

# JAY MELLIES

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## EDUCATION

Ph.D., Microbiology, University of California, Davis, 1994  
Bachelor of Science, University of California, Davis, 1986  
Major: Biochemistry; Minor: Music

## ACADEMIC POSITIONS/EMPLOYMENT

Amgen/Perlmutter Professor of Biology, Reed College	8/19-present
Professor, Reed College	4/11-8/19
Associate Professor, Reed College	9/03-4/11
Visiting Faculty, Portland State University, Oregon	Summer '10
Assistant Professor, Reed College	9/99-8/03
Postdoctoral Fellow, University of Maryland School of Medicine, Baltimore, Maryland	3/97-7/99
Volunteer Faculty, University of Maryland School of Dentistry, Baltimore, Maryland	3/97-7/99
Adjunct Faculty, Anne Arundel Community College, Arnold, Maryland.	5/97-7/99
Postdoctoral Fellow, Max-Planck-Institut für Biologie, Tübingen, Germany	10/94-2/97
Research Assistant, Section of Microbiology, University of California, Davis	12/90-9/94
Research Assistant, Department of Veterinary Microbiology, University of California, Davis	4/90-11/90
Research Chemist, Microgenics Corp., Concord, California	9/86-9/89

## TEACHING

Immunology (BIO 463) <a href="https://www.reed.edu/biology/courses/bio463/syllabus.html">https://www.reed.edu/biology/courses/bio463/syllabus.html</a>	9/14-present
Microbiology Lecture and Laboratory (BIO 358) <a href="https://www.reed.edu/biology/courses/bio358/index.html">https://www.reed.edu/biology/courses/bio358/index.html</a> <a href="https://2020.archive.moodle.reed.edu/course/view.php?id=3043">https://2020.archive.moodle.reed.edu/course/view.php?id=3043</a>	99-present
The Human Microbiome (BIO 431) Senior Seminar <a href="https://2020.archive.moodle.reed.edu/course/view.php?id=2225">https://2020.archive.moodle.reed.edu/course/view.php?id=2225</a>	F 16,18
Bacterial Pathogenesis (BIO 431), Senior Seminar <a href="https://2020.archive.moodle.reed.edu/course/view.php?id=2724">https://2020.archive.moodle.reed.edu/course/view.php?id=2724</a>	99-present
Introductory Biology and Laboratory (Topics) (BIO 101/102), now 12 lectures/yr <a href="https://moodle.reed.edu/course/view.php?id=2509">https://moodle.reed.edu/course/view.php?id=2509</a>	99-present
Bacterial Genetics, University of Maryland School of Dentistry, 2 to 3 lectures/yr	97-98
Introductory Microbiology Course/Laboratory, Anne Arundel Community College	5/97-7/99

### Reed Senior Theses (BIO 470)

Madelyn Tarara  
Best Undergraduate Research Poster Presentation at the Northwest Branch Meeting of the ASM,  
Portland, Oregon, Nov 10-11, 2023

Josie Bicknell ('24)  
Reed Class of '21 Award

Henry Jacques ('24)  
Harper Lethin ('24)  
Naia Marten ('24)  
Deepika Shingwekar ('24)

