

## **CARL EUGENE BAUER**

### EDUCATION

- 1978 B.S., Microbiology, University of Minnesota, Minneapolis  
1980 M.S., Bacteriology, Washington State University, Pullman  
1982 M.S., Microbiology, University of Illinois, Urbana  
1986 Ph.D., Microbiology, University of Illinois, Urbana

### APPOINTMENTS

- 1986-88 Visiting (postdoctoral) Scientist, E.I. du Pont de Nemours & Co.  
1988-97 Fellow, Indiana Molecular Biology Institute  
1988-94 Assistant Professor, Department of Biology  
1993-98 Director, Microbiology Graduate Program  
1999-01  
1995-98 Director, Molecular Biology and Biochemistry Program  
1999-01  
1994-97 Associate Professor, Department of Biology  
1997 Professor, Department of Biology  
1997- Senior Fellow, Indiana Molecular Biology Institute  
1997-07 Clyde Culbertson Professor of Biology  
2001-04 Director, Interdisciplinary Biochemistry Program  
2004-05 Sabbatical leave, Indiana University  
2007- Class of 54 Endowed Professorship

### FELLOWSHIPS AND AWARDS

- 1982 Phi Kappa Phi  
1984 Sigma Xi  
1983-86 HEW Cellular and Molecular Biology Training Fellowship  
1992 Marcus Rhoades Outstanding Young Faculty Award  
1993-98 NIH Research Career Development Award

- 1994 American Society for Photobiology Young Investigator Award
- 1997 Clyde Culbertson Endowed Professorship
- 2002 IBASM Outstanding Academic Achievement Award
- 2004-06 American Society for Microbiology “Waksman Foundation for Microbiology Lecturer”
- 2006- NIH MERIT (Method to Extend Research in Time) award

## PUBLICATIONS

### Books:

Blankenship, R., Madagan, M. and Bauer C., eds. 1995. Anoxygenic photosynthetic bacteria. Kluwer Academic Publishers. 1331 pp.

### Articles:

1. Bauer, C.E., J. Carey, L.M. Kasper, S.P. Lynn, D.A. Waechter & J.F. Gardner. 1983. Attenuation in bacterial operons. In *Gene Function in Prokaryotes*. (eds. J. Beckwith, Davies, and J.A. Gallant), pp. 65-89. *Cold Spring Harbor Press, Cold Spring Harbor, NY*
2. Bauer, C.E., S. Hesse, J.F. Gardner & R.I. Gumport. 1984. DNA interactions during bacteriophage lambda site-specific recombination. *Cold Spring Harbor Symp. Quant. Biol.* 49:699-705
3. Bauer, C.E., J.F. Gardner & R.I. Gumport. 1985. The extent of sequence homology required for bacteriophage lambda site-specific recombination. *J. Mol. Biol.* 181:187-197
4. Bauer, C.E., S.D. Hesse, D.A. Waechter-Brulla, S.P. Lynn, R.I. Gumport & J. F. Gardner. 1985. A genetic enrichment for mutations constructed by oligonucleotide-directed mutagenesis. *Gene* 37:73-81
5. Lynn, S.P., C.E. Bauer, K. Chapman & J. F. Gardner. 1985. Identification and characterization of mutants affecting transcription termination at the threonine operon attenuator. *J. Mol. Biol.* 183:529-541
6. Bauer, C.E., S.D. Hesse, R.I. Gumport & J. F. Gardner. 1986. A mutational analysis of integrase arm-type binding sites of bacteriophage lambda: Integration and excision involve distinct interactions of integrase with arm-type sites. *J. Mol. Biol.* 192:513-527
7. Nash, H.A., C.E. Bauer & J. F. Gardner. 1987. The role of homology in site-specific recombination of bacteriophage lambda: Evidence against annealing of cohesive ends. *Proc. Natl. Acad. Sci.*, 84:4049-4053
8. Bauer, C.E., M. Eleuterio, D.A. Young & B. L. Marrs. 1987. Analysis of

