

## Robert E. Blankenship

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ORCID ID: 0000-0003-0879-9489

### EDUCATION:

University of California, Berkeley – Ph.D. in Chemistry, 1975

Nebraska Wesleyan University, Lincoln, Nebraska – B.S. in Chemistry with distinction, 1970

### PROFESSIONAL EXPERIENCE:

7/06–Pres. – Lucille P. Markey Distinguished Professor of Arts and Sciences, Departments of Biology and Chemistry, Washington University, St. Louis, MO

7/08–Pres. – Secondary Faculty Appointment, Department of Biochemistry and Molecular Biophysics, Washington University, St. Louis, MO

7/06–Pres. – Professor Emeritus of Chemistry and Biochemistry, Arizona State University

7/02–6/06 – Chair, Department of Chemistry and Biochemistry, Arizona State University

7/88–6/06 – Professor of Chemistry and Biochemistry, Arizona State University

7/85–6/88 – Associate Professor of Chemistry, Arizona State University, Tempe, AZ

7/79–6/85 – Assistant Professor of Chemistry, Amherst College, Amherst, MA

6/76–6/79 – Postdoctoral Fellow, Department of Biochemistry, University of Washington, Seattle, WA with Prof. William Parson

8/75–12/75 – Assistant Professor of Chemistry, American University of Beirut, Beirut, Lebanon

1/75–7/75 & 1/76–5/76 – Postdoctoral Fellow, Lawrence Berkeley Lab., Berkeley, CA, with Prof. Kenneth Sauer

6/70–12/74 – Graduate Student, Department of Chemistry, University of California, Berkeley, CA, Prof. Kenneth Sauer, Advisor

### LEADERSHIP POSITIONS

Founding Director, Photosynthetic Antenna Research Center (PARC), a DOE Energy Frontier Research Center, 2009–2018

Chair, Department of Chemistry and Biochemistry, Arizona State University, 2002–2006

President, International Society for Photosynthesis Research, 2001–2004

Panel Manager, USDA Competitive Research Grants, Photosynthesis and Respiration Program, 1996

Founding Director, Center for the Study of Early Events in Photosynthesis, Arizona State University, 1988–1991

Student Body President, Nebraska Wesleyan University, 1969–1970

## **INVITED LECTURES/CHAIRMANSHIPS (2012-2017)**

- Invited Lecture, Gordon Research Conference on Photosensory Receptors and Signal Transduction, Italy, March 4-9, 2018.
- Session Chair and Discussion Leader, Gordon Research Conference on Photosynthesis. Newry, ME, July 16-21, 2017.
- Plenary Lecture, 13<sup>th</sup> International Conference on Tetrapyrrole Photoreceptors of Photosynthetic Organisms. Chicago, IL, July 9-13, 2017.
- Plenary Lecture, NASA Astrobiology Science Conference, Mesa, AZ, April 24-28, 2017.
- Invited Seminar, Department of Chemical and Physical Sciences, University of Toronto, Mississauga, Toronto, Canada, March 22, 2017.
- Invited Seminar, Department of Biology, Duquesne University, Pittsburgh, PA, February 3, 2017.
- Invited Seminar, Department of Microbiology, University of Chicago, Chicago, IL, November 3, 2016.
- Session Chair/Discussion Leader, 17<sup>th</sup> International Congress on Photosynthesis Research, Maastricht, The Netherlands, August 7-12, 2016.
- Keynote Lecture, International Photosynthetic Light-Harvesting Conference, Egmond aan Zee, The Netherlands, August 4-7, 2016.
- Invited Lecture, Gordon Research Conference on Tetrapyrroles, Newport, RI, July 17-22, 2016.
- Invited Speaker/Session Organizer, 38<sup>th</sup> Meeting of the American Society for Photobiology, Tampa, FL, May 21-26, 2016.
- Session Chair/Discussion Leader, 12<sup>th</sup> Workshop on Cyanobacteria, Tempe, AZ May 19-22, 2016.
- Invited Speaker, 11<sup>th</sup> Annual Harvard Plant Biology Symposium, Cambridge, MA, May 2-3, 2016.
- Invited Speaker, Pacifichem: The International Chemical Congress of Pacific Basin Societies, Honolulu, HI, December 15-20, 2015.
- Award Lecture, American Chemical Society Regional Meeting, St. Joseph, MO, October 22, 2015.
- Session Chair/Discussion Leader/Session Organizer, Astrobiology Science Conference, Chicago, IL, June 15-19, 2015.
- Invited Speaker, Workshop on Coherent Energy Transport and Optimization in Photosynthesis, Singapore, May 1-3, 2015.
- Invited Speaker, Agouron Institute Conference on The Sulfur Cycle, Rancho Palos Verdes, CA October 26-30, 2014.
- Keynote Lecture, Michigan State University Plant Research Laboratory Retreat, Kalamazoo, MI, October 19, 2014.
- Invited Seminar, Department of Chemistry, University of Missouri, Columbia, MO, October 3, 2014.
- Session Chair/Discussion Leader, Gordon Research Conference on Photosynthesis, Mount Snow VT, August 10-15, 2014.
- Invited Seminar, Department of Plant and Environmental Sciences, Hebrew University of Jerusalem, Jerusalem, Israel, June 2, 2014.
- Schulich Lecture in Chemistry, Technion, Israel Institute of Technology, Haifa, Israel, May 27, 2014.

Invited Seminar, Graduate School of Bioagricultural Sciences, University of Nagoya, Nagoya, Japan, March 28, 2014.

Invited Speaker, 94<sup>th</sup> Spring Annual Meeting, Chemical Society of Japan, Nagoya, Japan, March 27-30, 2014.

Invited Speaker, 2<sup>nd</sup> International Symposium of Earth-Life Science Institute, Tokyo, Japan, March 24-26, 2014.

Arnon Lecture, University of California, Berkeley, CA, March 5, 2014.

Invited Seminar, Department of Chemistry, University of California, Davis, CA, February 18, 2014.

Invited Speaker, Workshop on Light-Harvesting Antennas, Toronto, Canada, January 25-26, 2014.

Invited Speaker, Workshop on Neutron Science, San Diego, CA, January 18-20, 2014.

Invited Speaker, Krasnovsky Memorial Symposium, Russian Academy of Sciences, Moscow, Russia, October 10-11, 2013

Invited Lecture, Bakh Institute of Biochemistry, Russian Academy of Sciences, Moscow, Russia, October 9, 2013.

Milkman Lecture, Marine Biology Laboratory, Woods Hole, MA, July 6, 2013.

Lecturer, NASA Astrobiology Summer School, Santander, Spain, June 24-28, 2013.

Invited Speaker, Symposium on Redesigning Photosynthesis – Identifying Opportunities and Novel Ideas, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, May 13-16, 2013.

Plenary Lecture, Eastern US Photosynthesis Conference, Woods Hole, MA, April 12-14, 2013.

Invited Seminar, Department of Chemistry, Oberlin College, Oberlin, OH, April 10, 2013.

Invited Seminar, Danforth Plant Science Center, St. Louis, MO, March 27, 2013.

Invited Speaker, Birthday Symposium for Rienk van Grondelle, Amsterdam, The Netherlands, December 6-7, 2012.

Invited Seminar, Department of Biology, Queen Mary University of London, London, UK, December 5, 2012.

Invited Speaker, Royal Society Meeting on Bioenergetics and the Major Evolutionary Transitions, Kavli Royal Society Centre, Chicheley Hall, Buckinghamshire, UK, November 14-15, 2012.

Invited Seminar, Department of Chemistry, University of Sheffield, Sheffield, UK, November 22, 2012.

Invited Speaker, European Solar Fuels Meeting, Glasgow, UK, October 29-31, 2012.

Invited Speaker, European Bioenergetics Conference, Freiberg, Germany, September 14-20, 2012.

Invited Speaker, International Society of Microbial Ecology Meeting, Copenhagen, Denmark, August 19-24, 2012.

Invited Speaker, Protein Society Meeting, San Diego, CA, August 5-6, 2012.

Invited Speaker, Gordon Research Conference on Tetrapyrroles, Newport, RI, July 22-27, 2012.

Invited Speaker, 36<sup>th</sup> Meeting of the American Society for Photobiology, Toronto, Canada, June 23-27, 2012.

Invited Seminar, Department of Chemistry, Nebraska Wesleyan University, Lincoln, NE, April 26, 2012.

Invited Speaker/Session Organizer, Astrobiology Science Conference, Atlanta, GA, April 16-20, 2012.

Invited Seminar, Department of Microbiology, Southern Illinois University, Carbondale, IL, April 13, 2012.

Invited Speaker, 56<sup>th</sup> Annual Biophysical Society Meeting, San Diego, CA, February 25-29, 2012.

Invited Speaker, Conference on Solar Fuels, Science, Engineering and Policy, University of North Carolina, Chapel Hill, NC, January 11-12, 2012.

## **SERVICE TO PROFESSION:**

### **Conferences Organized**

Co-organizer, 16<sup>th</sup> International Congress on Photosynthesis Research, St. Louis, MO 2013

Co-organizer, Conference on Photosynthetic Light Harvesting Systems, St. Louis, MO 2013

Co-organizer, Workshop on Cyanobacteria, St. Louis, MO, 2013

Co-organizer, DOE Workshop on Efficiency of Photosynthesis, Albuquerque, NM, 2009

Co-organizer, Conference on Photosynthetic Antennas, Drymen, UK, 2007

Co-organizer, Midwest Photosynthesis Conference, Turkey Run, IN, 2007

Co-organizer, Agouron Institute Conference on Oxygen, Santa Fe, NM, 2006

Co-organizer, Conference on Photosynthetic Antennas, Montreal, Canada, 2004

Co-organizer, Astrobiology Science Conference, Tempe, AZ, 2003

Co-organizer, US-Australia Joint Workshop on Artificial Photosynthesis, Sydney, Australia, 2003

Co-organizer, Western Regional Photosynthesis Conference, Asilomar, CA, 2003

Co-organizer, Conference on Photosynthetic Antennas, Queensland, Australia, 2001

Co-organizer, Sauer/Klein Reunion Symposium, Berkeley, CA, 1998

Organizer, US-Japan Symposium on Photosynthetic Antennas, Kona, Hawaii, 1997

Vice Chairman (1990) and Chairman (1991) of Gordon Research Conferences on Photosynthesis

Organizer, First Eastern U.S. Photosynthesis Conference, Woods Hole, MA, 1984

### **Books and Editorial Service**

Author, *Molecular Mechanisms of Photosynthesis 2<sup>nd</sup> Edition*, Wiley-Blackwell, Oxford, UK, 2014

Editorial Board, *Biochemistry*, 2001–present

Associate Editor, *Frontiers in Microbial Physiology and Metabolism*, 2011–present

Consulting Editor, *Advances in Photosynthesis and Respiration*, 2009–present

Author, *Molecular Mechanisms of Photosynthesis*, Blackwell Science, Oxford, UK, 2002

Editor, with M. Madigan and C. Bauer, *Anoxygenic Photosynthetic Bacteria*, Kluwer Academic Publishing, Dordrecht, The Netherlands, 1995

Editorial Board, *International Journal of Astrobiology*, 2001–2011

Editorial Board, *Current Chemical Biology*, 2007–2011

Editorial Board, *Biophysical Journal*, 2000–2003

Editor-in-Chief, *Photosynthesis Research*, 1988–1999

Consulting Editor, *Advances in Photosynthesis*, 1991–1998

Editorial Board, *Photosynthesis Research*, 1985–1988

## **Grant Review Panels**

Grant Review Panel Member, NASA Exobiology Program, 2016  
Grant Review Panel Member, DOE Photosynthetic Systems and Physical Biosciences Programs, 2015  
Grant Review Panel Member, DOE Energy Biosciences Program, 2008  
Grant Review Panel Member, NSF Prokaryotic Molecular Biology Program, 2004–2008  
Grant Review Panel Member, NSF Microbial Genome Sequencing Program, 2005  
Panel Manager, USDA Competitive Research Grants, Photosynthesis and Respiration Program, 1996  
Grant Review Panel Member, NASA Exobiology Program, 1994–1998  
Grant Review Panel Member, NSF Molecular Biophysics Program, 1991–1994  
Grant Review Panel Member, DOE Energy Biosciences Program, 1988  
NIH Special Study Section Member, Sequencers, etc., 1987  
Grant Review Panel Member, USDA Competitive Research Grants on Photosynthesis, 1985, 1986, 1989

## **Advisory Service**

Committee of Visitors, Chemical Sciences, Geosciences, and Biosciences (CSGB) Division, DOE Basic Energy Sciences, Subpanel Lead on Photochemistry and Biochemistry, 2017  
Associate Investigator, ARC Centre of Excellence for Translational Photosynthesis, Australian National University, Canberra, Australia, 2015–present  
Scientific Advisory Board, Canadian Institute for Advanced Research program in Biology, Energy, Technology, 2014–present; Chair 2014–present  
Scientific Advisory Board, DOE Energy Frontier Research Center for Biological Electron Transfer and Catalysis, Montana State University, 2014–2018  
Site Review Team Member, U.S. Department of Energy Solar Photochemistry and Photosynthesis, Argonne National Laboratory, 2013.  
Council for Chemical and Biochemical Sciences, DOE Basic Energy Sciences, 2008–2015; Chair 2014–2015  
Scientific Advisory Board, Centre for Low-Dimensional Chemistry, Univ. of Sheffield, UK, 2012–2015  
External Program Review, Louisiana Board of Regents review of nanotechnology at Louisiana Tech University, 2003, 2012  
Scientific Advisory Board, Ecosystems and Networks Integrated with Genes and Molecular Assemblies, (ENIGMA), Lawrence Berkeley Lab, 2010–2011  
Proposal Review Panel, DOE Center for Integrated Nanotechnologies (CINT), Albuquerque, NM, 2008–2013  
Scientific Advisory Board (Chair), Molecular Assemblies Genes, and Genomics Integrated Efficiently (MAGGIE), Lawrence Berkeley Lab, 2008–2009  
Committee of Visitors, Chemical Sciences, Geosciences, and Biosciences (CSGB) Division, DOE Basic Energy Sciences, 2008  
Scientific Advisory Board, Center for Photochemical Sciences, Bowling Green State University, 2001–2013  
External Program Review, University of Washington, Astrobiology Program, 2005  
International Scientific Committee for the Symposia on Phototrophic Prokaryotes, Executive Committee, 2000–2009

Director's Division Review Panel Member, Physical Biosciences Division, Lawrence Berkeley Laboratory, 2000

Swedish Natural Science Research Council Expert Committee in Biophysical Chemistry, 1992

Site Review Team Member, Ames Laboratory, Iowa State University, 1989, 1992

Site Review Team Member, Medical Free Electron Laser Program, Office of Naval Research, 1990

On-camera participant and technical consultant for film *Photosynthesis: Life Energy*, produced by the National Geographic Society, 1983

### **Society Service**

President, International Society for Photosynthesis Research, 2001–2004

Executive Committee, International Society for Photosynthesis Research, 1995–2001

Local Arrangements Chairman, Biophysical Society Annual Meeting, Phoenix, AZ, 1988

### **AWARDS:**

Midwest Award, American Chemical Society, 2015

Lifetime Achievement Award, Rebeiz Foundation for Basic Research, 2013

Paper of the Year, Rebeiz Foundation for Basic Research, 2013

Communications Award, International Society of Photosynthesis Research, 2013

Fellow, American Academy of Microbiology, 2012

Charles F. Kettering Award for Excellence in Photosynthesis, American Society of Plant Biologists, 2008

