

RICHARD J. BENNETT

1. Richard J. Bennett

Associate Professor,
Dept. of Molecular Microbiology and Immunology,
Box G-B6, Brown University,
Providence, RI 02912.
Office: (401) 863-6341
Lab: (401) 863-6342
Richard_Bennett@brown.edu

3. Education

Undergraduate: 1988-1991 Cambridge University (Churchill College), UK.
1st Class Honors Degree in Natural Sciences (Biochemistry). B.A.
Graduate: 1991-1995 Imperial Cancer Research Fund, London, UK (Now CRUK).
Ph. D. in Biochemistry (degree awarded by Imperial College, London).
Thesis: "Resolution of Holliday Junctions by the *E. coli* RuvC protein"
Supervisor: Stephen C. West, F.R.S, Ph.D.

4. Professional appointments

1995 - 2000 Harvard University, Cambridge, MA.
Postdoctoral Fellow, Molecular and Cellular Biology,
Supervisor: James C. Wang, Ph.D.
2000 - 2005 University of California, San Francisco, CA.
Postdoctoral Fellow, Department of Microbiology and Immunology and
Department of Biochemistry and Biophysics.
Supervisor: Alexander D. Johnson, Ph.D.
2006 - 2011 Assistant Professor,
Department of Molecular Microbiology and Immunology,
Brown University.
2011-2012 Manning Assistant Professor of Molecular Microbiology and Immunology,
Brown University.
2012-present Associate Professor,
Department of Molecular Microbiology and Immunology,
Brown University.
2013 (Spring) Visiting Associate Professor,
University of California, San Francisco.

5. Completed Publications

Refereed Journal Articles

1. **Bennett, R. J.**, Dunderdale, H. J., and West, S. C. (1993) Resolution of Holliday junctions by RuvC resolvase: Cleavage specificity and DNA distortion. *Cell*, 74: 1021-1031.
2. Shah, R., **Bennett, R. J.**, and West, S. C. (1994) Activation of RuvC Holliday Junction Resolvase *in vitro*. *Nucleic Acids Research*, 22: 2490-2497.

3. Shah, R., **Bennett, R. J.**, and West, S. C. (1994) Genetic Recombination in *E. coli*: RuvC Protein Cleaves Holliday Junctions at Resolution Hotspots *in vitro*. *Cell*, 79: 853-864.
4. **Bennett, R. J.**, and West, S. C. (1995) Structural Analysis of the RuvC-Holliday Junction Complex Reveals an Unfolded Junction. *J. Mol. Biol.*, 252: 213-226.
5. **Bennett, R. J.**, and West, S. C. (1995) RuvC Protein Resolves Holliday Junctions via Cleavage of the Continuous (Non-Crossover) Strands. *Proc. Natl. Acad. Sci. U. S. A.*, 92: 5635-5639.
6. Parsons, C. A., Stasiak, A., **Bennett, R. J.**, and West, S. C. (1995) Structure of a Multiprotein Complex that Promotes DNA Branch Migration. *Nature* 374: 375-378.
7. **Bennett, R. J.**, and West, S. C. (1996) Resolution of Holliday Junctions in Genetic Recombination: RuvC Protein Nicks DNA at the Point of Strand Exchange. *Proc. Natl. Acad. Sci. U. S. A.*, 93: 12217-12222.
8. Hagan, N. F., Vincent, S. D., Ingleston, S. M., Sharples, G. J., **Bennett, R. J.**, West, S. C., and Lloyd, R. G. (1998) Sequence-Specificity of Holliday Junction Resolution: Identification of RuvC Mutants Defective in Metal Binding and Target Site Recognition. *J. Mol. Biol.*, 281:17-29.
9. **Bennett, R. J.**, Sharp, J.A, and Wang, J.C. (1998) Purification and Characterization of the Sgs1 DNA Helicase Activity of *S. cerevisiae*. *J. Biol. Chem.*, 273: 9644-50.
10. Sun, H., **Bennett, R.J.**, and Maizels, N. (1999). The *S. cerevisiae* Sgs1 Helicase Efficiently Unwinds G-G paired DNAs. *Nucleic Acids Research*, 27: 1978-1984.
11. **Bennett, R.J.**, Keck, J.L., and Wang, J.C. (1999) Binding Specificity Determines Polarity of DNA Unwinding by the Sgs1 protein of *S. cerevisiae*. *Journal of Molecular Biology*, 289: 235-48.
12. Han, H., **Bennett, R.J.**, and Hurley, L.H. (2000) Inhibition of Unwinding of G-Quadruplex Structures by Sgs1 Helicase in the Presence of PIPER, a G-Quadruplex-Interactive Ligand. *Biochemistry*, 39: 9311-9316.
13. **Bennett, R.J.**, Noirot-Gros, M.F., and Wang, J.C. (2000) Interaction Between Yeast Sgs1 Helicase and DNA Topoisomerase III. *J. Biol. Chem.*, 275: 26898-905.
14. **Bennett, R.J.**, and Wang, J.C. (2001) Functional and Physical Association of Yeast DNA Topoisomerase III and Sgs1 DNA Helicase: Studies of a Fusion Protein. *Proc. Natl. Acad. Sci. U. S. A.*, 98: 11108-13.
15. **Bennett, R.J.**, and Johnson, A.D. (2003) Completion of a Parasexual Cycle in *C. albicans* by Induced Chromosome Loss in Tetraploid Strains. *EMBO J*, 22: 2505-15.
F1000Prime highlighted article (<http://f1000.com/prime/1014036>)
16. **Bennett, R.J.**, Uhl, M.A., Miller, M.G., and Johnson, A.D. (2003) Identification and Characterization of a *Candida albicans* Mating Pheromone. *Molecular and Cellular Biology*, 23: 8189-8201.
17. **Bennett, R.J.**, and Keck, J.L. (2004) Structure and Function of RecQ DNA helicases. *Critical Reviews in Biochemistry and Molecular Biology*, 39: 79-97.
18. **Bennett, R.J.**, Miller, M.G., Chua, P.R., Maxon, M.E., and Johnson, A.D. (2005) Nuclear Fusion Occurs During Mating in *C. albicans* and is Dependent on the *KAR3* Gene. *Molecular Microbiology*, 55: 1046-1059.

