

ARTHUR R. GROSSMAN

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PERSONAL INFORMATION

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PROFESSIONAL EXPERIENCE

Academic Positions:

Senior Staff Scientist (1982-present), Carnegie Institution for Science, Dept Plant Biology, Stanford, CA 94305.

Professor by Courtesy (2000-present). Associate Professor, (1989-2000) Assistant Professor, (1982-1989)

Department of Biology, Stanford University, Stanford, CA 94305

Industrial Affiliations/Advisory Board:

Chief of Genetics, Solazyme (2007-2015) – Algal Biotechnology

Martek Biosciences Corporation (1993-2000)

Exelixis Pharmaceuticals (1995-2001)

Phoenix Bioinformatics (2013-2018; 2020-Current)

Checkerspot (2016-Current)

Phycoil (2016-Current)

GEM Health (2020-Current)

CarbonDrop (2022-Current)

Education:

Postdoctoral Fellow. 1978-1982. Rockefeller University, Department of Cell Biology. Uptake of Polypeptides into Chloroplasts (postdoctoral adviser, Nam-Hai Chua)

PhD, 1978. Indiana University, Department of Biological Sciences. Characterization of Photosynthetic Mutants in *Chlamydomonas reinhardtii* (PhD adviser, Robert Togasaki)

BS with Honors, 1973. Brooklyn College, New York. Major in Biology

HONORS, SERVICES AND FELLOWSHIPS:

- 2022 Organizer Carnegie-Caltech/Resnick Center Workshop
- 2022 International Member of PhD Defense Committee of Carol Duchene (IBPC, Paris)
- 2022 International Member of PhD Defense Committee of Yuan Yizhong (Grenoble)
- 2021 Search Committee for Life Science Director – Carnegie Institution
- 2021 Search Committee – Senior Staff Scientist – Carnegie Institution
- 2021 Search Committee – Staff Associate – Carnegie Institution
- 2021 Co-editor-in Chief, Journal of Phycology (from 2012-2022)
- 2021 Caltech Biosafety Committee
- 2021 Editorial Board, Current Genetics (from 2000)
- 2021 Building Committee, Life Science Building in Pasadena for Carnegie Institution
- 2021 External Jury Member for Florence Mus Habilitation à Diriger des Recherches
- 2020 Boyce Thompson Institute – Scientific Advisory Board (from 2014)
- 2019 NSF Panel for Science and Technology Center
- 2019 DOE-BES Panel
- 2018 Organizer of the International Conference on the Genetics and Molecular Biology of *Chlamydomonas*
- 2018 Organizing Committee, International Conference on Microbial Photosynthesis