Beatrice NE Educational Foundation Hall of Fame, 2008

Fellow, American Association for the Advancement of Science, 2004

Founding Fellow, Arizona Arts, Sciences and Technology Academy, 2004

Graduate Mentoring Award, Arizona State University, 1998

Graduate College Distinguished Research Award, Arizona State University, 1992

Alumni Achievement Award, Nebraska Wesleyan University, 1991

Who's Who in the World

Who's Who in America

Who's Who in Science and Engineering

Who's Who in American Education

Who's Who Among America's Teachers

National Science Foundation National Needs Postdoctoral Fellowship, 1977

### **SOCIETIES:**

International Society for Photosynthesis Research

American Association for the Advancement of Science

American Society for Microbiology

American Society of Plant Biologists

International Society for the Study of the Origin of Life

Union of Concerned Scientists

### **RESEARCH INTERESTS:**

Excitation and electron transfer in photosynthetic systems

Origin and early evolution of photosynthesis and nitrogen fixation

Metalloenzymes involved in electron transfer and oxidative stress processes

**UNIVERSITY SERVICE:**

**Washington University**

Chemistry Department Faculty Search Committee, 2016  
Review Committee, International Center For Advanced Renewable Energy & Sustainability (I-Cares), 2016  
Research Working Group, 2015–present  
Advisory Committee, Washington University Prison Education Project, 2014–2015  
Division of Biology and Biomedical Sciences Quality Assessment Committee, 2014  
Faculty Senate Council, 2013–2016  
Faculty Senate Council Advisory Committee on Tenure & Academic Freedom, 2013–2016  
Director, Photosynthetic Antenna Research Center (PARC), a DOE Energy Frontier Research Center, 2009–2018  
Biology Department Faculty Search Committee, Chair, 2011–2012  
Faculty Advisor, Washington University iGEM Team, 2009  
College of Arts and Sciences Promotion and Tenure Committee, 2008–2011  
I-CARES Faculty Search Committee, 2008–2011  
Chemistry Department Faculty Search Committee, 2010–2011  
Chemistry Graduate Studies Committee, 2006–2016  
Chemistry Department Chair Search Liaison Committee, 2009  
Committee on Education of Undergraduates in the Life Sciences, 2008–2010  
Biology Department Chair Search Committee, 2008–2009  
Biochemistry Faculty Search Committee, Co-Chair, 2007–2008  
Biochemistry Program Revision Committee, Chair, 2006–2007  
Division of Biological and Biomedical Sciences (DBBS) Graduate Admissions Committee, 2007–2008  
Florence Moog Scholarship Selection Committee, 2006–2008  
Bio-Energy Faculty Search Committee, 2006–2007

**Arizona State University**

Chair, Department of Chemistry and Biochemistry, 2002–2006  
School of Life Sciences Director Search Committee, 2004–2005  
Dean's Strategic Planning and Academic Resources Advisory Council, 2003–2006  
Molecular and Cellular Biology Executive Committee, 1994–1996; 1999–2003  
Life Science Reorganization Committee, 2002–2003  
Goldwater Scholarship Selection Committee, 1999–2006  
Interim Director, Cancer Research Institute, 2004  
Director, Bio and Molecular Photonics Initiative, 1999–2002  
Biomedical Strategic Planning Committee, 1998–2001  
ASU Main Campus Strategic Planning Committee, 1998–1999  
Chair, Research Investigation Committee, 1998–1999  
Founding Director, ASU Center for the Study of Early Events in Photosynthesis, 1988–1991

## CITATION STATISTICS

### Google Scholar (July 2017)

	All	Since 2012
Citations	24353	11636
h-index	70	43
i10-index	270	168

### Web of Science (July 2017)

Results found:	395
Sum of the Times Cited:	15387
Sum of Times Cited without self-citations:	14000
Citing Articles:	9324
Citing Articles without self-citations:	9043
Average Citations per Item:	38.95
h-index:	61

### PUBLICATIONS: (402 total)

1. Blankenship RE and Sauer K (1974) Manganese in photosynthetic oxygen evolution. Electron paramagnetic resonance study of the environment of Mn in tris-washed chloroplasts. *Biochim. Biophys. Acta* **357**: 252-266. (R)
2. Blankenship RE, Babcock GT and Sauer K (1975) Kinetic study of oxygen evolution parameters in tris-washed, reactivated chloroplasts. *Biochim. Biophys. Acta* **387**: 165-175. (R)
3. Blankenship RE, Babcock GT, Warden JT and Sauer K (1975) Observation of a new EPR transient in chloroplasts that may reflect the electron donor to Photosystem II at room temperature. *FEBS Lett.* **51**: 287-293. (R)
4. Blankenship RE, McGuire A and Sauer K (1975) Chemically induced dynamic electron polarization in chloroplasts at room temperature: evidence for triplet state participation in photosynthesis. *Proc. Natl. Acad. Sci. USA* **72**: 4943-4947. (R)
5. Warden JT, Blankenship RE and Sauer K (1976) A flash photolysis ESR study of Photosystem II signal II<sub>vf</sub>, the physiological donor to P680<sup>+</sup>. *Biochim. Biophys. Acta* **423**: 462-478. (R)
6. Babcock GT, Blankenship RE and Sauer K (1976) Reaction kinetics for positive charge accumulation on the water side of chloroplast Photosystem II. *FEBS Lett.* **61**: 286-289. (R)



7. Smith GE, Blankenship RE and Klein MP (1977) Conversion of an E-3 ESR spectrometer to 1-MHz field modulation. *Rev. Sci. Instr.* **48**: 282-286. (R)
8. Blankenship RE, McGuire A and Sauer K (1977) Rise time of EPR signal  $h\nu$  in chloroplast Photosystem II. *Biochim. Biophys. Acta* **459**: 617-619. (R)
9. Blankenship RE, Schaafsma TJ and Parson WW (1977) Magnetic field effects on radical pair intermediates in bacterial photosynthesis. *Biochim. Biophys. Acta* **461**: 297-305. (R)
10. Dismukes C, McGuire A, Blankenship RE and Sauer K (1978) Electron spin polarization in photosynthesis and the mechanism of the electron transfer in Photosystem I: Experimental observations. *Biophys. J.* **21**: 239-256. Correction **21**: 521 (1978). (R)
11. Blankenship RE and Parson WW (1978) The photochemical electron transfer reactions of photosynthetic bacteria and plants. *Ann. Rev. Biochem.* **47**: 635-653. (IR)
12. Parson WW, Schenck CC, Blankenship RE, Holten D, Windsor MW and Shank CV (1978) Kinetics of photochemical electron transfer reactions *in vivo* and *in vitro*. In: *Frontiers of Biological Energetics: Electrons to Tissues*. PL Dutton, JS Leigh, A Scarpa, Eds. Academic Press, **1**: 37-44. (CP)
13. Blankenship RE and Parson WW (1979) Kinetics and thermodynamics of electron transfer in bacterial reaction centers. In: *Topics in Photosynthesis: Photosynthesis in Relation to Model Systems*, J. Barber, ed. (Amsterdam: Elsevier) **3**: 71-114. (IR)
14. Blankenship RE and Parson WW (1979) The involvement of iron and ubiquinone in electron transfer reactions mediated by reaction centers from photosynthetic bacteria. *Biochim. Biophys. Acta* **545**: 429-444. (R)
15. Blankenship RE (1981) Chemically induced magnetic polarization in photosynthetic systems. *Accounts of Chemical Research* **14**: 163-170. (R, IR)
16. Yocum CF, Yerkes CT, Blankenship RE, Sharp RR and Babcock GT (1981) Stoichiometry, inhibitor sensitivity and organization of manganese associated with photosynthetic oxygen evolution. *Proc. Natl. Acad. Sci. USA* **78**: 7507-7511. (R)
17. Bunker G, E. Stern EA, Blankenship RE and Parson WW (1982) An X-ray absorption study of the iron site in bacterial photosynthetic reaction centers. *Biophys. J.* **37**: 539-551. (R)
18. Schenck CC, Blankenship RE and Parson WW (1982) radical-pair decay kinetics, triplet yields and delayed fluorescence from bacterial reaction centers. *Biochim. Biophys. Acta* **680**: 44-59. (R)

19. Betti JA, Blankenship RE, Natarajan LV, Dickinson LC and Fuller RC (1982) Antenna organization and evidence for the function of a new antenna pigment species in the green photosynthetic bacterium *Chloroflexus aurantiacus*. *Biochim. Biophys. Acta* **680**: 194-201. (R)
20. Natarajan LV and Blankenship RE (1982) Linear dichroism of the 740 nm absorbing form of chlorophyll *a*. *Spec. Lett.* **15**: 527-532. (R)
21. Pocinki AG and Blankenship RE (1982) Kinetics of electron transfer in duroquinone-reconstituted reaction centers from photosynthetic bacteria. *FEBS Lett.* **147**: 115-119. (R)
22. Bruce BD, Fuller RC and Blankenship RE (1982) Primary photochemistry in the facultatively aerobic green photosynthetic bacterium *Chloroflexus aurantiacus*. *Proc. Natl. Acad. Sci. USA* **79**: 6532-6536. (R)
23. Natarajan LV and Blankenship RE (1983) Free energy dependence of the quenching of chlorophyll *a* fluorescence by substituted quinones. *Photochem. Photobiol.* **37**: 329-336. (R)
24. Natarajan LV, Robinson M and Blankenship RE (1983) Linear Dichroism of Cyanine Dyes in Stretched Polyvinyl Alcohol Films: A Physical Chemistry Laboratory Experiment. *J. Chem. Ed.* **60**: 241-243. (R)
25. Natarajan LV, Stein FM, Blankenship RE and Chang R (1983) Linear dichroism and fluorescence polarization of diphenyl polyenes in stretched polyethylene films. *Chem. Phys. Lett.* **95**: 525-528. (R)
26. Hale MB, Blankenship RE and Fuller RC (1983) Menaquinone is the sole quinone in the facultatively aerobic green photosynthetic bacterium *Chloroflexus aurantiacus*. *Biochim. Biophys. Acta* **723**: 376-382. (R)
27. Kirmaier C, Holten D, Feick R and Blankenship RE (1983) Picosecond measurements of the primary photochemical events in reaction centers isolated from the facultative green photosynthetic bacterium *Chloroflexus aurantiacus*; Comparison with the Purple Bacterium *Rhodospseudomonas sphaeroides*. *FEBS Lett.* **158**: 73-78. (R)
28. Blankenship RE, Feick R, Bruce BD, Kirmaier C, Holten D and Fuller RC (1983) Primary photochemistry in the facultative green photosynthetic bacterium *Chloroflexus aurantiacus*. *J. Cellular Biochem.* **22**: 251-266. (R, CP, IR)
29. Photosynthesis: Life Energy. On-camera participant and technical consultant for film produced by the National Geographic Society in association with Joseph Akin (1983). (MM)

30. Natarajan LV, Ricker JE, Blankenship RE and Chang R (1984) Solvent influences on the singlet quenching of chlorophyll *a* by 2,5-dimethyl-p-benzoquinone. *Photochem. Photobiol.* **39**: 301-306. (R)
31. Cho HM, Mancino LJ and Blankenship RE (1984) Light saturation curves and quantum yields in reaction centers from photosynthetic bacteria. *Biophys. J.* **45**: 455-461. (R)
32. Mancino LJ, Dean DP and Blankenship RE (1984) Kinetics and thermodynamics of the  $P870^+Q_A^- \rightarrow P870^+Q_B^-$  reaction in isolated reaction centers from the photosynthetic bacterium *Rhodospseudomonas sphaeroides*. *Biochim. Biophys. Acta* **764**: 46-54. (R)
33. Kirmaier C, Holten D, Mancino LJ and Blankenship RE (1984) Picosecond photodichroism studies on reaction centers from the green photosynthetic bacterium *Chloroflexus aurantiacus*. *Biochim. Biophys. Acta* **765**: 138-146. (R)
34. Fuller RC, Blankenship RE and Feick RG (1984) The molecular topography of the photochemical membrane system in the green bacterium *Chloroflexus*. In: *Advances in Photosynthesis Research* C. Sybesma, ed., III, 377-380. (CP)
35. Blankenship RE, Mancino LJ, Feick R, Fuller RC, Machnicki J, Frank HA, Kirmaier C and Holten D (1984) Primary photochemistry and pigment composition of reaction centers isolated from the green photosynthetic bacterium *Chloroflexus aurantiacus*. In: *Advances in Photosynthesis Research* C. Sybesma, ed., I, 203-206. (CP)
36. Blankenship RE (1984) Book Review of *Light Reaction Path of Photosynthesis* Fong FK (Berlin: Springer-Verlag) (1982) *Photochemistry and Photobiology* **39**: 585. (BR)
37. Blankenship RE (1984) Book Review of *Photosynthetic Systems*: Danks SM, Evans EH and Whittaker PA (Chichester: John Wiley) (1983) *Structure, Function and Assembly. Quarterly Review of Biology* **59**: 462-463. (BR)
38. Blankenship RE (1984) Primary photochemistry in green photosynthetic bacteria. *Photochem. Photobiol.* **40**: 801-806. (IR)
39. Fuller RC, Sprague SG, Gest H and Blankenship RE (1985) A unique photosynthetic reaction center from *Heliobacterium chlorum*. *FEBS Lett.* **182**: 345-349. (R)
40. Blankenship RE (1985) Electron transport in green photosynthetic bacteria. *Photosynth. Res.* **6**: 317-335. (IR, R)
41. Blankenship RE and Prince RC (1985) Excited state redox potentials and the Z scheme of photosynthesis. *Trends. Biochem. Sci.* **10**: 382-383. (R)

42. Prince R, Gest H and Blankenship RE (1985) Thermodynamic properties of the photochemical reaction center of *Heliobacterium chlorum*. *Biochim. Biophys. Acta* **810**: 377-384. (R)
43. Blankenship RE (1986) Book Review of *Photosynthesis*: C. H. Foyer, (New York: John Wiley) (1984). *Photochemistry and Photobiology* **43**: 357. (BR)
44. Blankenship RE and Fuller RC (1986) Membrane topology and photochemistry of the green photosynthetic bacterium *Chloroflexus aurantiacus*. In: *Photosynthesis III, Encyclopedia of Plant Physiology New Series*, Staehelin LA and Arntzen CJ, eds. (Heidelberg: Springer-Verlag) **19**: 390-399. (IR)
45. Kirmaier C, Blankenship RE and Holten D (1986) Formation and decay of radical pair state  $P^{+}I^{-}$  in *Chloroflexus aurantiacus* reaction centers. *Biochim. Biophys. Acta* **850**: 275-285. (R)
46. Foster JM, Redlinger TE, Blankenship RE and Fuller RC (1986) Oxygen regulation of the development of the photosynthetic membrane system in *Chloroflexus*. *J. Bacteriol.* **167**: 655-659. (R)
47. Becker M, Middendorf D, Woodbury NW, Parson WW and Blankenship RE (1986) Picosecond electron transfer and stimulated emission in reaction centers of *Rhodobacter sphaeroides* and *Chloroflexus aurantiacus*. In: *Ultrafast Phenomena*, Fleming GR and Siegman AE, eds., Springer-Verlag, 374-378. (CP)
48. Brune DC and Blankenship RE (1987) Light absorption and fluorescence of Bchl c in chlorosomes from *Chloroflexus aurantiacus* and an *in vitro* model. In: *Progress in Photosynthesis Research*, Biggins J, ed., Nijhoff M, Pub., Dordrecht, I: 419-422. (CP)
49. Redlinger TE, Foster JM, Wynn RM, Knaff DB, Blankenship RE and Fuller RC (1987) Oxygen regulation of cytochrome c-554 synthesis in *Chloroflexus*. In: *Progress in Photosynthesis Research*, Biggins J, ed., Nijhoff, Pub., Dordrecht, 4: 745-748. (CP)
50. Wynn RM, Redlinger TE, Foster JM, Blankenship RE, Fuller RC, Shaw RW and Knaff DB (1987) Electron-transport chains of phototrophically and chemotrophically grown *Chloroflexus aurantiacus*. *Biochim. Biophys. Acta* **891**: 216-226. (R)
51. Brune DC, Nozawa T and Blankenship RE (1987) Antenna organization in green photosynthetic bacteria. I. Oligomeric bacteriochlorophyll c as a model for the 740 nm-absorbing bacteriochlorophyll c in *Chloroflexus aurantiacus* Chlorosomes. *Biochemistry* **26**: 8644-8652. (R)
52. Brune DC, King GH, Infosino AI, Steiner T, Thewalt MLW and Blankenship RE (1987) Antenna organization in green photosynthetic bacteria. II. Excitation transfer in

detached and membrane-bound chlorosomes from *Chloroflexus aurantiacus*. *Biochemistry* **26**: 8652-8658. (R)