19. **Bennett, R.J.**, and Johnson, A.D. (2005) Mating in *Candida albicans* and the Search for a Sexual Cycle. *Annu. Rev. Microbiol.* 59: 233-255.
20. **Bennett, R.J.**, and Johnson, A.D. (2006) The Role of Nutrient Regulation and the Gpa2 Protein in the Mating Pheromone Response of *C. albicans*. *Molecular Microbiology.* 62: 100-119.
21. Schaefer, D., Cote, P., Whiteway, M., and **Bennett, R.J.** (2007) Barrier Activity in *Candida albicans* Mediates Pheromone Degradation and Promotes Mating. *Eukaryotic Cell.* 6: 907-918.
Paper in Research Highlights of Microbe Journal, August 2007.
22. Forche, A., Schaefer, D., Alby, K., Johnson, A.D., Berman, J. and **Bennett, R.J.** (2008) The Parasexual Cycle in *Candida albicans* Provides an Alternative Pathway to Meiosis for the Formation of Recombinant Strains. *PLoS Biology*, 6: e110.
PLoS Biology Weekly Editors' Pick, Podcast in Scientific American Weekly, F1000Prime highlighted article (<http://f1000.com/prime/1119266>).
23. Sherwood, R.K., and **Bennett R.J.** (2008) The Microtubule Motor Protein Kar3 is Required for Normal Mitotic Division and Morphogenesis in *Candida albicans*. *Eukaryotic Cell*, 7: 1460-1474.
24. Alby, K., and **Bennett, R.J.** (2009) Stress-Induced White-Opaque Switching in *Candida albicans*. *Molecular Biology of the Cell*, 20: 3178-3191.
F1000Prime highlighted article (<http://f1000.com/prime/1160868>).
25. Alby, K., Schaefer, D., and **Bennett, R.J.** (2009) Homothallic and Heterothallic Mating in *Candida albicans*. *Nature*, 460: 890-893.
F1000Prime highlighted article (<http://f1000.com/prime/1163381>).
Associated News and Views Article: Heitman, J. (2009) Love the one you're with, *Nature*. 460: 807-808.
26. **Bennett, R.J.** (2009) A *Candida*-Based View of Fungal Sex and Pathogenesis. *Genome Biology.* Minireview. 10: 230.
27. **Bennett, R.J.** (2009) A Microbiologist Wonders What Turns Us On? Journal Club. *Nature*, 461: 15.
28. Alby, K., and **Bennett, R.J.** (2009) To Switch or Not to Switch? *Communicative and Integrative Biology.* 2:6, 1-3.
29. Sherwood, R., and **Bennett, R.J.** (2009) Fungal Meiosis and Parasexual Reproduction - Lessons from Pathogenic Yeast. *Current Opinion in Microbiology.* 12: 599-607.
30. Ene, I., and **Bennett, R.J.** (2009) Hwp1 and Related Adhesins Contribute to Both Mating and Biofilm Formation in *Candida albicans*. *Eukaryotic Cell (Note).* 8: 245-249.
31. Alby, K., and **Bennett, R.J.** (2010) Sexual Reproduction in the *Candida* clade: Cryptic Cycles, Diverse Mechanisms, and Alternative Functions. *Cell. Mol. Life Sciences.* 67: 3275-3285.
32. Alby, K., Schaefer, D., Sherwood, R.K., and **Bennett, R.J.** (2010) Identification of a Cell Death Pathway in *Candida albicans* during the Response to Mating Pheromones. *Eukaryotic Cell.* 9: 1690-1701.

This paper was a Spotlight paper in this issue of Eukaryotic Cell (9: 1649) and was described in Journal Highlights in Microbe magazine, December 2010.

33. **Bennett, R.J.**, and Dunny, G.M. (2010) Analogous Telesensing Pathways Regulate Mating and Virulence in Two Opportunistic Human Pathogens. *mBio*. 1: e00181-10.
34. **Bennett, R.J.** (2010) Coming of Age – Sexual Reproduction in *Candida* Species. *PLoS Pathogens (Pearl)*. 6: e1001155.
35. Jones, S.K. and **Bennett, R.J.** (2011) Fungal Mating Pheromones: Choreographing the Dating Game. *Fungal Genetics and Biology*. 48: 668-76.
36. Alby, K., and **Bennett, R.J.** (2011) Inter-Species Pheromone Signaling Promotes Biofilm Formation and Same-Sex Mating in *Candida albicans*. *Proc. Natl. Acad. Sci. U. S. A.* 108: 2510-5.

F1000Prime highlighted article (<http://f1000.com/prime/8293957>).

37. Lin, C.H., Choi, A.C., and **Bennett, R.J.** (2011) Defining Pheromone-Receptor Signaling in *Candida albicans* and Related Asexual *Candida* Species. *Molecular Biology of the Cell*. 22: 4918-30.
38. Porman, A.M., Alby, K., Hirakawa, M.P., and **Bennett, R.J.** (2011) Discovery of a Phenotypic Switch Regulating Sexual Mating in the Opportunistic Fungal Pathogen *Candida tropicalis*. *Proc. Natl. Acad. Sci. U. S. A.* 108: 21158-63.

Article highlighted in Microbe magazine, February 2012.