Audrey Hinchliff ('23)  
Helen Laster ('23)  
Carli Newman ('23)  
Toby Beattie ('22)  
Riyaz Ditter ('22)  
Kaitlyn Li ('22)  
Mila Trank-Greene ('22)  
Quinn Zuleger ('22)  
Alex John ('21)  
Henry Scheffer ('21)  
Liv Depies ('21)  
Tyler Salazar ('21)  
Loralee Bandy ('20)  
Jesse Duhan ('20)  
Jamie Lindner ('20)  
Sol Taylor-Brill ('20)  
Maddox Zhang ('20)  
Colin Hawkinson ('19)  
Brandon Novy ('19)  
Cam Robertson ('19)  
William Scott ('19)  
Eliotte Garling ('18)  
    NSF Graduate Fellowship ('03)  
Katie McPherson ('18)  
Jethary Rader ('18)  
Trevor Soucy ('18)  
Morgan Vague ('17)  
    Reed Class of '21 Award  
Vikram Chan-Herur ('17)  
Madeline Dinsdale ('17)  
Kristin Hirata ('17)  
Yasemin Lopez ('17)  
Celebrity Nyikadzino ('17)  
Mical Yohanes ('17)  
Lily Ben-Avi ('16)  
Leah Cepko ('16)  
Hans Leier ('16)  
Amy Platenkamp ('16)  
Eren Veziroglu ('16)  
Shannon Bacheller ('16)  
Maggie Cheney ('15)  
Jonathan Gerhart ('15)  
Jennilyn Nelson ('15)  
Jossef Osborn ('15)  
    President's Winter Fellowship to visit the South African Tuberculosis Vaccine Initiative, 2014-2015  
Jules Weinstein ('15)  
Karen Dewey ('14)  
Jennifer Farrell ('14)  
Gus Kilgore ('14)  
Abe Leiser ('14)  
Nima Subramanian ('14)  
Yuan Xue (Soso) ('14)  
Anand Panchal ('13)  
Rachel Strominger ('13)  
Shaurav Regmi ('13)  
Gabe Butterfield ('12)  
    Davis Projects for Peace Award, 2012  
Sarah Wesley ('12)

Mischka Moechtar ('12)  
Meg Moeller ('12)  
Neil Evans ('12)  
Rosie Lawrence-Pine ('11)  
    ASM Undergraduate Research Fellowship, 2010-2011  
Katherine Thomas ('11)  
Charlie Morse ('11)  
Orissa Agnihotri ('11)  
Peter Cawley ('10)  
Gabe Holt ('10)  
Emily Lorenzen ('10)  
Saate Shakil ('10)  
Dan Glaser ('09)  
David Mavor ('09)  
Patricia Snarski ('09)  
Jeannette Tenthorey ('09)  
    NSF Graduate Fellowship ('12)  
Emily Warschefsky ('09)  
Christine Beckel ('08)  
Garon Coriz ('08)  
Laura Mulshine ('08)  
Will McNitt ('08)  
Melissa Zarr ('08)  
Rebecca Kreston ('07)  
Trevor Young ('07)  
Anna Carmona ('06)  
    Best Undergraduate Research Poster Presentation at the Northwest Branch Meeting of the ASM,  
    Seattle, Washington, March 10-12, 2006  
Dot Coffey ('06)  
Alex Barron ('05)  
    Student Travel Award- ASM General Meeting, Atlanta, Georgia, June 2005  
Anna Brown ('05)  
Elijah Itah ('05)  
Derek Galligan ('05)  
    ASM Undergraduate Research Fellowship, 2004-2005  
Leslie Cooperman ('05)  
Alex Beebe ('04)  
Marisa Hemungkorn ('04)  
Katy Horback ('04)  
Andrew Korson ('04)  
Jonathan Fowlkes ('03)  
Rebecca Bart ('03)  
Alhaji Ceesay ('03)  
Evan Hayashi ('02)  
Kristin Harper ('02)  
    Student Travel Award- ASM General Meeting, Salt Lake City, Utah, May 2002  
    NSF Graduate Fellowship ('03) and Howard Hughes Medical Institute Pre-Doctoral Fellowship ('03)  
Christopher Robinson ('02)  
Darrow DeLuca ('02)  
Leslie Hoover ('01)  
    NIH Post-Baccalaureate Research Fellowship, Bethesda, Maryland, 2001-2003  
Kristie Miller ('01)  
Colin Daniel ('00)  
Michael Bomier ('00)  
Rebecca Green ('00)

## **HONORS & AWARDS**

Elected Fellow in the American Academy of Microbiology, February 2024

## **FUNDING**

National Science Foundation, RUI, Collaborative Grant: with Shivani Ahuja, Chemistry Department, Reed College and Irene Newton, University of Indiana Bloomington. MCB- Systems and Synthetic Biology, 2246498, \$828,353, 2023-2026.

