

Curriculum Vitae - current November, 2011

STEPHEN TOBIAS ABEDON

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Microbial Ecology and Evolutionary Ecology

Phage Evolutionary Ecology (adaptation & optimization)
Phages and Spatial Structure (plaques & biofilms)
Phage Therapy (especially pharmacology)

Bacteriophage Ecology Group (www.phage.org and www.archaealviruses.org)
#1 Google ranking for “[phage ecology](#)” and “[bacteriophage ecology](#)”
generally ≥ 8 of top 10 Google hits for those searches are pages I’m associated with

Contents/synopsis: [Education](#), [Professional experience](#), [Honors](#),
[Monographs](#) (1), [Edited volumes](#) (3), [Peer-reviewed publications](#) (20), [Editor-reviewed articles](#) (10), [Journal articles \(not peer reviewed\)](#) (3), [Book chapters](#) (17), [Encyclopedia articles](#) (5), [Conference proceedings](#) (2), [Portions of book chapters](#) (2), [Invited talks](#) (>30), [Additional publications including online](#) (25), [Web sites and web pages](#) (5),
[Notable service](#), [Consulting](#), [Courses taught](#)

<http://tinyurl.com/abedon-amazon-author-page>
<http://www.archaealviruses.org/abedon/>

EDUCATION

- | | |
|------|---|
| 1990 | <ul style="list-style-type: none">• Ph.D. University of Arizona• Major: Microbiology (molecular genetics conc.)• Minor: Ecology and Evolutionary Biology• Dissertation title: <i>The Ecology of Bacteriophage T4</i>• Research advisor: Harris Bernstein, Ph.D. |
| 1984 | <ul style="list-style-type: none">• BS University of Massachusetts at Amherst• Major: Biochemistry |

PROFESSIONAL EXPERIENCE

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|--------------|---|
| 2001-present | <ul style="list-style-type: none">• Associate Professor• Department of Microbiology; The Ohio State University |
| 1995-2001 | <ul style="list-style-type: none">• Assistant Professor• Department of Microbiology; The Ohio State University |
| 1993-1995 | <ul style="list-style-type: none">• NIH Post-Doctoral Trainee• Dept. Microbiology, U. of Pennsylvania; Lab. of Robert W. Doms• Immunogenic characterization of HIV-1 transmembrane protein |
| 1990-1993 | <ul style="list-style-type: none">• Research Associate• Dept. Microbiol. & Immunol., U. of AZ; Lab. of Harris Bernstein |

- Characterization and genetic analysis of T4 bacteriophage lysis
- 1992-1993 • **Computer Software Development**
- MicroDude Computer Software, sole proprietorship, Tucson, AZ
- Application development—Borland Turbo Pascal compiler
- 1990 • **Research Assistant**
- Dept. Microbiol. & Immunol., U. of AZ; Lab. of John Spizizen
- Plasmid curing of an industrial strain of *Bacillus thuringiensis*

HONORS—Awards, Grants, Merit-Based Support, etc.

- 2010 • Quoted in *Nature Reviews Microbiology* editorial (8:610).
- 2008 • Awarded extramural grant as PI, “Analysis of the Advancements in Bacteriophage Therapies for Use in Clinical and Veterinary Applications,” by Battelle National Biodefense Institute, 9 months for \$72,658.58 (including overhead).
- 2008 • Awarded intramural grant as co-PI (Jeff LeJeune, PI), Identification of microbiological factors that suppress *E. coli* O157 in livestock bedding, two years for \$16,600 (my share).
- 2004 • \$12,000 awarded for intramural industry matching grant, jointly funded by OSU OARDC-RECGP and Infectech Inc.: Sreevatsan S., Abedon, S.T. Isolation and Characterization of *Mycobacterium avium* subspecies *paratuberculosis*.
- 2003 • \$15,000 awarded for development of honors Microbial Evolution course by OSU Honors and Scholars Center (10 of 26 proposals were funded)
- 2002-2003 • Office of International Affairs (OSU) Faculty Int. Research Travel Grant (\$1,500)
- 2001 • Abedon *et al.* (2001) featured in Nov., 2001 (Vol. 67) Journal Highlights section of *ASM News*.
- 2000 • Review of website (www.phage.org) in 13 Oct., 2000, issue of *Science*.
- 1999-2000 • Mansfield-campus professional-development grant (\$1000)
- 1999 • Book-jacket “blurb” of Bill Summers' book *Felix d'Herelle and the Origins of Molecular Biology* for Yale University Press
- 1996-1997 • Competitive O.S.U. intramural seed grant (\$16,385)
- 1993-1995 • NIH post-doctoral training grant
- 1986-1990 • NIH pre-doctoral training grant
- 1985-1986 • Department-based pre-doctoral fellowship
- 1984-1985 • Department-based tuition-waiver