53. Nozawa T, Trost JT, Fukada T, Hatano M, McManus JD and Blankenship RE (1987) Properties of the reaction center of the thermophilic purple photosynthetic bacterium *Chromatium tepidum*. *Biochim. Biophys. Acta* **894**: 468-476. (R)
54. Blankenship RE, Brune DC, Freeman JM, King GH, McManus JD, Nozawa T, Trost JT and Wittmershaus BP (1988) Energy trapping and electron transfer in *Chloroflexus aurantiacus*. In: *Green Photosynthetic Bacteria*, Olson JM, Ormerod JG, Ames J, Stackebrandt E and Trüper HG, eds., Plenum Press, New York, 57-68. (CP)
55. Brune DC, Blankenship RE and Seely GR (1988) Fluorescence quantum yields and lifetimes for bacteriochlorophyll *c*. *Photochem. Photobiol.* **47**: 759-763. (R)
56. Wittmershaus BP, Brune DC and Blankenship RE (1988) Energy transfer in *Chloroflexus aurantiacus*: Effects of temperature and anaerobic conditions. In: *Photosynthetic Light-Harvesting Systems*, Scheer H and Schneider S, eds., Walter de Gruyter, Berlin, 543-554. (CP)
57. Brune DC, King GH and Blankenship RE (1988) Intermolecular interactions between bacteriochlorophyll *c* in *in vitro* oligomers and in chlorosomes. In: *Photosynthetic Light-Harvesting Systems*, Scheer H and Schneider S, eds., Walter de Gruyter, Berlin, 141-151. (CP)
58. Blankenship RE, Trost JT and Mancino LJ (1988) Properties of reaction centers from the green photosynthetic bacterium *Chloroflexus aurantiacus*. In: *The Photosynthetic Bacterial Reaction Center: Structure and Dynamics*, Breton J and Vermeglio A, eds., Plenum Press, New York, 119-127. (CP)
59. Trost JT, McManus JD, Freeman JC, Ramakrishna BL and Blankenship RE (1988) Auracyanin: A blue copper protein from the green photosynthetic bacterium *Chloroflexus aurantiacus*. *Biochemistry* **27**: 7858-7863. (R)
60. Blankenship RE, Brune DC and Wittmershaus BP (1988) Chlorosome antennas in green photosynthetic bacteria. In: *Light-Energy Transduction in Photosynthesis. Higher Plants and Bacterial Models*, Stevens SE, Jr. and Bryant DA, eds., Am. Soc. Plant Physiol., Rockville, MD, 32-46. (CP, IR)
61. Meyer TE, Tollin, Cusanovich MA, Freeman JC and Blankenship RE (1989) *In vitro* kinetics of reduction of cytochrome *c*-554 isolated from the reaction center of the green phototrophic bacterium, *Chloroflexus aurantiacus*. *Arch. Biochem. Biophys.* **272**: 254-261. (R)

62. Trost JT and Blankenship RE (1989) Isolation of a photoactive photosynthetic reaction center-core antenna complex from *Heliobacillus mobilis*. *Biochemistry* **28**: 9898-9904. (R)
63. Mimuro M, Nozawa T, Tamai T, Shimada K, Yamazaki I, Lin S, Knox RS, Wittmershaus BP, Brune DC and Blankenship RE (1989) Excitation energy flow in chlorosome antennas of green photosynthetic bacteria. *J. Phys. Chem.* **93**: 7503-7509. (R)
64. Wang J, Brune DC and Blankenship RE (1990) Effects of oxidants and reductants on energy transfer efficiencies in green photosynthetic bacteria. *Biochim. Biophys. Acta* **1015**: 457-463. (R)
65. Causgrove TP, Brune DC, Blankenship RE and Olson JM (1990) Fluorescence lifetimes of dimers and higher oligomers of bacteriochlorophyll *c* from *Chlorobium limicola*. *Photosynth. Res.* **25**: 1-10. (R)
66. Freeman JC and Blankenship RE (1990) Isolation and characterization of the membrane-bound cytochrome *c*-554 from the thermophilic green photosynthetic bacterium *Chloroflexus aurantiacus*. *Photosynth. Res.* **23**: 29-38. (R)
67. Blankenship RE, Wang J, Causgrove TP and Brune DC (1990) Efficiency and kinetics of energy transfer in chlorosome antennas from green photosynthetic bacteria. In: *Current Research in Photosynthesis*, Baltscheffsky M, ed., Kluwer Acad. Pub., Dordrecht **2**: 17-24. (CP, IR)
68. Becker M, Middendorf D, Nagarajan V, Parson WW and Blankenship RE (1990) Picosecond absorption studies on photosynthetic reaction centers of *Chloroflexus aurantiacus*. In: *Current Research in Photosynthesis*, Baltscheffsky M, ed., Kluwer Acad. Pub. Dordrecht **1**: 121-124. (CP)
69. Bittersmann E, Blankenship RE and Woodbury N (1990) Picosecond fluorescence studies of *Rhodospseudomonas viridis*. In: *Current Research in Photosynthesis*, Baltscheffsky M, ed., Kluwer Acad. Pub., Dordrecht **2**: 169-172. (CP)
70. Olson JM, Pedersen JP, Causgrove TP, Brune DC and Blankenship RE (1990) Bacteriochlorophyll *c* monomers, dimers and higher aggregates in dichloromethane and carbon tetrachloride. In: *Current Research in Photosynthesis*, Baltscheffsky M, ed., Kluwer Acad. Pub., Dordrecht **2**: 37-40. (CP)
71. Trost JT and Blankenship RE (1990) Isolation of a reaction center particle and a small *c*-type cytochrome from *Heliobacillus mobilis*. In: *Current Research in Photosynthesis*, Baltscheffsky M, ed. (Kluwer Acad. Pub., Dordrecht) **2**: 703-706. (CP)
72. Causgrove TP, Brune DC, Wang J, Wittmershaus BP and Blankenship RE (1990) Energy transfer kinetics in whole cells and isolated chlorosomes of green photosynthetic bacteria. *Photosynth. Res.* **26**: 39-48. (R)

73. Blankenship RE (1991) Photosynthesis: The Light Reactions, Chapter in: *Plant Physiology*, Taiz L and Zeiger E, eds. (Benjamin Cummings Co.), 179-218. (IR)
74. Becker M, Nagarajan V, Middendorf D, Parson WW, Martin JE and Blankenship RE (1991) Temperature dependence of the initial electron-transfer kinetics in photosynthetic reaction centers of *Chloroflexus aurantiacus*. *Biochim. Biophys. Acta* **1057**: 299-312. (R)
75. Meyer TE, Tollin G, Causgrove TP, Cheng P and Blankenship RE (1991) Picosecond decay kinetics and quantum yield of fluorescence of the photoactive yellow protein from the halophilic purple phototrophic bacterium, *Ectothiorhodospira halophila*. *Biophys. J.* **59**: 988-991. (R)
76. Dracheva S, Williams JC, Van Driessche G, Van Beeumen JJ and Blankenship RE (1991) The primary structure of cytochrome *c*-554 from the green photosynthetic bacterium *Chloroflexus aurantiacus*. *Biochemistry* **30**: 11451-11458. (R)
77. Alden RG, Lin SH and Blankenship RE (1992) Theory of spectroscopy and energy transfer of oligomeric pigments in chlorosome antennas of green photosynthetic bacteria. *J. Lumin.* **51**: 51-66. (R)
78. McManus JD, Brune DC, Han J, Sanders-Loehr J, Meyer TE, Cusanovich MA, Tollin G and Blankenship RE (1992) Isolation, characterization and amino acid sequences of auracyanins, blue copper proteins from the green photosynthetic bacterium *Chloroflexus aurantiacus*. *J. Biol. Chem.* **267**: 6531-6541. (R)
79. Causgrove TP, Brune DC and Blankenship RE (1992) Förster energy transfer in chlorosomes of green photosynthetic bacteria. *J. Photochem. Photobiol. B: Biol.* **15**: 171-179. (R)
80. Trost JT, Brune DC and Blankenship RE (1992) Protein sequences and redox titrations indicate that the electron acceptors in heliobacteria are similar to Photosystem I. *Photosynth. Res.* **32**: 11-22. (R)
81. Blankenship RE (1992) Origin and early evolution of photosynthesis. *Photosynth. Res.* **33**: 91-111. (R, IR)
82. Lin S, Chiou HC and Blankenship RE (1992) Energy transfer and photochemistry in *Heliobacillus mobilis*. In: *Research in Photosynthesis*, Murata N, ed. (Kluwer Acad. Pub., Dordrecht) **1**: 417-420. (CP)
83. Dracheva S, Williams JC and Blankenship RE (1992) Cloning and sequencing of the FMO-protein gene from *Chlorobium tepidum*. In: *Research in Photosynthesis*, N. Murata, ed. (Kluwer Acad. Pub., Dordrecht) **1**: 53-56. (CP)

84. Liebl U, Mockensturm-Wilson M, Trost JT, Brune DC, Blankenship RE and Vermaas WFJ (1992) The reaction center core polypeptide in the photosynthetic bacterium *Heliobacillus mobilis*, In: *Research in Photosynthesis*, Murata N, ed. (Kluwer Acad. Pub., Dordrecht) **2**: 595-598. (CP)
85. Cheng P and Blankenship RE (1992) Low temperature studies on green photosynthetic bacterial chlorosomes. In: *Research in Photosynthesis*, N. Murata, ed. (Kluwer Acad. Pub., Dordrecht) **1**: 121-124. (CP)
86. Krasnovsky AA, Jr., Cheng P, Blankenship RE, Moore TA and Gust D (1993) The photophysics of monomeric bacteriochlorophylls *c* and *d* and their derivatives: properties of the triplet state and singlet oxygen photogeneration and quenching. *Photochem. Photobiol.* **57**: 324-330. (R)
87. Blankenship RE, Cheng P, Causgrove TP, Brune DC, Wang SHH, Choh JU and Wang J (1993) Redox regulation of energy transfer efficiency in antennas of green photosynthetic bacteria. *Photochem. Photobiol.* **57**: 103-107. (R)
88. Kleinherenbrink FAM, Cheng P, Amesz J and Blankenship RE (1993) Lifetimes of bacteriochlorophyll fluorescence in *Rhodospseudomonas viridis* and *Heliobacterium chlorum* at low temperatures. *Photochem. Photobiol.* **57**: 13-18. (R)
89. Godik VI, Blankenship RE, Causgrove TP and Woodbury N (1993) Time-resolved tryptophan fluorescence in photosynthetic reaction centers from *Rhodobacter sphaeroides*. *FEBS Lett.* **321**: 229-232. (R)
90. Liebl U, Mockensturm-Wilson M, Trost JT, Brune DC, Blankenship RE and Vermaas WFJ (1993) Single core polypeptide in the reaction center of the photosynthetic bacterium *Heliobacillus mobilis*: Structural implications and relations to other photosystems. *Proc. Natl. Acad. Sci. USA* **90**: 7124-7128. (R)
91. Causgrove TP, Cheng P, Brune DC and Blankenship RE (1993) Optical spectroscopy of a highly fluorescent aggregate of bacteriochlorophyll *c*. *J. Phys. Chem.* **97**: 5519-5524. (R)
92. Cheng P, Liddell P, Ma SXC and Blankenship RE (1993) Properties of Zn and Mg methyl bacteriopheophorbide *d* and their aggregates. *Photochem. Photobiol.* **58**: 290-295. (R)
93. Krasnovsky AA, Jr., Lopez J, Cheng P, Blankenship RE, Moore TA and Gust D (1994) Generation and quenching of singlet molecular oxygen by aggregated molecules of bacteriochlorophyll *d* in model systems and chlorosomes. *Photosynth. Res.* **40**: 191-198. (R)
94. Savikhin S, Zhou W, Blankenship RE and Struve WS (1994) Femtosecond energy transfer and spectral equilibration in bacteriochlorophyll *a*-protein antenna trimers from the green bacterium *Chlorobium tepidum*. *Biophys. J.* **66**: 110-114. (R)



95. Lin S, Chiou HC, Kleinherenbrink FAM and Blankenship RE (1994) Time-resolved spectroscopy of energy and electron transfer processes in the photosynthetic bacterium *Heliobacillus mobilis*. *Biophys. J.* **66**: 437-445. (R)
96. Kleinherenbrink FAM, Hastings G, Wittmershaus BP and Blankenship RE (1994) Delayed fluorescence from Fe-S Type photosynthetic reaction centers at low redox potential. *Biochemistry* **33**: 3096-3105. (R)
97. Hastings G, Kleinherenbrink FAM, Lin S and Blankenship RE (1994) Time-resolved fluorescence and absorption spectroscopy of Photosystem I. *Biochemistry* **33**: 3185-3192. (R)
98. Hastings G, Kleinherenbrink FAM, Lin S, McHugh T and Blankenship RE (1994) Observation of the reduction and re-oxidation of the primary electron acceptor in Photosystem I. *Biochemistry* **33**: 3193-3200. (R)
99. Zhou W, LoBrutto R, Lin S and Blankenship RE (1994) Redox effects on the bacteriochlorophyll *a*-containing Fenna-Matthews-Olson protein from *Chlorobium tepidum*. *Photosynth. Res.* **41**: 89-96. (R)
100. Kleinherenbrink FAM, Chiou HC, LoBrutto R and Blankenship RE (1994) Spectroscopic evidence for the presence of an iron-sulfur center similar to F<sub>X</sub> of Photosystem I in *Heliobacillus mobilis*. *Photosynth. Res.* **41**: 115-123. (R)
101. Blankenship RE (1994) Photosynthesis, In: *Encyclopedia of Inorganic Chemistry*, King BR, Ed. (J. Wiley, New York) **6**: 3282-3304. (IR)
102. Blankenship RE (1994) Protein structure, electron transfer and evolution of prokaryotic photosynthetic reaction centers. *Antonie van Leeuwenhoek* **65**: 311-329. (IR)
103. Lin S, Kleinherenbrink FAM, Chiou HC and Blankenship RE (1994) Spectral heterogeneity and time-resolved spectroscopy of excitation energy transfer in membranes of *Heliobacillus mobilis* at low temperatures. *Biophys. J.* **67**: 2479-2489. (R)
104. Savikhin S, Zhu Y, Lin S, Blankenship RE and Struve W (1994) Femtosecond spectroscopy of chlorosome antennas from the green photosynthetic bacterium *Chloroflexus aurantiacus*. *J. Phys. Chem.* **98**: 10322-10334. (R)
105. Blankenship RE, Miller M and Olson JM (1995) Antenna complexes from green photosynthetic bacteria, Chapter in: *Anoxygenic Photosynthetic Bacteria*, Blankenship RE, Madigan MT and Bauer CE, Eds., pp 399-435, Kluwer Academic Publishing, Dordrecht. (IR)

106. Lee WY, Brune DC, LoBrutto R and Blankenship RE (1995) Isolation, characterization and primary structure of rubredoxin from the photosynthetic bacterium *Heliobacillus mobilis*. *Arch. Biochem. Biophys.* **318**: 80-88. (R)
107. Savikhin S, van Noort PI, Lin S, Blankenship RE and Struve W (1995) Ultrafast energy transfer in light-harvesting chlorosomes from the green sulfur bacterium *Chlorobium tepidum*. *Chemical Physics* **194**: 245-258. (R)
108. Savikhin S, van Noort PI, Blankenship RE and Struve W (1995) Femtosecond probe of structural analogies between chlorosomes and bacteriochlorophyll c aggregates. *Biophys. J.* **69**: 1100-1104 (R)
109. Blankenship RE, Madigan MT and Bauer CE, Eds., (1995) *Anoxygenic Photosynthetic Bacteria*, 1331 pps, Kluwer Academic Publishing, Dordrecht, The Netherlands. (B)
110. Savikhin S, van Noort PI, Zhu Y, Blankenship RE and Struve WS (1995) Femtosecond energy transfer kinetics in intact chlorosomes and Bchl c aggregates from green photosynthetic bacteria. In: *Photosynthesis: From Light to Biosphere*, P. Mathis, Ed. Kluwer Academic Publishers, Dordrecht, The Netherlands. **1**: 279-282. (CP)
111. Chiou HC and Blankenship RE (1995) Temperature-dependent studies of charge recombination in *Heliobacillus mobilis*. In: *Photosynthesis: From Light to Biosphere*, P. Mathis, Ed. Kluwer Academic Publishers, Dordrecht, The Netherlands. **2**: 167-170. (CP)
112. Zhu Y, Ramakrishna BL, van Noort PI and Blankenship RE (1995) Microscopic and spectroscopic studies of untreated and hexanol-treated chlorosomes from *Chloroflexus aurantiacus*. *Biochim. Biophys. Acta* **1232**: 197-207. (R).
113. Frank HA, Cua A, Chynwat V, Young AJ, Zhu Y and Blankenship RE (1995) Quenching of chlorophyll excited states by carotenoids. In: *Photosynthesis: From Light to Biosphere*, Mathis P, Ed. Kluwer Academic Publishers, Dordrecht, The Netherlands. **4**: 3-7. (CP)
114. Lin S, Chiou HC, Blankenship RE (1995) Secondary electron transfer processes in membranes of *Heliobacillus mobilis*. *Biochemistry* **34**: 12761-12767. (R)
115. Hastings G, Hoshina S, Webber AN and Blankenship RE (1995) Universality of energy and electron transfer processes in Photosystem I. *Biochemistry* **34**: 15512-15522. (R)
116. Hastings G, Reed LJ, Lin S and Blankenship RE (1995) Excited state dynamics in Photosystem I: Effects of detergent and excitation wavelength. *Biophys. J.* **69**: 2044-2055. (R)
117. Zhu Y, Lin S, Ramakrishna BL, van Noort PI and Blankenship RE (1996) Self Quenching of chlorosome chlorophylls in water and hexanol-saturated water. *Photosynth. Res.* **47**: 207-218. (R)