- transcription through the *Rhodobacter capsulatus puf* operon using a translational fusion of *pufM* to the *E. coli lacZ* gene. In *Progress in Photosynthesis Research*. (J. Biggins, ed.) vol. 4, pp. 699-705, Martinus Nijhoff Pub., Dordrecht, Netherlands
9. Pollock, D., C.E. Bauer & P.A. Scolnick. 1988. I. Transcription of the *Rhodobacter capsulatus nifHDK* operon is modulated by the nitrogen source. II. Construction of plasmid expression vectors based on the *nifHDK* promoter. *Gene* 65:269-275
  10. Bauer, C.E., D.A. Young & B.L. Marrs. 1988. Analysis of the *Rhodobacter capsulatus puf* operon: Location of the oxygen regulated promoter region and the identification of an additional *puf* encoded gene. *J. Biol. Chem.* 263:4820-4827.
  11. Bauer, C.E. & B.L. Marrs. 1988. The oxygen and light regulated *Rhodobacter capsulatus puf* operon encodes a regulatory protein for bacteriochlorophyll biosynthesis. *Proc. Natl. Acad. Sci. U.S.A.* 85:7047-7087
  12. Young, D.A., C.E. Bauer & B.L. Marrs. 1989. Genetic evidence for superoperonal organization of genes for photosynthetic pigments and pigment-binding proteins in *Rhodobacter capsulatus*. *Mol. Gen. Genet.* 218:1-12
  13. Bauer, C.E., J.F. Gardner, R.I. Gumport & R.I. Weisberg. 1989. The effect of attachment site mutations on strand exchange in bacteriophage lambda site-specific recombination. *Genetics* 122:727-735
  14. Yang, Z. & C.E. Bauer. 1990. *Rhodobacter capsulatus* genes involved in early steps of the bacteriochlorophyll biosynthetic pathway. *J. Bacteriol.* 172:5000-5010
  15. Marrs, B.L., D.A. Young, C.E. Bauer, & J.C. Williams. 1990. The regulation of bacteriochlorophyll synthesis in *Rhodobacter capsulatus*. In *Molecular biology of membrane-bound complexes in phototrophic bacteria*. (G. Drews and E.A. Dawes eds.) pp. 47-48. Plenum Press, NY
  16. Bauer, C.E., J. Buggy, Z. Yang & B.L. Marrs. 1991. The "superoperonal" organization of genes for pigment biosynthesis and reaction center proteins is a conserved feature in *R. capsulatus*: Analysis of overlapping *bchB* and *pufA* transcripts. *Mol. Gen. Genet.* 228:433-444
  17. Yildiz, F.H., H. Gest & C.E. Bauer. 1991. Genetic analysis of photosynthesis in *Rhodospirillum centenum*. *J. Bacteriol.* 173:4163-4170
  18. Yildiz, F.H., H. Gest & C.E. Bauer. 1991. Attenuated effect of oxygen on photopigment synthesis in *Rhodospirillum centenum*. *J. Bacteriol.* 173:5502-5506
  19. Sganga, M. & C.E. Bauer. 1992. Regulatory events controlling light harvesting and reaction center structural gene expression in *R. capsulatus*. *Cell* 68:945-954
  20. Bollivar, D.W. & C.E. Bauer. 1992. Association of tetrapyrrole intermediates in the bacteriochlorophyll *a* biosynthetic pathway with the major outer membrane porin protein from *Rhodobacter capsulatus*. *Biochem. J.* 282:471-476
  21. Wellington, C.L., C.E. Bauer & J.T. Beatty. 1992. Minireview-Superoperons in

- purple non-sulfur bacteria: The tip of the iceberg? *Can. J. Microbiol.* 38:20-27
22. Bollivar, D.W. & C.E. Bauer. 1992. Nucleotide sequence of S-adenosyl methionine magnesium protoporphyrin methyltransferase from *Rhodobacter capsulatus*. *Plant Physiol.* 98:408-410
  23. Sganga, M. W, R. R. Aksamit, G.L. Cantoni & C.E Bauer. 1992. Mutational and nucleotide sequence analysis of S-adenosylhomocysteine hydrolase from *Rhodobacter capsulatus*. *Proc. Natl. Acad. Sci.* 89:6328-6332
  24. Suzuki, J.Y. & C.E. Bauer. 1992. Light-independent chlorophyll biosynthesis: Involvement of the chloroplast gene *chlL (frxC)*. *The Plant Cell*, 4:929-940
  25. Yildiz, F.H., C.E. Bauer & H. Gest. 1992. Conservation of the photosynthesis gene cluster in *Rhodospirillum centenum*. *Mol. Microbiol.* 6:2683-2691
  26. Yildiz, F.H., C.E. Bauer & H. Gest. 1992. Characterization of light harvesting and reaction center complexes from *Rhodospirillum centenum*. In *Research in Photosynthesis*, (N. Murata ed. ) Vol. III, 19-26. Kluwer Press. Academic Publishers
  27. Bauer, C. E., D. Bollivar, J. Dobrowski & J. Suzuki. 1992. Molecular-genetic analysis of Mg-tetrapyrrole biosynthesis in bacteria and alga. In *Frontiers of Photobiology*, (Shima, A., M. Ichahashi, Y. Fujiwara and H. Takebe ed.) pp 41-42. Elsevier Science Publishers.
  28. Bauer, C. E., J. J. Buggy & C. Mosely. 1993. Control of photosystem genes in *Rhodobacter capsulatus*. *Trends in Genet.* 9:56-60. (Invited review)
  29. Bauer, C. E., D. W. Bollivar & J. Y. Suzuki. 1993. Minireview-Genetic analysis of photopigment biosynthesis in eubacteria: A guiding light for algae and plants. *J. Bacteriol.* 175:3919-3925.
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  33. Bollivar, D. W., Z-Y. Jiang, C. E. Bauer & S. I. Beale. 1994. Heterologous overexpression of the *bchM* gene product from *Rhodobacter capsulatus* and demonstration that it encodes for S-adenosyl-L-methionine:Mg-protoporphyrin methyltransferase. *J. Bacteriol.* 176:5290-5296.
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- bacteriochlorophyll *a*. *Biochemistry* 33, 12,763-12,768.
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  39. Suzuki, J. Y. & C. E. Bauer. 1995. Altered monovinyl and divinyl protochlorophyllide pools in the *bchJ* mutant of *Rhodobacter capsulatus*: Possible monovinyl substrate discrimination of light independent protochlorophyllide reductase. *J. Biol. Chem.* 270, 3732-3740.
  40. Bauer, C. B. 1995. Regulation of photosystem gene expression. In *Anoxygenic Photosynthetic Bacteria* (R. E. Blankenship, M. Madigan and C. Bauer ed.). pp 1221-1234. Kluwer Academic Publishing.
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  43. Ponnampalam, S. N., J. J. Buggy & C. E. Bauer. 1995. Characterization of an aerobic repressor that coordinately regulates bacteriochlorophyll, carotenoid and light harvesting-II expression in *Rhodobacter capsulatus*. *J. Bacteriol.* 177, 2990-2997.
  44. Buggy, J. J. & C. E. Bauer. 1995. SenC, a homolog of the yeast cytochrome *c* oxidase assembly factor SCO1, is involved in both aerobic respiration and anaerobic photosynthesis gene expression in *Rhodobacter capsulatus*. *J. Bacteriol.* 177, 6958-6965.
  45. Bauer, C. E. 1995. Evolutionary relatedness of the bacteriochlorophyll and chlorophyll biosynthetic pathways. In *Photosynthesis: From Light to Biosphere* (P. Mathis ed.). Kluwer Press. Academic Publishers. pp 899-904.
  46. Nickens, D., C. J. Fry, L. R. Ragatz, C. E. Bauer & H. Gest. 1996. Biotype of the nonsulfur purple photosynthetic bacterium, *Rhodospirillum centenum*. *Archives for Microbiol.* 165, 91-96.

