

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) https://www.reed.edu/biology/courses/bio463/syllabus.html	9/14-present
Microbiology Lecture and Laboratory (BIO 358) https://www.reed.edu/biology/courses/bio358/index.html https://2020.archive.moodle.reed.edu/course/view.php?id=3043	99-present
The Human Microbiome (BIO 431) Senior Seminar https://2020.archive.moodle.reed.edu/course/view.php?id=2225	F16 and F18
Bacterial Pathogenesis (BIO 431), Senior Seminar https://2020.archive.moodle.reed.edu/course/view.php?id=2724	99-present
Introductory Biology and Laboratory (Topics) (BIO 101/102), now 12 lectures/yr https://moodle.reed.edu/course/view.php?id=2509	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)

Willa Cantlon ('26)
Naina Sahay ('26)
Everett Wells ('26)
Molly Podolsky ('26)
Miranda Kubek ('26)
Audrey Mills ('26)
Cass Biles ('25)
Kate Mitchell ('25)
Chloe Hsy ('25)

Mia Gathright ('25)
 Patricio Palomino ('25)
 Madelyn Tarara ('25)
 Best Undergraduate Research Poster Presentation at the Northwest Branch Meeting of the ASM,
 Portland, Oregon, Nov 10-11, 2023
 Lucas Walker ('25)
 Josie Bicknell ('24)
 Reed Class of '21 Award
 Henry Jacques ('24)
 Harper Lethin ('24)
 Post Reed Opportunity Grant to present thesis research at the 8th World Congress on Targeting
 Phage Therapy, Berlin, Germany, June 10-11, 2025.
 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 ('22)
 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, 23,25
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

Visiting Assistant Professor of Biology	1/25
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
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, <i>Infection and Immunity</i>	1/17-present
Co-organizer with Georgiana Purdy (OHSU) of ASM NW Branch Meeting	Fall 2018
<i>Ad hoc</i> review <i>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</i>	
Section Editor, <i>Journal of Microbiology & Biology Education</i>	9/09-12/16
Tenure Review Haverford College, Harvey Mudd College, Colorado College, Saint Joseph's University, New Mexico State University, Rhodes College, Occidental College	
Reed Speakers Bureau <i>E. coli</i> disease associated with fresh produce, evolution of <i>E. coli</i> pathotypes. Talks given at Lincoln, Beaverton, Marshall, Madison and Riverdale High Schools in Portland, OR	03-present
Expert Participant, Everybody Reads An initiative aimed at advancing science literacy of adults, a partnership between OMSI and the Multnomah County Library	2/10

COMMUNITY GOVERNANCE

Member, Oregon Regional Campaign Committee for UC Davis Participated in the Expect Greater Capital Campaign by building community, discussing strategies, hosting regional events, and acknowledging donors. \$2.25 Billion raised.	6/18-10/24
Member, Foundation Board, Cleveland High School, Portland, OR Participant in fundraising activities to ensure adequate FTEs for reasonable class sizes and quality programs; President, 2012-2014	9/08-6/14

Member, Foundation Board, Educational Recreational Adventures, Portland, OR
A non-profit organization that fosters human development through science
and environmental education, outdoor skills instruction, outdoor adventures
and opportunities for ecological restoration

9/08-9/10

INVITED SPEAKING ENGAGEMENTS

University of Ljubljana, Slovenia, September 1, 2025
San Jose State University, Department of Biological Sciences, April 23, 2025
Murdock College Research Conference, Vancouver, WA, November 8, 2024
Lewis & Clark College, Department of Biology, Portland, OR, September 30, 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

Edwards S, Rice D, **Palomino P**, Newton I, and Mellies JL. Ancestral hydrocarbon metabolism enables PET degradation by a natural bacterial consortium. *mSystems*. 2026 Aug 21.
[doi:10.1128/msystems.00829-26](https://doi.org/10.1128/msystems.00829-26).

Tarara, M, **Ahuja, S.**, and Mellies, J.L. A Cytochrome P450 Facilitates Polyethylene Metabolism in a Microbial Community. *International Journal of Molecular Sciences*. 2025, 26, 8775.
<https://doi.org/10.3390/ijms26188775>

Shingwekar, D, **Lutz, N**, Botes, DS, Cabrera-Vega, EJ, **Campillo-Alvarado, G**, Mellies, JL, and **Loya, JD**. Polymorphism control of polyethylene terephthalate (PET) degradation product via mechanochemistry leads to accelerated microbial degradation. *RSC Mechanochemistry*. 2024 Issue 5.
<https://doi.org/10.1039/D4MR00060A>.

Bicknell, J, **Bondarenko, I**, **Colatrella, A**, Cabrera-Vega, EJ, **Loya, JD**, Botes, DS, Mellies, JL, and Gonzalo Campillo-Alvarado, G. Increased thermal stability and retained antibacterial properties in a sulbactam and amantadine salt: towards effective antibacterial–antiviral combination therapies. *RSC Pharmaceutics*. <https://doi.org/10.1039/D4PM00247D>.

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 Enterococcal *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: Bacterial Compositions and Methods of Polymer Degradation Using the Same. Issue date: April 29, 2025, as Patent No. 12,285,788.

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

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

Meeting Abstracts

Palomino, P, Brennan, L, and Mellies, JL. Studying the Synergy of PET- degrading Bacterial Consortia. Presented at the Murdock College Science Research Conference, Vancouver, WA, November 8 - 9, 2024.

Biles, C, and Mellies, JL. Determining crystal structure of novel PETase EstB and MHETase NlhH. Presented at the NW ASM Branch Meeting, Seattle, WA, November 9-19, 2024.

Walker, L, and Mellies, JL. Alternate hazelnut shell ash catalysis and optimization of two-step chemo-microbial polyethylene terephthalate (PET) degradation. Presented at the NW ASM Branch Meeting, Seattle, WA, November 9-19, 2024.

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 the 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.

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