118. Savikhin S, Zhu Y, Blankenship RE and Struve WS, (1996) Ultrafast energy transfer in chlorosomes from the green photosynthetic bacterium *Chloroflexus aurantiacus*, *J. Phys. Chem.* **100**: 3320-3322. (R)
119. Diers JR, Zhu Y, Blankenship RE and Bocian DF, (1996) Q<sub>y</sub>-excitation resonance Raman spectra of chlorophyll *a* and bacteriochlorophyll *c/d* aggregates. Effects of peripheral substituents on the low-frequency vibrational characteristics. *J. Phys. Chem.* **100**: 8573- 8579. (R)
120. Freiberg A, Lin S, Timpmann K and Blankenship RE (1996) Ultrafast Inter-Exciton Relaxation and Heating/Cooling Dynamics in Bacteriochlorophyll Proteins. In: *Excitonic Processes in Condensed Matter* Schreiber M, Ed., Dresden University Press, pp. 275-278. (CP)
121. Lopez J, Ryan S and Blankenship RE (1996) Sequence of the *bchG* Gene from *Chloroflexus aurantiacus*: The relationship between chlorophyll synthase and other polyprenyltransferases. *J. Bacteriol.* **178**: 3369-3373. (R)
122. Chiou HC and Blankenship RE, (1996) Temperature-dependence of charge recombination in *Heliobacillus mobilis*. *Photochem. Photobiol.* **64**: 32-37. (R)
123. Lyubchenko YL, Blankenship RE, Gall AA, Lindsay SM, Thiemann O, Simpson L and Shlyakhtenko LS (1996) Atomic force microscopy of DNA, nucleoproteins and cellular complexes: The use of functionalized substrates. *Scanning Microscopy* **10**: 97-109. (R).
124. Freiberg A, Lin S, Zhou W and Blankenship RE (1996) Ultrafast relaxation of excitons in the bacteriochlorophyll antenna proteins from green photosynthetic bacteria. In: *Ultrafast Processes in Spectroscopy*, Svelto O, De Silvestri S and Denardo G, Eds., Plenum Press, New York, pp. 493-496.
125. 125. Blankenship RE (1996) Photosynthetic antennas and reaction centers: Current understanding and prospects for improvement. In: *Research Opportunities in Photochemical Sciences*, Nozik AJ, Ed. Nrel/cp-450-21097; de96007867. (CP) Also published on line at:  
<http://photoscience.la.asu.edu/photosyn/education/antenna.html>
126. Savikhin S, Zhu Y, Blankenship RE and Struve WS (1996) Ultrafast energy transfer in chlorosomes from the green photosynthetic bacterium *Chloroflexus aurantiacus*. *J. Phys. Chem.* **100**: 17978 - 17980. (R)
127. Gulbinas V, Valkunas L, Kuciauskas D, Katilius E, Liuolia V, Zhou W and Blankenship RE (1996) Singlet-singlet annihilation and local heating in FMO complexes. *J. Phys. Chem.* **100**: 17950-17956. (R)
128. Blankenship RE (1996) Chlorosome antennas from green photosynthetic bacteria. *Spectrum* **9:3**: 2-7. (IR)

129. Griffiths WT, McHugh T and Blankenship RE (1996) The light intensity dependence of protochlorophyllide photoconversion and its significance to the catalytic mechanism of protochlorophyllide reductase. *FEBS Lett.* **398**: 235 - 238. (R)
130. Blankenship RE (1996) Book review of *Protein Electron Transfer*, D. S. Bendall, Ed, Bios Scientific Publishers, Oxford, UK, 1996. *FEBS Lett.* **398**: 339. (BR)
131. Chiou HC, Lin S and Blankenship RE (1997) Time-resolved spectroscopy of energy transfer and trapping upon selective excitation in membranes of *Heliobacillus mobilis* at Low Temperature, *J. Phys. Chem.* **101**: 4136 - 4141. (R)
132. Melkozernov AN, Lin S, Su H, Bingham S, Webber AN and Blankenship RE (1997) Specific mutation near the primary donor in Photosystem I from *Chlamydomonas reinhardtii* alters the trapping time and spectroscopic properties of P700, *Biochemistry* **36**: 2898 - 2907. (R)
133. van Noort PI, Zhu Y, LoBrutto R and Blankenship RE (1997) Redox-effects on the excited-state lifetime in chlorosomes and bacteriochlorophyll *c* oligomers. *Biophys. J.* **72**: 316-325. (R)
134. Li YF, Zhou W, Blankenship RE and Allen J (1997) Crystal structure of the bacteriochlorophyll *a* protein from *Chlorobium tepidum*. *J. Molec. Bio.* **271**: 456 - 471. (R)
135. Freiberg A, Lin S, Timpmann K and Blankenship RE (1997) Exciton dynamics in FMO bacteriochlorophyll-protein at low temperature. *J. Phys. Chem.* **101**: 7211-7220. (R)
136. Lee WY, Blankenship RE and Kim SH (1997) Isolation and characterization of a novel membrane-bound cytochrome *c*<sub>553</sub> from the strictly anaerobic phototroph, *Heliobacillus mobilis*, *J. Microbiol.* **35**: 206-212. (R)
137. Melkozernov AN, Su H, Webber AN and Blankenship RE (1998) Excitation energy transfer in thylakoid membranes from *Chlamydomonas reinhardtii* Lacking chlorophyll *b* and with mutant Photosystem I. *Photosyn. Res.* **56**: 197-207. (R)
138. Melkozernov AN, Olson JM, Li YF, Allen JP and Blankenship RE (1998) Orientation and excitonic interactions of the Fenna-Matthews-Olson protein in membranes of the green sulfur bacterium *Chlorobium tepidum*. *Photosyn. Res.* **56**: 315-328. (R)
139. Novoderezhkin VI, Taisova AS, Fetisova ZG, Blankenship RE, Savikhin S, Buck DR and Struve WS (1998) Energy transfers in the B808-866 antenna from the green bacterium *Chloroflexus aurantiacus*. *Biophys. J.* **74**: 2069 - 2075. (R)

140. Rätsep M, Wu H-M, Hayes JM, Blankenship RE, Cogdell RJ and Small GJ (1998) Stark hole-burning studies of three photosynthetic complexes. *J. Phys. Chem.* **102**: 4035-4044. (R)
141. Oh-oka H, Kamei S, Matsubara H, Lin S, van Noort PI and Blankenship RE (1998) Transient absorption spectroscopy of energy transfer and trapping processes in the reaction center of *Chlorobium tepidum*. *J. Phys. Chem.* **102**: 8190-8195. (R)
142. Blankenship RE and Hartman H (1998) The origin and evolution of oxygenic photosynthesis. *Trends Biochem. Sci.* **23**: 94-97. (R)
143. Blankenship RE (1998) Photosynthesis: The Light Reactions. Chapter in: *Plant Physiology*, 2nd ed., Taiz L and Zeiger E, eds. (Sinauer Associates, Inc.), 155-193. (IR)
144. Savikhin S, Buck DR, Struve WS, Blankenship RE, Taisova AS, Novoderezhkin VI, Fetisova ZG (1998) Excitation delocalization in the bacteriochlorophyll *c* antenna of the green bacterium *Chloroflexus aurantiacus* as revealed by ultrafast pump-probe spectroscopy. *FEBS Lett.* **430**: 323-326. (R)
145. Melkozernov AN, Schmid VHR, Schmidt GW and Blankenship RE (1998) energy redistribution in heterodimeric light harvesting complex LHC1-730 of Photosystem I. *J. Phys. Chem.* **102**: 8183-8189. (R)
146. Schweitzer R, Melkozernov AN, Blankenship RE and Brudvig G (1998) Time-resolved fluorescence measurements of Photosystem II: The effect of quenching by oxidized chlorophyll Z. *J. Phys. Chem.* **102**: 8320-8326. (R)
147. Melkozernov A, Lin S and Blankenship RE (1998) Energy Equilibration in the Antenna of Photosystem I from Cyanobacterium *Synechocystis SP.* PCC 6803. Proc. XIth Inter. Congress Photosynthesis; In: *Photosynthesis: Mechanisms and Effects, Vol. I*, Garab G, ed. (Dordrecht: Kluwer), 405-408. (CP)
148. Selvaraj F, Devine D, Zhou W, Brune DC, Lince MT and Blankenship RE (1998) Purification and properties of cytochrome *c*-553 from the green sulfur bacterium *Chlorobium tepidum*. Proc. XIth Inter. Congress Photosynthesis; In: *Photosynthesis: Mechanisms and Effects, Vol. III*, Garab G, ed. (Dordrecht: Kluwer), 1593-1596. (CP)
149. Van Driessche G, Hu W, Van de Werken, G, Selvaraj F., McManus JD, Blankenship RE and Van Beeumen JJ (1999) Auracyanin A from the green gliding photosynthetic bacterium *Chloroflexus aurantiacus* represents an unusual class of small blue copper proteins. *Protein Science* **8**: 947-957. (R)
150. Rätsep M, Blankenship RE and Small GJ (1999) Energy transfer and spectral dynamics of the three lowest energy  $Q_y$ -states of the Fenna-Matthew-Olson antenna complex. *J. Phys. Chem. B* **103**: 5736-5741. (R)

151. Mi D, Lin S and Blankenship RE (1999) Picosecond transient absorption spectroscopy in the blue spectral region of Photosystem I, *Biochemistry* **38**: 15231-15237. (R)
152. Melkozernov A, Lin S and Blankenship RE (2000) Excitation dynamics and heterogeneity of energy equilibration in the core antenna of Photosystem I from the Cyanobacterium *Synechocystis* sp. PCC 6803, *Biochemistry* **39**: 1489-1498. (R)
153. Melkozernov A, Lin S, Blankenship RE (2000) Femtosecond transient spectroscopy and excitonic interactions in Photosystem I, *J. Phys. Chem. B* **104**: 1651-1656. (R)
154. Melkozernov A, Lin S, Schmid VHR, Paulsen H, Schmidt GW and Blankenship RE (2000) Ultrafast excitation dynamics of low energy pigments in reconstituted peripheral light-harvesting complexes of photosystem I, *FEBS Letters* **471**: 89-92. (R)
155. Wu H-M, Rätsep M, Young CS, Jankowiak R, Blankenship RE and Small GJ (2000) High pressure and stark hole burning studies of chlorosome antennas from green sulfur bacterium *Chlorobium tepidum*, *Biophysical J.* **79**: 1561-1572. (R)
156. Bond C, Blankenship RE, Freeman H, Guss JM, Maher M, Selvaraj F, Wilce M and Willingham K (2001) Crystal structure of auracyanin, a 'blue' copper protein from the green thermophilic photosynthetic bacterium *Chloroflexus aurantiacus*, *J. Molec. Biol.* **306**: 47-67. (R)
157. Blankenship RE (2001) Molecular evidence for the evolution of photosynthesis, *Trends in Plant Science* **6**: 4-6. (IR, R)
158. Blankenship RE (2001) It takes two to tango. *Nature Structural Biology* **8**: 94-95. (IR)
159. Kolber ZS, Plumley FG, Lang AS, Beatty JT, Blankenship RE, Van Dover CL, Vetriani C, Koblizek M, Rathgeber C and Falkowski PG (2001) Contribution of aerobic photoheterotrophic bacteria to the carbon cycle in the ocean, *Science* **292**: 2492-2495. (R)
160. Melkozernov AN, Lin S, Blankenship RE and Valkunas L (2001) Spectral inhomogeneity of photosystem I and its influence on excitation equilibration and trapping in the Cyanobacterium *Synechocystis* sp. PCC6803 at 77K, *Biophys. J.* **81**: 1144-1154. (R)
161. Yocum C, Ferguson-Miller S and Blankenship RE (2001) Obituary: Gerald T. Babcock (1946-2000). *Photosynth. Res.* **68**: 89-94. (IR)
162. Gibasiewicz K, Ramesh VM, Melkozernov AN, Lin S, Woodbury NW, Blankenship RE and Webber AN (2001) Excitation dynamics in the core antenna of PS I from *Chlamydomonas reinhardtii* CC 2696 at room temperature. *J. Phys. Chem. B.* **105**: 11498-11506. (R)

163. Blankenship RE, Raymond J, Lince M, Larkum AWD, Jermiin LS, Lockhart PJ, Zhaxybayeva O and Gogarten JP (2001) Evolution of photosynthetic antennas and reaction centers. *PS 2001 Proceedings: 12th International Congress of Photosynthesis*, CSIRO Publishing, Collingwood, Victoria, Australia. (CP)
164. Melkozernov AN, Lin S, Schmid VHR, Lago-Places E, Paulsen H and Blankenship RE (2001) Molecular origin of red pigments in a peripheral light-harvesting antenna of Photosystem I: Ultrafast absorption spectroscopy of recombinant Lhca4. *PS 2001 Proceedings: 12th International Congress of Photosynthesis*, CSIRO Publishing, Collingwood, Victoria, Australia. (CP)
165. Montaña GA, Bowen BP, LaBelle JT, Woodbury NW, Pizziconi VB and Blankenship RE (2001) Determination of the number of bacteriochlorophyll molecules per chlorosome light-harvesting complex in *Chlorobium tepidum*. *PS 2001 Proceedings: 12th International Congress of Photosynthesis*, CSIRO Publishing, Collingwood, Victoria, Australia. (CP)
166. Jermiin LS, Blankenship RE, Lockhart PJ and Larkum AWD (2001) Phylogenetic reconstruction of ancient photosynthetic lineages using chlorophyll and bacteriochlorophyll biosynthetic genes. *PS 2001 Proceedings: 12th International Congress of Photosynthesis*, CSIRO Publishing, Collingwood, Victoria, Australia. (CP)
167. Blankenship RE (2002) *Molecular Mechanisms of Photosynthesis*, Blackwell Science, Oxford, UK. (B)
168. Hu D and Blankenship RE (2002) Rapid one step purification of the BChl-a containing FMO-protein from the green sulfur bacterium *Chlorobium tepidum* using a high efficiency immunomatrix, *Photosynth. Res.* **71**: 149-154. (R)
169. Melkozernov AN, Schmid VHR, Lin S, Paulsen H and Blankenship RE (2002) Excitation energy transfer in the Lhca1 subunit of LHC I-730 peripheral antenna of Photosystem I, *J. Phys. Chem B* **106**: 4313-4317. (R)
170. Raymond J, Zhaxybayeva O, Gerdes S, Gogarten JP and Blankenship RE (2002) Whole genome analysis of photosynthetic prokaryotes, *Science* **298**: 1616-1620 (R)
171. LaBelle, JT, Montaña GA, Blankenship RE and Pizziconi VB (2002) Nanoengineered biophotonic hybrid device. Proceedings of the Second Joint EMBS/BMES Conference Houston, TX USA. DOI:10.1109/IEMBS.2002.1106585 (CP)
172. Blankenship RE (2002) Photosynthesis: The light reactions, In: *Plant Physiology*, 3<sup>rd</sup> Ed. Taiz L and Zeiger E, Sinauer Associates, Sunderland MA, 111-143. (IR)
173. Blankenship RE and Matsuura K (2003) Antenna complexes from green photosynthetic bacteria. In: *Light-Harvesting Antennas*, Green BR and Parson WW, eds. (Dordrecht: Kluwer), 195-217. (IR)