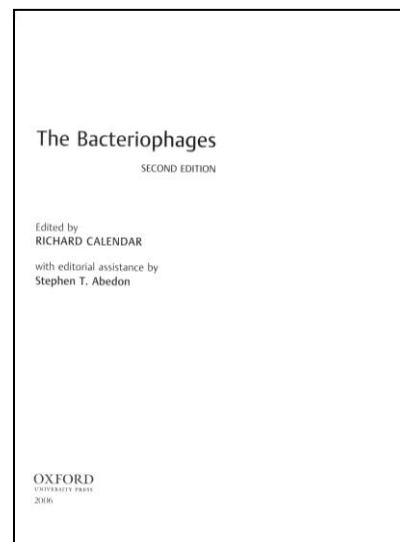
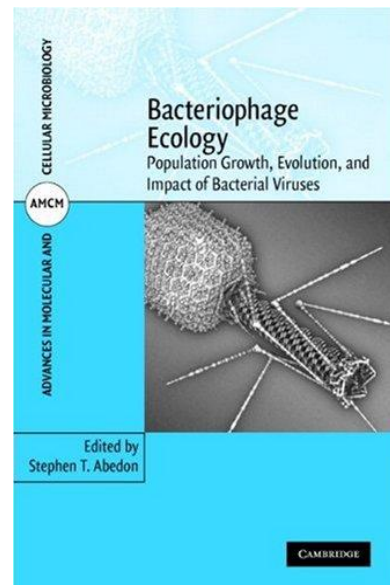
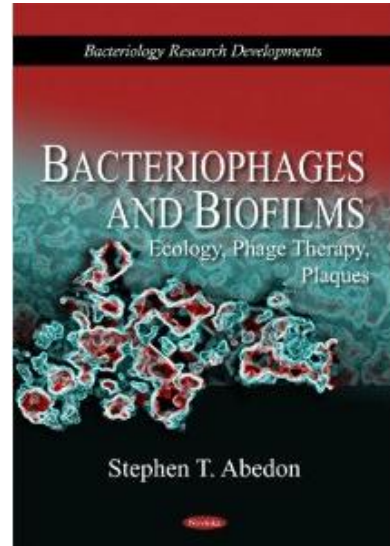
- 1984 • Graduated *cum laude*, Phi Beta Kappa
- 1981 • CRC inorganic chemistry award

MONOGRAPHS & TEXTBOOKS (coding: **accepted/in press, submitted, in preparation**)

- 1) **Abedon, S. T.** (drafted and currently being taught from, Bio 101). *Biology as Poetry: A Slightly Irreverent Guide to the Basics of Understanding the Biological World.*
- 2) **Abedon, S. T.** (drafted and taught from twice, Micro h669). *Microbes and Evolution: An Introduction to Microbial Evolution.*
- 3) **Abedon, S. T.** (sole author) (2011). *Bacteriophages and Biofilms: Ecology, Phage Therapy, Plaques.* Nova Science Publishers, Hauppauge, New York. www.novapublishers.com/catalog/product_info.php?products_id=18072

EDITED VOLUMES

- 1) Hyman, P., **Abedon, S. T.** (editors) (currently receiving chapters from authors). *Bacteriophages in Health and Disease*, CABI Press
- 2) **Abedon, S. T.** (editor) (2010). Special topics issue on “The ‘Nuts and Bolts’ of Phage Therapy” *Current Pharmaceutical Biotechnology* 11(1) (six-article review of phage therapy plus introductory editorial; follow links: <http://www.bentham.org/cpb/contabs/cpb11-1.htm>)
- 3) **Abedon, S. T.** (editor) (2008). *Bacteriophage Ecology: Population Growth, Evolution, and Impact of Bacterial Viruses.* Cambridge University Press. (see tinyurl.com/yuld7y for publisher’s page) books.google.com/books?id=gtPZsPXBBqIC
- 4) Calendar, R. (editor), **Abedon, S. T.** (acknowledged on title page as “with editorial assistance by”) (2006). *The Bacteriophages*, 2nd edition. Oxford University Press. (review of all of phagology; see www.thebacteriophages.org for chapters and list of contributors) (see publisher’s page via tinyurl.com/236epn, or go to www.thebacteriophages.org) books.google.com/books?id=nozn1K8tcRsC



PUBLICATIONS—Peer-Reviewed

- 0) **Summary:** 21 peer-reviewed articles, *sensu stricto*, including 19 sole, first, or corresponding authorships (16 since receiving tenure); 12 editor-reviewed articles, for 11 of which I am first, sole, or corresponding author (11 since receiving tenure); >25 “other” including chapters (17 plus 3 which are in preparation), non-peer-reviewed articles (3), and encyclopedia articles (5, one of which is a duplicate plus 1 which is in preparation), for all but two of which I am first, sole, or corresponding author (all but 3 since receiving tenure); 1 single-authored monograph; and 3 edited volumes (with another in preparation; all since receiving tenure). See also www.ncbi.nlm.nih.gov/pubmed?term=abedon as well as [www.ncbi.nlm.nih.gov/pubmed?term="Abedon ST"\[Author\]](http://www.ncbi.nlm.nih.gov/pubmed?term=) (which contains 22 entries) and [www.ncbi.nlm.nih.gov/pubmed?term="Abedon S"\[Author\]](http://www.ncbi.nlm.nih.gov/pubmed?term=) (which contains 1 entry for me).
- 1) **Curtright, A. J., Abedon, S. T.*** (accepted). Phage Therapy: Emergent Property Pharmacology. *Journal of Bioanalysis & Biomedicine*. (Andrew is an OSU undergraduate who worked under my supervision; he came up with the general theme, generated the original outline, and contributed substantially to the writing)
- 2) **Abedon, S.T.** (2012). Bacterial ‘Immunity’ against Bacteriophages. *Bacteriophage* 2(1):???-???
- 3) **Abedon, S. T.**, Kuhl, S., Blasdel, R., Kutter, E. M.* (2011). Phage Treatment of Human Infections. *Bacteriophage* 1(2): 66-85. (invited review; responsible for writing ~50%) www.landesbioscience.com/journals/bacteriophage/article/15845
- 4) **Abedon, S. T.** (2011). Size Does Matter – Distinguishing Bacteriophages by Genome Length (and ‘Breadth’). *Microbiology Australia* 32(2):90-91.
- 5) Loc-Carrillo, C., **Abedon, S. T.*** (2011). Pros and Cons of Phage Therapy. *Bacteriophage* 1(2):111-114. (commentary; conception, initial drafting, and >50% of writing is mine) www.landesbioscience.com/journals/bacteriophage/article/14590
- 6) **Abedon, S. T.** (2011). Lysis from Without. *Bacteriophage* 1(1):46-49. (commentary) www.landesbioscience.com/journals/bacteriophage/article/13980
- 7) **Abedon, S. T.** (2009). Kinetics of Phage-Mediated Biocontrol of Bacteria. *Foodborne Pathogens and Disease* 6:807-815. (theoretical analysis) www.ncbi.nlm.nih.gov/pubmed/19459758
- 8) Goodridge, L., **Abedon, S. T.*** (2008). Bacteriophage-Mediated Biocontrol of Bacterial Pathogens: Applications and Recent Regulatory Developments in the United States. *Microbiology Australia* 29(March):48-49. (invited review; ~15% of effort is mine)
- 9) **Abedon, S. T.***, Culler, R.R. (2007). Bacteriophage Evolution Given Spatial Constraint. *Journal of Theoretical Biology* 248:111-119. (*in silico* study; Ms. Culler is an OSU-Mansfield undergraduate who worked under my supervision) www.ncbi.nlm.nih.gov/pubmed/17561124
- 10) Dennehy, J., **Abedon, S. T.**, Turner, P. E.* (2007). Host Density Impacts Relative Fitness of Bacteriophage $\phi 6$ Genotypes in Structured Habitats. *Evolution* 61:2516-2527 (experimental study; ~10% of effort is mine, especially the microcolony physiology post-hoc explanation) www.ncbi.nlm.nih.gov/pubmed/17725627
- 11) **Abedon, S. T.***, Culler, R. R. (2007). Optimizing Bacteriophage Plaque Fecundity. *Journal of Theoretical Biology* 249:582-592. (theoretical study; Ms. Culler worked under my supervision) www.ncbi.nlm.nih.gov/pubmed/17919662

