

Curriculum Vitae

Rebecca L. Sparks-Thissen

Assistant Professor of Biology
Wabash College
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Academic appointments:

- 2006-present **Assistant Professor**, Department of Biology, Wabash College, Crawfordsville, IN
- 2004-2006 **Assistant Professor**, Department of Biology, Grinnell College, Grinnell IA
- Fall 2003 **Instructor**, Department of Biology, Washington University, St. Louis, MO

Education and Training:

- 2000-2004 **Washington University School of Medicine**, St. Louis, MO
Postdoctoral fellow, Department of Pathology and Immunology
Advisor: Dr. Herbert Virgin IV
Role of T cells in maintenance and establishment of murine gammaherpesvirus-68 latency.
- 1994- 2000 **Princeton University**, Princeton, NJ
Ph.D., Department of Molecular Biology
Advisor: Dr. L.W. Enquist
Modulation of MHC class I molecules by pseudorabies virus.
- 1990-1994 **Massachusetts Institute of Technology**, Cambridge, MA
S.B., Department of Biology
Advisor: Dr. H.L. Sive
Characterization and identification of retinoic acid receptors during *Xenopus laevis* development.

Teaching experience:

- 9/06-present **Assistant Professor**, Wabash College, Crawfordsville, IN
Introductory Biology
Cell Biology
Microbiology
Immunology
Senior Seminar
 host-virus interactions, bacteriophage replication
Human Biology (non-majors)
The Science of Biology (non-majors)
Cultures and traditions
Enduring questions
- 8/04-5/06 **Assistant Professor**, Grinnell College, Grinnell, IA
Immunology
Cells, molecules and organisms
Introduction to experimental biology –The many lives of
viruses
- 9/03-12/03 **Instructor**, Washington University in St. Louis, St. Louis, MO
Methods in DNA manipulation
- 6/96-1/97 **Teaching assistant**, Princeton University, Princeton, NJ
Viruses: strategies and tactics
- 2/96-5/96 **Teaching assistant**, Princeton University, Princeton, NJ
Introduction to molecular biology
- 9/92-5/93 **Freshman Advisor**, Massachusetts Institute of Technology,
Cambridge, MA

Peer Reviewed Publications (*= undergraduate co-authors):

1. Joseph Merkley*, Andrew Gilman*, Zachary Westrick* and **Rebecca L. Sparks-Thissen** (2011) The cellular gene, yhiM, is necessary for efficient replication of the bacteriophages T4 and T7, manuscript in preparation
2. Tuan Nguyen * and Rebecca L Sparks-Thissen (2011) The inner membrane protein yhiM is necessary for E. coli survival in acidic conditions, manuscript in preparation
3. **Rebecca L. Sparks-Thissen**, Douglas C. Braaten, Kai Hildner, Theresa Murphy, Kenneth Murphy and Herbert W. Virgin, 2005, CD4 T cell mediated control of gammaherpesvirus infection requires interferon gamma, *Virology* 338:201-208

4. Douglas C. Braaten, **Rebecca L. Sparks-Thissen**, Scott Kreher, Samuel H. Speck, and Herbert W. Virgin IV, 2005, An optimized CD8 T cell response controls latent and productive gammaherpesvirus infection, *Journal of Virology* 79: 2573-2583
5. **Rebecca L. Sparks-Thissen**, Douglas C. Braaten, Scott Kreher, Samuel H. Speck, and Herbert W. Virgin IV, 2004, An optimized CD4 T cell response can control latent and productive gammaherpesvirus infection. *Journal of Virology* 78: 6827-6835
6. **R.L. Sparks-Thissen** and L.W. Enquist, 1999, Differential regulation of D^k and K^k MHC class I proteins on the cell surface after infection of murine cells with pseudorabies virus, *Journal of Virology* 73: 5748-56

Abstracts Presented at Scientific Meetings (*= undergraduate co-authors)