47. Smith, C., J. Y. Suzuki & C. E. Bauer. 1996. Cloning and characterization of the chlorophyll biosynthesis gene *chlM* from *Synechocystis* PCC 6803 by complementation of a bacteriochlorophyll biosynthesis mutant of *Rhodobacter capsulatus*. *Plant Mol. Biol.* 30, 1307-1314.
48. Bauer, C. E. & T. H. Bird. 1996. Minireview-Regulatory circuits controlling photosynthesis gene expression. *Cell* 85, 5-8 (Invited review). {Figure from this review is used in the text book "Brock Biology of Microorganisms, 7 and 8<sup>th</sup> additions}
49. Ulrike Oster, C. E. Bauer & W. Rüdiger. 1997. Characterization of Chlorophyll *a* and Bacteriochlorophyll *a* Synthetases by Heterologous Expression in *E. coli*. *J. Biol. Chem.* 272, 9671-9676.
50. Suzuki J. Y., Bollivar D. W., & Bauer, C. E. 1997. Genetic analysis of the chlorophyll biosynthesis. *Ann. Review of Genetics* 31, 61-89 (Invited review).
51. Ponnampalam, S. N., & C. E. Bauer. 1997. DNA Binding characteristics of CrtJ: A redox-responding repressor of bacteriochlorophyll, carotenoid and light harvesting-II gene expression in *Rhodobacter capsulatus*. *J. Biol. Chem.* 272, 9671-9676.
52. Jiang, Z-Y, H. Gest & C. Bauer. 1997. Analysis of a chemotaxis operon from *Rhodospirillum centenum*. *J. Bacteriol.* 179, 5712-5719.
53. Jiang, Z-Y, H. Gest & C. Bauer. 1997. Chemosensory and photosensory perception in purple photosynthetic bacteria utilize common signal transduction components. *J. Bacteriol.* 179, 5720-5727.
54. Jiang, Z-Y, B. G. Rushing, Y. Bai, H. Gest & C. E. Bauer. 1998. Isolation of *Rhodospirillum centenum* mutants defective in phototactic colony motility by transposon mutagenesis. *J. Bacteriol.* 180, 1248-1255.
55. Du, S., T. H. Bird & C. E. Bauer. 1998. DNA binding properties of RegA\*. A constitutively active anaerobic activator of photosynthesis gene expression in *Rhodobacter capsulatus*. *J. Biol. Chem.* 273, 18509-18513.
56. Nickens, D. G. & C. E. Bauer. 1998. Transcription analysis of the *puc* operon from *Rhodobacter capsulatus*. *J. Bacteriol.* 180, 4270-4277.
57. Kouadio, J-L & C. E. Bauer. 1998. Structural and Functional Characterization of the dim light transcriptional regulator HvrA from *Rhodobacter capsulatus*: A homolog of H-NS. *Mol. Micro. In Press*
58. Xiong, J., K. Inoue & C. E. Bauer. 1998. Characterization of a major photosynthesis gene cluster from the heliobacterium *Heliobacillus mobilis*. In *Photosynthesis: Mechanisms and Effects*, (G. Garab ed.), Kluwer Academic publishers, Dordrecht, The Netherlands. Vol. IV: pp 2835-2840
59. Masuda, S., Y. Matsumoto, K. V. P. Nagashima, K. Shimada, K. Inoue, C. E. Bauer & K. Matsuura. 1998. Characterization of photosynthetic regulatory genes RegA and RegB; Studies among different species. In *Photosynthesis: Mechanisms and Effects*, (G. Garab ed.) Kluwer Academic publishers, Dordrecht, The Netherlands. Vol. IV: pp. 2881-2884