174. Rooney MD, Honeychurch MJ, Selvaraj FM, Blankenship RE, Bond AM and Freeman HC (2003) A thin-film electrochemical study of 'blue' copper proteins, auracyanin A and auracyanin B, from the photosynthetic bacterium *Chloroflexus aurantiacus*: The reduction potential as a function of pH, *J. Biolog. Inorg. Chem* **8**: 306-317. (R)
175. Mi D, Chen M, Lin S, Lince M, Larkum AWD and Blankenship RE (2003) Excitation dynamics in the core antenna in the photosystem I reaction center of the chlorophyll *d*-containing photosynthetic prokaryote *Acaryochloris marina*. *J. Phys. Chem. B* **107**: 1452-1457. (R)
176. Raymond J, Zhaxybayeva O, Gogarten JP and Blankenship RE (2003) Evolution of photosynthetic prokaryotes: a maximum likelihood mapping approach. *Phil. Trans of the Royal Soc. B* **358**: 223-230. (R)
177. Camara-Artigas A, Blankenship RE and Allen JP (2003) The structure of the FMO protein from *Chlorobium tepidum* at 2.2 Å resolution. *Photosynth. Res.* **75**: 49-55. (R)
178. Melkozernov AN, Bibby TS, Lin S, Barber J and Blankenship RE (2003) Time-resolved absorption and emission show that CP43' antenna ring of iron stressed *Synechocystis* sp. PCC6803 is efficiently coupled to the Photosystem I reaction center core, *Biochemistry* **42**: 3893-3903. (R)
179. Raymond J and Blankenship RE (2003) Horizontal gene transfer in eukaryotic algal evolution. *Proc. Nat'l. Acad. Sci. US*, **100**: 7419-7420. (IR)
180. Montaña GA, Wu H-M, Lin S, Brune DC and Blankenship RE (2003) Isolation and characterization of the B798 baseplate light-harvesting complex from the chlorosomes of *Chloroflexus aurantiacus*. *Biochemistry* **42**: 10246-10251. (R)
181. Montaña GA, Bowen BP, LaBelle JT, Woodbury NW, Pizziconi VB and Blankenship RE (2003) Characterization of *Chlorobium tepidum* chlorosomes - A calculation of bacteriochlorophyll *c* per chlorosome and oligomer modeling. *Biophys. J.* **85**: 2560-2565. (R)
182. Melkozernov AN and Blankenship RE (2003) Structural modeling of the Lhca4 subunit of LHCI-730 peripheral antenna in photosystem I based on similarity with LHCII. *J. Biol. Chem.* **278**: 44542 - 44551. (R)
183. Raymond J, Siefert J, Staples C and Blankenship RE (2004) The natural history of nitrogen fixation. *Molecular Biology and Evolution* **21**: 541-554. (R)
184. Gest H and Blankenship RE (2004) Time line of discoveries: Anoxygenic bacterial photosynthesis. *Photosynth. Res.* **80**: 59-70. (R, IR)
185. Olson JM and Blankenship RE (2004) Thinking about the evolution of photosynthesis.



*Photosynth. Res.* **80**: 373-386. (R, IR)

186. Raymond J and Blankenship RE (2004) The evolutionary development of the protein complement of Photosystem 2. *Biochim. Biophys. Acta* **1655**: 133– 139 (R, IR)
187. Lancaster VR, LoBrutto R, Selvaraj FM and Blankenship RE (2004) Cambialistic superoxide dismutase in the thermophilic photosynthetic bacterium *Chloroflexus aurantiacus*. *J. Bacteriol.* **186**: 3408-3414. (R)
188. Oh-oka H and Blankenship RE (2004) Green bacteria: Secondary electron donor (cytochromes) *Encyclopedia of Biological Chemistry*, Lennarz WJ and Lane MD, Eds., Elsevier, Oxford, **2**: 321-324. (IR)
189. Ilagan RP, Shima S, Melkozernov A, Lin S, Blankenship RE, Sharples FP, Hiller RG, Birge RR and Frank HA (2004) Spectroscopic properties of the main-form and high-salt peridinin-chlorophyll *a*-proteins from *Amphidinium carterae*. *Biochemistry* **43**: 1478-1487. (R)
190. Montañño GA, Xin Y, Lin S and Blankenship RE (2004) Carotenoid and bacteriochlorophyll energy transfer in the B808-866 complex from *Chloroflexus aurantiacus*. *J. Phys. Chem. B* **108**: 10607-10611. (R)
191. Melkozernov AN, Kargul J, Lin S, Barber J and Blankenship RE (2004) Energy coupling in the PSI-LHCI supercomplex from the green alga *Chlamydomonas reinhardtii*. *J. Phys. Chem. B* **108**: 10547-10555. (R)
192. Blankenship RE (2004) Identification of a key step in the biosynthetic pathway of bacteriochlorophyll *c* and its implications for other known and unknown green sulfur bacteria. *J. Bacteriol.* **186**: 5187-5188. (IR)
193. Raymond J and Blankenship RE (2004) Biosynthetic pathways, gene replacement and the antiquity of life. *Geobiology* **2**: 199–203. (R)
194. Miller SR, Augustine S, Olson TL, Blankenship RE, Selker J and Wood AM (2005) Discovery of a free-living chlorophyll *d*-producing cyanobacterium with a hybrid proteobacterial cyanobacterial small-subunit rRNA gene. *Proc. Natl. Acad. Sci. USA.* **102**: 850-855. (R)
195. Blankenship RE (2005) Natural organic photosynthetic solar energy transduction. In: *Organic Photovoltaics: Mechanisms, Materials and Devices*, S-S Sun and S Sariciftci, Eds. CRC Press, Boca Raton, FL pps. 37-48. (IR)
196. Brixner T, Stenger J, Vaswani HM, Cho M, Blankenship RE and Fleming GR (2005) Two-dimensional spectroscopy of electronic couplings in photosynthesis *Nature*, **434**: 625-629. (R)

197. Xin Y, Lin S, Montaño GA and Blankenship RE (2005) Structure analysis and excitation transfer dynamics in B808–866 light-harvesting complexes of the green bacterium *Chloroflexus aurantiacus* In: *Photosynthesis: Fundamental Aspects to Global Perspectives*, 1 Vol. 1, pp 111-112, Allen Press, Lawrence, KS, USA. (CP)
198. Melkozernov, A. N., Kargul, J., Lin, S., Barber, J., and Blankenship R. (2005) Excited state dynamics in the PSI-LHCI supercomplex from *Chlamydomonas reinhardtii*: excitation wavelength dependence study. In: *Photosynthesis: Fundamental Aspects to Global Perspectives*, A. van der Est, D. Bruce, Eds, Vol. 1, pp. 178-180, Allen Press, Lawrence, KS, USA.
199. Staples CR and Blankenship RE (2005) Photosynthesis. In: *Encyclopedia of Inorganic Chemistry*, 2<sup>nd</sup> Edition, R. B. King, Ed., John Wiley, Chichester, Vol. VII, pp 4459-4487. (IR)
200. Melkozernov AN and Blankenship RE (2005) Structural and functional organization of the peripheral light-harvesting system in Photosystem I. *Photosynthesis Research*. **85**: 33-50. (IR, R)
201. Niederman RA, Frank HA and Blankenship RE (2005) An introduction to the special issue on photosynthetic antenna pigments and complexes. *Photosynthesis Research* **86**: 1-3. (IR)
202. Hohmann-Marriott MF, Blankenship RE, Roberson RW (2005) The ultrastructure of *Chlorobium tepidum* chlorosomes revealed by electron microscopy. *Photosynthesis Research* **86**: 145-154. (R)
203. Xin Y, Lin S, Montaño GA and Blankenship RE (2005) Purification and characterization of the B808-866 light-harvesting complexes from the green filamentous bacterium *Chloroflexus aurantiacus*. *Photosynthesis Research* **86**: 155-163. (R)
204. Melkozernov AN, Kargul J, Lin S, Barber J and Blankenship RE (2005) Spectral and kinetic analysis of the energy coupling in the PSI-LHCI supercomplex from the green alga *Chlamydomonas reinhardtii* at 77 K. *Photosynthesis Research* **86**: 203-216. (R)
205. Beatty JT, Overmann J, Lince MT, Manske AK, Lang AS, Blankenship RE, Van Dover CL, Martinson TA and Plumley FG (2005) An obligately photosynthetic bacterial anaerobe from a deep-sea hydrothermal vent. *Proc. Natl. Acad. Sci. USA* **102**: 9306-9310. (R)
206. Yanyushin MF, del Rosario M, Brune DC and Blankenship RE (2005) A new class of bacterial membrane oxidoreductases. *Biochemistry* **44**: 10037-10045. (R)
207. Hohmann-Marriott MF, Blankenship RE, Sharp W and Roberson RW (2005) Digital position determination system for electron microscopy. *Microscopy Research and Technique* **67**: 106-111. (R)

208. Yocum CF, Blankenship RE and Ferguson-Miller S (2005) Dedication/personal perspective: a tribute to Jerry Babcock. In: *Photosystem II: The Water/Plastoquinone Oxido-Reductase In Photosynthesis*. Wydrzynski T and Satoh K, Eds, Springer, Dordrecht, 1-10. (R, IR)
209. Dismukes GC and Blankenship RE (2005) The origin and evolution of photosynthetic oxygen production. In: *Photosystem II: The Water/Plastoquinone Oxido-Reductase In Photosynthesis*. Wydrzynski T and Satoh K, Eds, Springer, Dordrecht, 683-695. (R, IR)
210. Swingley WD, Hohmann-Marriott MF, Olson TL and Blankenship RE (2005) Effect of iron on growth and ultrastructure of *Acaryochloris marina*. *Applied and Environmental Microbiology* **71**: 8606-8610. (R)
211. Chen M, Telfer A, Lin S, Pascal A, Larkum AWD, Barber J and Blankenship RE (2005) The nature of the Photosystem II reaction centre in the chlorophyll *d* containing prokaryote, *Acaryochloris marina*. *Photochemical & Photobiological Sciences*, **4**: 1060-1064. (R)
212. Melkozernov AN, Barber J and Blankenship RE (2006) Light-harvesting in photosystem I supercomplexes. *Biochemistry* **45**: 331-345. (IR, R)
213. Raymond J and Blankenship RE (2006) How did the Photosystem I reaction center evolve? In: *Photosystem I: The Light-Driven, Plastocyanin:Ferredoxin Oxidoreductase*. J Golbeck, Ed, Springer, Dordrecht, pps 669-682. (IR)
214. Blankenship RE (2006) Photosynthesis: The Light Reactions, Chapter 7 in: *Plant Physiology*, 4<sup>th</sup> Ed., L Taiz and E Zeiger, Eds., Sinauer Publishing, 125-158. (IR, R)
215. Sadekar S, Raymond J and Blankenship RE (2006) Conservation of distantly related membrane proteins: photosynthetic reaction centers share a common structural core. *Molecular Biology and Evolution*, **23**: 2001-2007. (R)
216. Brixner T, Stenger J, Vaswani HM, Cho M, Blankenship RE and Fleming GR (2006) Electronic 2D spectroscopy of light harvesting. In: *Femtochemistry VII: Fundamental Ultrafast Processes in Chemistry, Physics and Biology*, Castleman AW Jr., Kimble ML, Eds., Elsevier Science, 331-336. (CP)
217. Melkozernov AN and Blankenship RE (2006) Photosynthetic functions of chlorophylls. In: *Advances in Photosynthesis and Respiration*, Vol. 25, B Grimm, RJ Porra, W Rüdiger and H Scheer, Eds, *Chlorophylls and Bacteriochlorophylls: Biochemistry, Biophysics, Functions and Applications*. Springer, Dordrecht, 397-412. (IR)
218. Swingley WD, Sadekar S, Mastrian SD, Matthies HJ, Hao J, Ramos H, Acharya CR, Conrad AL, Taylor HL, Dejesa LC, Shah MK, O'Huallachain ME, Lince MT, Blankenship RE, Beatty JT and Touchman JW (2007) The complete genome sequence of

*Roseobacter denitrificans* reveals a mixotrophic rather than photosynthetic metabolism. *J. Bacteriology* **189**: 683-690. (R)

219. Kiang N, Siefert J, Govindjee, Blankenship RE, (2007) Spectral signatures of photosynthesis. I. Review of earth organisms. *Astrobiology* **7**: 222-251. (R)
220. Kiang N, Segura A, Tinetti G, Govindjee, Blankenship RE, Cohen M, Siefert J, Crisp D and Meadows VS (2007) Spectral signatures of photosynthesis. II. Coevolution with other stars and the atmosphere on extrasolar worlds. *Astrobiology* **7**: 252-274. (R)
221. Blankenship RE, Sadekar S and Raymond J (2007) The evolutionary transition from anoxygenic to oxygenic photosynthesis. In: *Evolution of Aquatic Photoautotrophs*, Falkowski P and Knoll AN, Eds, Academic Press, New York, pps 21-35. (IR)
222. Hohmann-Marriott M and Blankenship RE (2007) Variable fluorescence in green sulfur bacteria. *Biochim. Biophys. Acta* **1767**: 106-113. (R)
223. Blankenship RE and Govindjee (2007) Photosynthesis, In: *McGraw-Hill Encyclopedia of Science and Technology*, McGraw-Hill, NY, DOI 10.1036/1097-8542.511700. <http://www.accessscience.com/content.aspx?id=511700> (IR)
224. Govindjee, Blankenship RE and Shopes RJ (2007) Bacterial Photosynthesis, In: *McGraw-Hill Encyclopedia of Science and Technology*, McGraw-Hill, NY, DOI 10.1036/1097-8542.511700. <http://www.accessscience.com/content.aspx?id=511700> (IR)
225. Olson TL, van de Meene AML, Francis JN, Pierson BK and Blankenship RE (2007) Pigment analysis of “*Candidatus Chlorothrix halophila*”, a green filamentous anoxygenic phototrophic bacterium. *J. Bacteriology* **189**: 4187-4195. (R)
226. van de Meene AML, Olson TL, Collins AM and Blankenship RE (2007) Initial characterization of the photosynthetic apparatus of “*Candidatus Chlorothrix halophila*”: A filamentous, anoxygenic photoautotroph. *J. Bacteriology* **189**: 4196-4203. (R)
227. Engel GS, Calhoun TR, Read EL, Ahn TK, Mancal T, Cheng Y-C, Blankenship RE and Fleming GR (2007) Evidence for wavelike energy transfer through quantum coherence in photosynthetic systems. *Nature* **446**: 782-786. (R)
228. Hohmann-Marriott M and Blankenship RE, (2007) Hypothesis on chlorosome biogenesis in green photosynthetic bacteria. *FEBS Lett.* **581**: 800-803. (R)
229. Read EL, Engel GS, Calhoun TR, Mancal T, Ahn TK, Blankenship RE and Fleming GR (2007) Cross-peak specific two-dimensional electronic spectroscopy. *Proc. Nat'l. Acad. Sci. USA* **104**: 14203-14208. (R)

