

Curriculum Vitae

Elinor de Lancey Pulcini, B.S. PhD.

Assistant Research Professor, Medical Biofilms Laboratory, Center for Biofilm Engineering
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Education

1974 B.S. Biology, Chemistry, Chapman University, Orange, California

1975 Secondary School Teaching Certification

1988-1990 University of Montana, Yellow Bay Biological Station
Post Baccalaureate Studies

1996-2001 Montana State University-Bozeman
PhD. Microbiology with an emphasis in Engineering
Graduate Advisor: Dr. Anne Camper, Montana State University,
Center for Biofilm Engineering
Project: Effects of initial adhesion on the physiology of
Pseudomonas aeruginosa

Present Employment

Assistant Research Professor, Medical Biofilms Laboratory, Center for Biofilm Engineering Montana State University. 2004-present. The Medical Biofilm Laboratory (MBL) at the Center for Biofilm Engineering is a research and teaching laboratory that focuses on industrially-relevant medical research. The MBL is primarily supported by industrially-funded projects, such as the evaluation of medical devices and tissue samples for the presence of biofilms, testing of biofilm control strategies and evaluation of biomaterials and engineered devices for biofilm prevention. The goal of the MBL is to provide high quality custom biofilm research to industry, while providing a practical learning environment for students. Responsible for the management of testing projects sponsored by 48 different companies and has been responsible for the implementation of molecular and proteomic analytical methods in a number of these projects.

Instructor, Master's of Science for Science Educators (MSSE). 2001-present. Teach on line microbiology courses to High School and Junior High School Science Teachers. Teachers in the courses have been from all over the United States as well as from foreign countries including China, Mexico, Estonia, Okinawa and Japan. Courses taught: Microbial Genetics MB 541, Biofilms MB 591, Current Issues in Microbiology MB 591, Infection and Immunity MB 539, Applied and Environmental Microbiology MB 443.

Past Positions and Employment

High School Science Teacher. Orange County Unified School District, California. Taught High School Biology and Field Ecology. 1974-1980

English as a Second Language Instructor

Santa Ana Continuing Education, California: Taught English language and American culture to Laotian and South Vietnamese refugees. 1980-1983

Cambria English Institute, Los Angeles, California: Preparatory school for students of all nationalities to take the Test of English as a Foreign Language (TOEFL) Exam 1980-1983

Science Department Head, High School Science Teacher, Bigfork School District, Montana.

Taught High School Advanced Biology, Chemistry, and Montana Ecology. Also responsible for departmental lab safety and departmental budgets. 1983-1995

Coordinator. Industrial Problem Solving and Applied Research Experience Program. Montana State University. Worked with 10 desalinization engineers from Saudi Arabia regarding corrosion and biofouling issues. 1999

Post Doctoral Research. Montana State University- Bozeman, Department of Microbiology
Post-doctoral Advisor: Dr. Barry Pyle, Montana State University, Department of Microbiology (2001-2003). Project: Effects of microgravity on *Pseudomonas aeruginosa* virulence expression (NASA funded)

Post Doctoral Advisor: Tim Ford. PhD. (2003-2004)

Projects: 1. Microbial community analysis of New Bedford Harbor sediments
2. Examination of a hot water by-pass system for the presence of *Mycobacterium avium*

Honors

WG Characklis Memorial Award. Annual award presented to a graduate Student for contributions in research and leadership at the Center for Biofilm Engineering. 1999.

Recipient, Murdock Charitable Trust, Partners in Science. The Partners in Science Program is designed to pair a high school science teacher with a research scientist for two summers. As a high school science teacher in Bigfork, I worked with Dr. Gil Geesey at Montana State University on the up-regulation of alginate production by *Pseudomonas aeruginosa* in the presence of sub minimum inhibitory concentrations of ciprofloxacin. 1994-1995.

Publications

Peer-reviewed journal articles

Secor, PR, Jennings, LK, James, GA, Kirker, KR, **deLancey Pulcini, E**, McInnerney, K, Gerlach, R, Livinghouse, T, Hilmer, JK, Bothner, B, Fleckman, P, Olerud, JE, and Stewart, PS.