1. A. Gilman*, T Nguyen*, J. Merkley*, **R.L. Sparks-Thissen** (2011) The cellular protein yhiM mediates efficient attachment of T4 and T7 bacteriophages to the cell surface of *E. coli*. American Society of Microbiology. New Orleans, LA
2. Z. Westrick*, J. Merkley*, **R. L. Sparks-Thissen*** (2010). The role of the cellular protein, yhiM, in bacteriophage replication in *E. coli*. American Society for Virology. Bozeman, MT. Selected for oral presentation.
3. J. Sparks*, J. Merkley*, N. Rockfeller* and **R.L. Sparks-Thissen** (2009) Identification of cellular proteins necessary for bacteriophage replication in *E.coli*, American Society for Microbiology, Philadelphia, PA
4. **Rebecca L Sparks-Thissen** and H.W. Virgin, 2004, CD4 T cells control gammaherpesvirus infection independent of CD8 T cells or B cells, Keystone Symposium on Immunity to Chronic Infections, Taos, NM
1. **Rebecca L. Sparks-Thissen**, Scott Krueher, Samuel Speck and Herbert W. Virgin IV, 2003, Control of γ -herpesvirus infection by CD4 T cells independent of CD8 T cells or B cells, American Society for Virology, Davis, CA (oral presentation)
2. **Rebecca L.Sparks-Thissen**, Doug Braaten, Samuel Speck, Herbert W. Virgin IV. 2002 Control of γ HV68 infection by CD4 T cells. FASEB, New Orleans, LA
3. **R.L. Sparks-Thissen** and L.W. Enquist 1999, Differential regulation of MHC class I alleles after infection with pseudorabies virus. 24th International Herpesvirus Workshop, Boston, MA
4. **R.L. Sparks-Thissen** and L.W. Enquist. 1998, Allele-specific regulation of MHC class I by pseudorabies virus. 23rd International Herpesvirus Workshop, York, England.
5. **R.L. Sparks-Thissen** and L.W. Enquist. 1997 Allele-specific regulation of MHC class I by pseudorabies virus 22nd International Herpesvirus Workshop, La Jolla, CA.

Undergraduate research presentations

1. James Fuller, Zachary Wegerman, Nick Vitko and **Rebecca Sparks-Thissen**, 2005 Isolation and Characterization of Mutant *Escherichia coli*, Pew Midstates Consortium Undergraduate Research Symposia, St Louis, MO
2. Joseph Merkely and **Rebecca Sparks-Thissen**, 2008, Bacteriophage attachment to *E. coli* is attenuated in the absence of yhiM. Celebration of undergraduate research, Wabash College
3. Justin Sparks and **Rebecca Sparks-Thissen**, 2008, The Rep138 element is important for T4 replication in *E. coli*. Celebration of undergraduate research, Wabash College
4. Nicholas Rockefeller, Justin Sparks and **Rebecca Sparks-Thissen**, 2009, Transposon insertion in between *ruvB* and *znuB* in *E. coli* results in resistance to T4 bacteriophage infection. Celebration of undergraduate research, Wabash College
5. Joseph Merkely and **Rebecca Sparks-Thissen**, 2009, Bacteriophage attachment to and lysis of *E. coli* is attenuated in the absence of yhiM. Celebration of undergraduate research, Wabash College
6. Zachary Westrick, Joseph Merkely and **Rebecca Sparks-Thissen** 2010, Construction of a yhiM expression construct to study the role of yhiM in replication of bacteriophages in *E. coli*. Indiana Branch American Society for microbiology
7. Tuan Nguyen and **Rebecca Sparks-Thissen**, 2011, yhiM is required for acid resistance in *Escherichia Coli*, Undergraduate Research Celebration, Wabash College
8. Andrew Gilman and **Rebecca Sparks-Thissen**, 2011, Role of yhiM in T4 bacteriophage attachment and growth in *E. coli*, Undergraduate Research Celebration, Wabash College
9. Tuan Nguyen and **Rebecca Sparks-Thissen**, 2011, yhiM is required for acid resistance in *Escherichia Coli*, Indiana Branch American Society for Microbiology (selected for oral presentation)

Honors and awards:

2001	American Heart Association postdoctoral fellowship
2003	American Society for Virology travel award
2010	American Society for virology travel award

Committee membership

2007-present	Community Service Committee (chair)
2007- 2010	Undergraduate Research Celebration committee

2008-2010 Academic Policy committee
 2008-present Quality of Life committee
 2008-2010 Pkal committee on interdisciplinary learning
 2010- present Lilly scholarship committee
 2010-present Child care committee
 2011-present CUR/NSF undergraduate research committee

Other professional activities:

2005 Attendee, Pew midstates consortium workshop for new faculty
 2006 Reviewer, Recombinant DNA, 3rd edition
 2007 Guest lecturer, ENG 410, Academic and professional writing
 2007 Biology department seminar series coordinator
 2007 HHMI division 1 grant committee
 2008 Chair, student presentations, Indiana Branch, American Society for Microbiology
 2008 Attendee, American Society for Microbiology Council for Undergraduate Education (first time attendee award)
 2009 Indiana representative to general council, American Society for Microbiology
 2009 Panelist, Workshop on reading and teaching, Teaching and Learning group, Wabash College
 2009 Faculty mentor
 2009 Guest lecturer, Crawfordsville High School, Honors biology and Pre-health classes
 2010 Participant, Introductory Biology Project
 2010 Advisory Board, Microbiology, Willey and Sons
 2010 President-elect, Indiana Branch, American Society for Microbiology
 2011 Biology Department seminar series coordinator

Memberships in professional societies:

2010-present American Society for Virology
 2004- present American Society for Microbiology
 2006-present Indiana Branch, American Society for Microbiology
 2001- present American Association of the Advancement of Science