- 12) **Abedon, S. T.**^{*} and LeJeune, J. T. (2005). Why Bacteriophage Encode Toxins and other Virulence Factors. *Evolutionary Bioinformatics* 1:97-110. (synthesis; ~90% of effort is mine) www.ncbi.nlm.nih.gov/pubmed/19325857
- 13) LeJeune, J. T.^{*}, **Abedon, S. T.**, Takemura, K., Christie, N. P. Sreevatsan, S. (2004). Human *Escherichia coli* O157:H7 Genetic Marker in Isolates of Bovine Origin. *Emerging Infectious Diseases* 10(8):1482-1485. (molecular study; ~15% of effort is mine, consisting entirely of intellectual support) www.ncbi.nlm.nih.gov/pubmed/15496255, www.cdc.gov/ncidod/EID/vol10no8/03-0784.htm
- 14) **Abedon, S. T.**^{*}, Hyman, P., Thomas, C. (2003). Experimental Examination of Latent-Period Evolution as a Response to Bacterial Availability. *Applied and Environmental Microbiology* 69:7499-7506. (whole-organismal experimentation with ecological analysis; ~90% of effort was mine; Ms. Thomas worked under my supervision)[†] www.ncbi.nlm.nih.gov/pubmed/14660403
- 15) **Abedon, S. T.**^{*}, Herschler, T. D., Stopar, D. (2001). Bacteriophage Latent-Period Evolution as a Response to Resource Availability. *Applied and Environmental Microbiology* 67:4233-4241. (*in silico* study with some experimental corroboration; ~75% of effort was mine; Mr. Herschler worked under my supervision)[‡] www.ncbi.nlm.nih.gov/pubmed/11526028
- 16) **Abedon, S. T.** (1999). Bacteriophage T4 Resistance to Lysis-Inhibition Collapse. *Genetical Research*. 74:1-11. (whole-organismal genetic analysis) www.ncbi.nlm.nih.gov/pubmed/10505404
- 17) Paddison, P., **Abedon, S. T.**, Dressman, H., Gailbreath, K., Mosser, E., Neitzel, J., Guttman, B., Kutter, E.^{*} (1998). Lysis Inhibition and Fine-Structure Genetics in Bacteriophage T4. *Genetics* 148:1539-1550. (molecular and whole-organismal genetic analysis; ~25% of effort was mine; I contributed intellectually plus contributed half of the figures) www.ncbi.nlm.nih.gov/pubmed/9560373
- 18) Broder, C.C., Earl, P. L., Long, D., **Abedon, S. T.**, Moss, B.^{*}, Doms, R. W. (1994). Antigenic Implications of HIV-1 env Quaternary Structure. *Proceedings of the National Academy of Science USA* 91:11699-11703. (molecular study; perhaps 5% of effort is mine; I contributed one figure) www.ncbi.nlm.nih.gov/pubmed/7972127
- 19) **Abedon, S. T.** (1992). Lysis of Lysis-Inhibited Bacteriophage T4 Infected Cells. *Journal of Bacteriology* 174:8073-8080. (whole-organismal study) www.ncbi.nlm.nih.gov/pubmed/1459956
- 20) **Abedon, S. T.** (1990). Selection for Lysis Inhibition in Bacteriophage. *Journal of Theoretical Biology* 146:501-511. (theory paper) www.ncbi.nlm.nih.gov/pubmed/2273898
- 21) **Abedon, S. T.** (1989). Selection for Bacteriophage Latent Period Length by Bacterial Density: A Theoretical Examination. *Microbial Ecology* 18:79-88. (*in silico* study) www.springerlink.com/content/13gt5263142p4645/



[†] recommended Faculty of 1000 Biology, www.f1000biology.com/article/id/1007193/evaluation