60. Nakahara, M., A. Hattori, C. E. Bauer & K. Inoue. 1998. Functional complementation of protochlorophyllide reductase activity in mutants of *Rhodobacter capsulatus* by introduction of a genomic library from the green nonsulfur bacterium *Chloroflexus aurantiacus*. In *Photosynthesis: Mechanisms and Effects*. (G. Garab ed.), Kluwer Academic publishers, Dordrecht, The Netherlands. Vol. IV: pp. 2873-2876
61. Inoue, K., E. Murayama, C. E. Bauer, J. Xiong, S. Akutsu and M. Kobayashi. 1998. Properties of a novel pigment synthesized by a *Rhodobacter capsulatus* strain containing an integrated photosynthesis gene cluster from *Heliobacillus mobilis*. In *Photosynthesis: Mechanisms and Effects*. (G. Garab ed.), Kluwer Academic publishers, Dordrecht, The Netherlands. Vol. IV: pp. 3237-3240
62. Ponnampalam, S. N., S. Elsen & C. E. Bauer. 1998. Aerobic repression of the *Rhodobacter capsulatus bchC* promoter involves cooperative interactions between neighboring palindromes. *J. Biol. Chem.* 273, 30757-30761.
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65. Nickens, D. G., J. J. Buggy, & C. E. Bauer. 1999. A mutation that affects isoprenoid biosynthesis results in altered expression of photosynthesis genes and synthesis of the photosynthetic apparatus in *Rhodobacter capsulatus*. In *The Photosynthetic Prokaryotes* (G. A. Peschek, W. Löffelhardt and G. Schmetterer eds.). pp 149-157. Plenum Publishing Corp. New York, NY
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70. Jiang, Z-Y, L. Swem, B. Rushing S. Devanathan, G. Tollin & C. E. Bauer. 1999. Bacterial photoreceptor with similarity to both photoactive yellow protein and plant phytochromes. *Science*, 285, 406-409.

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  102. Anderson, S., V. Dragnea, V., S. Masuda, J. Ybe, K. Moffat & C. E. Bauer. 2005. Structure of a novel photoreceptor: the BLUF domain of AppA from *Rhodobacter sphaeroides*. *Biochemistry.* 44, 7998-8005
  103. Dragnea V., M. Waegelle, S. Balascuta, C. E. Bauer and B. Dragnea 2005 Spectroscopic studies of the AppA blue-light receptor BLUF domain from *Rb. sphaeroides* in solution and in a crystal lattice with time-resolved spectroscopy. *Biochemistry.* 44:15978-15985.
  104. Swem, D. L., L. R. Swem, A. Setterdahl & C. E. Bauer. 2005. Involvement of SenC in assembly of cytochrome *c* oxidase in *Rhodobacter capsulatus*. *J. Bacteriol.* 87: 8081-8087.
  105. Smart, J. L. & C. E. Bauer. **2006.** Tetrapyrrole biosynthesis in *Rhodobacter capsulatus* is transcriptionally regulated by a novel heme-binding regulatory protein, HbrL. *J. Bacteriol.* 188: 1567-1576.
  106. Swem, L. R., X. Gong, C.-A. Yu & C. E. Bauer. **2006.** RegB controls a diverse array of metabolic processes by monitoring the redox state of the ubiquinone pool. *J. Biol. Chem.* 281: 6768-6775.
  107. Yuan, H., S. Masuda, V. Dragnea, S. Anderson, K. Moffat & C. E. Bauer. **2006.** Structure of the blue light photoreceptor, BluP (Slr1694) from *Synechocystis*