230. Staples CR, Lahiri S, Raymond J, Von Herbulis L, Mukhophadhyay B and Blankenship RE (2007) The expression and association of group IV nitrogenase NifD And NifH homologs in the non-nitrogen fixing Archaeon *Methanocaldococcus jannaschii*. *J. Bacteriology* **189**: 7392-7398. (R)
231. Swingley WD, Blankenship RE and Raymond J, (2007) Insights into cyanobacterial evolution from comparative genomics. In: *Genomics and Molecular Biology of Cyanobacteria*, Herrero A and Flores E, Eds, Horizon Scientific Press, Norwich, UK. pps. 22-43. (IR)
232. Xin Y, Lin S and Blankenship RE (2007) Femtosecond spectroscopy of the primary charge separation in reaction centers of *Chloroflexus aurantiacus* with selective excitation in Qy and Soret bands. *J. Phys. Chem.* **111**: 9367-9373. (R)
233. Blankenship RE (2007) 2007 Awards of the International Society of Photosynthesis Research (ISPR). *Photosynthesis Research* **94**: 179-181. (CP)
234. Blankenship RE (2007), Photosynthesis: Energy Capture, in Hooper JK (Ed.), *Chloroplast: The Organelle that Sustains Us*, The Biomedical & Life Sciences Collection, Henry Stewart Talks Ltd, London (online at <http://www.hstalks.com/?t=BL0431431-Blankenship>) (MM)
235. Blankenship RE, Raymond J, Staples C and Mukhopadhyay B (2008) Evolution of functional diversity in nitrogenase homologs. In: *Biological Nitrogen Fixation: Towards Poverty Alleviation through Sustainable Agriculture: Proceedings of the 15th International Nitrogen Fixation Congress*. Dakora FD, Chimphango SBM, Valentine AJ, Elmerich C and Newton WE, Eds, Springer, pps. 305-306. (CP)
236. Raymond J and Blankenship RE (2008) The origin of the oxygen-evolving complex. *Coordination Chemistry Reviews* **252**: 377-383. (IR, R)
237. Hohmann-Marriott M and Blankenship RE (2008) Anoxygenic type I photosystems and evolution of photosynthetic reaction centers. In: *Photosynthetic Protein Complexes: A Structural Approach*, Fromme P, Ed, Wiley-VCH, Weinheim, Germany, pps 295-324. (IR)
238. Swingley WD, Blankenship RE and Raymond J (2008) Integrating Markov clustering and molecular phylogenetics to reconstruct the cyanobacterial species tree from conserved protein families. *Molecular Biology and Evolution* **25**: 1-12. (R)
239. Blankenship RE and Haffa A (2008) Why we need to teach the evolution of photosynthesis. In: *Photosynthesis. Energy from the Sun: 14th International Congress on Photosynthesis*, Allen JF, Gantt E, Golbeck JH & Osmond B, Eds, Springer, Dordrecht, pps. 1613–1617. (CP)

240. Chen M, Zhang Y and Blankenship RE (2008) Nomenclature for membrane-bound light-harvesting complexes of cyanobacteria. *Photosynthesis Research* **95**: 147-154. (R)
241. Rensing SA, Lang D, Zimmer A, Terry A, Salamov A, Shapiro H, Nishiyama T, Perroud P-F, Lindquist E, Kamisugi Y, Tanahashi T, Sakakibara K, Fujita T, Oishi K, Shin-I T, Kuroki Y, Toyoda A, Suzuki Y, Hashimoto S, Yamaguchi K, Sugano S, Kohara Y, Fujiyama A, Anterola A, Aoki S, Ashton N, Barbazuk WB, Barker E, Bennetzen J, Blankenship R, Cho SH, Dutcher S, Estelle M, Fawcett JA, Gundlach H, Hanada K, Heyl A, Hicks KA, Hughes J, Lohr M, Mayer K, Melkozernov A, Murata T, Nelson D, Pils B, Prigge M, Reiss B, Renner T, Rombauts S, Rushton P, Sanderfoot A, Schween G, Shiu S-H, Stueber K, Theodoulou FL, Tu H3, Van de Peer Y, Verrier PJ, Waters E, Wood A, Yang L, Cove D, Cuming AC, Hasebe M, Lucas S, Mishler BD, Reski R, Grigoriev I, Quatrano RS and Boore JL (2008) The *Physcomitrella* genome reveals evolutionary insights into the conquest of land by plants. *Science* **319**: 64-69. (R)
242. Swingley WD, Chen M, Cheung PC, Conrad AL, Dejesa LC, Hao J, Honchak BM, Karbach LE, Kurdoglu A, Lahiri S, Mastrian SD, Miyashita H, Page LE, Ramakrishna P, Satoh S, Sattley WM, Shimada Y, Taylor HL, Tomo T, Tsuchiya T, Wang ZT, Raymond J, Mimuro M, Blankenship RE and Touchman JW (2008) Niche adaptation and genome expansion in the chlorophyll *d*-producing cyanobacterium *Acaryochloris marina*. *Proc. Nat'l. Acad. Sci. USA* **105**: 2005-2010. (R)
243. Rathgeber C, Lince M, Alric J, Lang AS, Humphrey E, Blankenship RE, Verméglio A, Plumley FG, Van Dover CL, Beatty JT and Yurkov V (2008) Vertical distribution and characterization of aerobic phototrophic bacteria at the Juan de Fuca Ridge in the Pacific Ocean. *Photosynthesis Research* **97**: 235-244. (R)
244. Read EL, Schlau-Cohen GS, Engel GS, Wen J, Blankenship RE, Fleming GR (2008) Visualization of excitonic structure in the fenna-matthews-olson photosynthetic complex by polarization-dependent two-dimensional electronic spectroscopy. *Biophysical Journal* **95**: 847-856. (R)
245. Sattley WM, Madigan MT, Swingley WD, Cheung PC, Clocksin KM, Conrad AL, Dejesa LC, Honchak BM, Jung DO, Karbach LE, Kurdoglu A, Lahiri S, Mastrian SD, Page LE, Taylor HL, Wang ZT, Raymond J, Chen M, Blankenship RE and Touchman JW (2008) The genome of *Heliobacterium modesticaldum*, a phototrophic representative of the *Firmicutes* containing the simplest photosynthetic apparatus. *J. Bacteriology* **190**: 4687-4696. (R)
246. Swingley WD, Blankenship RE and Raymond J (2009) Evolutionary relationships among purple photosynthetic bacteria and the origin of proteobacterial photosynthetic systems. In: *The Purple Photosynthetic Bacteria*, Eds., Hunter CN, Daldal F, Thurnauer M and Beatty JT, Springer, Dordrecht, pps. 17-29. (IR)
247. Xin Y, Lu Y-K, Fromme R, Fromme P and Blankenship RE (2009) Purification, characterization and crystallization of menaquinol:fumarate oxidoreductase from the

green filamentous photosynthetic bacterium *Chloroflexus aurantiacus*. *Biochim Biophys Acta* **1787**: 86-96. (R)

248. Lee M, del Rosario MC, Harris HH, Blankenship RE, Guss JM and Freeman HC (2009) The crystal structure of auracyanin A at 1.85Å resolution: The structures and functions of auracyanins A and B, two almost identical 'blue' copper proteins, in the photosynthetic bacterium *Chloroflexus aurantiacus*. *J. Biological Inorganic Chemistry* **14**: 329-345. (R)
249. Björn LO, Papageorgiou GC, Blankenship RE and Govindjee (2009) A viewpoint: why chlorophyll *a*? *Photosynthesis Research* **99**: 85-98. (R)
250. Tronrud DE, Wen J, Gay L, and Blankenship RE (2009) The structural basis for the difference in absorbance spectra for the FMO antenna protein from various green sulfur bacteria. *Photosynthesis Research* **100**: 79-87. (R)
251. Wen J, Zhao H, Gross ML and Blankenship RE (2009) Membrane orientation of the FMO antenna protein from *Chlorobaculum tepidum* as determined by mass spectrometry-based footprinting. *Proc. Nat'l. Acad. Sci. USA* **106**: 6134-6139. (R)
252. Collins AM, Xin Y, and Blankenship RE (2009) Pigment organization in the photosynthetic apparatus of *Roseiflexus castenholzii*. *Biochim Biophys Acta* **1787**: 1050-1056. (R)
253. Bell P, Xin Y and Blankenship RE (2009) Purification and characterization of cytochrome *c*<sub>6</sub> from *Acaryochloris marina*. *Photosynthesis Research* **102**: 43-51. (R)
254. Tang K-H, Wen J, Li X and Blankenship RE (2009) The role of the AcsF protein in *Chloroflexus aurantiacus*. *J. Bacteriology* **191**: 3580-3587. (R)
255. Psencík J, Collins AM, Liljeroos L, Torkkeli M, Laurinmaki P, Ansink HM, Ikonen TP, Serimaa RE, Blankenship RE, Tuma R, Butcher SJ (2009) Structure of the chlorosomes from green filamentous bacterium *Chloroflexus aurantiacus*. *J. Bacteriology* **191**: 6701-6708. (R)
256. Tang K-H, Feng X, Tang Y and Blankenship RE (2009) Carbohydrate metabolism and carbon fixation in *Roseobacter denitrificans* OCh114. *PLoS One* **4**: e7233 1-12. (R)
257. Gao X, Xin Y and Blankenship RE (2009) Enzymatic activity of the alternative complex III as a menaquinol:auracyanin oxidoreductase in the electron transfer chain of *Chloroflexus aurantiacus*. *FEBS Lett.* **583**: 3275-3279. (R)
258. Moulisová V, Luer L, Hoseinkhani S, Brotosudarmo THP, Collins AM, Lanzani G, Blankenship RE, Cogdell RJ (2009) Low light adaptation: Energy transfer processes in different types of light harvesting complexes from *Rhodospseudomonas palustris*. *Biophysical Journal* **97**: 3019-3028. (R)

259. Modesto-Lopez LB, Thimsen EJ, Collins AM, Blankenship RE and Biswas P (2010) Electrospray-assisted characterization and deposition of chlorosomes to fabricate a biomimetic light-harvesting device. *Energy & Environmental Science* **3**: 216-222. (R)
260. Sattley WM and Blankenship RE (2010) Insights into heliobacterial photosynthesis and physiology from the genome of *Heliobacterium modesticaldum*. *Photosynthesis Research* **104**: 113-122. (R)
261. Tsukatani Y, Wen J, Blankenship RE, and Bryant DA (2010) Characterization of the FMO protein from the aerobic chlorophototroph, *Candidatus Chloracidobacterium thermophilum*. *Photosynthesis Research* **104**: 201-209. (R)
262. Lu Y-K, Marden J, Han M, Swingley WD, Mastrian SD, Chowdhury SR, Hao J, Helmy T, Kim S, Kurdoglu AA, Matthies HJ, Rollo D, Stothard P, Blankenship RE, Bauer CE, and Touchman JW (2010) Metabolic flexibility revealed in the genome of the cyst-forming alpha-1 proteobacterium *Rhodospirillum centenum*. *BMC Genomics* **11**: 325. (R)
263. Collins AM, Redding KE and Blankenship RE (2010) Modulation of fluorescence in *Heliobacterium modesticaldum* cells. *Photosynthesis Research* **104**: 283-292. (R)
264. Tang K-H, Yue H, Blankenship RE (2010) Energy metabolism of *Heliobacterium modesticaldum* during phototrophic and chemotrophic growth. *BMC Microbiology* **10**: 150. (R)
265. Reinert F and Blankenship RE (2010) Evolutionary aspects of crassulacean acid metabolism. *Oecologia Australis* **14**: 359-368. (R)
266. Blankenship RE (2010) Photosynthesis: The Light Reactions, Chapter 7 in: *Plant Physiology*, 5<sup>th</sup> Ed., L Taiz and E Zeiger, Eds., Sinauer Publishing, 163-197. (R, IR)
267. Niedzwiedzki DM, Collins AM, LaFountain AM, Enriquez MM, Frank HA and Blankenship RE (2010) Spectroscopic studies of carotenoid-to-bacteriochlorophyll energy transfer in LHRC photosynthetic complex from *Roseiflexus castenholzii*. *J. Phys. Chem. B.* **114**: 8723-8734. (R)
268. Panitchayangkoon G, Hayes D, Fransted KA, Caram JR, Harel E, Wen J, Blankenship RE and Engel GS (2010) Long-lived quantum coherence in photosynthetic complexes at physiological temperature. *Proc. Nat'l. Acad. Sci. USA* **107**: 12766-12770. (R)
269. Wen J, Harada J, Buyle K, Yuan K, Loomis RA, Tamiaki H, Oh-oka H, Blankenship RE (2010) Characterization of an FMO variant of *Chlorobaculum tepidum* carrying bacteriochlorophyll *a* esterified by geranylgeraniol. *Biochemistry* **49**: 5455-5463. (R)



270. Gao X, Xin Y, Bell PD, Wen J and Blankenship RE (2010) Structural analysis of Alternative Complex III in the Photosynthetic electron transfer chain of *Chloroflexus aurantiacus*. *Biochemistry* **49**: 6670-6679. (R)
271. Tang K-H, Urban VS, Wen J, Xin Y and Blankenship RE (2010) SANS investigation of the photosynthetic machinery of *Chloroflexus aurantiacus*. *Biophysical Journal* **99**: 2398-2407. (R)
272. Zhang H, Cui W, Wen J, Blankenship RE and Gross ML (2010) Native electrospray and electron-capture dissociation in FTICR mass spectrometry provide top-down sequencing of a protein component in an intact protein assembly. *Journal of the American Society for Mass Spectrometry* **21**: 1966-1968. (R)
273. Tang K-H and Blankenship RE (2010) Both forward and reverse TCA cycles operate in green sulfur bacteria. *Journal of Biological Chemistry* **285**: 35848-35854. (R)
274. Blankenship RE (2010) Early evolution of photosynthesis. *Plant Physiology* **154**: 434-438. (R, IR).
275. Collins AM, Qian P, Tang Q, Bocian DF, Hunter CN and Blankenship RE (2010) The light-harvesting antenna system from the phototrophic bacterium *Roseiflexus castenholzii*. *Biochemistry* **49**: 7524-7531. (R)
276. Feng Y, Tang K-H, Blankenship RE and Tang YJ (2010) Metabolic flux analysis of the mixotrophic metabolisms in the green sulfur bacterium *Chlorobaculum tepidum*. *Journal of Biological Chemistry* **285**: 39544-39550. (R)
277. Tang K-H, Feng Y, Zhuang W-Q, Alvarez-Cohen L, Blankenship RE and Tang YJ (2010) Carbon flow of Heliobacterium is related more to *Clostridia* than to the green sulfur bacteria. *Journal of Biological Chemistry* **285**: 35104-35112. (R)
278. Niedzwiedzki DM and Blankenship RE (2010) Singlet and triplet excited state properties of natural chlorophylls and bacteriochlorophylls. *Photosynthesis Research* **106**: 227-238. (R)
279. Niedzwiedzki DM, Kobayashi M and Blankenship RE (2011) Triplet excited state spectra and dynamics of carotenoids from the thermophilic purple photosynthetic bacterium *Thermochromatium tepidum*, *Photosynthesis Research* **107**: 177-186. (R)
280. Collins AM, Kirmaier C, Holten D, and Blankenship RE (2011) Kinetics and energetics of the reaction center of the photosynthetic bacterium *Roseiflexus castenholzii*. *Biochim. Biophys. Acta* **1807**: 262-269. (R)
281. Larson CR, Seng CO, Lauman L, Matthies HJ, Wen J, Blankenship RE and Allen JP (2011) The three-dimensional structure of the FMO protein from *Pelodictyon phaeum* and the implications for energy transfer. *Photosynthesis Research* **107**: 139-150. (R)

282. Wen J, Zhang H, Gross ML and Blankenship RE (2011) Native electrospray mass spectrometry reveals the nature and stoichiometry of pigments in the FMO antenna protein. *Biochemistry* **50**: 3502-3511. (R)
283. Tang K-H, Zhu L, Urban VS, Collins AM, Biswas P and Blankenship RE (2011) Temperature and ionic strength effects on the chlorosome light-harvesting antenna complex. *Langmuir* **27**: 4816-4828. (R)
284. Wen J, Tsukatani Y, Cui W, Zhang H, Gross ML, Bryant DA and Blankenship RE (2011) Structural model and spectroscopic characteristics of the FMO antenna protein from the aerobic chlorophototroph, *Candidatus Chloracidobacterium thermophilum*. *Biochim. Biophys. Acta* **1807**: 157-164. (R)
285. Blankenship RE, Tiede DM, Barber J, Brudvig GW, Fleming G, Ghirardi M, Gunner MR, Junge W, Kramer DM, Melis A, Moore TA, Moser CC, Nocera DG, Nozik AJ, Ort DR, Parson WW, Prince RC, Sayre RT (2011) Comparing the efficiency of photosynthesis with photovoltaic devices and recognizing opportunities for improvement. *Science* **332**: 805-809. (R, IR)
286. Chen M and Blankenship RE (2011) Expanding the solar spectrum used by photosynthesis. *Trends in Plant Sciences* **16**: 427-431. (IR)
287. Hohmann-Marriott, MF and Blankenship RE (2011) Evolution of photosynthesis. *Annual Review of Plant Biology* **62**: 515-548. (R, IR)
288. Tang K-H, Feng X, Bandyopadhyay A, Pakrasi HB, Tang YJ, and Blankenship RE (2013) Unique central carbon metabolic pathways and novel enzymes in phototrophic bacteria revealed by integrative genomics, <sup>13</sup>C-based metabolomics and fluxomics. Proc. 15<sup>th</sup> Int. Congress on Photosynthesis, T. Kuang et al., Eds. *Photosynthesis Research for Food, Fuel and the Future* Zhejiang University Press, Hangzhou and Springer-Verlag Berlin Heidelberg, pps 339-343. (CP)
289. Hayes D, Wen J, Blankenship RE, and Engel GS (2011) Robustness of electronic coherence in the Fenna-Matthews-Olson complex to vibronic and structural modifications. *Faraday Discussions* **150**: 459-469. (R, CP)
290. Tang K-H, Barry K, Chertkov O, Dalin E, Han CS, Hauser LJ, Honchak BM, Karbach LE, Land ML, Lapidus A, Larimer FW, Mikhailova N, Pitluck S, Pierson BK and Blankenship RE (2011) Complete genome sequence of the filamentous anoxygenic phototrophic bacterium *Chloroflexus aurantiacus*. *BMC Genomics* **12**: 334. (R)
291. Niedzwiedzki DM, Fuciman M, Frank HA and Blankenship RE (2011) Energy Transfer in an LH4-like light-harvesting complex from the aerobic purple photosynthetic bacterium *Roseobacter denitrificans*. *Biochim. Biophys. Acta* **1807**: 518-528. (R)