National Science Foundation, RUI, Collaborative Grant: with Rosa León Zayas, Biology Department, Willamette University. MCB-1931150, \$684,353, 2019-2022.

National Institutes of Health, Exploratory/Developmental Research Grant 1R21AI115193-01, \$362,803 2015-2017

MJ Murdock Charitable Trust, College Research Program for Life Sciences Award, \$50,000, 2013-2015

National Institutes of Health, collaboration on R01 Award with John Crane, MD, Ph.D., State University of New York at Buffalo, sub-contract \$202,206, 2010-2013

National Science Foundation, Visiting Faculty, Portland State University, ROA Supplement to investigate protein-DNA complexes associated with DNA damage repair with Justin Courcelle, Ph.D., \$12,000, Summer 2010

National Institutes of Health, Academic Research Enhancement Award, 2R15AI47802-03, \$235,363 2008-2011

Mellon Foundation Faculty Research Award, Reed College, \$35,000, 2007-2008

Michael E. Levine Faculty Research Award, Reed College, \$5,000, 2005-2006

National Institutes of Health, Academic Research Enhancement Award, 2R15AI47802-02, \$227,500, 2004-2007

Defense Advanced Research Projects Agency (DARPA) Award, \$230,323, 2003-2005

National Institutes of Health, Academic Research Enhancement Award, 1R15AI47802-01, \$143,667, 2001-2004

Oregon Medical Research Foundation Seed Grant, \$25,000, 2000-2001

Howard Hughes Faculty Development Award, Reed College, \$29,446, 1999-2000

Alexander von Humboldt Postdoctoral Research Fellowship, Germany, 1995-1997

## **REED GOVERNANCE**

Chair, Biochemistry and Molecular Biology Committee	17/18, 23/24
Ad Hoc Committee on Accreditation, Northwest Commission on Colleges and Universities	Fall 2021
Chair, Biology Department	6/14-6/18
Chair, Committee on Academic Planning and Policy (elected committee)	9/08-5/10
Chair, Radiation Safety Committee	9/08-5/13

## **SERVICE TO THE REED COMMUNITY**

Pre-Med Advisor	9/02-present
Biochemistry and Molecular Biology Committee	9/15- present
Coordinator, Biology Department Seminar Program	9/01-9/10
Paid Leave Award Committee	06-08, 22-24
Administration Committee	01-05

## **REED SEARCHES**

Biology Departmental Associate	6/21
Dean of the Faculty	19/20
Visiting Assistant Professor of Psychology	2019
Animal Physiology Tenure Track Position, Biology Department	2012

## **SERVICE OUTSIDE THE REED COMMUNITY**

President, NW ASM Branch	8/19-9/22
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NIH Study Sections, R15 AREA Applications: Infectious Disease and Microbiology  
NSF Grant Review Panel, Molecular and Cellular Biology Division, Systems and Synthetic Biology  
CAREER Applications

Editorial Board, *Infection and Immunity*

1/17-present

Co-organizer with Georgiana Purdy (OHSU) of ASM NW Branch Meeting

Fall 2018

*Ad hoc* review

*Molecular Microbiology, PNAS USA, mBio, PLoS Pathogens, The EMBO Journal, Cellular Microbiology, Journal of Bacteriology, Infection and Immunity, Applied and Environmental Microbiology, ACS Sustainable Chemistry & Engineering, Journal of Microbiology & Biology Education, Journal of Clinical Microbiology, Zoonoses and Public Health, FEMS Microbiology Letters, BMC Microbiology, Hazardous Materials, Bioengineering, International Journal of Molecular Sciences*