[‡] featured in Nov., 2001 (Vol. 67) Journal Highlights section of *ASM News*

PUBLICATIONS—Editor-Reviewed Articles

- 22) Chan, B. K., **Abedon, S. T.*** (2012). Phage Therapy Pharmacology: Phage Cocktails. *Advances in Applied Microbiology* 78:??-??.
- 23) **Abedon, S.**§ (2011). Phage Therapy Pharmacology: Calculating Phage Dosing. *Advances in Applied Microbiology*. 77:1-40. www.ncbi.nlm.nih.gov/pubmed/22050820
- 24) **Abedon, S. T.** (2011). Envisaging Bacteria as Phage Targets. *Bacteriophage* 1(4): 228-230. www.landesbioscience.com/journals/bacteriophage/article/17281/
- 25) **Abedon, S. T.** (2011). Facilitation of CRISPR Adaptation. *Bacteriophage* 1(3):179-181. www.landesbioscience.com/journals/bacteriophage/article/16709/
- 26) **Abedon, S. T.***, Thomas-Abedon, C., Thomas, A., Mazure, H. (2011). Bacteriophage Prehistory: Is or is not Hankin, 1896, a Phage Reference? *Bacteriophage* 1(3): 174-178. www.landesbioscience.com/journals/bacteriophage/article/16591/
- 27) **Abedon, S. T.** (2011). Communication among Phages, Bacteria, and Soil Environments. *Soil Biology* 23:37-65. (a.k.a., *Biocommunication of Soil Microorganisms*, G. Witzany, ed, Springer-Verlag, Heidelberg) (~10,000 words, excluding references) www.springer.com/life+sciences/ecology/book/978-3-642-14511-7
- 28) Hyman, P.* , **Abedon, S. T.** (2010). Bacteriophage Host Range and Bacterial Resistance. *Advances in Applied Microbiology* 70:217-248. (STA was invited but PH took care of submission; ~14,000 words, excluding references; ~50% effort is mine) www.ncbi.nlm.nih.gov/pubmed/20359459
- 29) **Abedon, S. T.***, Yin, J. (2009). Bacteriophage Plaques: Theory and Analysis. *Methods in Molecular Biology* 501:161-174. [also: In: *Bacteriophages: Methods and Protocols*, Clokie M., Kropinski, A. (eds), Humana Press, USA] (invited chapter—this is a review of techniques for studying phage growth within spatially structured environments; ~4,500 words, excluding references; ~60% of effort is mine) www.ncbi.nlm.nih.gov/pubmed/19066821
- 30) Hyman, P., **Abedon, S. T.*** (2009). Practical Methods for Determining Phage Growth Parameters. *Methods in Molecular Biology* 501:175-202. [also: In: *Bacteriophages: Methods and Protocols*, Clokie M., Kropinski, A. (eds), Humana Press, USA] (invited article—this essentially is a review of techniques of phage organismal characterization; ~9,500 words, excluding references; ~50% of effort is mine) www.ncbi.nlm.nih.gov/pubmed/19066822
- 31) **Abedon, S. T.** (2009). Phage Evolution and Ecology. *Advances in Applied Microbiology* 67:1-45. (invited article; ~12,000 words, excluding references) www.ncbi.nlm.nih.gov/pubmed/19245935
- 32) Gill, J., **Abedon, S. T.*** (2003). Bacteriophage Ecology and Plants. *APSnet Feature*, November 2003, www.apsnet.org/publications/apsnetfeatures/Pages/BacteriophageEcology.aspx (invited review; ~5,000 words, excluding references; ~50% effort was mine)



§ The middle initial is missing in this publication.

- 33) Goodridge, L., **Abedon, S. T.*** (2003). Bacteriophage Biocontrol and Bioprocessing: Application of Phage Therapy to Industry. *SIM News (Society for Industrial Microbiology News)* 53(6):254-262. (invited review; ~50% of effort is mine)
- 34) **Abedon, S. T.** (2000). The Murky Origin of Snow White and Her T-even Dwarfs. *Genetics* 155:481-486. (historical perspective) www.ncbi.nlm.nih.gov/pubmed/10835374

PUBLICATIONS—Journal articles, but not peer reviewed

- 35) **Abedon, S. T.** (2010). The ‘Nuts and Bolts’ of Phage Therapy. *Current Pharmaceutical Biotechnology* 11(1):1. (editorial for special topic issue) <http://www.ncbi.nlm.nih.gov/pubmed/20214603>
- 36) **Abedon, S. T.***, Thomas-Abedon, C. (2010). Phage Therapy Pharmacology. *Current Pharmaceutical Biotechnology* 11(1):28-47. (~15,000 words excluding references; Thomas-Abedon contributed while working under my supervision) www.ncbi.nlm.nih.gov/pubmed/20214606
- 37) **Kutter, E.***, De Vos, D., Gvasalia, G., Alavidze, Z., Gogokhia, L., Kuhl, S., Abedon, S. T. (2010). Phage Therapy in Clinical Practice: Treatment of Human Infections. *Current Pharmaceutical Biotechnology* 11(1):69-86. (~14,000 words excluding references; ~20% of effort is mine) www.ncbi.nlm.nih.gov/pubmed/20214609