Phevalin (aureusimine B) Production by *Staphylococcus aureus* Biofilm and Impacts on Human Keratinocyte Gene Expression. PLoS One. 2012;7:e40973. Epub 2012 Jul 13

Woods, J., Boegli, L., Kirker, K.R., Agostinho, A., Durch, A.M., **de Lancey Pulcini, E.**, and James, G.A. 2011. Development and Application of a Polymicrobial in vitro Biofilm Model. Journal of Wound Care. 112:998-1006. 2012

Rickard AH, Colacino KR, Manton KM, Morton RI, **Pulcini E**, Pfeil J, Rhoads D, Wolcott RD, James G. Production of cell-cell signaling molecules by bacteria isolated from human chronic wounds. J Appl Microbiol. 2009

James G, Swogger E, Wolcott R, **deLancey Pulcini E**, Secor P, Sestrich J, Costerton JW, Stewart PS. Biofilms in Chronic Wounds. Wound Repair Regen. 16:37-44. 2008.

Garo E, Eldridge GR, Goering MG, **Pulcini ED**, Hamilton MA, Costerton JW, James GA. Asiatic Acid and Corosolic Acid Enhance the Susceptibility of *Pseudomonas aeruginosa* Biofilms to Tobramycin. Antimicrob Agents Chemother. 51:1813-7. 2007.

Hammer, S Broadaway, S.C., Mishra, V.B., Tripathi, A., Mishra, R.K., **Pulcini, E.**, Pyle, B.H., Ford, T.E., Isolation of potentially pathogenic *Escherichia coli* O157:H7 from the Ganges River. AEM. 73:2369-72. 2007.

Guadarrama, S., **de Lancey Pulcini, E.**, Broadaway, S.C. Pyle, B.H. Analysis of *Pseudomonas aeruginosa* growth and virulence in modeled microgravity J. Grav. Physiol. 12(1):P249-P250, 2005.

Guadarrama, S., **deLancey Pulcini, E.**, S.C. Broadaway, S.C. Pyle. B.H. *Pseudomonas aeruginosa* growth and production of Exotoxin A in static and modeled microgravity environments. Grav Space Biol 18(2):85-86. 2005

Guadarrama, S., **deLancey Pulcini, E.**, Broadaway, S. C., Pyle, B.H. Analysis of *Pseudomonas aeruginosa* Growth and Virulence in Modeled Microgravity. NASA Center: Ames Research Center Publication Date: July 2005 Document ID: 20060054373

Non-peer reviewed journal articles

- James, G.A., Agostinho, A.M., **deLancey Pulcini, E.** In Vitro Models for the Growth and Analysis of Chronic Wound Biofilms. *Advances in Wound Care*. 2010.
- Pulcini, E.** *Nephrologie*. Bacterial Biofilms: A Review of Current Literature. 2001. 22:439-441.
- Pulcini, E.** *Journal of the California Dental Association*. Biofilms: Sensing and Signaling. April 2001.

Book Chapters

- deLancey Pulcini, E.** James, G. Biofilms and device implants. In *Handbook of Applied Biomedical Microbiology: A Biofilms Approach*. Paulson, D. ed. CRC Press. 2009.
- James, G., Swogger, E., **deLancey Pulcini, E.** Microbial ecology of human skin and wounds. In *Biofilms and Device-Related Infections*. Shirtliff, M, Costerton, J.W. eds. Springer-Verlag Press. 2008

Posters and Presentations

Society for Healthcare Epidemiology of America (SHEA) 2011.

- 1) Antimicrobial-coated PICC Catheters in a Clinically Simulated Ovine Model (Pilot Study), Ryder,M.A., Gunther, R.A., Breznock, E.M., James, G.A., **deLancey Pulcini, E.**, Bickle.L.;
- 2) Differences in Bacterial Transfer and Fluid Path Colonization through Needlefree Connector-Catheter Systems In Vitro, Ryder, M., James, G.A., **deLancey Pulcini, E.**, Bickle,L., Parker, A.E. 2011.
- 3) Reduction of Extraluminal Bacterial Colonization Using Chlorhexidine Antimicrobial-coated PICC Catheters in a Clinically Simulated Ovine Model (Pilot Study), Ryder,M.A., Gunther, R.A., Breznock, E.M., James, G.A., **deLancey Pulcini, E.**, Bickle.L

Infusion Nurses Society (INS) Annual Convention. Antimicrobial-coated PICC Catheters in a Clinically Simulated Ovine Model (Pilot Study), Ryder,M.A., Gunther, R.A., Breznock, E.M., James, G.A., **deLancey Pulcini, E.**, Bickle.L. 2011

Biofilms 4 Conference, Winchester UK. The Inclusion of Anaerobic Isolates in Multi-species Continuous Culture Biofilm Model Systems Grown Under Aerobic Conditions for Evaluation of Treatment Efficacy. Agostinho, A, **de Lancey-Pulcini, E**, James, G.