Section Editor, *Journal of Microbiology & Biology Education*

9/09-12/16

Tenure Review

Haverford College, Harvey Mudd College, Colorado College, Saint Joseph's University, New Mexico State University, Rhodes College

Reed Speakers Bureau

03-present

*E. coli* disease associated with fresh produce, evolution of *E. coli* pathotypes.  
Talks given at Lincoln, Beaverton, Marshall, Madison and Riverdale High Schools in Portland, OR

Expert Participant, Everybody Reads

2/10

An initiative aimed at advancing science literacy of adults, a partnership between OMSI and the Multnomah County Library

## **OTHER GOVERNANCE**

Member, Foundation Board, Cleveland High School, Portland

9/08-6/14

Participant in fundraising activities to ensure adequate FTEs for reasonable class sizes and quality programs; President, 2012-2014

Foundation Board, Educational Recreational Adventures, Portland

9/08-9/10

A non-profit organization that fosters human development through science and environmental education, outdoor skills instruction, outdoor adventures and opportunities for environmental restoration

## **INVITED SPEAKING ENGAGEMENTS**

2<sup>nd</sup> International Conference on Environmental Sustainability Through Waste and Recycling, Boston, MA, March 11-13, 2024

University of Glasgow, School of Infection and Immunity, Glasgow, Scotland, January 24, 2023

Portland State University, Department of Biology, Portland, OR, October 21, 2022

São Paulo State University – UNESP, Bioenergy Research Institute - IPBEN, January 29, 2021

International Horizons in Molecular Biology Symposium, International Max Planck Research School for Molecular Biology, Göttingen, Germany, September 14th-17th, 2020

ASM NW Branch Meeting, University of Washington, Seattle, WA, Nov 16, 2019

OSU MSA Research Symposium, Kearney Hall, Oregon State University, Apr 7, 2018

ASM NW Branch Meeting, Washington State University, Pullman, WA, Oct 13-14, 2017

St. Joseph's University, Biology Department, Philadelphia, PA, September 13, 2017

University of Virginia, School of Med., Infectious Diseases/Biodefense Seminar Series, January 12, 2016

ASM NW Branch Meeting, University of Washington, Seattle, WA, Nov 20-21, 2015

OSU GSA Research Symposium, Linus Pauling Science Center, Oregon State University, April 4, 2015

ASM NW Branch Meeting, University of Washington, Seattle, WA, Oct 17-18, 2014  
ASM NW Branch Meeting, University of Washington, Seattle, WA, Nov 10, 2012  
Division of Environmental & Biomolecular Systems, Oregon Health & Science University, May 27, 2011  
ASM NW Branch Meeting, Seattle Pacific University, Seattle, WA, Oct 16, 2010.  
Oregon Health & Science University, Department of Molecular Microbiology & Immunology,  
Portland, OR, September 28, 2009  
University of Washington, Microbiology Department, Seattle, WA, October 7, 2008  
Pomona College, Department of Biology, Claremont, CA, September 18, 2008  
Oregon Museum of Science and Industry, Adult Learning Program, September 11, 2008  
Portland State University, Department of Biology, Portland, OR, November 16, 2006  
6th International Symposium on Shiga Toxin (Verocytotoxin) Producing *Escherichia coli* Infections,  
Melbourne, Australia, October 29 - November 2, 2006  
OGI School of Science & Engineering, Portland, OR, October 7, 2005  
University of Idaho, Moscow, Department of Microbiology, Molecular Biology and Biochemistry,  
April 17, 2005  
DARPA Pathogen Countermeasures, Principal Investigator Meeting, Ft. Lauderdale, FL,  
March 9-11, 2005  
Gordon Research Conference on Microbial Stress Response, Mt. Holyoke College, South Hadley, MA,  
July 11-16, 2004

## SOCIETIES

American Society for Microbiology  
American Association for the Advancement of Science

## PUBLICATIONS

### Peer-reviewed

**Shingwekar, D, Laster, H, Kemp, H, and Mellies, JL.** Two-Step Chemo-Microbial Degradation of Post-Consumer Polyethylene Terephthalate (PET) Plastic Enabled by a Biomass-Waste Catalyst. *Bioengineering*. 2023, 10(11), 1253; <https://doi.org/10.3390/bioengineering10111253>.