- PCC6803 reveals photoinduced alterations of a hydrogen bond network to FAD. *Biochemistry*, 45: 12687-12694
108. Kim, s.-K., J. T. Mason, D. B. Knaff, C. E. Bauer & A. T. Setterdahl **2006**. Redox properties of the *Rhodobacter sphaeroides* transcriptional regulatory proteins PpsR and AppA. *Photosynthesis Research*. 89: 89-98
  109. Wu, J., & C. E. Bauer. **2007**. RegB/RegA, A Global Redox-Responding Two-Component Regulatory System. In, Bacterial Signal Transduction: network and drug targets. Ryutaro Utsumi ed. *In Press*, Landes Bioscience Eureka, Georgetown, TX
  110. Chung, Y.-H. Masuda, S., & C. E. Bauer. **2007**. Purification and reconstitution of PYP-phytochrome (Ppr) with biliverdin and 4-hydroxycinnamic acid. In *Two-Component Signaling Systems*" edited by Mel Simon, Brian Crane and Alexandrine Bilwes Crane. *Methods in Enzymology*. 422: *In Press*
  111. Swem L. R., Swem, D. L., Wu, J., & C. E. Bauer. **2007**. Purification and Assays of *Rhodobacter capsulatus* RegB-RegA Two Component Signal Transduction System. In *Two-Component Signaling Systems*" edited by Mel Simon, Brian Crane and Alexandrine Bilwes Crane. *Methods in Enzymology*. 422: *In Press*
  112. Willett, J., J. L. Smart & C. E. Bauer **2007**. RegA in Controls Synthesis of Bacteriochlorophyll and Carotenoid Photopigments in *Rhodobacter capsulatus*. *J. Bacteriol.* *In Press*.
  113. Xiong, J., C. E. Bauer & A. Pancholy. **2007**. Insight into the heme *d*<sub>1</sub> biosynthesis pathway in heliobacteria through bioinformatics analysis. *Microbiology*, *In Press*
  114. António, M. R. S., D. R. Rollo, D. B. Finkelstein, L. M. Pratt & C. E. Bauer, **2007**. The microbial Biota from Anderson Lake mud flats exhibits an unusually high level of diversity. *Submitted*
  115. António, M. R. S., D. B. Finkelstein, D. R. Rollo, L. M. Pratt & C. E. Bauer, **2007**. A Model environment for early earth planetary history harbors several new deeply divergent microbial divisions *Submitted*

## GRANTS

### Previous funding

- |         |  |
|---------|--|
| 1989-93 | National Institute of Health GM40941; Prokaryotic gene regulation by light and oxygen; \$515,518 total costs                             |
| 1990-93 | National Science Foundation, \$240,000 Total costs; Characterization of <i>Rhodospirillum centenum</i> and other novel anoxyphototrophes |

- 1993-97 National Science Foundation, \$270,662 Total costs; Genetics and physiology of novel anoxyphototrophs
- 1993-97 National Institute of Health GM40941; Prokaryotic gene regulation by light and oxygen; \$783,300 total costs
- 1993-98 NIH Research and Career Development Award, \$372,060 total costs
- 1995-98 National Science Foundation Postdoctoral Fellowship (awarded to B. Rushing) \$110,000 (Direct)
- 1996-00 National Institute of Health GM53940; Genetic analysis of Mg-tetrapyrrole biosynthesis; \$591,647 total costs
- 1996-97 National Science Foundation, Conference grant \$4,000
- 1996-97 Department of Energy, Conference grant \$3,000
- 1997-01 National Institute of Health GM40941; Prokaryotic gene regulation by light and oxygen; \$906,989
- 1998-03 National Institute of Health GM58050; Prokaryotic Swarm Cell Differentiation and Photoperception; \$779,795 total costs
- 1999-03 NASA Astrobiology Grant (Subcontracted from an Arizona State University funded proposal), \$115,908 total costs; Defining evolution of photosynthesis by sequence analysis.
- 2000-02 National Institute of Health GM53940; Genetic analysis of Mg-tetrapyrrole biosynthesis; \$30,000 total costs
- 2001-06 National Institute of Health, \$1,197,273 Total costs; Prokaryotic gene regulation by light and oxygen
- 2002-06 National Institute of Health, \$916,373 total costs; Genetic analysis of Mg-tetrapyrrole biosynthesis

#### Current funding

- 2002-07 David and Lucile Packard Foundation, \$1,000,000 (Direct) Life at the edge of hydration. (Co-PI with Donald Burke and Lisa Pratt)
- 2004-07 National Science Foundation , \$1,254,415 total costs; Microbial genome sequencing: genome sequences for four phototrophic prokaryotes. (Co PI with R. E. Blankenship, J. W. Touchman, M. T. Madigan and T. J. Beatty)
- 2006-11 National Institutes of Health MERIT (Method to Extend Research Time) award: Prokaryotic gene regulation by light and oxygen. \$2,901,027 total costs.

Pending grants

**2006-08** National Science Foundation: Total requested \$1,091,986  
Project/Proposal Title: Development of a Dual-Source Time-of-Flight  
Mass Spectrometer for Elemental and Speciation Analysis (Co-PI with  
Gary Hieftje)

PATENTS

Pending:

Patent Application number 10-723,427  
Title: Production of Ubiquinones

## STUDENTS AND POSTDOCS TRAINED

### Graduated Ph.D. Students (Degree Year):

#### Students:

Yildiz, Fitnat	1992
Bollivar, David	1993
Buggy, Joe	1993
Suzuki, Jon	1994
Sganga, Mike	1996
Mosley, Cheré	1996
Ponnampalam, Stephen	1997
Kouadio, Jean-Louis	1997
Jiang, Ze-Yu	1997
Nickens, David	1997
Du, Shouying	1999
Dong, Chen	2000
Berleman, James	2004
Swem, Lee	2005

