

Sonia L. Bardy, Ph.D.

Assistant Professor
Biological Sciences
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Professional

2009 – present

Assistant Professor
Department of Biological Science
University of Wisconsin – Milwaukee

2004 – 2009

Post-Doctoral Fellow/Research Investigator
Department of Molecular, Cellular, and Developmental
Biology. University of Michigan
Advisor: Janine Maddock, Ph.D.

2006/2007

Lecturer I
Molecular Biology (MCDB 427)
Molecular, Cellular, and Developmental Biology. University
of Michigan

Education

1999-2004

Ph.D., Microbiology and Immunology
Queen's University Kingston, Ontario
Advisor: Ken Jarrell, Ph.D.

1995-1999

B.Sc. (Honors) Microbiology
University of Guelph, Guelph, Ontario

Peer Reviewed Publications

Ketelboeter, LM and **Bardy, SL**. NTBC treatment increases sensitivity of pyomelanin hyperproducing strains of *Pseudomonas aeruginosa* to oxidative stress. *In preparation*.

Riddell GT, Potharla, VY, and **Bardy, SL**. The periplasmic domain of PilJ impacts cAMP regulation and twitching motility, but not directional twitching. *In preparation*.

Bardy SL, Hosking E, Walker A, Strahler J, Andrews P, and Maddock J. DamX is a novel septal protein, and overexpression delays cell division likely through interference with septal peptidoglycan processing. *In preparation*.

Feriancikova L, **Bardy SL**, Wang L, Ki J, and Xu S. (2013) Effects of outer membrane protein TolC on the transport of *Escherichia coli* within saturated quartz sands. *Environ Sci Technol*. 47(11):5720-8. PMC3705718

Walczak JJ, Wang L, **Bardy SL**, Feriancikova L, Li J, and Xu S. (2012) The effects of starvation on the transport of *Escherichia coli* in saturated porous media are dependent

on pH and ionic strength. *Colloids and Surfaces B: Biointerfaces*. 90: 129-136. PMC3229032

Walczak JJ, **Bardy SL**, Feriencikova L, and Xu S. (2011) Transport of *Escherichia coli* isolated from Lake Michigan in saturated porous media: Influence of tetracycline resistance. *Water, Air and Soil Pollution*. 222 (1-4): 305-314. PMC3223934

Walczak JJ, **Bardy SL**, Feriencikova L, Xu S. (2011) Influence of Tetracycline Resistance on the Transport of Manure-derived *Escherichia coli* in Saturated Porous Media. *Water Research*. 45(4): 1681-90. PMC3030193

Bardy SL and Maddock JR. (2007) Polar explorations: Recent insights into the polarity of bacterial proteins. *Curr. Opin. Microbiol.* 10(6): 617-23.

Bardy SL and Maddock JR. (2005) Polar localization of a soluble MCP of *Pseudomonas aeruginosa*. *J. Bacteriol.* 187(22): 7840-7844.

Voisin S, Houliston RS, Kelly J, Brisson JR, Watson D, **Bardy SL**, Jarrell KF and Logan SM. (2005) Identification and characterization of the unique N-linked glycan common to the flagellins and S-layer glycoprotein of *Methanococcus voltae*. *J. Biol. Chem.* 280(17): 16586-93.

Bardy SL, Ng SYM, Carnegie D and Jarrell KF. (2005) Site-directed mutagenesis analysis of amino acids critical for activity of the type I signal peptidase of the archaeon *Methanococcus voltae*. *J. Bacteriol.* 187(3): 118-91

Bardy SL, Ng SYM, and Jarrell KF. (2004) Recent advances in the structure and assembly of the archaeal flagellum. *J. Mol. Microbiol. Biotechnol.* 7: 41-51

Bardy SL and Jarrell KF. (2003) Cleavage of preflagellins by an aspartic acid signal peptidase is essential for flagellation in the archaeon *Methanococcus voltae*. *Mol. Microbiol.* 50(4): 1339-47.

Bardy SL, Eichler J, and Jarrell KF. (2003) Archaeal signal peptides – a comparative survey at the genome level. *Protein Sci.* 12(9):1833-43.

Bardy SL, Ng SY, and Jarrell KF. (2002) Prokaryotic motility structures. *Microbiology*. 149: 295-304.

Bardy SL, Mori T, Komoriya K, Aizawa SI, and Jarrell KF. (2002) Identification and localization of the flagellins FlaA and FlaB3 of *Methanococcus voltae*. *J. Bacteriol.* 184(19): 52223-33.

Bardy SL, and Jarrell KF. (2002) FlaK of the archaeon *Methanococcus maripaludis* possesses preflagellin peptidase activity. *FEMS Microbiol. Lett.* 208(1): 53-59.

Thomas NA, **Bardy SL**, and Jarrell KF. (2001) Archaeal flagella: A different kind of prokaryotic motility structure. *FEMS Microbiol. Rev.* 25(2): 147-174.

Conlan JW, **Bardy SL**, KuoLee R, Webb A, and Perry M. (2001). Ability of *Escherichia coli* O157:H7 isolates to colonize the intestinal tract of conventional adult CD1 mice is transient. *Can. J. Microbiol.* 47(1): 91-95.