2017 Edmond de Rothschild Chair Fellowship for 4 months to work at Institut de Biologie Physico-Chimique, Paris

2017 Arnon Endowed Lecture – Berkeley

2017 Chair of the Gordon Conference on Photosynthesis

2016 Review Panel for the Integrated Microbial Diversity Program of the Canadian Institute for Advanced Research

2015 Review Panel for Genomics and Synthetic Biology Program, NYU, Abu Dhabi

2015 Co-Chair of the Gordon Conference on Photosynthesis

2014 Visiting Scientist Fellowship - Department of Life and Environmental Sciences, Università Politecnica delle Marche

2017 Steering Committee, University of Texas Culture Collection (from 2011)

2014 Review of Science and Technology Center, University of Nebraska

2013 Organizer of Western Photosynthesis Conference

2013 Participant in 17th International Course of School of Pure & Applied Biophysics, Venice

2013 External examiner on thesis defense of Laura Houille, IBPC, Paris, France

2013 Member of EU Sunbiopath Evaluation committee

2013 Panel Member to Review Science and Technology Center, University of Nebraska

2013 Review of Science and Technology Centers for NSF

2012 Co-organizer of Western Photosynthesis Conference

2012 Editorial Board, Journal of Phycology (from 1997)

2011 Member of DOE Evaluation Committee, Plant Research Laboratory

2011 Recipient of Lady Davis Fellowship (Israel)

2009 Steering committee, Joint Genome Institute

2009 Recipient Gilbert Morgan Smith Medal (National Academy of Sciences)

2009 Editorial Board Annual Review of Genetics (from 2005)

2008 National Resources Defense Council Algal Biofuels Advisory Committee

2007 Editorial Board, Eukaryotic Cell

2008 Editorial Board, Molecular Plant

2004 Geographical representative for the International Society of Photosynthesis Research

2004 Editorial Board, Plant and Cell Physiology (from 2000)

2000 Scientific Advisory Board for the Wallenberg Consortium North (from 2000)

2002 Darbaker Prize for work on microalgae (Botanical Society of America)

2000 Advisory Committee, Arizona State University Consortium for NSF funded Biotechnology Center

2000 Organizer of Symposium "The Dynamics and Evolution of Light Harvesting Complexes (to honor Elizabeth Gantt)

1999 Co-organizer of Symposium to Honor the retirement of Olle Björkman

1998 Organizer of US-Japan Binational Meeting (Asilomar, CA)

1998 Editorial Board, Journal of Biological Chemistry (from 1996)

1996 Guest on the Editorial Board of the Annual Review of Genetics

1995 Plenary Lecture - Japan Society of Plant Physiologists

1995 Coordinator for the Organization of the Plant Biology Retreat, Stanford University

1994 Member of AIBS panel to evaluate joint projects in Plant Biology

1994 Editor-Seminars in Cell Biology "Light regulation in photosynthetic organisms"

1994 Organizer of the Plant Biology Retreat, Stanford University

1993 Guest Editor of the Annual Review of Genetics

1993 Organizer: Cyanobacterial Workshop at Asilomar, CA

1993 Guest lecturer in Marine Molecular Phycology Course at Friday Harbor Marine Station

1992 Recipient-Nehru University, Dept of Biotechnology Fellowship

1992 Organizer of the Carnegie Institution Plant Biology Seminar Series

1991 Member Photosynthesis Panel (USDA)
 1991 Co-organizer, conference on tetrapyrroles (with Paul Castelfranco)
 1990 Editorial Board Journal of Plant Growth Regulation
 1989 NSF Panel - Postdoctoral Fellowship Awards
 1988 Organizer of the Carnegie Seminar Series
 1988 Co-Organizer of C. Stacy French Symposium on Photosynthesis.
 1988 NSF Panel - Postdoctoral Fellowship Awards
 1987 Program Committee "Molecular Biology of Cyanobacteria Workshop, St. Louis, MO
 1987 Photosynthesis Panel (USDA)
 1987 Organizer of the Carnegie Seminar Series
 1987-93 Editorial Board, Plant Physiology
 1985 Guest Editor Annual Rev Plant Physiology
 1985 Plant Molecular Biology Panel (USDA)
 1984 NIH Postdoctoral Fellowship Panel
 1979-81 Postdoctoral Fellowship Panel (NIH)
 1977 Floyd Fellowship
 1974-77 National Science Foundation Predoctoral Fellowship
 1972 L. Whorley Award in Biology
 1968-72 New York State Regents Scholarship Phi Beta Kappa

REVIEWER

1982-2022: Numerous ad hoc reviews for NSF, DOE and USDA, and some for NIH (as well as for a number of international agencies). I have also completed numerous reviews for a variety of journals including Science, Nature, PNAS, The Plant Cell, EMBO Journal, The Plant Journal, Molecular Microbiology, Plant Physiology and Journal of Bacteriology. I have also been on many committees and panels to help evaluate scientific directions for the various granting agencies [Systems Biology approaches for future development, for the National Academy of Sciences (algal biofuels), NASA program for experiments in the shuttle, NRDC advisory board etc]. Furthermore, I have reviewed many tenure packages and have evaluated many biology programs and have been instrumental in recently getting the Journal of Phycology indexed in PubMed (started in summer of 2016).