### Current Ph.D.

**Li, Keran**  
**Marden, Jeremiah**  
**Jiang, Wu**  
**Hua Yuan**  
**Liang Yin**

### Graduated Master's Students (Degree Year):

#### Students:

Yang, Zamin	1990
Yong, Bai	1995
Smith, Craig	1995
Swem, Danielle	2001
<b>Sugata</b>	
McClain, John	2001

### Current Master's

**Marina, Sousa**  
**Roychowdhury**

### Past Postdoctorals:

#### Postdoctorals:

Kamicker, Barbara	1988-89
Bird, Terry	1994-98
Rushing, Brenda	1994-99
Elsen, Sylvie	1996-1999
Tang, Lei	1999-2000
Jiang, Ze-Yu	1997-2000
Xiong, Jin	1996-2001
Masuda, Shinji	2000-2003
Smart, James	2002-2006
Yong-Ho Chen	2005-2007

### Current

**Sébastien Zappa**  
**Setterdahl, Aaron**  
**Dragnea, Vladimira**

## PROFESSIONAL SERVICE:

1992      Session Chairperson, Emerging Microbial Systems, Fifth ASM conference

- on genetics and molecular biology of industrial microorganisms,
- 1998 Session Chairperson, "Tetrapyrrole biosynthesis," Annual Meeting for ASM;
- 1995, 1996 Guest lecturer/guest instructor at Woods Hole Marine Biological Laboratory Course on Microbial Diversity;
- 1996 Chair, Conference Organizing Committee "Diversity, Genetics and Physiology of Photosynthetic Prokaryotes";
- 1996 Session Chairperson, "Gene Regulation," Annual meeting of the Society for Industrial Microbiology;
- 1997-04 Elected member, International Symposium of Photosynthetic Prokaryotes Scientific Advisory Committee;
- 1995 Ad hoc committee member of the Microbial Physiology Study Section-01, NIH;
- 1996 Ad hoc committee Member, Bacteriology and Mycology-1 study section, NIH;
- 1997 Ad hoc Committee Member, NIH Bacteriology and Mycology-1 study section Panel Member, Department of Energy, Division of Biosciences, Study section on photosynthesis;
- 2003 Member executive committee; Indiana Branch American Society for Microbiology;
- 2004-06 American Society for Microbiology "Waksman Foundation for Microbiology Lecturer".

#### INVITED MEETING TALKS

- 1983 Invited Speaker, Arlie Recombination Meeting. Arlie House, Arlie, VA
- 1984 Invited Speaker, XLIX Cold Spring Harbor Symposium on Quantitative Biology
- 1985 Seminar, American Society of Biological Chemists Annual Meeting
- 1988 Seminar, E. I. DuPont de Nemours & Co., Wilmington, DE  
Seminar, Purdue U/IU Biotechnology & Agri. Genetics Symposium
- 1989 Invited Speaker, Annual Meeting, American Society of Microbiology  
Seminar, 15th Annual Midwest Photosynthesis Conference, French Lick, IN
- 1990 Invited Speaker, Eastern regional photosynthesis conference, Woods Hole,

- MA
- Symposia Speaker, Molecular Genetics of Bacteria and Phage, Cold Spring Harbor Laboratory
- 1991      Invited Speaker, session keynote speaker, VII international symposium on photosynthetic prokaryotes, Amherst, MA  
 Invited Speaker, Annual meeting of the American Society for photobiology, San Antonio, TX  
 Speaker, Annual Meeting for the American Society of Microbiology, Dallas, TX  
 Invited speaker, Pyrroles of Photosynthetic Organisms, Davis, CA
- 1992      Invited Speaker, 11th International Congress on Photobiology, Kyoto, Japan.  
 Invited Speaker, IX International Congress on Photosynthesis, Nagoya, Japan
- 1993      Speaker, Annual Meeting for the American Society of Microbiology, Atlanta, GA  
 Invited Speaker, Gordon Conference, Biochemical Aspects of Photosynthesis, New Hampshire  
 Speaker, Deer Creek Photosynthetic Bacteria Meeting  
 Speaker, West Coast Bacterial Physiologists Asilomar Conference, Asilomar Conference Center, Pacific Grove, CA.
- 1994      ASP New Investigator Award Speaker, Annual Meeting for the American Society for Photobiology, Scottsdale Arizona  
 Plenary Speaker, VII International Symposium on Photosynthetic Prokaryotes. Urbino, Italy
- 1995      Speaker, Bacterial Locomotion and Signal Transduction, Austin, Texas  
 Conference attended: Oxygen Control of Gene Expression. Park City, Utah  
 Invited Speaker, Tetrapyrrole Photoreceptors, Freising, Germany  
 Guest Instructor, Woods Hole Marine Biological Laboratory Course on Microbial Diversity  
 Lecturer, Woods Hole Marine Biological Laboratory Course on Microbial Diversity, Woods Hole, MA  
 Invited Speaker, X International Congress on Photosynthesis, Montpellier, France  
 Speaker, Midwest Consortium for Plant Biotechnology
- 1996      Invited Speaker, Genome Structure and Function of Photosynthetic Organisms, Makuhari, Japan  
 Seminar, Harvard Medical School, Department of Microbiology and Molecular Genetics  
 Invited Speaker; Annual Meeting for the American Society for Photobiology, Scottsdale Arizona  
 Invited Speaker, Gordon Conference on Tetrapyrroles, New Hampshire  
 Guest Instructor, Woods Hole Marine Biological Laboratory Course on Microbial Diversity  
 Lecturer, Woods Hole Marine Biological Laboratory Course on Microbial Diversity, Woods Hole, MA  
 Invited Speaker, Joint Japan-USA Workshop on "Advances in the Molecular Biology of Photosynthesis," Grand Canyon National Park