PUBLICATIONS—Book Chapters

- 38) **Abedon, S.T.** (accepted). Phage Therapy Best Practices. In: *Bacteriophages in Health and Disease*. Hyman, P., Abedon, S. T. (eds), CABI Press, Oxford.
- 39) **Abedon, S. T.** (accepted). Bacteriophages as Drugs: The Pharmacology of Phage Therapy. In: *Phage Therapy: Current Research and Applications*. Borysowski, J., Międzybrodzki, R., Górski, A. (eds), Caister Academic Press, ???. (review; ~16,000 words excluding refs)
- 40) **Chan, B. K., Abedon, S. T.*** (in press). Bacteriophage Adaptation, with Particular Attention to Issues of Phage Host Range. In: *Bacteriophages in Dairy Processing*. Quiberoni, A., Reinheimer, J. (eds), Nova Science Publishers, Hauppauge, New York, ???-??? (review; ~13,000 words)
- 41) **Abedon, S. T.** (2010). Bacteriophages and Biofilms. In: *Biofilms: Formation, Development and Properties*. Bailey, W. C. (ed), Nova Science Publishers, Hauppauge, New York, 1-58 (conceptual piece; peer reviewed; ~20,000 words, excluding references) https://www.novapublishers.com/catalog/product_info.php?products_id=21940
- 42) **Abedon, S. T.** (2009). Bacteriophage Intraspecific Cooperation and Defection. In: *Contemporary Trends in Bacteriophage Research*. Adams, H. T. (ed), Nova Science Publishers, Hauppauge, New York, pp. 191-215. (conceptual piece; peer reviewed; ~11,000 words, excluding references) books.google.com/books?id=wdZPPQAACAAJ
- 43) **Abedon, S. T.** (2009). Impact of Phage Properties on Bacterial Survival. In: *Contemporary Trends in Bacteriophage Research*. Adams, H. T. (ed), Nova Science Publishers, Hauppauge, New York, pp. 217-235. (conceptual piece; peer reviewed; ~6,500 words, excluding references) books.google.com/books?id=wdZPPQAACAAJ
- 44) **Abedon, S. T.** (2009). Deconstructing Chemostats Towards Greater Phage-Modeling Precision. In: *Contemporary Trends in Bacteriophage Research*. Adams, H. T. (ed), Nova Science Publishers, Hauppauge, New York, pp. 249-283. (theoretical and *in silico* study;

- peer reviewed; ~12,000 words, excluding references)
books.google.com/books?id=wdZPPQAACAAJ
- 45) **Abedon, S. T.** (2009). Disambiguating Bacteriophage Pseudolysogeny: An Historical Analysis of Lysogeny, Pseudolysogeny, and the Phage Carrier State. In: *Contemporary Trends in Bacteriophage Research*. Adams, H. T. (ed), Nova Science Publishers, Hauppauge, New York, 285-307 (conceptual piece; peer reviewed; ~7,500 words, excluding references) books.google.com/books?id=wdZPPQAACAAJ
 - 46) **Abedon, S. T.** (2008). Phages, Ecology, Evolution. In: *Bacteriophage Ecology*, Abedon, S. T. (ed), Cambridge University Press, Cambridge, pp. 1-28. (self-invited chapter; ~13,500 words including references) books.google.com/books?id=gtPZsPXBBqIC
 - 47) **Abedon, S. T.** (2008). Phage Population Growth: Constraints, Games, Adaptations In: *Bacteriophage Ecology*, Abedon, S. T. (ed), Cambridge University Press, Cambridge. pp, 64-93. (self-invited chapter; ~10,500 words including references) books.google.com/books?id=gtPZsPXBBqIC
 - 48) **Abedon, S. T.** *, Yin, J. (2008). Impact of Spatial Structure on Phage Population Growth. In: *Bacteriophage Ecology*, Abedon, S. T. (ed), Cambridge University Press, Cambridge, pp. 94-113. (self-invited chapter; ~8,000 words including references; ~60% of effort is mine) books.google.com/books?id=gtPZsPXBBqIC
 - 49) Hyman, P. *, **Abedon, S. T.** (2008). Phage Ecology of Bacterial Pathogenesis. In: *Bacteriophage Ecology*, Abedon, S. T. (ed), Cambridge University Press, Cambridge, pp. 353-385. (self-invited chapter; ~9,000 words, excluding references; ~40% of effort is mine) books.google.com/books?id=gtPZsPXBBqIC
 - 50) Stopar, D., **Abedon, S. T.** * (2008). Modeling Phage Population Growth. In: *Bacteriophage Ecology*, Abedon, S. T. (ed), Cambridge University Press, Cambridge, pp. 389-414. (self-invited chapter; ~8,000 words, excluding references; ~50% of effort is mine) books.google.com/books?id=gtPZsPXBBqIC
 - 51) Krone, S. M. *, **Abedon, S. T.** (2008). Modeling Phage Plaque Growth. In: *Bacteriophage Ecology*, Abedon, S. T. (ed), Cambridge University Press, Cambridge, pp. 415-438. (self-invited chapter; ~9,000 words, excluding references; ~50% of effort is mine) books.google.com/books?id=gtPZsPXBBqIC
 - 52) **Abedon, S. T.** (2006). Phage Ecology. In: *The Bacteriophages*. Second Edition. Calendar, R., Abedon, S. T. (eds), Oxford University Press, Oxford, pp. 37-46. (invited chapter; ~5,000 words, excluding references) books.google.com/books?id=nozn1K8tcRsC
 - 53) Brietbart, M., Rohwer, F., **Abedon, S. T.** * (2005). Phage Ecology and Bacterial Pathogenesis. In: *Phages: Their Role in Bacterial Pathogenesis and Biotechnology*. Waldor, M., Friedland, D., Ahdya, S. (eds), ASM Press, Washington, DC, pp. 66-91. (invited chapter; ~10,000 words, excluding references; ~50% of effort is mine) www.google.com/books?id=rneYX9h99VwC
 - 54) **Abedon, S. T.** (1994). Lysis and the Interaction Between Free Phages and Infected Cells. In: *The Molecular Biology of Bacteriophage T4*. Karam, J. D., Drake, J. W., Kreuzer, K. N., Mosig, G., Hall, D., Eiserling, F. A., Black, L. W., Kutter, E., Carlson, K., Miller, E. S., Spicer, E. (eds), ASM Press, Washington, DC, pp. 397-405. (invited chapter; ~7,000 words)