Edwards, S, León-Zayas, R, **Ditter, R, Laster, H, Sheehan, G, Anderson, O, Beattie, T,** and Mellies, JL. Microbial Consortia and Mixed Plastic Waste: Pangenomic Analysis Reveals Potential for Degradation of Multiple Plastic Types via Previously Identified PET Degrading Bacteria. *International Journal of Molecular Sciences*. 2022, 23(10), 5612; <https://doi.org/10.3390/ijms23105612>.

**Roberts, C, Edwards, S, Vague, M,** León Zayas, R, **Scheffer, H, Gayle Chan, G,** Swartz, NA, and Mellies, JL. Environmental consortium containing *Pseudomonas* and *Bacillus* species synergistically degrade polyethylene terephthalate (PET) plastic. *mSphere* 2020; DOI: 10.1128/mSphere.01151-20.

**Cepko, LCD, Garling, EE, Dinsdale, MJ, Scott, WP, Bandy, L,** Nice, T, Faber-Hammond, J, and Mellies, JL. Myoviridae Phage *PDX* Kills Enteroaggregative *Escherichia coli* without Human Microbiome Dysbiosis. *J Med Microbiol* 2020 Feb;69(2):309-323. doi: 10.1099/jmm.0.001162.

León-Zayas, R, **Roberts, CG, Vague, M,** and Mellies, JL. Draft Genome Sequences of Five Environmental Bacterial Isolates That Degrade Polyethylene Terephthalate Plastic. *Microbiology Resource Announcements*. 2019 Jun 20;8(25). pii: e00237-19. doi: 10.1128/MRA.00237-19.

Faber-Hammond, JJ, Coyle, KP, **Bacheller, SK, Roberts, CG,** Mellies, JL, Roberts, RB, and Renn, SCP. The intestinal environment as an evolutionary adaptation to mouthbrooding in the *Astatotilapia burtoni* cichlid. *FEMS Microbiol Ecol*. 2019 Mar 1;95(3).