- 1997 Speaker, Bacterial Locomotion and Signal Transduction Meeting, Cuernavaca, Mexico (Presented by Zeyu Jiang)  
 Invited Speaker, Tetrapyrrole Photoreceptors in Photosynthetic Organisms. Blarney Ireland  
 Invited Plenary Speaker, 9th International Symposium on Photosynthetic Prokaryotes, Vienna, Austria.  
 Invited speaker, European Science Foundation Workshop on Green and Heliobacteria. Urbano Italy
- 1998 Speaker, Gordon Conference on Signal Transduction in Microorganisms, Ventura, CA  
 Invited Speaker, Annual Meeting for the American Society of Microbiology, Atlanta, GA  
 Invited Plenary Speaker, Eucchem Conference on Protein Phosphorylation in Photosynthesis. Sjudarhöjden, Sweden  
 Invited Speaker, Gordon Conference on Microbial Stress Response. (Declined Invitation)  
 Invited Plenary Speaker, XIth International Congress on Photosynthesis, Budapest Hungary  
 Invited Speaker, American Society for Photobiology Annual Meeting  
 Student Invited Speaker for The Symposium, "Interactions of Proteins with their targets" honoring graduating Biology students at Rhur-Universität Bochum, Bochum Germany  
 Invited Speaker, Midwest Prokaryotes Meeting, Urbana, Illinois  
 Invited Speaker, US-Japan binational workshop on "The Effects of Environmental Conditions on CO<sub>2</sub> Fixation and the Photosynthetic Apparatus." Asilomar Conference Center, Pacific Grove, CA
- 1999 Invited Speaker, European Symposium on Photomorphogenesis, Freie Universität, Berlin, Germany  
 Invited Speaker, International Symposium on "Photosynthesis: a Landmark in the History of Life." Sevilla, Spain  
 Invited Speaker, XVI International Botanical Congress, Saint Louis, Missouri  
 Invited Speaker, IVth Workshop on Green & Heliobacteria, Girona, Spain
- 2000 Invited Speaker, Gordon Research Conference on "Signal Transduction in Microorganisms." Ventura, California  
 Invited Speaker, The First Annual Astrobiology Science Conference. NASA's Ames Research Center, Mountain View, California (presented by Jin Xiong)  
 Invited Speaker, 2000 Eastern Regional Photosynthesis Conference. Marine Biological Laboratory, Woods Hole, MA  
 Invited Speaker, Gordon Research Conference on Photosensory Receptors & Signal Transduction, Ciocco, Italy  
 Invited Plenary Speaker, Plant Physiology Meeting, San Diego, CA  
 Invited Speaker, Gordon Research Conference on Nitrogenase and Nitrogen Fixation. New Hampshire (Presented by Yuichi Fujita).  
 Invited Plenary Speaker, 10th International Symposium of Photosynthetic Prokaryotes. Barcelona, Spain  
 Invited Speaker, 5th International Porphyrin-Heme Symposium. Sendai, Japan  
 Invited Speaker, Royal Netherlands Academy of Arts and Sciences meeting on "Photoreceptor proteins: Structure, Photochemistry & Dynamics." Amsterdam, The Netherlands (Declined Invitation)