PUBLICATIONS—Encyclopedia Articles

- 55) **Abedon, S. T.**, Bartom, E.* (2012?). Multiplicity of Infection. *Brenner's Encyclopedia of Genetics*. Maloy, S., Hughes, K. (eds). Academic Press (I wrote the majority of this entry)
- 56) **Abedon, S. T.**, Bartom, E.* (2012?). Plaques. *Brenner's Encyclopedia of Genetics*. Maloy, S., Hughes, K. (eds). Academic Press (I wrote the majority of this entry)
- 57) Blasdel, B. G., **Abedon, S. T.*** (2012?). Superinfection immunity. *Brenner's Encyclopedia of Genetics*. Maloy, S., Hughes, K. (eds). Academic Press (Bob Blasdel wrote much of this while working under my supervision)
- 58) Hyman, P., **Abedon, S. T.*** (2009). Bacteriophage (Overview). *Encyclopedia of Microbiology*. Schaechter, M. (ed). Elsevier, Oxford, pp. 322-338. (invited entry; ~12,000 words, excluding references; ~50% of effort is mine)
- 59) Hyman, P., **Abedon, S. T.*** (2009). Bacteriophage (Overview). *Desk Encyclopedia of Microbiology*. Schaechter, M. (ed). Elsevier, Oxford, pp. 166-182. (this is a republishing of Hyman and Abedon, 2009, *Encyclopedia of Microbiology*)
www.elsevier.com/wps/find/bookdescription.cws_home/719291/description#description
- 60) **Abedon, S. T.**, Duffy, S., Turner, P. E.* (2009). Bacteriophage Ecology. *Encyclopedia of Microbiology*. Schaechter, M. (ed), Elsevier, Oxford, pp. 42-57. (invited entry; ~10,500 words; 60% of effort is mine, i.e., I was the primary writer)
- 61) **Abedon, S. T.** (2008). Ecology of Viruses Infecting Bacteria. In: *Encyclopedia of Virology*, Mahy, B., van Regenmortel, M. (eds). Elsevier, Oxford, pp. 71-77. (invited entry; ~5,000 words, excluding references).
www.elsevier.com/wps/find/bookdescription.cws_home/714029/description#description
- 62) **Abedon, S. T.***, Breitenberger, C. A., Williams, J. B., Roden, E. E. (2008). Ecological Processes: Respiration. *Encyclopedia of Ecology*. Jørgensen, S. E., Fath, B. D. (eds). Elsevier, Oxford, pp. 3010-3020. (invited entry; ~6,500 words, excluding references; ~40% of effort is mine) www.elsevierdirect.com/brochures/ecology/index.html

PUBLICATIONS—Conference proceedings

- 63) Doms, R. W.* , **Abedon, S. T.**, Richardson, T. M. (1995). Viral Membrane Proteins as Tools to Study Protein Folding, Assembly, and Transport. *Trafficking of Intracellular Membranes: Molecular Sorting to Membrane Fusion*. M.C. Pedrosa de Lima, N. Düzgüneş, D. Hoestra (eds). NATO-ASI Series, Subseries H, Springer Verlag Vol. 91, p. 171-186.

PUBLICATIONS—Portions of Book Chapters

- 64) **Abedon, S. T.** (2008). Rate of adsorption is function of phage density (appendix to chapter by L. D. Goodridge: Phage, bacteria, and food). In: *Bacteriophage Ecology*, Abedon, S. T. (ed), Cambridge University Press, Cambridge. pp. 321-324 (of 302-331) (~1000 words)
- 65) **Abedon, S. T.** (1997). Addendum (re: “The Cult of the Golden Ratio”). In: *Weird Water & Fuzzy Logic: More Notes of a Fringe Watcher*. Gardner, M. (author), Prometheus Books, pp. 96-97. (reprinted letter)

INVITED TALKS

- | | |
|------|--|
| 2011 | • Miami University, Oxford, OH |
| 2011 | • Evergreen International Phage Meeting, Olympia, WA |

- 2010 • Arizona State University, Tempe, AZ
- 2009 • Evergreen International Phage Meeting, Olympia, WA
- 2008 • Omnilytics, Salt Lake City, UT
- 2008 • Ashland University, Ashland, OH
- 2008 • Int. Symp. Biological Control Bacterial Plant Diseases, Orlando, FL
- 2008 • University of South Florida, Tampa, FL
- 2008 • University of Leicester, Leicester, England
- 2008 • Institute of Biochemistry and Biophysics, Warsaw, Poland
- 2008 • Catholic University of Leuven, Leuven, Belgium
- 2008 • Pasteur Institute, Paris, France
- 2008 • Teagasc Moorepark Biotechnology Centre, (near) Cork, Ireland
- 2008 • Yale University, New Haven, CT
- 2007 • Soc. for Gen. Microbiol. meeting, Edinburgh (opening talk of symposium)
- 2007 • Bowling Green State University, Bowling Green, OH
- 2007 • Evergreen International Phage Meeting, Olympia, WA
- 2007 • Foundation Les Treilles meeting, (near) Nice, France
- 2007 • Cleveland Natural History Museum, Cleveland, OH
- 2005 • International conference on phage therapy, Tbilisi, Georgia
- 2005 • Evergreen International Phage Meeting, Olympia, WA
- 2004 • Eliava Institute, Tbilisi, Georgia
- 2003 • Evergreen International Phage Meeting, Olympia, WA (opening talk)
- 2001 • Ohio Medical College, Toledo, OH
- 2001 • Evergreen International Phage Meeting, Olympia, WA
- 2000 • University of Ljubljana, Ljubljana, Slovenia
- 2000 • Millennial Phage Meeting, Montreal, CA
- 2000 • Ben Gurion University of the Negev, Beersheba, Israel
- 1999 • Evergreen International Phage Meeting, Olympia, WA
- 1997 • Evergreen International Phage Meeting, Olympia, WA
- 1995 • Evergreen International Phage Meeting, Olympia, WA
- 1995 • The Ohio State University, Columbus, OH