- Mellies, JL, **Platenkamp, A, Osborn, J, and Ben-Avi, L.** PerC Manipulates Metabolism and Surface Antigens in Enteropathogenic *Escherichia coli*. *Frontiers in Cellular and Infection Microbiology*, 07 February 2017 | <https://doi.org/10.3389/fcimb.2017.00032>.
- Xue, Y, Osborn, J, Panchal, A,** and JL Mellies. 2015. The RpoE Stress Response Pathway Mediates Reduction of Enteropathogenic *Escherichia coli* virulence by Zinc. *Applied and Environmental Microbiology* **81**: 3766-3774.
- Winardhi, R, Gulvady, R, Mellies, JL, and Yan, Jie. 2014. Locus of Enterocyte Effacement-encoded Regulator (Ler) of Pathogenic *Escherichia coli* Competes Off Histone-like Nucleoid-structuring Protein (H-NS) through Noncooperative DNA Binding. *Journal of Biological Chemistry*. **289**: 13739-13750.
- Mellies JL, **Thomas K, Turvey M, Evans NR,** Crane J, Boedeker E, and Benison GC. 2012. Zinc-induced envelope stress diminishes type III secretion in enteropathogenic *Escherichia coli*. *BMC Microbiology*. Jun 24;**12** (1):123. [Epub ahead of print]
- Mellies, JL, Benison, **G, McNitt, W, Mavor, D,** Boniface, C, and Larabee, FL. 2011. Ler of Pathogenic *Escherichia coli* forms toroidal protein-DNA complexes. *Microbiology*. **157**: 1123-1133.
- Mellies, JL, Larabee, FL, **Zarr, MA, Horback, KL, Lorenzen, E** and **Mavor, D.** 2008. Ler interdomain linker is essential for anti-silencing activity in enteropathogenic *Escherichia coli*. *Microbiology*. **154**: 3624–3638.
- Mellies, JL, Haack, KR, and **DC Galligan.** 2007. SOS regulation of the type III secretion system of enteropathogenic *Escherichia coli*. *Journal of Bacteriology*. **189**: 2863-2872.
- Mellies, JL, **Barron, A,** Haack, KR, **Korson, AS,** and **D Oldridge.** 2006. The global regulator Ler is necessary for EPEC colonization of the *Caenorhabditis elegans*. *Infection and Immunity* **74**: 64-72.
- Haack KR, **CL Robinson, KJ Miller, JW Fowlkes** and JL Mellies. 2003. Interaction of Ler at the *LEE5* (*tir*) operon of Enteropathogenic *Escherichia coli*. *Infection and Immunity* **71**: 384-292.
- Mellies, JL, Navarro-Garcia, **F, Frederickson, J,** Nataro, JP and Kaper, JB. 2001. The *espC* pathogenicity island of enteropathogenic *E. coli* encodes an enterotoxin. *Infection and Immunity* **69**: 315-324.
- Sperandio, V, Mellies, JL, Delagay, RM, Frankel, G, Crawford, JA, Nguyen, W, and Kaper, JB. 2000. Activation of the enteropathogenic *E. coli* (EPEC) *LEE2* and *LEE3* operons by Ler. *Molecular Microbiology* **38**: 781-793.
- Elliott, SJ, Sperandio, V, Girón JA, Shin, Mellies, JL, Wainwright, L, Hutcheson, SW, McDaniel, T, and Kaper, JB. (2000) The locus of enterocyte effacement (LEE)-encoded regulator controls expression of both LEE- and non-LEE-encoded virulence factors in enteropathogenic and enterohemorrhagic *Escherichia coli*. *Infection and Immunity* **68**: 6115-6126.
- Sperandio, V, JL Mellies, W Nguyen, S Shin, and JB Kaper. 1999. Quorum sensing controls expression of the type III secretion gene transcription and protein secretion in enterohemorrhagic and enteropathogenic *Escherichia coli*. 1999. *Proceedings of the National Academy of Sciences USA* **96**:15719-15201.
- Mellies, JL, Elliott, S, Sperandio, V, Donnenberg, MS and Kaper, JB. 1999. The Per regulon of enteropathogenic *Escherichia coli*: identification of a regulatory cascade and a novel transcriptional

activator, the locus of enterocyte effacement (LEE)-encoded regulator, (Ler). *Molecular Microbiology* **33**: 296-306.

Elliott, S, Dubois, MS, Hutcheson, SW, Mellies, JL, Wainwright, WA, Batchelor, M, Frankel, G, Knutton, S, and Kaper, JB. 1999. Identification of CesT, a chaperone for the type III secretion of Tir in Enteropathogenic *Escherichia coli*. *Molecular Microbiology* **33**:1176-89.

Mellies, JL, Jose, J, and Meyer, TF. 1997. The *Neisseria gonorrhoeae* gene *aniA* encodes an inducible nitrite reductase. *Molecular and General Genetics* **256**: 525-532.

Mellies, JL, Rudel, T, and Meyer, TF. 1997. Transcriptional regulation of *pilC2* of *Neisseria gonorrhoeae*: Response to oxygen availability and evidence for growth phase regulation in *E. coli*. *Molecular and General Genetics*, **255**: 285-293.

Mellies, JL, Wise, A, and Villarejo, M. 1995. Two different *Escherichia coli proP* promoters respond to osmotic and growth phase signals. *Journal of Bacteriology* **177**: 144-151.