- 2001 Invited Speaker, Meeting Titled: From Prokaryotes To Eukaryotic Organelles: Cellular, Biochemical And Genetical Integration. Havar, Croatia.  
 Invited Speaker, Astrobiology Workshop, Arizona State University  
 Invited Speaker; Genomics of Phototrophic Organisms, The Kazusa Akademia Park, Chiba Prefecture, Japan.  
 Invited speaker, 13th International Congress on Nitrogen Fixation, Hamilton, Ontario Canada.  
 Invited speaker, XIIth International Congress on Photosynthesis, Brisbane, Australia  
 Invited speaker, Evolution of Photosynthesis Satellite Meeting, Heron Island, Australia (Declined invitation)
- 2002 Invited speaker, Jacques Monod Conference on the Evolution of bioenergetic Mechanisms, Marseille, France  
 Invited speaker, The Royal Society Meeting on “Comparative functional genomics of chloroplasts, mitochondria and their bacterial homologs- newperspectives on symbiosis in cell evolution”. London England  
 Invited speaker, Novartis Foundation Meeting on “Molecular evolution of photosynthesis and respiration. London England”  
 Invited speaker, EuroConference on “Bacterial Neural Networks” Obernai France  
 Invited speaker, Gordon Conference on “Photosensory Receptors and Signal Transduction, Ciocco Italy,  
 Invited speaker, Gordon Conference on Photosynthesis (Declined invitation)  
 Invited speaker "Photosynthesis And Crop Production" Kyiv, Ukraine (Declined Invitation)  
 Invited speaker, Annual meeting of the Indiana Branch of the American Society of Microbiology  
 Speaker at the “ASM conference on Microbial Development”, Montréal, Canada (Presented by James Berleman)  
 Invited speaker, “IV International Congress On Blue-light Syndrome” Okazaki, Japan (presented by Shinji Masuda)
- 2003 Invited Plenary Speaker, 11th International Symposium of Photosynthetic Prokaryotes. Tokyo, Japan  
 Speaker, Bacterial Locomotion and Signal Transduction (BLAST), Cornovaka, Mexico (Presented by Lee Swem)  
 Invited speaker, International symposium on thermophilic phototrophic prokaryotes, Nakabusa Hot Spring, Japan  
 Invited speaker, 10th Western Regional Photosynthesis Meeting, Asilomar State Park, Pacific Grove CA.  
 Invited speaker, FEBS-Advanced Lecture Course on "Origin and Evolution of Mitochondria and Chloroplasts". Hvar, Croatia. (Declined invitation)  
 Invited speaker, International Workshop on Green and Heliobacteria, Chiba,

Japan

Invited speaker, Tetrapyrrole photoreceptors in photosynthetic organisms"  
Passau, Germany (Declined Invitation)

Invited speaker, Photobiology Meeting, Marburg, Germany (Declined  
Invitation)

- 2004
- Invited speaker, Gordon Conference on "Photosensory Receptors and Signal  
Transduction", Ventura California
- Invited speaker, Sixth International Biocomplexity Workshop,  
Indiana University Bloomington, IN
- Invited speaker, 14<sup>th</sup> International Congress on Photobiology, Jungmun,  
Jeju(Cheju), Korea
- Speaker, Gordon Conference on "Tetrapyrroles", New Hampshire (presented  
by James Smart)
- Invited speaker, Gordon Conference on "Microbial Stress", Mount Holyoke  
College
- Invited speaker, Retinal and Other Photosensory Photoreceptors, Munich,  
Germany
- Invited speaker, 56th Yamada Conference on "Light sensing and signal  
transduction in plant photomorphogenesis. Okazaki, Japan (Declined  
Invitation)
- Invited Plenary Speaker, 13th International Congress on photosynthesis,  
Montreal Canada
- Invited speaker, Gordon Conference on "Nitrogenase and nitrogen fixation"  
(declined invitation).
- Invited speaker, Midwest Prokaryotic Meeting, University of Illinois-  
Champaign.
- Invited speaker, International Satellite Meeting in honor of Professor Norio  
Murata  
"PHOTOSYNTHESIS and POST-GENOMIC ERA: From Biophysics to  
Molecular Biology, a Path in the Research of Photosystem II" .  
Québec, Canada, (declined invitation).
- 2005
- Invited Plenary speaker, 6th International Conference on Tetrapyrrole  
Photoreceptors in Photosynthetic Organisms; Lucerne, Switzerland
- Invited speaker, Annual meeting of the American Society for Microbiology.  
Session on "Oxygen sensing".
- Invited speaker, Annual meeting of the International Union of Microbiological  
Societies. Session on "redox sensing and response", San  
Francisco, California.
- Speaker, Bacterial Locomotion and Signal Transduction VIII, Deerfield  
beach, Florida (Presented by James Berleman)
- Invited Speaker, Gordon Conference on "Biochemical and Biophysical  
Aspects of Photosynthesis, New Hampshire (Declined invitation)
- Invited speaker, FEBS meeting on "Origin and Evolution of Mitochondria  
and Chloroplasts" Wildbad Kreuth, Germany (Declined invitation)
- Invited speaker, SFB-Symposium: 100 Years of the Endosymbiotic Theory:  
From Prokaryotes to Eukaryotic Organelles; University of Marburg,

Germany (declined invitation)  
Invited speaker, Frontiers in Photobiology Symposium at the 230th American  
Chemical Society National Meeting, Washington, DC (Presented by  
V. Dragnia)

2006      Invited Speaker, Conference on the Evolution of Aquatic Photoautotrophs.  
                 Rutgers University. (declined invitation)  
                 Invited Speaker, 12th Western Regional Photosynthesis Meeting, Asilomar  
                 State Park, Pacific Grove CA. (declined invitation)  
                 Invited speaker, 12th International Conference on Retinal Protein. Awaji  
                 Island, Japan (declined invitation)  
                 Invited speaker, 14th European Bioenergetic Conference, Moscow, Russia  
                 (declined invitation)  
                 Invited speaker, Tribute symposium to Dr. Ken-ichiro Takamiya; Tokyo  
                 Institute of Technology, Yokohama Japan (declined invitation)