Research Grants

NIH R00 Pathway to Independence Award: Spatial organization of chemotaxis systems in *Pseudomonas aeruginosa*. S. Bardy (09/09 – 08/13)

NIH K99 Pathway to Independence Award: Spatial organization of chemotaxis systems in *Pseudomonas aeruginosa*. S. Bardy and J. Maddock. (12/07-08/09)

Awards and Honors

2012	Wisconsin Research Fellow
2010	Graduate School Research Fellow
2009-2012	NIH R00 Pathway to Independence Award Recipient (4R00GM083147-03)
2007-2009	NIH K99 Pathway to Independence Award Recipient (1K99GM083147-01)
2006	Sponsored Attendee of NSF ADVANCE Workshop (Rice University)
2005-2007	Natural Sciences and Engineering Research Council of Canada Post-Doctoral Fellowship.
2004	Delise Teaching Assistant Award (Co-recipient)
2004	Canadian Society of Microbiologists Graduate Student of the Year (First Runner-up)
2003	Cedarlane Canadian Society of Microbiologists Student Award
2002– 2004	Natural Sciences and Engineering Research Council of Canada Post-graduate Scholarship B
1999- 2003	Queen's University Graduate Awards
2002	ASM Student Travel Award
2001	Ontario Graduate Scholarship
2001	Huntly Macdonald Sinclair Travelling Scholarship
2000	Microbix Award
2000	R. Samuel McLaughlin Fellowship
1999	Dean's Canadian Visible Minority Award

Invited Lectures

Signal transduction through Chp pathway of *Pseudomonas aeruginosa*. Department of Microbiology and Immunology, Georgetown University. Washington, DC. November 13, 2012.

Mathematical Biology/Dynamic Systems seminar series: Modeling methylation and chemotaxis in *Pseudomonas aeruginosa*. Department of Mathematics, University of Wisconsin-Milwaukee. November 20, 2009.

Bacterial Polarity: How do they know where to put things? Milwaukee Microbiology Society. Great Lakes Water Institute, Milwaukee, WI. November 11, 2009.

Polar explorations: spatial sequestration of bacterial proteins. Department of Biological Sciences. University of Wisconsin- Milwaukee. Milwaukee WI. Feb 5, 2009

Polar explorations: spatial sequestration of bacterial proteins. University of Massachusetts. Amherst, MA. January 8, 2009.

Polar explorations: spatial sequestration of bacterial proteins. Biology Department, University of Regina. Regina, Canada. November 24, 2008.

Polar explorations: spatial sequestration of bacterial proteins. Department of Biology, Indiana State University. Terra Haute Indiana. November 13, 2008.

Localization of Chemotaxis Proteins in *Pseudomonas aeruginosa*. Department of Life Sciences, University of Toronto at Scarborough, Toronto Ontario. February 1, 2006.

Soluble methyl-accepting chemotaxis proteins in *Pseudomonas aeruginosa*. Department of Microbiology and Immunology, Queen's University, Kingston Ontario. April 27, 2005.

Genetic and biochemical analysis of archaeal flagella. Division of Biological Sciences, Nagoya University, Nagoya Japan. June 14, 2001.

Genetic and biochemical analysis of archaeal flagella, ERATO, Kyoto Japan. June 10, 2001.

Abstracts (2009 – Present)

Ketelboeter, LM and **Bardy, SL**. 2012. Effects of NTBC and antimicrobials on pyomelanin producing strains of *Pseudomonas aeruginosa*. Midwest Microbial Pathogenesis Meeting. Milwaukee, WI.

Riddell GR, Potharla VY, and **Bardy SL**. 2012. PilJ is required for regulation of twitching motility and cAMP, but not directional twitching. American Society of Microbiology 112th Annual General Meeting. San Francisco, California.

Ketelboeter LM, Bach JC, Medvedev, AM, and **Bardy SL**. 2011. Methylation mechanisms of chemotaxis proteins in *Pseudomonas aeruginosa*. American Society of Microbiology 111th Annual General Meeting. New Orleans, Louisiana.

Bardy SL, Evans M, and Maddock JR. 2009. Identification of DamX, a novel cell division protein. Presented at the American Society of Microbiology 109th Annual General Meeting. Philadelphia, Pennsylvania.

Teaching

BioSci 535	Pathogenic Bacteriology	UWM	2013
BioSci 383	General Microbiology	UWM	2012-2013
BioSci 925	Molecular and Cell Biology	UWM	2010-2011
BioSci 101	General Survey of Microbiology	UWM	2010
MCDB 427	Molecular Biology	UM	2006-2007

Graduate Student Supervision

Laura Ketelboeter (PhD)
Vibhuti Jansari (PhD)
Jesse Reinhardt (PhD)

Graduate Committee Membership

Aishwarya Shevade (PhD committee)
Kristen Bertling (PhD committee)
Lanlan Han (PhD committee)
Surashree Kulkarni (PhD committee)
Shubhajit Mitra (PhD committee)
Sampada Kharade (PhD committee)
Kenneth Brockman (PhD committee)

Undergraduate Trainees

Sept 2013- Present Zachery Kunkel, University of Wisconsin-Milwaukee
Jan 2013 -Present Steven Pavlik, University of Wisconsin-Milwaukee
Jan 2011-Jan 2013 Geoff Riddell, University of Wisconsin-Milwaukee
2008 John Brooks, University of Michigan
2004 – 2006 Kate Essad, University of Michigan

Professional Activities

Departmental Service

2010 – Present Colloquium Committee
2011 – Present Publicity and Awards

University Service

2011 – Present Economic Benefits Committee (Co-chair)

Professional

Referee

Central European Journal of Biology

Editor

Open Journal of Molecular Medicine