INVITED SEMINARS (Between 5 and 10 every year since 1982)

TEACHING ACTIVITIES – CURRENT/ONGOING

At Stanford

- Numerous guest lectures in various courses including Plant Biochemistry, Marine Microbiology (Hopkins Marine Station), Plant Molecular Biology (various from 1993-2017)
- Guest lectures Hopkins Microbiology Course (2006-2013).
- Bioengineering - The GreenCut and Identifying Proteins Critical for Photosynthesis (2013)
- Freshman course– From Photosynthesis to biofuels (2007, 2009)
- Guest lectures in Plant Molecular Biology (1987-1995, plus others over the years).
- Guest lectures in Plant Biochemistry (1987-1995, plus others over the years).
- Algae and Fungi (with Sarah Fultz) - thirteen lectures each time (1990, 1984)
- Guest lectures in Plant Physiology (one or two lectures during various years).
- Biology 301. Lecture most years to introduce students to work in laboratory.

In USA but Outside of Stanford

- Molecular Biology of Marine Algae, Friday Harbor Marine Station (with Lynda Goff and Annette Coleman) (1992/1993)

- Plant Physiology Laboratory, Indiana University (1974)

International

- Guest teacher in summer school in Shantou University – From endosymbiosis to organelle evolution and the biogenesis of an organelle (2018)
- 2014. Guest lectures Algal Physiology course in Ancona Italy: 1. Algal physiology, biochemistry, and genetics, - Light and photosynthetic organisms. 2. Acclimation to changing nutrient conditions. 3. The coral reefs and the interaction between an alga and its host (2014)
- Algal physiology 5 lectures — The Acclimation of Photosynthetic Organisms to their Environment - Eilat, Israel (2010)

STUDENTS

PhD Students (13 Total):

- Laura Green, PhD, 1988. Sulfur Acquisition in *Anacystis nidulans*. Current Position: Working as editor, Amherst, MA
- Eugenio de Hostos, PhD, 1988. The De-repressible Arylsulfate in *C. reinhardtii*. Current Position: Manager of Corporate Partnering & Portfolio Development at the Non-profit Institute for One World Health
- Jackie Collier, PhD, 1995. Degradation and Biosynthesis of Phycobilisomes and Assembly of the Photosynthetic Apparatus in *Anacystis nidulans*. Current Position: Associate Professor, SUNY Stony Brook Marine Sciences Research Center, New York
- Elena Casey, PhD, 1996. Molecular Genetic Analysis of Complementary Chromatic Adaptation. Current Position: Professor, Georgetown University, Department of Biology (Chair of Department), Washington, DC
- Dennis Wykoff, PhD, 1999. Acclimation of *Chlamydomonas reinhardtii* to Phosphate Limitation. Current Position: Associate Professor, *Dennis M. Cook Endowed Gregor Mendel Chair in Genetics*. Villanova University, Department of Biology, Philadelphia, Pennsylvania
- Wirulda Pootakham, PhD, 2010. Sulfur Deprivation in *Chlamydomonas*. Current position: Senior Researcher in the National Center for Genetic Engineering and Biotechnology, Thailand
- Kate Mackey, PhD, 2010 (joint with Adina Paytan). Photosynthesis and Nutrient Deprivation Responses in Marine Cyanobacteria. Current Position: Assistant Professor, UC Irvine
- Leonardo Mageschi, PhD, 2012. Anoxic Metabolism in Algae and Plants, PhD (joint with Pierdomenico Perata). Current Position: Research Scientist Cell and Plant Physiology Laboratory, CEA Grenoble (joint appointment with Total Company)
- Laura Houille (visiting graduate student from the Laboratory of Francis Andre Wollman, 2011). The GreenCut and understanding the functions of unknown proteins associated with photosynthesis
- Zubin Huang, PhD, 2014 (joint with Fritz Prinz). Examination of Photosynthetic Function using AFM. Current Position: Research Scientist at Applied Materials, Santa Clara, California
- Tyler Wittkopp, PhD, 2016. Dynamics of Photosynthetic Pigment-Protein Complexes in *Chlamydomonas reinhardtii*. Study Director at Covance, Livermore, California
- Witchukorn Phuthong (joint with Fritz Prinz), PhD, 2015. Dynamics in natural photosynthetic biomaterials. Independent Strategic Consultant. The Institution for the promotion of Teaching Science and Technology, Bangkok, Thailand
- Rick Kim, PhD, 2017. Dissecting the biogenesis of photosystem I. Research Scientist, Clear Labs, San Carlos, California