39. **Bennett, R.J.** and Nielsen, K. (2012) “Discovery of Extant Sexual Cycles in Pathogenic Fungi: Roles in Generation of Diversity and Virulence”. Chapter 9 in “*Evolution of Virulence of Eukaryotic Microbes*”. Wiley-Blackwell.
40. Hickman, M.A., Zeng, G., Forche, A., Hirakawa, M.P., Abbey, D., Harrison, B.D., Wang, Y-M., Su, C., **Bennett, R.J.**, Wang, Y., and Berman, J. (2013) The 'Obligate Diploid' *Candida albicans* Forms Mating-Competent Haploids. *Nature*, 494:55-9.
41. Si, H., Hernday, A.D., Hirakawa, M.P., Johnson, A.D., and **Bennett, R.J.** (2013) *Candida albicans* White and Opaque Cells Undergo Distinct Programs of Filamentous Growth. *PLoS Pathogens*, 9: e1003210.
42. Porman, A.M., Hirakawa, M.P., Jones, S.K., Wang, N., and **Bennett, R.J.** (2013) *MTL*-Independent Phenotypic Switching in *Candida tropicalis* and a Dual Role for Wor1 in Regulating Switching and Filamentation. *PLoS Genetics*, 9: e1003369.
43. Lin, C-H, Kabrawala, S., Fox, E.P., Nobile, C.J., Johnson, A.D., and **Bennett, R.J.** (2013) Genetic Control of Conventional and Pheromone-Stimulated Biofilm Formation in *Candida albicans*. *PLoS Pathogens*, 9: e1003305.
44. Shintaku, T., Glass, K., Hirakawa, M.P., Longley, S., **Bennett, R.J.**, Bliss, J., and Shaw, S. (2013) Human Endothelial Cells Internalize *Candida parapsilosis* via N-WASP Mediated Endocytosis. *Infection and Immunity*, 81: 2777-2787.
45. Papon, N., Courdavault, V., Clastre, M., and **Bennett, R.J.** (2013) Emerging and Emerged Pathogenic *Candida* species: Beyond the *Candida albicans* Paradigm. *PLoS Pathogens*, 9: e1003550.

46. Mallick, E., and **Bennett, R.J.** (2013) Sensing of the Microbial Neighborhood by *Candida albicans*. *PLoS Pathogens*, 9: e1003661
47. Seervai, R.N.H., Jones Jr., S.K., Hirakawa, M.P., Porman, A.M., and **Bennett, R.J.** (2013) Parasexuality and Ploidy Change in *Candida tropicalis*. *Eukaryotic Cell*. 12: 1629-40.
This paper was a Spotlight paper in this issue of Eukaryotic Cell (12: 1663).
48. Sherwood, R.K., Scaduto, C.M., Torres, S.E., and **Bennett, R.J.** Convergent Evolution of a Fused Sexual Cycle Promotes the Haploid Lifestyle. *Nature*. 506: 387-390.
F1000Prime highlighted article.
49. Ene, I.V., and **Bennett, R.J.** The Cryptic Sexual Strategies of Human Fungal Pathogens. *Nature Reviews Microbiology*. 12: 239-51.
50. Jones Jr., S.K., Hirawaka, M.P., and **Bennett, R.J.** (2014) Sexual Biofilm Formation in *Candida tropicalis* Opaque Cells. *Mol. Micro.* 92: 383-98.
F1000Prime highlighted article (<http://f1000.com/prime/718305442>).
51. **Bennett, R.J.**, Forche, A., and Berman, J. (2014) Rapid mechanisms for generating genome diversity: whole ploidy shifts, aneuploidy, and loss of heterozygosity. Book chapter for *Human Fungal Pathogens* by the Cold Spring Harbor Press.

Papers submitted or in preparation

Hirakawa, M.P., Martinez, D.A., Sakthikumar, S., Anderson, M., Berlin, A., Gujja, S., Zeng, Q., Berman, J., **Bennett, R.J.***, Cuomo, C.A.* Intra-species variation in *Candida albicans*: Aneuploidy, Loss of Heterozygosity, and Balancing Commensalism and Pathogenesis. *Submitted*.

Invited Lectures (since 2005)

- 2005 University of Pittsburgh, Pittsburgh, PN.
Department of Biological Sciences.
University of California, Davis, CA.
Department of Microbiology.
University of Colorado, Boulder, CO.
Department of Molecular, Cellular, and Developmental Biology.
Duke University, Durham, NC.
Department of Molecular Genetics and Microbiology.
Melbourne University, Melbourne, Australia.
Department of Genetics.
- 2006 Brown University, Providence, RI.
Department of Molecular Microbiology and Immunology.
- 2008 Marine Biological Labs, Woods Hole, MA.
Josephine Bay Paul Center,
Columbia University, New York, NY.
Department of Microbiology and Immunology.
Dartmouth University, Dartmouth, NH.

- Department of Microbiology and Immunology.
2009 Marine Biological Laboratory, Woods Hole, MA.
Molecular Mycology: Current Approaches to Fungal Pathogenesis course.
Providence College, RI.
Department of Biology.
Miriam Hospital, Providence, RI.
Center for AIDS Research seminar.
University of Texas, Houston, TX.
Department of Microbiology and Molecular Genetics.
2010 University of Southern California, Los Angeles, CA.
Department of Molecular Microbiology and Immunology.
Queen's University, Kingston, Ontario, Canada.
Department of Biochemistry.
Lausanne University, Lausanne, Switzerland.
Institute of Fundamental Microbiology.
Aberdeen University, Aberdeen, UK.
Institute of Medical Sciences.
Marine Biological Laboratory, Woods Hole, MA.
Molecular Mycology: Current Approaches to Fungal Pathogenesis course.
John Hopkins University, Baltimore, MD.
Department of Biology.
Duke University, Invited by graduate students in the Program in Genetics and Genomics.
Duke University, NC.
University of Minnesota, Minneapolis, MN.
Department of Microbiology.
2011 University of Utah, Salt Lake City, UT.
Department of Biology.
University of California, San Francisco, CA.
Microbial Pathogenesis Seminar Series.
2012 University of Missouri, Kansas City, MO.
Division of Cell Biology and Biophysics.
Albert Einstein College of Medicine, Bronx, NY.
Department of Microbiology and Immunology.
University of Massachusetts, Worcester, MA.
Program in Molecular Medicine.
University of Toronto, Canada.
Department of Molecular Genetics.
2013 Marine Biological Laboratory, Woods Hole, MA.
Molecular Mycology: Current Approaches to Fungal Pathogenesis course.
The University of Texas Health Science Center at San Antonio, TX.
Department of Microbiology and Immunology.
2014 Dartmouth College, NH.
Department of Biochemistry.
University of Wurzburg, Wurzburg, Germany.
Institute for Molecular Infection Biology.