PUBLICATIONS—Other (including online) [SERVICE]

- 1) **Abedon, S.T.** (2009). Bacteriophages (phages). (knol.google.com/k/stephen-t-abedon/bacteriophages-phages/3m1do6ac1ny5g/1)
- 2) **Abedon, S.T.** (2007). Phage Meetings. *BEG News* 26. (editorial)
- 3) Duffy, S. *, **Abedon, S.T.** (2007). The Development of Plaques and the Mechanism of Phage Action in Solidified Agar. Translation (from German) of Mayr-Harting, A. (1958). Die Entwicklung von Phagenloechern und der mechanismus der Phagenwirkung in festen Naehrboeden. *Zentralblatt für Bakteriologie, Parasitenkunde, Infektionskrankheiten und Hygiene. 1. Abt., Originale* 171:380-392. *BEG News* 26.

- 4) Hyman, P. *, **Abedon, S.T.** (2007). W.W.C. Topley and the “Missing” Phage Reference. *BEG News* 26.
- 5) **Abedon, S.T.** (2006). Phage Ecology on Wikipedia. *BEG News* 25. (editorial)
- 6) **Abedon, S.T.** (2005). Phage Books — Phage T-Shirt. *BEG News* 23. (editorial/bibliography)
- 7) **Abedon, S.T.** (2005). *BEG News*, the Final Quarterly Issue. *BEG News* 24. (editorial)
- 8) **Abedon, S.T.** (2004). ASM Conference on the New Phage Biology. *BEG News* 19. (editorial)
- 9) **Abedon, S.T.** (2004). Early (pre-1950) Phage References. *BEG News* 19. (bibliography)
- 10) **Abedon, S.T.** (2004). The Bacteriophage Literome – Part I. *BEG News* 22. (editorial)
- 11) **Abedon, S.T.** (2004). The Cyanophage Literome. *BEG News* 22. (bibliography)
- 12) **Abedon, S.T.** (2003). Some Recent Phage and Phage-Related Patents. *BEG News* 17. (bibliography)
- 13) **Abedon, S.T.** (2002). Mathematics for Microbiologists. *BEG News* 11. (editorial)
- 14) **Abedon, S.T.** (2002). Calling a Phage a “Phage”. *BEG News* 13. (editorial)
- 15) **Abedon, S.T.** (2001). How Big is 10^{30} ? *BEG News* 7. (essay)
- 16) **Abedon, S.T.** (2001). The Bacteriophage Rise. *BEG News* 10. (editorial)
- 17) **Abedon, S.T.** (2000). Bacteriophages as Model Systems. *BEG News* 3. (editorial)
- 18) **Abedon, S.T.** (2000). Lytic, Lysogenic, Temperate, Chronic, Virulent, Quoi? *BEG News* 5. (editorial)
- 19) **Abedon, S.T.** (2000). Which Ecology are You? *BEG News* 6. (editorial)
- 20) **Abedon, S.T.** (1999). BEG: What are We, Where are We, and Where We’re Going. *BEG News* 1. (editorial)
- 21) **Abedon, S.T.** (1999). When Grown *In Vitro*, do Parasites of Multicellular Organisms (MOPs) become Unicellular Organism Parasites (UOPs)? *BEG News* 2. (editorial)
- 22) Scott, E.C., Matzke, N.J., Branch, G., **Abedon, S.T.**, *et al.* (2004). The Morphology of Steve. *Annals of Improbable Research* 10(4)24-29. (my contribution: <1%)
- 23) **Abedon, S.T.** (1993). The isolation of T-even phages (feces \rightarrow P.C./PC \rightarrow gamma \rightarrow T2; Sewage \rightarrow T4/T6). *T4 News* (February 7).
- 24) **Abedon, S.T.** (1992). What is an ORF? *T4 News* 6(1).
- 25) **Abedon, S.T.** (1992). Bottle lysate T4 stock preparation: What if your cultures won't clear? *T4 News* 6(1).

WEB SITES & WEB PAGES [SERVICE]

- 1) **Abedon, S.T.** (2011). ISVM.org (a.k.a., phagesociety.org). While under construction user name is “ISVM” and password is “phageISVMsociety” (both without the quotes). This is the webs site for the International Society for the Viruses of Microorganisms.
- 2) **Abedon, S.T.** (2006-2008). Wikipedia projects:
en.wikipedia.org/wiki/Human_microbiome_project (100% initiated by me)
en.wikipedia.org/wiki/Microbial_population_biology (100% initiated by me)
en.wikipedia.org/wiki/Phage_ecology (~99% my effort)
en.wikipedia.org/wiki/Phage_meetings (100% my effort—no longer exists)