Biofilms 2010. American Society for Microbiology. Poster: Differential protein expression in in-vitro biofilm models. Samuelson D, James GA, **deLancey-Pulcini, E**. 2010.

Medtronic, Inc., Spinal Division, Toronto, Canada. Invited speaker. Topic: Impact of Biofilms on Medical Devices. 2008.

Technical Advisory Committee Meeting. Center for Biofilm Engineering. Protein Expression in Biofilm Models. 2008 In vitro models of oral biofilm

American Society for Clinical Laboratory Science -Idaho Convention. Invited Speaker. Medical Biofilms. 2008.

Interscience Conference on Antimicrobial Agents and Chemotherapy 2008: S. Abdul Rani, B. Belisle, D. Khosrovi, C. Celeri, M. Bassiri, L. Bickle, **E. de Lancey-Pulcini**, G. James; In vitro Urinary Catheter Biofilm Models: A comparison of Foley Catheter and Drip Flow Reactor Models ICAAC poster 2008.

Biofilms 2008. American Society for Microbiology. Posters:

- 1) Production of Cell-Cell Signaling Molecules by Bacteria Isolated from Human Chronic Wound Biofilms. Colacino, K.R., Zander, K., **deLancey-Pulcini, E.**, Rhoads, D., Wolcott. R., Garth A. James, G.A., Rickard, A.H.
- 2) The Use of the Drip Flow Reactor as a Dental Biofilm Model System. **de Lancey-Pulcini, E**, James,G, Czechowski, M.

Technical Advisory Committee Meeting. Center for Biofilm Engineering. In vitro models of oral biofilm. 2007.

Technical Advisory Committee Meeting. Center for Biofilm Engineering. High Throughput Biofilm Screening. 2005.

American Society for Microbiology 104th General Meeting Posters: *Pseudomonas aeruginosa* virulence and proteomics in simulated weightlessness; Mycobacterium spp. In a Hot Water By-Pass System, May 2004

NASA Cell Science Conference Topic: Effects of Simulated Weightlessness on Growth, Physiology and Virulence of *Pseudomonas aeruginosa*. February 2003.

American Society for Microbiology 102nd General Meeting Poster: Proteomic Analysis of Variations in Protein Expression in *Pseudomonas aeruginosa* during Initial Adhesion. May 2002

The Montana Society for Clinical Laboratory Science: Invited Speaker. Topic: Biofilms. April 2002

Western States Conference for Lab Technicians: Invited Speaker. Topic: An Introduction to Biofilms. September 2001.

International Congress of Pediatric Nephrologists: Invited Speaker. Topic: Biofilms and Persistent Infection. September 2001.

Montpellier Symposium: Vascular Access for Hemodialysis. Invited Speaker, Topic: Biofilm Formation. February 2001

Biofilms 2000.American Society for Microbiology. Topic: The Biofilm Phenotype: Differential Gene Expression. July 2000.

Technical Advisory Committee Meeting. Center for Biofilm Engineering. Topic: Variations in protein expression during initial adhesion: A proteomics approach. February 2000.

Technical Advisory Committee Meeting. Center for Biofilm Engineering. Topic: Effects of initial adhesion events on the physiology of *Pseudomonas aeruginosa*. July 1999.

Cells at Interfaces Symposium. American Chemical Society. Topic: Effects of initial adhesion events on the physiology of *Pseudomonas aeruginosa*. April 1997.

Professional Society Membership
American Society for Microbiology

Editorial
Biofouling, Peer reviewer
Journal of Wound Care, Peer reviewer

Volunteer Activities

Eagle Mount. Bozeman Montana. Ski Program. Ski with disabled skiers. 2005 to present
Special Olympics. Montana. Assist disabled ski participants during Winter Special Olympics.