Oral Presentations at Professional Conferences

- 1992 “The Holliday junction resolvase RuvC”. *DNA Repair meeting*, East London Polytechnic. *Invited speaker*.
- 1994 “Mechanism of Holliday Junction Resolution by RuvC”. *EMBO workshop on Genetic Recombination*, Seillac, France. *Invited speaker*.
- 2004 “Nuclear fusion during mating in *Candida albicans*”. Gordon Conference. *Cellular and Molecular Fungal Biology*, Holderness School, NH, USA. *Invited speaker*.
- 2006 “Mating in *Candida albicans*”. Gordon Conference. *Cellular and Molecular Fungal Biology*, Holderness School, NH, USA. *Invited speaker*.
- 2007 Invited attendee at the American Society of Microbiology colloquium on ‘*Pathogenic Fungi: A Global Perspective*’, November 2007.
- 2009 Fungal Genetics Conference, Asilomar, CA, USA. “Understanding Sex in a Hostile Environment - Cryptic Mating in *Candida albicans*.” *Invited speaker*.
- 2009 American Society of Microbiology, General Meeting. Philadelphia, PA, USA. “Parasexual Reproduction in *Candida albicans*.” *Invited speaker*.
- 2009 South Central Medical Mycology meeting, Rice University, Houston, TX. “The Secret Sex Life of the Pathogenic Fungus *Candida albicans*”. *Keynote speaker*.
- 2010 American Society of Microbiology, 10th Conference on Candida and Candidiasis, Miami, FL, USA. “Sexual Pheromones Drive Same-Sex Mating in *Candida albicans*.” *Invited speaker*.
- 2010 International Mycology Conference 9, Edinburgh, UK. “Pheromone Signaling and Same-Sex Mating in *Candida albicans*”. *Invited speaker*.
- 2011 XI International Meeting on Paracoccidioides, Taubaté, Sao Paulo, Brazil. “Cryptic Sex in *Candida*”. *Invited speaker*.
- 2011 HFP2011, the 4th FEBS Advanced Lecture Course on Human Fungal Pathogens, La Colle-sur-Loup, France. “Cryptic Sex in *Candida*”. *Invited speaker*.
- 2012 Keystone Symposium on Fungal Pathogens: From Basic Biology to Drug Discovery, Sante Fe, NM. January 2012. “Phenotypic Switching and Sexual Reproduction in *Candida* Species”. *Invited speaker*.
- 2012 International Society for Human and Animal Mycology (ISHAM) conference in Berlin, Germany. June 2012. *Invited speaker*. An Integrated Program of Sexual Reproduction in a Pathogenic *Candida* Species.
- 2012 Gordon Conference on *Cellular and Molecular Fungal Biology*, Holderness School, NH, USA. June 2012. *Invited speaker*. Parasex and Pathogenesis in *Candida*.
- 2013 Fungal Genetics Conference, Asilomar, CA, USA. *Invited speaker*. Epigenetic Switching Regulates the Yeast-Hyphal Transition in *Candida albicans*.”
- 2014 ASM Conference on Candida and Candidiasis, New Orleans, LO (2014). *Invited speaker*. Intra-Species Variation in *Candida albicans* and Consequences for Host Interactions.

Abstracts presented by members of lab

- Sherwood, R.K., and **Bennett R.J.** The Microtubule Motor Protein Kar3 is required for Normal Mitotic Division and Morphogenesis in *Candida albicans*. 9th Conference on Candida and Candidiasis, Jersey City, NY (2008).
- Alby, K. and **Bennett, R.J.** Increased Phenotypic Switching by *Candida albicans* in Response to Cell Cycle Delay. 9th ASM Conference on Candida and Candidiasis, Jersey City, NJ (2008). Selected for Oral Presentation by KA.
- Alby, K. and **Bennett, R.J.** Stress-Induced White-Opaque Switching in *Candida albicans*. ASM