Mellies, JL, Brems, R, and Villarejo, M. 1994. The *Escherichia coli proU* promoter element and its contribution to osmotically signaled transcription activation. *Journal of Bacteriology* **176**: 3638-3645.

## Reviews

**Platenkamp, A**, and JL Mellies. 2018. Environment Controls LEE Regulation in Enteropathogenic *Escherichia coli*. *Frontiers in Microbiology*. *Frontiers in Microbiology* 2018 Jul 27;9:1694. doi: 10.3389/fmicb.2018.01694.

Mellies, JL, and **ER Lawrence-Pine**. 2010. Interkingdom signaling between pathogenic bacteria and *Caenorhabditis elegans*. *Trends in Microbiology* **18**: 448-454.

Mellies, JL, **Carmona, A**, and **AMS Barron**. 2007. Enteropathogenic and Enterohemorrhagic *Escherichia coli* Virulence Gene Regulation. MiniReview *Infection and Immunity* **75** 4199-4210.

## Book Chapters

Mellies, JL and **Lorenzen, E**. 2014. "EHEC virulence gene regulation" in V. Sperandio and C. Hovda (eds). Enterohemorrhagic *Escherichia coli*, ASM Press, Washington, D.C.

Mellies, JL, and **AMS Barron**. 6 June 2006, posting date. Chapter 8.9.1, Virulence Gene Regulation in *Escherichia coli*. In A. Böck, R. Curtiss III, J. B. Kaper, F. C. Neidhardt, T. Nyström, K. E. Rudd, and C. L. Squires (ed.), *EcoSal—Escherichia coli and Salmonella: cellular and molecular biology*. [Online.] <http://www.ecosal.org>. ASM Press, Washington, D.C.

Kaper, JB, Mellies, JL, and Nataro, JP. Chapter 3. "Pathogenicity Islands and Other Genetic Elements of Diarrheagenic *Escherichia coli*". In: J. Kaper, J. Hacker (eds) "Pathogenicity Islands and Other Mobile Virulence Elements" American Society for Microbiology, Washington, DC, 1999.

## Education

Bacterial Flagella Stain. Protocol published 2 September 2008, as part of the Atlas-Protocol Collection on the MicrobeLibrary.org curriculum resource website maintained by ASM.

<http://www.microbelibrary.org/about/index.asp?bid=1358>



## Patents

Title: Of Using Cannabinoids for Inhibiting Induction of Virulence in Enteric Pathogens. PCT Application No. 62980728 filed 24 February 2020.

Title: Bacterial Compositions and Methods of Polymer Degradation Using the Same. PCT Application No. 037522 filed 18 June, 2018.

Title: Using the *Caenorhabditis elegans* Infection Model to Develop Chemotherapeutic Agents Against Diarrheagenic *Escherichia coli*. Patent # 8216592, issued 10 July 2012.

## Meeting Abstracts

**Shingwekar, D, Kemp, H** and Mellies, JL. Two-Step Chemo-Microbial Degradation of Post-Consumer Poly(ethylene terephthalate) (PET) Enabled by a Biomass-Waste Catalyst. Presented at NW ASM Branch Meeting, Oregon Health & Science University, Portland, OR, November 10-11, 2023.

**Tarara, M** and Mellies, JL. Chemical Examination of the Degradation of Low-Density Polyethylene Plastic via a Consortium of Bacteria. Presented at NW ASM Branch Meeting, Oregon Health & Science University, Portland, OR, November 10-11, 2023.

**Shingwekar, D** and Mellies, JL. The Chemical Decomposition of PET Plastic for Enhanced Microbial Degradation. Presented at ANTEC 2023, Denver, CO, March 27-30, 2023.

**Tarara, M** and Mellies, JL. Bacterial Consortium Is Able to Utilize PVA and LDPE as Its Sole Carbon Source. Presented at NW ASM Branch Meeting, Gonzaga University, Spokane, WA, November 4-5, 2022.

