

KATHLEEN R. RYAN

Assistant Professor, Plant and Microbial Biology
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EDUCATION

- 1997 Ph. D. in Biochemistry, Cellular and Molecular Biology
Johns Hopkins University School of Medicine, Baltimore, MD
- 1990 A.B. *magna cum laude*
Harvard and Radcliffe Colleges, Cambridge, MA

RESEARCH AND PROFESSIONAL EXPERIENCE

- 2004-2010 Assistant Professor, Plant and Microbial Biology
University of California, Berkeley
- 1997-2003 Postdoctoral Fellow, Developmental Biology
Stanford University School of Medicine, Stanford, CA
- 1996-1997 Postdoctoral Fellow, Medical Biochemistry and Genetics
Texas A&M University College of Medicine

AWARDS

- 2008 Hellman Family Faculty Fund Award
- 2007 Regents' Junior Faculty Fellowship
- 2007 UC Berkeley College of Natural Resources Distinguished Teaching
Award
- 2006-2007 Berkeley Presidential Chair Fellows Program
- 1997-2000 Helen Hay Whitney Postdoctoral Research Fellowship
- 1992-1996 Medical Scientist Training Program
- 1992 National Science Foundation Predoctoral Fellowship, declined

INVITED PRESENTATIONS

- 2009 UC Davis, Department of Microbiology
- 2009 UCLA, Department of Chemistry and Biochemistry
- 2008 University of Iowa, Department of Microbiology
- 2008 University of Illinois at Chicago, Department of Medicine
- 2008 University of Chicago, Department of Biochemistry and Molecular Biology
- 2008 Gordon Conference, Sensory Transduction in Microorganisms
- 2007 MIT, Department of Biology
- 2007 UMass Amherst, Department of Microbiology
- 2006 UCSF Biochemistry Seminar Series
- 2006 Syracuse University, Department of Biology
- 2005 IUMS General Meeting, Symposium on Mechanisms and Regulation of
Intracellular Protein Degradation
- 2005 2nd International *Caulobacter* Meeting
- 2005 ASM General Meeting, Symposium on Cell Division and Development in
Bacteria
- 2003 Molecular Genetics of Bacteria and Phages
- 2002 1st International *Caulobacter* Meet

SERVICE

Campus

2010 Interviewer, Berkeley Regents' and Chancellor's Scholars
2009 Synthetic Biology Institute Science Committee
2008 Faculty Homecoming Lecturer
2007-present KALX Radio Policy Advisory Board
2007-2010 Biology Fellows Program Selection Committee
2007-2008 Mentor, Berkeley Regents' and Chancellor's Scholars
2006 Interviewer, Berkeley Edge Program

College

2007-2009 College of Natural Resources Faculty Committee on Research
2007-2009 College of Natural Resources Awards Selection Committee

Department

2009-present PMB Training Grant Committee
2008-present Organizer, PMB Junior Faculty Lunch Seminars
2006-present Courses and Curriculum Development Committee
2004-2007 Graduate Student Admissions Committee
2004-2006 Plant and Microbial Biology Seminar Series Committee

TEACHING

Term	Academic Year	Course	Description	Lectures/ Seminars
Fall	2007-present	PMB 220A	Microbial Genetics	10
Summer 10-week	2006, 2008, 2010	PMB 104L	Discovery Research in Microbiology (additional hands-on lab instruction)	10
Spring	2005	PMB 290	Bacterial Cell Biology	12
Fall	2004-present	PMB/MCB 112C	General Microbiology	20

PEER-REVIEWED PUBLICATIONS

1. **Ryan, K.R.**, Taylor, J.A., and Bowers, L.M. (2010) The BAM complex subunit BamE (SmpA) is required for membrane integrity, stalk growth and normal levels of outer membrane β -barrel proteins in *Caulobacter crescentus*. *Microbiology* 156: 742-756.
2. Taylor, J.A., Wilbur, J.D., Smith, S.C., and **Ryan, K.R.** (2009) Mutations that alter RcdA surface residues decouple protein localization and CtrA proteolysis in *Caulobacter crescentus*. *J. Mol. Biol.* 394: 46-60.
3. Reisinger, S.J., Huntwork, S., Viollier, P.H., and **Ryan, K.R.** (2007). DivL performs critical cell cycle functions in *Caulobacter crescentus* independent of kinase activity. *J. Bacteriol.* 189: 8308-8320.