- General Meeting, Philadelphia, PA (2009).
- Sherwood, R.K., Torres, S., and **Bennett, R.J.** Mechanism of Meiotic Induction in the Fungal Pathogen *Candida albicans*. ABRCMS, Phoenix, AZ (2009).
- Schaefer, D., Alby, K., Sherwood, R.K., and **Bennett, R.J.** Sexual Pheromones Induce Cell Death in the Pathogenic Yeast *Candida albicans*. New England Science Symposium, Boston, MA (2010).
- Sherwood, R.K., Torres, S. and **Bennett, R.J.** Regulation of the Meiotic Program in *Candida lusitanae*. 10th ASM Conference on Candida and Candidiasis, Miami, FL (2010).
- Alby, K., Schaefer, D., and **Bennett, R.J.** Fatal Attraction: Pheromone-Induced Cell Death in *Candida albicans*. 10th ASM Conference on Candida and Candidiasis, Miami, FL (2010).
- Alby, K., Schaefer, D., and **Bennett, R.J.** A Role for Pheromones and Pheromone-Like Peptides in Same-Sex Mating in *Candida albicans*. Yeast Genetics and Molecular Biology Meeting, Vancouver, Canada (2010).
- Torres, S., Sherwood, R.K., and **Bennett, R.J.** Characterization of Sex and Meiosis in the Fungal Pathogen *Candida albicans*. ABRCMS, Charlotte, NC (2010).
- Sherwood, R.K., Torres, S., and **Bennett, R.J.** Regulation of the Meiotic Program in *Candida lusitanae*. Fungal Genetics Conference, Asilomar, CA (2011). Selected for Oral Presentation by RKS.
- Lin, C-H, and **Bennett, R.J.** Pheromone-Receptor Signaling in Multiple *Candida* Species Indicates an Important Role for the Receptor C-terminal Tail in "Shmooing." Fungal Genetics Conference, Asilomar, CA (2011).
- Alby, K., Jones, S.K., and **Bennett, R.J.** Same-Sex Mating in *Candida albicans*: The Role of Pheromone Signaling and the Bar1 Protease. American Society of Microbiology General Meeting, New Orleans, LA (2011). Selected for Oral Presentation by KA.
- Porman, A.M., Alby, K., Hirakawa, M., and **Bennett, R.J.** A Phenotypic Switch Regulates the Program of Sexual Mating in *Candida tropicalis*. 10th ASM Conference on Candida and Candidiasis, San Francisco, CA (2012). Selected for Oral Presentation by AMP.
- Hirakawa, M., Alby, K., Slan, A., and **Bennett, R.J.** *Candida albicans* Parasexual Progeny Exhibit Diverse Features Including Increased Drug Resistance and Virulence. 10th ASM Conference on Candida and Candidiasis, San Francisco, CA (2012).
- Jones, S.K., Alby, K., and **Bennett, R.J.** Love Thy Neighbor as Thyself: Pheromone Signaling Between Species in the Candida Clade. 10th ASM Conference on Candida and Candidiasis, San Francisco, CA (2012).
- Porman, A.M., Jones, S.K., Hirakawa, M.P., Wang, N., and **Bennett, R.J.** Defining the role of the *MTL* and the *Wor1* transcription factor in the regulation of white-opaque phenotypic switching in *Candida tropicalis*. HFP2013, the 5th FEBS Lecture Course on Human Fungal Pathogens, La Colle-sur-Loup, France (2013).
- Jones, S.K., Porman, A.M., Hirakawa, M.P., and **Bennett, R.J.** Pheromone-induced sexual biofilm formation in *Candida tropicalis*. Microbial Pathogenesis and Host Response, Cold Spring Harbor, NY (2013).
- Porman, A.M., and **Bennett, R.J.** Divergent regulation: Highlighting differences in white-opaque switching between *Candida tropicalis* and *Candida albicans*. ASM Conference on Candida and Candidiasis, New Orleans, LO (2014).
- Jones, S.K., Hirakawa, M.P., and **Bennett, R.J.** Sexual biofilms of *Candida tropicalis* and a role for a sexual agglutinin. ASM Conference on Candida and Candidiasis, New Orleans, LO (2014).

- Mallick, E.M., Jones, S.K., Creton, R., Wheeler, R., and **Bennett, R.J.** Evaluation of the white-opaque switch in interactions with the host. ASM Conference on Candida and Candidiasis, New Orleans, LO (2014).
- Anderson, M.Z., Boateng, Z., Berman, J., and **Bennett, R.J.** Rapid and continued evolution of the telomere-associated gene (TLO) family in *Candida albicans*. ASM Conference on Candida and Candidiasis, New Orleans, LO (2014).

Current Research Grants

National Institutes of Health (RO1)

Title: Pheromone signaling, Sex, and Virulence in *Candida albicans*.

Dates of Award: 8/1/10 – 7/31/15

Principle Investigator: Richard Bennett

National Institutes of Health (R21) Bennett (PI)

Title: Genotypic plasticity and parasex in *Candida albicans*.

Dates of Award: 6/1/14 – 5/31/16

Principle Investigator: Richard Bennett

Burroughs Wellcome Fund Investigator in Infectious Disease

Title: Phenotypic Variation and Host Adaptation by the Human Fungal Pathogen *Candida albicans*.

Dates of Award: 7/1/08 – 6/30/17

Principle Investigator: Richard Bennett

DEANs award (Brown University)

Title: Defining the factors responsible for persistent Candidemia by *C. albicans*

Co-PI: Richard Bennett

Dates of Award: 8/1/14 – 7/31/15

Stephen Jones. Ruth L. Kirschenstein Predoctoral NIH Fellowship (F31) for 2012-2015 to support his graduate studies.

Matthew Hirakawa. Ruth L. Kirschenstein Predoctoral NIH Fellowship (F31) for 2014-2016 to support his graduate studies.

Christine Scaduto. Ruth L. Kirschenstein Predoctoral NIH Fellowship (F31) for 2012-2015 to support her graduate studies.

Grants Pending

National Institutes of Health (RO1)

Genomic-based approaches to understanding *C. albicans* fitness and pathogenicity.

Principle Investigator: Richard Bennett

National Science Foundation

Characterization of the secretome of *P. destructans*, the causative agent of White-Nose Syndrome in bats.

Principle Investigator: Richard Bennett

Completed Grants

National Science Foundation Grant

Title: Mating, Self-Fertility, and Meiosis in Yeast
Dates of Award: 8/1/10 - 7/31/14 (NCE)
Principle Investigator: Richard Bennett
\$600,000 (total costs), \$388,594 (direct costs)

National Institutes of Health (R56)

Title: Parasexual Reproduction and Biofilm Formation in *Candida albicans*
Dates of Award: 9/15/10 – 8/31/13
Principle Investigator: Richard Bennett
\$388,770 (total costs), \$250,000 (direct costs)

National Institutes of Health (R21) Bennett (PI)

Title: Phenotypic Switching in *Candida albicans* and its Role in Pathogenesis
Dates of Award: 6/19/09 – 5/31/12
Principle Investigator: Richard Bennett
\$444,657 (total costs), \$275,000 (direct costs)

Brown University-Woods Hole Collaborative Seed Grant. Bennett (co-PI)

Title: Fungal RNA viruses and genome defense.
Dates of Award: 9/1/10 – 8/31/12
Principle Investigator: Irina Arkhipova. Co-PI: Richard Bennett
\$25,000 (direct costs only)

Burroughs Wellcome Fund Seminar Grant

Seminar grant for visit of Aaron Mitchell, Scholar in Molecular Pathogenic Mycology
Dates of Award: 8/1/09-7/31/10
Principle Scientist: Richard Bennett
\$1,000 (direct costs only)

Brown Collaborative Seed Grant

Title: Molecular Analysis of a Bistable Switch in the Pathogen *Candida albicans*.
Dates of Award: 3/1/08 – 2/28/09
Principle Investigator: Richard Bennett
\$90,000 (direct costs only; shared amongst consortium)

Center for AIDS Research Developmental Award

Title: Phenotypic switching in the opportunistic pathogen *Candida albicans*.
Dates of Award: 1/1/08 – 12/31/08
Principal Investigator: Richard Bennett
\$40,000 (direct costs only)

Richard B. Salomon Faculty Research Award

Title: Genetic and epigenetic variation in the human pathogen *Candida albicans*.
Dates of Award: 2/1/07 – 1/31/08

Principle Investigator: Richard Bennett
\$15,000 (direct costs only)

Rhode Island Foundation Grant

Title: Mating and pathogenesis in *C. albicans*.