- en.wikipedia.org/wiki/Phage_monographs (~100% initiated by me; >90% my effort)
en.wikipedia.org/wiki/Category:Bacteriophage (50% my effort—no longer exists)
en.wikipedia.org/wiki/Category:Microbial_population_biology (100% initiated by me)
en.wikipedia.org/wiki/Category:Microbiology (working on making comprehensive)
en.wikipedia.org/wiki/Category:Phage_workers (75% my effort)
- 3) **Abedon, S.T.** (2004). TheBacteriophages.org, in support of the text, *The Bacteriophages*, 2nd edition (www.thebacteriophages.org).
- 4) **Bacteriophage Ecology Group (www.phage.org):**
- **Abedon, S.T.** (2011-present). Bacteriophage Terms (www.archaealviruses.org/terms/), a glossary of phage terms. Over 75 terms entered. Intention is to eventually convert to a phage.org-based URL.
 - **Abedon, S.T.** (1996-present). The Bacteriophage Ecology Group (www.phage.org); often is the Google.com “I’m Feeling Lucky” search for “Phage ecology” and “Bacteriophage ecology”.
 - **Abedon, S.T.** (1999-2007). *Bacteriophage Ecology Group News*, on-line newsletter with 26 issues published (www.phage.org/beg_news.htm).
 - Ackermann, H.-W., **Abedon, S.T.** (2001). Bacteriophage names 2000, a list of over 5,000 phage names and associated hosts (www.phage.org/names.htm).
- 5) **Academic Service:**
- **Abedon, S.T.** (2011-present). Biology as Poetry (www.biologyaspoetry.com), a glossary of biological terms which I use in teaching introductory biology for non-majors (and hope to eventually use in teaching introductory microbiology). Over 250 terms entered.
 - **Abedon, S.T.** (1998-2005). Microbiology and Immunology at the Ohio State University (www.phage.org/osumicro.htm), a guide to microbiology and immunology research performed on the various Ohio State University campuses.
 - **Abedon, S.T.** (1996-2005). *BioPort*. Introductory biology on-line lecture notes, index, and WWW portal (www.phage.org/biology.htm).
 - **Abedon, S.T.** (1996-2004). *MicroPort*. Introductory microbiology on-line lecture notes, index, and WWW portal (www.phage.org/microbiology.htm).

NOTABLE SERVICE [SERVICE]

- | | |
|-----------|---|
| 2010- | • Appointed and now serving as Trustee/Scientific Advisory Volunteer, “International Society for Viruses of Microorganisms” |
| 2010- | • Associate editor, <i>Bacteriophages</i> , a journal to published starting in January, 2011 (www.landesbioscience.com/journals/bacteriophage) |
| 2010 | • Served as phone-in reviewer on NIH study panel |
| 2009-2010 | • Contributing to the development of “International Society for Viruses of Microbes” (one of a core group of five individuals particularly involved in initial society development) |
| 2008-2009 | • Contributed to the development of the vA, vB, vE naming convention for viruses proposed to the ICTV and championed by Rob Lavigne (it came out of an informal conversation held in Belgium, July, 2008) |

- 2008 • Participated in NIH Roadmap Human Microbiome Project workshop, Bethesda, MD, March 27, Lu Wang & Jane Peterson, chairs
- 2007 • Invited and gave opening talk for a two-day symposium on phage ecology at 161st Society for General Microbiology meeting
- 2007 • Chaired opening session, International Bacteriophage Biology Meeting (Olympia, WA)
- 2007 • Chaired session, Foundation Les Treilles meeting, in France
- 2007 • Invited talk, Teacher's Symposium 2007, Change Through Time, Cleveland Museum of Natural History
- 2006 • Served on two-day CIHR Grant Peer Review Panel
- 2006- • Reviewed grants for NSF
- 2006 • Mansfield Secretary of Faculty Assembly (elected position)
- 2005- • Reviewed grants for NIH
- 2003 • Mansfield President of Faculty Assembly (elected position)
- 2002 • Mansfield President of Faculty Assembly (elected position)
- 2002 • Mansfield Chairman of Curriculum Committee (elected position)
- 2000 • Chaired session, The 2000 Millennial Phage Meeting (Montreal)
- 1999 • First publication of *Bacteriophage Ecology Group News*
- 1998 • Chaired session, Int. Bacteriophage Biol. Meeting (Olympia, WA)
- 1996 • Founded the Bacteriophage Ecology Group (www.phage.org)
- 1991 • Chaired session, Int. Bacteriophage T4 Meeting (Olympia, WA)

CONSULTING [SERVICE]

- 2011-present • Local company, on phage-related issues (budget capped at \$15,000)
- 2010-present • Advanced Biodetection Technologies Laboratory (Colorado School of Mines): advisory board
- 2009-present • BigDNA: advisory panel, www.bigdna.com
- 2009 • PhageVax: *Ad hoc* advising, <http://phagevax.com>
- 2003 • Omnilytics, Utah: prepared report titled, "What makes bacteriophages safe?", www.omnilytics.com (for full text of this document, see: www.cienciaviva.pt/rede/oceanos/2desafio/243.pdf)
- 2000-present • Phage Biotech: advisory panel, www.phage-biotech.com

COURSES TAUGHT [TEACHING]

- Bio 101 • Intro biology for non-majors; '11 (**twice**)
- Bio 102 • Human biology for non-majors; '97, '03 (**twice**)
- Bio 113 • Intro biology for majors, freshman; '96...'08 (>10 **times**)
- Bio 114 • 2nd intro biology for majors, freshman; '96...'07 (>10 **times**)
- Biochem 511 • Intro biochemistry for non-majors, junior through grad.; '01 (**once**)
- EEOB 232 • Introductory physiology; '11 (**once**)
- Micro 509 • Intro microbiol. for non-majors, junior-grad.; '95...'11 (~20 **times**)

Micro h669 • Honors course on microbial evolution; '05, '07, '09, '10, '11 (five times)