4. Biondi, E.G., Reisinger, S.J., Skerker, J.M., Arif, M., Perchuk, B.S., **Ryan, K.R.**, and Laub, M.T. (2006). Regulation of the bacterial cell cycle by an integrated genetic circuit. *Nature* 444: 899-904.
5. McGrath, P.T., Iniesta, A.A., **Ryan, K.R.**, Shapiro, L. and McAdams, H.H. (2006). Controlled degradation of a cell cycle master regulator requires a dynamically localized protease complex and a polar specificity factor. *Cell* 124:535-547.8
6. **Ryan, K.R.**, Huntwork, S. and Shapiro, L. (2004). Recruitment of a cytoplasmic response regulator to the cell pole is linked to its cell cycle-regulated proteolysis. *Proc. Natl. Acad. Sci. USA* 101:7415-7420.
7. Judd, E.M., **Ryan, K.R.**, Moerner, W.E., Shapiro, L. and McAdams, H.H. (2003). Fluorescence bleaching reveals asymmetric compartment formation prior to cell division in *Caulobacter*. *Proc. Natl. Acad. Sci. USA* 100:8235-8240.
8. **Ryan, K.R.**, Judd, E.M. and Shapiro, L. (2002). The CtrA response regulator essential for *Caulobacter* cell cycle progression requires a bipartite degradation signal for temporally controlled proteolysis. *J. Mol. Biol.* 324:443-55.
9. Shepard, L.A., Heuck, A.P., Hamman, B.D., Rossjohn, J., Parker, M.W., **Ryan, K.R.**, Johnson, A.E. and Tweten, R.K. (1998). Identification of a membrane-spanning domain of the thiol-activated pore-forming toxin *Clostridium perfringens* perfringolysin O: An α -helical to β -sheet transition identified by fluorescence spectroscopy. *Biochemistry* 37: 14563-14574.
10. Davis, A.J., **Ryan, K.R.** and Jensen, R.E. (1998). Tim23p contains separate and distinct signals for targeting to mitochondria and insertion into the inner membrane. *Mol. Biol. Cell* 9: 2577-2593.
11. **Ryan, K.R.**, Leung, R.S. and Jensen, R.E. (1998). Characterization of the mitochondrial inner membrane translocase complex: the Tim23p hydrophobic domain interacts with Tim17p but not with other Tim23p molecules. *Mol. Cell. Biol.* 18: 178-187.
12. **Ryan, K.R.**, Menold, M.M., Garrett, S. and Jensen, R.E. (1994). *SMS1*, a high-copy suppressor of the yeast *mas6* mutant, encodes an essential inner membrane protein required for mitochondrial protein import. *Mol. Biol. Cell* 5: 529-538.
13. **Ryan, K.R.** and Jensen, R.E. (1993). Mas6p can be cross-linked to an arrested precursor and interacts with other proteins during mitochondrial protein import. *J. Biol. Chem.* 268: 23743-23746.
14. Machamer, C.E., Grim, M. G., Esquela, A., Chung, S. W., Rolls, M., **Ryan, K.** and Swift, A.M. (1993). Retention of a *cis* Golgi protein requires polar residues on one face of a predicted α -helix in the transmembrane domain. *Mol. Biol. Cell* 4: 695-704.
15. Ronneberg, T., Nakamura, H., Cranmer III, L. D., **Ryan, K.**, Kishi, Y. and Hastings, J.W. (1991). Gonyauline: A novel endogenous substance shortening the period of the circadian clock of a unicellular alga. *Experientia* 47: 103-106.

INVITED REVIEWS

1. Bowers, L.M., Shapland, E.B. and **Ryan, K.R.** (2008). Who's in charge here? Regulating cell cycle regulators. *Curr. Opin. Microbiol.* 11: 547-552.
2. **Ryan, K.R.** (2006). Partners in Crime: Phosphotransfer profiling identifies a multicomponent phosphorelay. *Mol. Microbiol.* 59: 361-3.
3. **Ryan, K.R.** and Shapiro, L. (2003). Temporal and spatial regulation in prokaryotic cell cycle progression and development. *Ann. Rev. Biochem.* 72: 367-394.
4. **Ryan, K.R.** and Jensen, R.E. (1995). Protein translocation across mitochondrial membranes: What a long, strange trip it is. *Cell* 83: 517-519.