292. Zhang H, Cui W, Wen J, Blankenship RE and Gross ML (2011) Native electrospray and electron-capture dissociation FTICR mass spectrometry for top-down studies of protein assemblies. *Analytical Chemistry* **83**: 5598-5606. (R)
293. Brotosudarmo THP, Collins AM, Gall A, Roszak AW, Gardiner AT, Blankenship RE and Cogdell RJ (2011) The light intensity at which cells are grown controls the type of peripheral light-harvesting complexes that are assembled in a purple photosynthetic bacterium. *Biochemical Journal* **440**: 51-61. (R)
294. Miller SR, Wood AM, Blankenship RE, Kim M and Ferriera S (2011) Dynamics of gene duplication in the genomes of chlorophyll *d*-producing cyanobacteria: Implications for the ecological niche. *Genome Biology and Evolution* **3**: 601-613. (R)
295. Tang K-H, Tang YJ and Blankenship RE (2011) Carbon metabolism pathways in phototrophic bacteria and their broader evolutionary implications. *Frontiers in Microbiology* **2**: 165. (R)
296. Mielke SP, Kiang NY, Blankenship RE, Gunner MR, Mauzerall D (2011) Efficiency of photosynthesis in a Chl *d*-utilizing cyanobacterium is comparable to or higher than that in Chl *a*-utilizing oxygenic species. *Biochim. Biophys. Acta* **1807**: 1231-1236. (R)
297. Guo Z, Lin S, Xin Y, Wang H, Blankenship RE and Woodbury NW (2011) Comparing the temperature dependence of photosynthetic electron transfer in *Chloroflexus aurantiacus* and *Rhodobactor sphaeroides*. *Journal of Physical Chemistry* **115**:11230-11238. (R)
298. Niedzwiedzki DM, Fuciman M, Kobayashi M, Frank HA and Blankenship RE (2011) Ultrafast time-resolved spectroscopy of the light-harvesting complex 2 (LH2) from the photosynthetic bacterium *Thermochromatium tepidum*. *Photosynthesis Research* **110**: 49-60. (R)
299. Hohmann-Marriott M and Blankenship RE (2012) The Photosynthetic World. In: *Photosynthesis: Plastid Biology, Energy Conversion and Carbon Assimilation*. Eds. Eaton-Rye JJ, Tripathy BC and Sharkey TD, Springer, Dordrecht, 3-32. (IR)
300. Zhang H, Wen J, Huang R-C, Blankenship RE and Gross ML (2012) Mass spectrometry-based carboxyl footprinting of proteins: Method evaluation. *Int. J. of Mass Spectrometry* **312**: 78-86. (R)
301. Yue H, Kang Y, Zhang H, Gao X and Blankenship RE (2012) Expression and Characterization of the diheme cytochrome *c* subunit of the cytochrome *bc* complex in *Heliobacterium modesticaldum*. *Archives Biochemistry and Biophysics* **517**: 131-137. (R)

302. Collins AM, Wen J and Blankenship RE (2012) Photosynthetic Light Harvesting Complexes. In *Molecular Solar Fuels*, T Wydrzynski and W Hillier, Eds., Royal Soc. of Chemistry, Cambridge, UK. 85-106. (IR)
303. Ruggirello RM, Balcerzak P, May VL and Blankenship RE (2012) Measurement of solar spectra relating to photosynthesis and solar cells: an inquiry lab for secondary science. *Biochemistry and Molecular Biology Education* **40**: 241-245. (R)
304. DeSantis MC, Zareh SK, Li X, Blankenship RE and Wang YM (2012) Single-image axial localization precision analysis for individual fluorophores. *Optics Express* **20**: 3057-3065. (R)
305. Huang R Y-C, Wen J, Blankenship RE and Gross ML (2012) Hydrogen-deuterium exchange mass spectrometry reveals the interaction of Fenna-Matthews-Olson protein and chlorosome CsmA protein. *Biochemistry* **51**: 187-193. (R)
306. Tang K-H and Blankenship RE (2012) Neutron and light scattering studies of light-harvesting photosynthetic antenna complexes. *Photosynthesis Research* **111**: 205-217. (R)
307. Xin Y, Collins AM, Lin S, Pan J and Blankenship RE (2012) Excitation energy transfer and trapping dynamics in the core complex of the filamentous photosynthetic bacterium *Roseiflexus castenholzii*. *Photosynthesis Research* **111**: 149-156. (R)
308. Li Y, Scales N, Blankenship RE, Willows RD and Chen M (2012) Extinction coefficient for red-shifted chlorophylls: chlorophyll *d* and chlorophyll *f*. *Biochim. Biophys. Acta* **1817**: 1292–1298. (R)
309. Jiang J, Zhang H, Kang Y, Bina D, Lo CS and Blankenship RE (2012) Characterization of the peridinin-chlorophyll *a*-protein complex in the dinoflagellate *Symbiodinium*. *Biochim. Biophys. Acta* **1817**: 983-989. (R)
310. Niedzwiedzki DM, Bina D, Picken N, Honkanen S, Blankenship RE, Holten D and Cogdell RJ (2012) Spectroscopic studies of two spectral variants of light-harvesting complex 2 (LH2) from the photosynthetic purple sulfur bacterium *Allochromatium vinosum*. *Biochim. Biophys. Acta* **1817**: 1576–1587. (R)
311. Vogl K, Tank M, Orf GZ, Blankenship RE and Bryant DA (2012) Bacteriochlorophyll *f*: Properties of chlorosomes containing the “forbidden chlorophyll”. *Frontiers in Microbiology* **3**: Article 298, pps 1-12. (R)
312. O’Dell WB, Beatty KJ, Tang K-H, Blankenship RE, Urban VS, and O’Neill H (2012) Sol–gel entrapped light harvesting antennas: Immobilization and stabilization of chlorosomes for energy harvesting. *Journal of Materials Chemistry* **22**: 22582 - 22591. (R)

313. Marty MT, Zhang H, Cui W, Blankenship RE, Gross ML, Sligar SG (2012) Native mass spectrometry characterizes intact nanodisc lipoprotein complexes. *Analytical Chemistry* **84**: 8957–8960. (R)
314. Shah VB, Orf GS, Reisch S, Harrington LB, Prado M, Blankenship RE and Biswas P (2012) Characterization and deposition of various light-harvesting antenna complexes by electrospray atomization. *Analytical and Bioanalytical Chemistry* **404**: 2329-2338. (R)
315. An W-J, Co-Reyes J, Shah VB, Wang W-N, Orf GS, Blankenship RE, and Biswas P (2012) Nano-biohybrid light-harvesting systems for solar energy applications. *MRS Proceedings* **1445**: mrss12-1445-t05-04 doi:10.1557/opl.2012.1220. (R)
316. Tang K-H, You L, Blankenship RE, Tang YJ (2012) Recent advances in mapping novel microbial metabolisms through <sup>13</sup>C isotopic fingerprints. *J. Royal Society Interface* **9**: 2767-2780. (R, IR)
317. Mielke SP, Kiang NY, Blankenship RE and Mauzerall D (2013) Photosystem trap energies and spectrally-dependent energy-storage efficiencies in the Chl *d*-utilizing cyanobacterium, *Acaryochloris marina*. *Biochim. Biophys. Acta* **1827**: 255-265. (R)
318. Oh-oka H and Blankenship RE (2013) Green Bacteria: Secondary Electron Donor (Cytochromes) *Encyclopedia of Biological Chemistry, 2nd Ed.*, Lennarz WJ and Lane MD, Eds., Elsevier, Oxford, pps 510-512. (IR).
319. Niedzwiedzki DM, Jiang J, Lo CS and Blankenship RE (2013) Spectroscopic properties of the chlorophyll *a*-chlorophyll *c*<sub>2</sub>-peridinin-protein-complex (acpPC) from the coral symbiotic dinoflagellate *Symbiodinium*. *Photosynthesis Research* **120**: 125-39. (R)
320. Tang K-H and Blankenship RE (2013) Photosynthetic electron transport. In *Encyclopedia of Biophysics*, GKC Roberts, Ed., Springer, New Delhi, ISBN 978-3-642-16711-9. (IR)
321. Majumder EW, King J and Blankenship RE (2013) Alternative Complex III from phototrophic bacteria and its electron acceptor auracyanin. *Biochim. Biophys. Acta* **1827**: 1383-1391. (R, IR)
322. Orf GS, Tank M, Vogl K, Niedzwiedzki DM, Bryant DA and Blankenship RE (2013) Spectroscopic insights into the decreased efficiency of chlorosomes containing bacteriochlorophyll *f*. *Biochim. Biophys. Acta* **1827**: 493-501. (R)
323. Bina D and Blankenship RE (2013) Chemical oxidation of the fmo antenna protein from *Chlorobaculum tepidum*. *Photosynthesis Research* **116**: 11-19. (R)
324. Blankenship RE and Chen M (2013) Spectral expansion and antenna reduction can enhance photosynthesis for energy production. *Current Opinion in Chemical Biology* **17**: 457-461. (R, IR)

325. Zhang H, Cui W, Gross ML and Blankenship RE (2013) Native mass spectrometry of photosynthetic pigment-protein complexes. *FEBS Letters* **587**: 1012-1020. (R, IR)
326. Pšenčík J, Arellano JB, Collins AM, Laurinmäki P, Torkkeli M, Löflund B, Serimaa RE, Blankenship RE, Tuma R, Butcher SJ (2013) The structural and functional role of carotenoids in chlorosomes. *The Journal of Bacteriology* **195**:1727-1734. (R)
327. Niedzwiedzki DM, Jiang J, Lo CS, Blankenship RE (2013) Low-temperature spectroscopic properties of the peridinin-chlorophyll-*a* protein (PCP) complex from the coral symbiotic dinoflagellate *Symbiodinium*. *Journal of Physical Chemistry B*, **117**: 11091–11099. (R)
328. Gao X, Majumder E, Kang Y, Yue H and Blankenship RE (2013) Functional analysis and expression of the mono-heme-containing cytochrome *c* subunit of Alternative Complex III in *Chloroflexus aurantiacus*. *Archives Biochemistry and Biophysics* **535**: 197-204. (R)
329. Orf GS and Blankenship RE (2013) Chlorosome antenna complexes from green photosynthetic bacteria. *Photosynthesis Research* **116**: 315-331. (R)
330. Adams PG, Cadby AJ, Robinson B, Tsukatani Y, Wen J, Blankenship RE, Bryant DA, Hunter CN (2013) Comparison of the physical characteristics of chlorosomes from three different phyla of phototrophic bacteria. *Biochim. Biophys. Acta* **1827**: 1235-1244. (R)
331. Blankenship, RE, Musick J, Cooley J, Dutcher S and Govindjee (2013) An invitation to the 16th International Congress on Photosynthesis Research in 2013: Opportunities and Challenges in the 21st Century. *Photosynthesis Research* **115**: 215-218.
332. Liu H, Zhang H, Niedzwiedzki DM, Prado M, He G, Gross ML and Blankenship RE (2013) Phycobilisomes supply excitations to both photosystems in a megacomplex in cyanobacteria. *Science* **342**: 1104-1107. (R) *Selected as 2013 Paper of the Year, Rebeiz Foundation for Basic Research.*
333. King JD, McIntosh CL, Halsey CM, Lada BM, Niedzwiedzki DM, Cooley JW and Blankenship RE (2013) Metalloproteins diversified—The auracyanins are a family of cupredoxins that stretch the spectral and redox limits of blue copper proteins. *Biochemistry* **52**: 8267–8275. (R)
334. Henson WR, Shah VB, Lakin G, Chadha T, Liu H, Blankenship RE, Biswas P (2013) Production and performance of a Photosystem I-based solar cell using nano-columnar TiO<sub>2</sub>. 39<sup>th</sup> IEEE Photovoltaic Specialists Conference Proceedings, pp. 2705-2709. (CP)

335. Shah VB, Lakin G, Orf GS, Blankenship, RE and Biswas P (2013) Biomimetic approach to synthesize sensitizers for hybrid solar cells. 39<sup>th</sup> IEEE Photovoltaic Specialists Conference Proceedings, pp. 1084-1088. (CP)
336. Blankenship RE (2014) *Molecular Mechanisms of Photosynthesis*, 2<sup>nd</sup> Ed. Wiley-Blackwell, Oxford, UK. ISBN 978-1-4051-8975-0 (B)
337. Niedzwiedzki DM, Orf GS, Tank M, Vogl K, Bryant DA and Blankenship RE (2014) Photophysical properties of the excited states of bacteriochlorophyll *f* in solvents and in chlorosomes. *Journal of Physical Chemistry B* **118**: 2295-2305. (R)
338. David L, Prado M, Blankenship RE, Arteni A, Elmlund DA and Adir N (2014) Structural studies show energy transfer within stabilized phycobilisomes independent of the mode of rod-core assembly. *Biochim. Biophys. Acta* **1837**: 385-395. (R)
339. Herascu N, Kell A, Acharya K, Jankowiak R, Blankenship RE and Zazubovich V (2014) Modeling of various optical spectra in the presence of uncorrelated excitation energy transfer in dimers and trimers with weak inter-pigment coupling. *Journal of Physical Chemistry B* **118**: 2302-2040 (R)
340. Kell A, Acharya K, Blankenship RE and Jankowiak R (2014) Destabilization in the Fenna-Matthews-Olson complex of *Chlorobaculum tepidum*. *Photosynthesis Research* **120**: 323-329. (R)
341. Orf GS, Niedzwiedzki DM and Blankenship RE (2014) Intensity dependence of the excited state lifetime and triplet conversion yield in the FMO antenna protein. *Journal of Physical Chemistry B* **118**: 2058-2069. (R)
342. Zhang H, Niedzwiedzki DM, Liu H, Prado M, Jiang J, Gross ML and Blankenship RE (2014) The molecular mechanism of orange carotenoid protein-mediated photoprotection in cyanobacteria. *Biochemistry* **53**: 13-19. (R)
343. McIntosh C and Blankenship RE (2014) Photosynthesis. In: *Encyclopedia of Inorganic and Bioinorganic Chemistry*, R Scott, Ed., John Wiley and Sons, Chichester. DOI: 10.1002/9781119951438.eibc0177.pub2. 27 pps. (R, IR)
344. Blankenship RE, Frank HA and Niederman RA (2014) Introduction to accompany the special issue on light harvesting. *Photosynthesis Research* **121**: 1. (CP)
345. Niedzwiedzki DM, Liu H, Chen M and Blankenship RE (2014) Excited state properties of chlorophyll *f* in organic solvents at ambient and cryogenic temperatures. *Photosynthesis Research* **121**: 25-34. (R)
346. Hartzler D, Niedzwiedzki DM, Bryant DA, Blankenship RE, Pushkar Y and Savikhin S (2014) Triplet excited state energies and phosphorescence spectra of (bacterio)chlorophylls. *Journal of Physical Chemistry B* **118**: 7221-7232. (R)