**Ditter, R,** Edwards, S and Mellies, JL. Expression and Purification of Novel PETase EstB from Plastic Degrading Bacterial Consortium. Presented at ASM Microbe, Washington DC, June 9-13, 2022.

Edwards, Sabrina, Léon Zayas, and Mellies, JL. Pangenomic Analysis of an Environmental Bacterial Consortium Capable of Degrading Polyethylene Terephthalate (PET). Presented at ASM Microbe, Washington DC, June 9-13, 2022.

**Roberts, CG,** Léon Zayas, R, Swartz, N and Mellies, JL. Biodegradation of Polyethylene Terephthalate (PET) by *Pseudomonas* and *Bacillus* consortium. Presented at ASM Microbe, San Francisco, June 20-24, 2019.

**Novy, B,** Ellermann, M, Sperandio, V, and Mellies, J. Cannabidiol (CBD) Downregulates Virulence Factors in EHEC O157:H7. Presented at ASM Microbe, San Francisco, June 20-24, 2019.

**Garling, E, Cepko, L, Dinsdale, M, Bandy, L** and J Mellies. Turning a New Phage: A Myoviridae Isolate as a Potential Therapeutic Against EAEC and EPEC. Presented at the Molecular Genetics of Bacteria and Phages Meeting, University of Wisconsin, Madison, August 6-10, 2018.

**Platenkamp, A, Rader, J,** and JL Mellies. Mechanism of PerC Regulation in *Enteropathogenic Escherichia coli*. Presented at the 10th International Symposium on Shiga Toxin Producing *Escherichia coli* Infections, Florence, Italy, May 6-9, 2018.

**Miller, G,** and JL Mellies. *perABC*-mediated niche adaptation in EPEC. Presented at the Northwest Branch Meeting of the American Society for Microbiology, Pullman, Washington, Oct 13-14, 2017.

**McPherson, K**, Zhang, Y, Nan, X and JL Mellies. Creating a genetic tool for visualization of H-NS *in vivo*. Presented at the Northwest Branch Meeting of the American Society for Microbiology, Pullman, Washington, Oct 13-14, 2017.

**Hirata, K**, Zhang, Y, Nan, X and J Mellies. Ler's *In Vivo* Oligomerization in Pathogenic *Escherichia coli*. Presented General Meeting of the American Society for Microbiology, New Orleans, June 1-5, 2017.

**Cepko, L, Garling, E**, and J Mellies. The Age of Phage in Portlandia: Allopatric Isolation and Genomic Characterization of Siphoviridae Phage that kill *E. coli* pathotypes. Presented at the Molecular Genetics of Bacteria and Phages Meeting, University of Wisconsin, Madison, August 8-12, 2016.

Mellies, J, **Platenkamp, A, Ben-Avi, L, and J Osborn**. PerC Manipulates Metabolism and Surface Antigens in Enteropathogenic *Escherichia coli*. Presented at the Molecular Genetics of Bacteria and Phages Meeting, University of Wisconsin, Madison, August 8-12, 2016.

**Weinstein, J**, Yan, J, and JL Mellies. I48R substitution in the Ler Linker of Enteropathogenic *Escherichia coli* diminishes *in vivo* Activity. Presented General Meeting of the American Society for Microbiology, New Orleans, May 30-June 2, 2015.

**Xue, Y, Osborn, J**, and J Mellies. Molecular Mechanism of Zinc Disruption of Enteropathogenic *Escherichia coli* Pathogenesis. Presented at the Gordon Research Conference on Microbial Toxins & Pathogenicity, Waterville Valley, New Hampshire, July 20-25, 2014.

Mellies, J, **Lawrence-Pine, R, Gilbert, M, and Strominger, R**. The Plasmid-Encoded Regulator PerC stimulates central metabolism in enteropathogenic *E. coli*. To be presented at the General Meeting of the American Society for Microbiology, Denver, Colorado, May 18-21, 2013.

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Note: The names of current or former Reed students appear in **bold type**.