Dates of Award: 1/1/06 – 12/31/06

Principle Investigator: Richard Bennett

\$10,000 (direct costs only)

Completed Student Grants

Racquel (Kim) Sherwood. Ruth L. Kirschenstein Predoctoral NIH Fellowship (F31) for 2008-2010 to support her graduate studies.

Kevin Alby. Ruth L. Kirschenstein Predoctoral NIH Fellowship (F31) for 2009-2011 to support his graduate studies.

Allison Porman. Ruth L. Kirschenstein Predoctoral NIH Fellowship (F31) for 2012-2014 to support her graduate studies.

7. Service

(I) To the University

1. Faculty trainer, Pathobiology Graduate Program, 2006-present.
2. Faculty trainer, Molecular and Cellular Biology Graduate Program, 2006-present.
3. Member of interviewing panel for prospective MCB students, Spring 2006 - 2014.
4. Member of interviewing panel for prospective Pathobiology students, Spring 2006 - 2014.
5. Pathobiology Graduate Program Admissions Committee, Spring 2008.
6. MMI Faculty Search Committee, Spring 2008.
7. Advisor to the Brown iGEM team, Summer 2008 and 2009.
8. Pathobiology Graduate Program Retreat Co-Chair, 2008.
9. Pathobiology Graduate Program Admissions Chair, Spring 2009.
10. Pathobiology Graduate Program Retreat Chair, 2009.
11. MMI Seminar Series Coordinator, Fall 2009.
12. Academic Advisor to Undergraduate Students: Incoming class of 2008 (5 students) and incoming class of 2009 (5 students). Advisor to sophomore students (4 students, 2009/10 and 4 students, 2010/11).
13. Pathobiology Graduate Program Retreat Poster Judge, 2010.
14. MMI Seminar Series Coordinator, Fall 2010.
15. Pathobiology Graduate Program Retreat Poster Judge, 2011.
16. BioMed Space Policy Committee, Fall 2011-present.
17. Frank Fellowships Selection Committee, Spring 2012.
18. MMI Faculty Search Committee, Spring 2012.
19. Undergraduate Student and Honors Thesis Award Committee, Spring 2012.
20. BioMed Graduate Student Award Committee, Spring 2012.
21. Pathobiology Graduate Program Co-Director, 2012-present.
22. Frank Fellowships Selection Committee, Fall 2013.
23. Brown Anniversary BioMed Planning Committee, Fall 2013.

24. MMI Faculty Search Committee, Fall 2013-Spring 2014.
25. Pathobiology Admissions Committee, Fall 2013-Spring 2014.

(II) To the Profession

a) Editorial Board of *PLoS One*, 2007-2009

Editorial Board of Eukaryotic Cell, 2010-present

Editorial Board of Frontiers in Mycology, 2010-present

b) Ad hoc reviewer of journal articles, 2005-present:

1. *Nature*.
2. *Eukaryotic Cell*.
3. *Molecular Microbiology*.
4. *Current Biology*.
5. *PLoS Biology*.
6. *PLoS Pathogens*.
7. *PLoS Genetics*.
8. *Proc. Natl. Acad. Sci. USA*.
9. *Cell Host & Microbe*.
10. *Yeast*.
11. *Trends in Microbiology*.
12. *Fungal Genetics and Biology*.
13. *FEMS Yeast Research*.
14. *Clinical Microbiology Reviews*.
15. *PLoS One*.
16. *Trends in Genetics*.
17. *mBio*.

c) Grant Review

Ad Hoc reviewer for NSF, Developmental Genes Cluster, 2010.

Ad Hoc reviewer for the CONSOLIDER program (Spain), 2010.

Ad Hoc reviewer for NIH study section ZRG1 IDM-S(03), 2011.

Ad Hoc reviewer for NIH study section AOIC, 2013.

d) Program committee member

ASM Candida and Candidiasis conference, Miami, 2010.

ASM Candida and Candidiasis conference, San Francisco, 2012.

e) Professional Societies

2003 - present, American Society for Microbiology.

2008 - present, Genetics Society of America.

2009 - present, American Society of Cell Biology.

f) External PhD Thesis Examiner

2012. Ningxin Zhang, Massey University, New Zealand. Advisor: Jan Schmid.

2012. Rebecca Shapiro, U. Toronto, Canada. Advisor: Leah Cowen.

2012. Jessica Lopes Da Rosa, U. Massachusetts. Advisor: Paul Kaufman.

2014. Anda Zhang, Dartmouth College. Advisor: Lawrence Myers.

8. Honors

Academic

- 1991 First class honors degree, Cambridge University, 1991.
- 2011 Manning Assistant Professor of Molecular Microbiology & Immunology.

Fellowships and Awards

- 1995 Human Frontiers Science Program Postdoctoral Fellow, Harvard University, Cambridge, MA.
- 1996-7 Damon Runyon-Walter Winchell Postdoctoral Fellow, Harvard University, Cambridge, MA.
- 2008-2017 Burroughs Wellcome Investigator in Infectious Disease, Brown University.