347. Carey A-M, Hacking K, Picken N, Honkanen S, Kelly S, Niedzwiedzki DM, Blankenship RE, Shimizu Y, Hikabe H, Wang-Otomo Z-Y and Cogdell RJ (2014) Characterisation of the LH2 spectral variants produced by the photosynthetic purple sulphur bacterium *Allochromatium vinosum*. *Biochim. Biophys. Acta* **1837**: 1849-1860. (R)
348. Jiang J, Zhang H, Orf G, Lu Y, Xu W, Harrington LB, Liu H, Lo CS and Blankenship RE (2014) Chlorophyll *a/c*<sub>2</sub>-peridinin proteins assemble into trimers in the dinoflagellate *Symbiodinium*. *Biochim. Biophys. Acta* **1837**: 1904-1912. (R)
349. Zhang Y, Majumder E L-W, Yue H, Blankenship RE, and Gross ML (2014) Analysis of diheme cytochrome *c* by hydrogen-deuterium exchange mass spectrometry and homology modeling. *Biochemistry* **53**: 5619-5630. (R)
350. Niedzwiedzki DN, Liu H and Blankenship RE (2014) Excited state properties of 3'-hydroxyechinenone in solvents and in the orange carotenoid protein from *Synechocystis* sp. PCC 6803. *Journal of Physical Chemistry B* **118**: 6141-6149. (R)
351. He G, Zhang H, King JD and Blankenship RE (2014) Structural analysis of the homodimeric reaction center complex from the photosynthetic green sulfur bacterium *Chlorobaculum tepidum*. *Biochemistry* **53**: 4924-4930. (R)
352. Liu H, Zhang H, King JD, Wolf N, Prado M, Gross ML, and Blankenship RE (2014) Structural rearrangements of cyanobacterial orange carotenoid protein upon light activation. *Biochim. Biophys. Acta* **1837**: 1955-1963. (R)
353. Jez JM and Blankenship RE (2014) Lights, X-rays, oxygen! *Cell* **158**: 701-703. (IR)
354. King JD, Harrington L, Lada BM, He G, Cooley JW and Blankenship RE (2014) Site-directed mutagenesis of the highly perturbed copper site of auracyanin D. *Archives of Biochemistry and Biophysics* **564**: 237-243. (R)
355. King JD, Liu H, He G, Orf GS and Blankenship RE (2014) Chemical activation of the cyanobacterial orange carotenoid protein. *FEBS Letters* **588**: 4561-4565. (R)
356. Blankenship RE (2015) Photosynthesis: The light reactions, Chapter 7 in: *Plant Physiology and Development*, 6<sup>th</sup> Ed., L Taiz and E Zeiger, Eds., Sinauer Publishing, pps 171-202. (R, IR)
357. You L, Liu H, Blankenship RE and Tang YJ (2015) Use of Photosystem I as a reporter protein for <sup>13</sup>C-analysis in a coculture containing cyanobacterium and a heterotrophic bacterium. *Analytical Biochemistry* **477**: 86-88. (R)
358. Ort DR, Merchant SS, Alric J, Barkan A, Blankenship RE, Bock R, Croce R, Hanson MR, Hibberd J, Lindstrom DL, Long SP, Moore TA, Moroney J, Niyogi KK, Parry M, Peralta-Yahya P, Prince R, Redding K, Spalding M, van Wijk K, Vermaas WFJ, von Caemmerer S,



- Weber W, Yeates T, Yuan J, Zhu X (2015) Redesigning photosynthesis to sustainably meet global food and bioenergy demand. *Proc. Nat'l. Acad. Sci. USA* **112**: 8529-8536. (R, IR)
359. Shah VB, Henson WR, Chadha TS, Lakin G, Liu H, Blankenship RE and Biswas P (2015) Linker free directed assembly of Photosystem I onto nanostructured TiO<sub>2</sub> for biohybrid photo-electrochemical cell. *Langmuir* **31**: 1675–1682. (R)
360. Kihara S, Hartzler D, Orf GS, Blankenship RE and Savikhin S (2015) Triplet energy transfer in the Fenna-Matthews-Olson complex. *Journal of Physical Chemistry B* **119**: 5765-5772. (R)
361. Cui W, Zhang H, Blankenship RE and Gross ML (2015) Electron-capture dissociation and ion mobility for characterization of the hemoglobin protein assembly. *Protein Science* **24**: 1325-1132. (R)
362. He G, Niedzwiedzki DM, Orf GS, Zhang H and Blankenship RE (2015) Dynamics of Energy and Electron Transfer in the FMO-Reaction Center Complex from the Phototrophic Green Sulfur Bacterium *Chlorobaculum tepidum*. *Journal of Physical Chemistry B* **119**: 8321–8329. (R)
363. Jiang J, Zhang H, Lu X, Lu Y, Cuneo MJ, O'Neill HM, Urban V, Lo CS, Blankenship RE (2015) Oligomerization State and Pigment Binding Strength of the Peridinin-Chl *a*-Protein. *FEBS Letters* **589**: 2713-2719. (R)
364. Blankenship RE (2015) Structural and functional dynamics of photosynthetic antenna complexes. *Proc. Nat'l. Acad. Sci. USA*. **112**: 13751–13752. (IR)
365. Majumder EL-W, Olsen JD, Qian P, Collins AM, Hunter CN and Blankenship RE (2016) Supramolecular organization of photosynthetic complexes in membranes of *Roseiflexus castenholzii*. *Photosynthesis Research*, **127**: 117-130. (R)
366. Majumder ELW and Blankenship RE (2016) The diversity of photosynthetic cytochromes. In: *Cytochrome Complexes: Evolution, Structures, Energy Transduction, and Signaling*, W Cramer and T Kallas, Eds., Springer, Dordrecht. *Advances in Photosynthesis and Respiration*, Vol. 41, pps 25-50. (IR)
367. Lu Y, Zhang H, Cui W, Saer R, Liu H, Gross ML, and Blankenship RE (2015) Top-down Mass Spectrometry Analysis of Membrane-bound Light-Harvesting Complex 2 from *Rhodobacter sphaeroides* *Biochemistry*, **54**: 7261-7271. (R)
368. Zhang H, Liu H, Blankenship RE and Gross ML (2016) Isotope-encoded Carboxyl Group Footprinting for Mass Spectrometry-based Protein Conformational Studies. *Journal of the American Society for Mass Spectrometry*, **27**: 178-181. (R)

369. Kavadiya S, Chadha TS, Liu H, Shah VB, Blankenship RE and Biswas P (2016) Directed Assembly of Thylakoid Membrane on Nanostructured TiO<sub>2</sub> for a Photo-electrochemical Cell. *Nanoscale* **8**: 1868-1872. (R)
370. Zhang, H, Liu, H, Lu, Y, Wolf, NR, Gross ML and Blankenship RE (2016) Native Mass Spectrometry and Ion Mobility Characterize the Orange Carotenoid Protein Functional Domains. *Biochim. Biophys. Acta* **1857**: 734-739. (R)
371. Liu H, Zhang H, Orf GS, Lu Y, Jiang J, King JD, Wolf NR, Gross ML and Blankenship RE (2016) Dramatic Domain Rearrangements of the Cyanobacterial Orange Carotenoid Protein upon Photoactivation. *Biochemistry* **55**: 1003-1009. (R)
372. Yoneda A, Wittmann BJ, King JD, Blankenship RE, Dantas G (2016) Transcriptomic analysis illuminates genes involved in chlorophyll synthesis after nitrogen starvation in *Acaryochloris* sp. CCME 5410. *Photosynthesis Research* **129**: 171-182. (R)
373. Niedzwiedzki DM, Tronina T, Liu H, Staleva H, Komenda J, Sobotka R, Blankenship RE, and Polívka T (2016) Carotenoid-induced non-photochemical quenching in the cyanobacterial chlorophyll synthase-HliC/D complex. *Biochim. Biophys. Acta* **1857**: 1430-1439. (R)
374. Saer R, Orf GS, Lu X, Zhang H, Myles D and Robert E. Blankenship RE (2016) Perturbation of Bacteriochlorophyll Molecules in Fenna-Matthews-Olson Protein Complexes through Mutagenesis of Cysteine Residues. *Biochim. Biophys. Acta* **1857**: 1455-1463. (R)
375. Orf GS, Saer R, McIntosh CL, Zhang H, Niedzwiedzki DM and Blankenship RE (2016) Reactive cysteine residues gate energy transfer in the FMO complex from *Chlorobaculum tepidum*. *Proc. Nat'l. Acad. Sci. USA*. **113**: E4486–E4493. (R)
376. Magdaong NCM, Niedzwiedzki DM, Goodson C and Blankenship RE (2016) Carotenoid-to-Bacteriochlorophyll Energy Transfer in the LH1-RC Core Complex of a Bacteriochlorophyll *b*-Containing Purple Photosynthetic Bacterium *Blastochloris viridis*. *Journal of Physical Chemistry B* **120**: 5159-5171. (R)
377. Kell A, Blankenship RE, and Jankowiak R (2016) Effect of Spectral Density Shapes on the Excitonic Structure and Dynamics of the Fenna-Matthews-Olson Trimer from *Chlorobaculum tepidum*. *Journal of Physical Chemistry A* **120**: 6146–6154. (R)
378. Lu Y, Zhang H, Niedzwiedzki DM, Jiang J, Blankenship RE, and Gross ML (2016) Fast Photochemical Oxidation of Proteins Maps the Topology of Intrinsic Membrane Proteins: Light-Harvesting Complex 2 in a Nanodisc. *Analytical Chemistry* **88**: 8827-8834. (R)
379. Niedzwiedzki DM, Hunter CN and Blankenship RE (2016) Evaluating the Nature of So-Called S\*-State Feature in Transient Absorption of Carotenoids in Light-Harvesting

- Complex 2 (LH2) from Purple Photosynthetic Bacteria. *Journal of Physical Chemistry B*. **120**: 11123–11131. (R)
380. Khadka B, Adeolu M, Blankenship RE and Gupta RS (2017) Novel Insights into the Origin of Photosynthetic Reaction Centers I and II Based on Conserved Indels in the Core Proteins. *Photosynthesis Research*, **131**: 159-171. (R)
381. Zhang H, Harrington LB, Lu Y, Prado M, Saer R, Rempel D, Blankenship RE and Gross ML (2017) Native Mass Spectrometry Characterizes the Photosynthetic Reaction Center Complex from the Purple Bacterium *Rhodobacter sphaeroides*. *Journal American Society of Mass Spectrometry*, **28**: 87-95. (R)
382. Mendez DL, Babbitt SE, King J, D'Alessandro J, Blankenship RE, Mirica LM, Kranz RG (2017) Engineered holocytochrome *c* synthases that biosynthesize new cytochromes *c*. *Proc. Nat'l. Acad. Sci. USA* **114**: 2235-2240. (R)
383. Lu Y, Liu H, Saer R, Zhang H, Meyer C, Shi L, King JD, Gross ML, Blankenship RE (2017) Native mass spectrometry analysis of oligomerization states of FRP and OCP: two proteins involved in the cyanobacterial photoprotection cycle. *Biochemistry* **56**: 160-166. (R)
384. Andreoni A, Lin S, Liu H, Blankenship RE, Yan H and Woodbury NW (2017) OCP as a control element in an antenna system based on a DNA nanostructure. *Nano Letters* **17**: 1174-1180. (R)
385. Saer RG, Stadnytskyi V, Magdaong NC, Goodson C, Savikhin S and Blankenship RE (2017) Probing the Excitonic Landscape of *Chlorobaculum tepidum* Fenna-Matthews-Olson (FMO) Antenna Complex Through Site-Directed Mutagenesis. *Biochim. Biophys. Acta* **1858**: 288-296. (R)
386. Baker J, Riester CJ, Skinner B, Newell A, Swingley WD, Madigan MT, Jung D, Asao M, Chen M, Loughlin P, Pan H, Lin S, Li N, Shaw J, Prado M, Sherman C, Tang J, Blankenship RE, Zhao T, Lu Y-K, Touchman JW, and Sattley WM (2017) Draft genome sequence of *Rhodoferrax antarcticus* ABT, a psychrophilic purple nonsulfur bacterium from an Antarctic microbial mat. *Microorganisms*, **5(1)**: 8–16 pps. (R)  
doi:10.3390/microorganisms5010008
387. Magdaong NCM, Saer RG, Niedzwiedzki DM and Blankenship RE (2017) Ultrafast spectroscopic investigation of energy transfer in site-directed mutants of Fenna-Matthews-Olson (FMO) complex from *Chlorobaculum tepidum*. *Journal of Physical Chemistry B* **121**: 4700–4712. (R)
388. Lu Y, Liu H, Saer R, Li VL, Zhang H, Shi L, Goodson C, Gross ML, and Blankenship RE (2017) A Molecular Mechanism for Non-Photochemical Quenching in Cyanobacteria. *Biochemistry* **56**: 2812-2823. (R)

389. Blankenship RE (2017) How cyanobacteria went green. *Science* **355**: 1372-1373. (IR)
390. Saer R and Blankenship RE (2017) Light-harvesting in phototrophic bacteria: structure and function. *Biochemical Journal* **474**: 2107-2131. (R, IR)
391. Orf GS, Collins AM, Niedzwiedzki DM, Tank M, Thiel V, Kell A, Bryant DA, Montaño G and Blankenship RE (2017) Polymer-chlorosome nanocomposites consisting of nonnative combinations of self-assembling bacteriochlorophyll. *Langmuir* **33**: 6427-6438. (R)
392. Liu H, Lu Y, Wolf BM, Saer R, Orf GS, King JD and Blankenship RE (2017) Photoactivation and relaxation studies on the cyanobacterial OCP in the presence of copper ion. *Photosynthesis Research*, In Press. (R)
393. Wolf BM, Magdaong NM, Roth R, Goodenough U and Blankenship RE (2017) Characterization of a Newly Isolated Freshwater Eustigmatophyte Alga Capable of Utilizing Far-Red Light as its Sole Light Source. *Photosynthesis Research* In Press. (R)
394. Chen M and Blankenship RE (2017) Pigments: general properties and biosynthesis. Chapter in book. In Press. (IR)
395. Niedzwiedzki DM, Swainsbury DJK, Martin EC, Hunter CN and Blankenship RE (2017) Investigating the Nature of the S\*-excited State Feature of Carotenoids in Light Harvesting Complex 1 from Purple Photosynthetic Bacteria. In Revision for *Journal of Physical Chemistry B*.
396. Maiuri M, Ostroumov EE, Saer RG, Blankenship RE and Scholes GD (2017) Coherent Wavepackets in the FMO Complex are Robust to Spectral Perturbations by Mutagenesis. Submitted. (R)
397. Stadnytskyi, V, Orf GS, Blankenship RE and Savikhin S (2017) Shot-noise limited time-resolved circular dichroism pump-probe spectrometer. Submitted. (R)
398. Hernández-Prieto MA, Postier B, Blankenship RE and Chen M (2017) Far-red light promotes biofilm formation but not chlorophyll *d* biosynthesis in the cyanobacterium *Acaryochloris marina*. Submitted. (R)
399. Valteau S, Stüder R, Häse F, Kreisbeck C, Saer R, Blankenship RE, Shakhovicha E, and Aspuru-Guzik A (2017) Evolutionary study and ancestral reconstruction of the Fenna-Matthews-Olson complex. Submitted. (R)
400. Majumder EL-W, Wolf BM, Liu H, Berg RH, Timlin JA, Chen M and Robert E. Blankenship RE (2017) Subcellular Pigment Distribution is altered under Far Red Light Acclimation in Cyanobacteria that Contain Chlorophyll *f*. Submitted. (R)

401. Lu X, Cuneo, M, Orf GS, Blankenship RE and Myles D (2017) Towards a full, all atom description of a photosynthetic antenna complex. Manuscript in Preparation. (R)
402. Shah VB, Ferris C, Orf G, Kavadiya S, Ray J, Jun Y-S, Lee B, Blankenship RE, and Biswas P (2017) Supramolecular self-assembly of Bacteriochlorophyll *c* molecules in aerosolized droplets to synthesize biomimetic chlorosomes. Manuscript in Preparation. (R)

**B = Book; BR = Book Review; CP = Conference Proceedings; IR = Invited Review; R = Refereed; MM = Multimedia**