BIOGRAPHICAL SKETCH

NAME: Erickson, David

POSITION TITLE: Associate Professor of Microbiology and Molecular Biology

EDUCATION/TRAINING

| INSTITUTION AND LOCATION | DEGREE  (if applicable) | Completion Date  MM/YYYY | FIELD OF STUDY |
| --- | --- | --- | --- |
| University of Lethbridge, Lethbridge AB Canada | BS | 05/1999 | Biochemistry |
| University of Calgary, Calgary AB Canada | Ph.D. | 08/2003 | Bacterial Pathogenesis |
| NIH/NIAID, Rocky Mountain Laboratories, Hamilton MT | Visiting fellow | 08/2006 | Bacterial Pathogenesis |

**A. Personal Statement**

My lab studies host-bacterial interactions. We have expertise in dissecting the molecular mechanisms that Gram-negative bacteria employ in overcoming the innate immune defenses of their hosts. We are heavily focused on teaching and involvement of undergraduates in research. Our research group has significant history working to uncover *Yersinia* virulence mechanisms. We recently expanded our focus to include extraintestinal pathogenic *E. coli* from a variety of sources and have made significant progress in identifying features that define these poorly understood pathotypes. This ongoing work will uncover mechanisms used by extraintestinal *E. coli* to colonize and cause disease in multiple species.

**B. Positions**

**Positions and Employment**

1998-1999 Research associate, Agriculture Canada, Lethbridge, AB Canada

1999-2003 Graduate student, University of Calgary, Calgary, AB Canada

2003-2006 Postdoctoral fellow, Rocky Mountain Laboratories (NIH/NIAID)

2006-2012 Assistant Professor, Brigham Young University

2012-present Associate Professor, Brigham Young University

**C. Publications**

**Erickson D.L.**, Endersby R., Kirkham A., Stuber K., Vollman D.D., Mitchell I., Rabin H.R., and Storey D.G. 2002. *Pseudomonas aeruginosa* quorum-sensing systems may control virulence factor expression in the lungs of patients with cystic fibrosis. Infect. Immun.**70**:1783-1790. PMID: 11895939

**Erickson D.L.**, Nsereko V.L., Morgavi D.P., Selinger L.B., Rode L.M., and Beauchemin K.A. 2002. Evidence of quorum sensing in the rumen ecosystem: detection of N-acyl homoserine lactone autoinducers in ruminal contents. Can J Microbiol **48**:374-378 PMID: 12030712

**Erickson D.L.**, Lines L.J., Pesci E.C., Venturi V., and Storey D.G. 2004. The *Pseudomonas aeruginosa relA* contributes to virulence in *Drosophila*. Infect. Immun. **72**:5638-5645. PMID: 1538546

**Erickson D.L.**, Jarrett C.O., Wren B.W., Hinnebusch B.J. 2006. Serotype differences and lack of biofilm formation characterize *Y. pseudotuberculosis* infection of the *Xenopsylla cheopis* flea vector of *Yersinia pestis*. J. Bacteriol. **188**:1113-1119 PMID: 16428415

**Erickson D.L.**, Waterfield N.R., Vadyvaloo V., Long, D., Fischer E.R.., Ffrench-Constant R.H., Hinnebusch B.J. 2007. Acute oral toxicity of *Yersinia pseudotuberculosis* towards *Xenopsylla cheopis*:

implications for the evolution of flea-borne transmission of *Yersinia pestis*. Cell. Microbiol. **9**:2658-66 PMID: 17587333

**Erickson D.L**., Jarrett C.O., Callison J.A., Fischer E.R., Hinnebusch B.J.. 2008. Loss of a biofilm- inhibiting glycosyl hydrolase during the emergence of *Yersinia pestis*. J. Bacteriol. **190**:8163-70. PMID: 18931111

**Erickson D.L.** and Hinnebusch B.J. 2008. *Yersinia pestis* biofilm in the flea vector and its role in the transmission of plague. Curr. Top. Microbiol. Immunol. 322:229-48 PMID: 18453279

**Erickson D.L**. Anderson N.A., Cromar L.M., Jolley A. 2009. Bacterial Communities Associated with Flea Vectors of *Yersinia pestis*. J. Med. Entomol. **46**:1532-1536 PMID 19960708

Vogt S.L., Green C., Stevens K.M., Day B., **Erickson D.L**., Woods D.E. and Storey D.G. 2011. The stringent response is essential for *Pseudomonas aeruginosa* virulence in the rat lung agar bead and *Drosophila melanogaster* feeding models of infection. Infect. Immun. **79**:4094-104 PMID: 21788391

**Erickson D.L.**, Russell C.W., Johnson K.L., Hileman T., Stewart R.M. 2011.PhoP and OxyR transcriptional regulators contribute to *Yersinia pestis* virulence and survival within *Galleria mellonella*. Microbial Pathogenesis **51**:389-95 PMID: 21964409

Zhou W., Johnson K.L., Mortensen R.D, **Erickson D.L.** 2012.Gene expression analysis of *Xenopsylla cheopis* fleas suggests a role for reactive oxygen species in response to *Yersinia pestis* infection. J. Med. Entomol 49(2):363-70 PMID 22493856

Pallister KB, Mason S, Nygaard TK, Liu B, Griffith S, Jones J, Linderman S, Hughes M, **Erickson D**, Voyich JM, Davis MF, Wilson E. 2015. Bovine CCL28 Mediates Chemotaxis via CCR10 and Demonstrates Direct Antimicrobial Activity against Mastitis Causing Bacteria.PLoS One 10(9):e0138084. PMID: 26359669

**Erickson DL**, Lew CS, Kartchner B, Porter NT, McDaniel SW, Jones NM, Mason S, Wu E, Wilson E. 2016. Lipopolysaccharide Biosynthesis Genes of *Yersinia pseudotuberculosis* Promote Resistance to Antimicrobial Chemokines. PLoS One 11(6):e0157092. PMID: 27275606

Hoffman JM, Sullivan S, Wu E, Wilson E, **Erickson DL**. 2017. Differential impact of lipopolysaccharide defects caused by loss of RfaH in *Yersinia pseudotuberculosis* and *Yersinia pestis*. Sci Rep. 7(1):10915. PMID: 28883503

Olson MA, Siebach TW, Griffitts JS, Wilson E, **Erickson DL.** 2018. Genome-wide identification of fitness factors in mastitis-associated *Escherichia coli*. Appl Environ Microbiol 84(2):e02190-17 PMID: 29101196

Schachterle J.K., Stewart R.M., Schachterle M.B., Calder J.T., Kang H., Prince J.T. and **Erickson D.L.** 2018. *Yersinia pseudotuberculosis* BarA-UvrY Two-Component Regulatory System Represses Biofilms via CsrB. Front Cell Infect Microbiol. 8:323 PMID: 30280093

Carlson S., Erickson D.L. and Wilson E. *Staphylococcus aureus* Metal Acquisition in the Mastitic Mammary Gland. Microbial Pathogenesis (submitted)