Honors and Awards Received by Students and Trainees

- **Kevin Alby**, Graduate Student 2007-2011.
NIH F31 predoctoral fellowship 2008-2011.
Poster Presentation Award, Brown University Pathobiology Retreat, 2007.
Oral Presentation Award, ASM Candida and Candidiasis Meeting, NY, 2008.
Poster Presentation Award, Brown University Pathobiology Retreat, 2008.
Poster Presentation Award, Brown University Pathobiology Retreat, 2009.
Received the 2011 **Raymond W. Sarber Award** from the American Society of Microbiology for his graduate research.*
Awarded the **Harold M. Weintraub Graduate Student Award** in 2011 from the Fred Hutchison Cancer Center to recognize “outstanding achievement in graduate studies in the biological sciences”.*
Awarded the **Joukowsky Family Foundation Outstanding Dissertation Award** from Brown University for the 2010-2011 academic year.
* The Raymond W. Sarber and Harold M. Weintraub awards are prestigious national awards given to PhD students who have carried out outstanding graduate research, and awardees are subsequently invited to present their research at the national ASM conference or at an Award Symposium at the Fred Hutchison Cancer Center, respectively.
- **Racquel Sherwood**, Graduate Student 2006-2012
NIH F31 predoctoral fellowship 2008-2010.
Awarded a FASEB MARC travel award to attend the 2011 Fungal Genetics conference at Asilomar, CA.
Awarded a young investigator award for her presentation at the Fungal Genetics conference.
- **Allison Porman**, Graduate Student 2010-2014
Supported by NIH training grant for Molecular and Cellular Biology Graduate Program.
NIH F31 predoctoral fellowship 2012-2014.
Awarded an NSF travel award to the 2012 ASM Candida and Candidiasis conference in San Francisco, CA.
Gave oral presentation at the 2012 ASM Candida and Candidiasis conference in San Francisco, CA.

Awarded a Young Investigator Award at HFP2013, the 5th FEBS Lecture Course on Human Fungal Pathogens, La Colle-sur-Loup, France (2013).

- **Stephen Jones**, Graduate Student 2010-present
Supported by NIH training grant for Molecular and Cellular Biology Graduate Program.
“Honorable Mention” for NSF graduate fellowship application.
NIH F31 predoctoral fellowship 2012-2015.
- **Matthew Hirakawa**, Graduate Student 2011-present
“Honorable Mention” for NSF graduate fellowship application.
Awarded Charles "Chick" Kuhn Award for best poster at Pathobiology Graduate Program retreat, 2012.
Awarded Frederic Poole Gorham pre-doctoral Fellowship for 2013.
NIH F31 predoctoral fellowship 2013-2015.
- **Christine Scaduto**, Graduate Student 2012-present
“Honorable Mention” for NSF graduate fellowship application.
NIH F31 predoctoral fellowship 2014-2016.
- **Sandra Torres**, Undergraduate Student 2009-2011
Winner of Poster Presentation Award at the 2010 ABRCMS conference, Charlotte, NC.
- **Iuliana Ene**, Postdoctoral Fellow 2013-present
Awarded Graduate Women in Science fellowship for 2013-2014.
- **Riyad Seervai**, Undergraduate Student 2011-2013.
Winner of the Maria L. Caleel Memorial Prize for Academic Excellence for his honor’s thesis in the Bennett lab.

9. Postdoctoral trainees

- Postdoctoral Fellow: **Tracy Rene-Rosebrock**. Feb 2008 – Dec 2008.
Research: ‘Analysis of White-Opaque Phenotypic Switching in *Candida albicans*.’
Present address: Dept. of Immunology and Infectious Diseases, Harvard School of Public Health.
- Postdoctoral Fellow: **Gary Ching-Hsuan Lin**. June 2010-June 2012.
Research: ‘Analysis of pheromone-receptor signaling in *Candida* species’.
Present address: Faculty member, National Taiwan University.
- Postdoctoral Fellow: **Haoyu Si**. July 2010-May 2013.
Research: ‘Chromosomal stability and meiosis in *C. albicans*’.
Present address: Postdoctoral Research Associate, University of Maryland, Baltimore County.
- Postdoctoral Fellow: **Emily Mallick**. September 2012-present.
Research: Interactions between host cells and *Candida* cells.

- Postdoctoral Fellow: **Iuliana Ene**, January 2013-present.
Research: Metabolism of *Candida albicans* and roles in infection.
- Postdoctoral Fellow: **Matthew Anderson**, August 2013-present.
Research: Analysis of virulence traits in *Candida albicans*.

10. Teaching

(I) Graduate Training and Teaching Activities

(a) Advisor for Ph.D. Thesis Research

- Racquel Kim Sherwood.
Position: Molecular and Cellular Biology Graduate Program student.
Research Project: Identification of a cryptic meiosis in *Candida albicans*.
Graduated June 2012.
- Kevin Alby.
Position: Pathobiology Graduate Program student.
Research Project: Switching, sex, and recombination: Mechanisms for adaptation and virulence in *Candida albicans*. Graduated June 2011.
- Stephen Jones.
Position: Molecular and Cellular Biology Graduate Program student.
Research Project: The role of the Bar1 protease in regulating mating in *Candida albicans*.
- Allison Porman.
Position: Molecular and Cellular Biology Graduate Program student.
Research Project: Phenotypic switching and mating in *Candida* species.
- Matthew Hirakawa.
Position: Pathobiology Graduate Program Student.
Research Project: The *C. albicans* parasexual cycle and pathogenesis.
- Christine Scaduto.
Position: Molecular and Cellular Biology Graduate Program student.
Research Project: White-opaque regulation of sexual mating in *Candida*.
- Chapman Beekman.
Position: MCB Graduate Program Student.
Research Project: The role of proteases in *P. destructans*-mediated infection of bats.

Rotating Graduate Student Trainees

- 2006 Ahmet Eken, MCB Graduate Program student.
Racquel Sherwood, MCB Graduate Program student.
Kevin Alby, Pathobiology Graduate Program student.
- 2007 Jennifer Linden, Pathobiology Graduate Program student.
- 2008 Adrian Reich, MCB Graduate Program student.
Dorothy Koveal, MCB Graduate Program student.
- 2009 Catherine Volle, MCB Graduate Program student.
Kristin Beale, MCB Graduate Program student.

