaine importer limits Salmonella stress resistance and tissue colonization by reducing trehalose production](#). *Mol. Microbiol.* 2012 Apr;84(2):296-309.
18. McCoy MW, Moreland SM, **Detweiler CS**. [Hemophagocytic macrophages in murine typhoid fever have an anti-inflammatory phenotype](#). *Infect Immun*. 2012; Oct;80(10):3642-9. *Spotlight - Selected by the editors as being of "significant interest"*
19. Brown DE, Libby S, Moreland SM, McCoy MW, Brabb T, Stepanek A, Fang, FC, **Detweiler, CS**. [Salmonella enterica causes more severe inflammatory disease in C57/BL6 Nramp1^{G169} mice compared to Sv129S6 mice](#). *Vet. Path.* 2013 Sep;50(5):867-76.
20. Nagy TA, Moreland SM, **Detweiler CS**. [The Ferric Enterobactin Transporter, Fep, is Required for Persistent Salmonella Infection](#). *Infection and Immunity*. 2013 Nov;81(11):4063-70.
21. Nagy TA, Moreland SM, **Detweiler CS**. Salmonella acquires ferrous iron from haemophagocytic macrophages. *Mol. Microbiol.* 2014 Sep;93(6):1314-26.
22. Pilonieta MC, Moreland SM, English CN, **Detweiler CS**. [Salmonella enterica infection stimulates macrophages to hemophagocytose](#). *MBio*. 2014 Dec 9;5(6):e02211.
23. Teske SS, **Detweiler CS**. [The biomechanisms of metal and metal-oxide nanoparticles' interactions with cells](#). *Int J Environ Res Public Health*. 2015 Jan 22;12(2):1112-34.
24. Brown DE, Nick HJ, McCoy MW, Moreland SM, Stepanek AM, Benik R, O'Connell KE, Pilonieta MC, Nagy TA, **Detweiler CS**. [Increased ferroportin-1 expression and rapid splenic iron loss occur with anemia caused by Salmonella infection in mice](#). *Infection and Immunity*. 2015 Jun;83(6):2290-9.
25. McDonald EM, Pilonieta MC, Nick HJ, **Detweiler CS**. [Bacterial Stimulation of Toll-Like Receptor 4 Drives Macrophages to Hemophagocytose](#). *Infection and Immunity*. 2015 Oct 12;84(1):47-55.
26. Silva-Herzog E, McDonald EM, Crooks AL, **Detweiler CS**. [Physiologic Stresses Reveal a Salmonella Persister State and TA Family Toxins Modulate Tolerance to These Stresses](#). 2015 *PLoS ONE*. Dec 3;10(12):e0141343.

27. McQuate SE, Young AM, Silva-Herzog E, Bunker E, Hernandez M, de Chaumont F, Liu C, **Detweiler CS**, Palmer AE. Long-Term Live Cell Imaging Reveals New [Roles For Salmonella Effector Proteins SseG and SteA](#). *Cellular Microbiology*. 2017 Jan;19(1).
28. Bauler TJ, Starr T, Nagy TA, Sridhar S, Scott D, Winkler CW, Steele-Mortimer O, **Detweiler CS**, Peterson KE. [Salmonella meningitis associated with monocyte infiltration in mice](#). *American Journal of Pathology*. 2017 Jan;187(1):187-199.
29. Courtney CM, Goodman SM, Nagy TA, Levy M, Bhusal P, Madinger NE, **Detweiler, CS**, Nagpal P, and Chatterjee A. [Potentiating antibiotics in drug-resistant clinical isolates via stimuli-activated superoxide generation](#). *Science Advances*, 2017 Oct; 3(10):e1701776.
30. Reens AL, Crooks AL, Su C-C, Nagy TA, Reens DL, Podoll JD, Edwards ME, Yu EW, **Detweiler CS**. [A cell-based infection assay identifies efflux pump modulators that reduce bacterial intracellular load](#). *PLoS Pathog*. 2018;14: e1007115. doi:10.1371/journal.ppat.1007115

REVIEWS

1. Silva-Herzog E, **Detweiler CS**. [Intracellular microbes and haemophagocytosis](#). *Cell Microbiol*. 2008;10(11):2151-2158.
2. **Detweiler, CS**. SPOTLIGHT: [A New Way to Beat Intestinal Pathogens](#). *Trends in Microbiology*. 2017 Mar; 25(3): 169–170.
3. Dombach, JL, **Detweiler, CS**. How Microbial Pathogens Subvert Host Innate Immune Defenses. *Encyclopedia of Microbiology*, 4th Edition. *In Press*.

METHODS PAPERS

1. **Detweiler CS**, Falkow S. Dissecting Host-Pathogen Molecular Interactions with Microarrays. In: *Methods in Cellular Microbiology*. Vol 31. Sansonetti, P. and Zychlinsky, A. (eds). London: Academic Press Ltd.; 2001.
2. Lathrop SK, Cooper KG, Binder KA, Starr T, Mampilli V, Detweiler CS, **Steele-Mortimer O**. [Salmonella Typhimurium Infection of Human Monocyte-Derived Macrophages](#). *Curr Protoc Microbiol*. 2018 Aug;50(1):e56. doi: 10.1002/cpmc.56. Epub 2018 May 18. PMID: 29927091

PATENTS

Provisional Patent Application No. 62/477,175

Title: Small Molecule Inhibitors of Bacterial Efflux Pumps

CU Reference: CU4334B-PPA1

File Date: March 27, 2017

Inventors: **Detweiler, CS**, Reens AL, Crooks AL

International (PCT) Patent Application Filed

Application No.: PCT/US18/24640

Filing Date: March 27, 2018

Title: Small Molecule Inhibitors Of Bacterial Efflux Pumps And Methods Of Using
Same

Ref.: 51606.06516

Inventors: **Detweiler, CS**, Reens AL, Crooks AL