- 2010 Stephen Jones, MCB Graduate Program student.
Allison Porman, MCB Graduate Program student.
Matthew Hirakawa, Pathobiology Graduate Program student.
- 2012 Edward Anderson, MCB Graduate Program student.
Christine Scaduto, MCB Graduate Program student.
Stephanie Post, MCB Graduate Program student.
Lauren Watts, Pathobiology Graduate Program student.
- 2013 Jocelyn Newton, Pathobiology Graduate Program student.
Chapman Beekman, MCB Graduate Program student.
- 2014 Jenna Perry, Pathobiology Graduate Program student.
Jenna Kotak, MCB Graduate Program student.

Master's Students

- Shanna Hsu (Pathobiology). 2012-2013.
- Kent Leslie (Biomedical engineering). 2014-present.
- Jennifer Nedow (Biomedical engineering). 2014-present.

Ph.D. Thesis Committee/Advisor

- Justin Widener, Pathobiology Graduate Program student. Graduated 2007.
Principle advisor: Steven Hajduk
- Justin Seil, School of Engineering. Graduated 2011.
Principle advisor: Thomas Webster.
- Courtney Klaips, Molecular and Cellular Biology Graduate Program student. Graduated 2013.
Principle advisor: Tricia Serio.
- Anupriya Dutta, Molecular and Cellular Biology Graduate Program student. Graduated 2012. Principle advisor: David Mark Welch.
- Jennifer Linden, Pathobiology Graduate Program student. Graduated 2012.
Principle advisor: Joseph Bliss.
- Ningxin Zhang, Massey University, New Zealand. External Examiner. 2011.
Principle advisor: Jan Schmid.
- J. Lopes da Rosa-Spiegler, U. Mass. Worcester. External Examiner. 2012.
Principle advisor: Paul Kaufman.
- Rebecca Shapiro, U. Toronto, Ontario. External Examiner. 2012.
Principle advisor: Leah Cowen.
- Anda Zhang, Dartmouth College. External Examiner. 2014.
Principle advisor: Lawrence Myers.

(II) Undergraduate Teaching and Advising Activities

Undergraduate student sponsorship

- Suzanne Gilman, 2006-2007, UTRA Recipient.
- Giana Igwike (Dillard University), Leadership Alliance Student, Summer 2007.

- Iuliana Ene, 2008-2009, UTRA Recipient. Honors Thesis.
- Anthony Choi, 2008-2010, UTRA Recipient. Honors Thesis.
- Matthew Hernandez, 2009-2011, UTRA Recipient. Honors Thesis.
- Sandra Torres, 2009-2011, UTRA Recipient. Honors Thesis.
- Brittany Pereira, 2010-2011. Honors Thesis.
- Yi Cao (Providence College) Leadership Alliance Student, Summer 2010.
- Farah Hasan, 2010-2011, UTRA Recipient. Honors Thesis.
- Joshua Jubelirer, 2011, UTRA Recipient.
- Na Wang, 2011-2012. Honors Thesis.
- Aaron Slan, 2011-2013.
- Sofia Aronson, 2011-2012.
- Shanna Hsu, 2011-2012. Honors Thesis.
- Jennifer Hamilton, 2011-2012. UTRA Recipient.
- Riyadh Seervai, 2011-2013. UTRA Recipient.
- Ethan Zisson, 2012-2013.
- Roy Ang, 2012. UTRA Recipient.
- Benjamin Cowen, 2012-2014. Honors Thesis.
- William Sheving, 2012-2014. Honors Thesis.
- Arushi Jauhari, 2013-2014.
- Natasha Nelson, 2014. UTRA Recipient.
- Denis Huang, 2014-present. UTRA Recipient.
- James Yoo, 2014-present.
- Darius Chyou, 2014-present.
- Lais Cabrera, 2014-present.
- Joshua Wang, 2014-present.
- Joshua Greenberg, 2014-present.
- Abid Haseeb, 2014-present.

Advisor for Senior Honor Thesis

- Iuliana Ene, 2008-2009.
- Anthony Choi, 2008-2010.
- Matthew Hernandez, 2009-2011.
- Sandra Torres, 2009-2011.
- Brittany Pereira, 2010-2011.
- Farah Hasan, 2010-2011.
- Shanna Hsu, 2011-2012.
- Na Wang, 2011-2012.
- Aaron Slan, 2011-2013
- Ethan Zisson, 2012-2013.
- Riyadh Seervai, 2011-2013.
- Benjamin Cowen, 2012-2014.
- William Sheving, 2012-2014.

(III) Brown University Teaching

- Spring 2007 Bio51, Introduction to Microbiology.
Course Leader. 21 students.
- Fall 2007 Bio285 lecture. Introduction to faculty for graduate students.
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- Spring 2008 Bio201 lecture. Introduction to faculty for MCB graduate students.
- Spring 2008 Bio51 Introduction to Microbiology.
Course Leader. 23 undergraduates.
- Fall 2008 Bio285 lecture. Introduction to faculty for Pathobiology students.

- Spring 2009 Introduction to Microbiology, Bio51.
Course Leader. 39 undergraduates.
- Fall 2009 Bio201 lecture. Introduction to faculty for MCB graduate students.
- Bio285 lecture. Introduction to faculty for Pathobiology graduate students.

- Spring 2010 Bio51. Introduction to Microbiology.
Course Leader. 63 undergraduates.
- Fall 2010 Faculty on parade for MCB and Pathobiology graduate students.

- Spring 2011 Introduction to Microbiology, Bio51.
Course Leader. 75 undergraduates.
- Fall 2011 Faculty on parade for MCB graduate students.

- Spring 2012 Introduction to Microbiology, Bio51.
Course leader. 62 undergraduates.
- Fall 2012 Faculty on parade for MCB and Pathobiology graduate students.

- Spring 2014 Introduction to Microbiology, Bio51.
Course leader. 79 undergraduates.
- Fall 2014 Faculty on parade for MCB and Pathobiology graduate students.

*Rating legend (1=excellent, 2=very good, 3=good, 4=fair, 5=poor)

Brown Clinical Fellows Committee

Clinical Fellow: Nancy Tsai. Scholarship Oversight Committee (SOC). 2008-2011.