Masters Students (5)

- Amy Spater (1990)
- John Quisel (1997), Senior Vice President of Business Development of Acceleron Pharma, Inc.
- Claire Granger (1999), Marketing agent for Clonetech
- Blaise Hamel (2008), Pharmacist

Melissa Adams, Masters (2008), Technology Specialist at Clark & Elbing LLP

POSTDOCTORAL FELLOWS/RESEARCH ASSOCIATES (54 TOTAL):

- John Coleman, 1984. Current Position: Dept. of Botany, Univ. of Toronto, Professor (former Chair of the Department). Recently retired
- Terri Lomax, 1986. Current Position: Professor; Executive Vice President, Discovery-Science-Technology at RTI International, Raleigh, North Carolina
- Peggy Lemaux, 1987. Current Position: Professor; Dept. of Molecular Plant Biology, Univ. of California-Berkeley
- Pamela Conley, 1988. Current Position: Vice President, Biology at Portola Pharmaceuticals, San Francisco Bay Area Biotechnology
- Maryse Block, 1988. Current Position: Senior Staff Scientist; Laboratoire de Physiologie Cellulaire Vegetale, Unite Mixte de Recherche 5168, Centre National de la Recherche Scientifique Commissariat a l'Energie Atomique Universite Joseph Fourier Institut National de la Recherche Agronomique, 38054 Grenoble, France. Recently retired
- Nancy Federspiel, 1989. Senior scientist, Human Genome Project, Department of Genetics Stanford University. Recently retired
- Lamont Anderson, 1990. Current Position: Professor; Dept. of Biology, Colorado College
- David Laudenbach, 1991. Current Position: Assistant Professor; Univ. of Western Ontario, London, Ontario, Canada, Assistant Professor (deceased)
- Jill Ray, 1991. Current Position: Scientific Manager, Companion Diagnostic Development at Genentech San Francisco Bay Area Biotechnology
- Gisela Chiang, 1992. Current Position: Associate Director at Biogen Idec/Baxter, Boston, MA.
- Michael Schaefer, 1993. Current Position: Chief, Translational Centers of Excellence and Research Coordination Section National Institutes of Health, Washington, DC
- Kirk Apt, 1996. Current Position: Vice President of Research; Martek Biosciences Corporation, Columbia, MD (deceased)
- Peter Kroth, 1995. (Research Fellow). Current Position: Professor, University of Konstanz, Germany.
- Kris Niyogi, 1997. Current Position: Professor. Department of Plant and Microbial Biology, University of California, Berkeley, CA
- John Davies, 1998. Current Position: Scientist. Scientist at Dow AgroSciences, Portland, OR.
- David Kehoe, 1998. Current Position: Professor; Department of Biology, Indiana University, Bloomington, IN
- Rakefet Schwarz, 2000. Current Position: Senior Lecturer; Bar Ilan University, Tel Aviv, Israel.
- Lorraine van Waasbergen, 2000. Current Position: Professor, Biology Department, University of Texas, Arlington
- Devaki Bhaya, 2001. Current Position: Staff Associate; Carnegie Institution for Science. Courtesy Professor; Department of Biology, Stanford University
- Hideki Takahashi, 2001. Current Position: Associate Professor; Department of Biochemistry and Molecular Biology, Michigan State University
- Qingfang He, 2002. Current Position: Professor; Department of Applied Science, University of Arkansas, Little Rock
- Wing-On Ng, 2002. Current Position: Senior Organism Engineer at Ginkgo Bioworks, Inc., Lansing, MI
- Chung-Soon Im, 2006. Current Position: CEO; Phycoil Biotechnology International, Inc and Phycoil Biotech Korea
- Oliver Kilian, 2007. Current Position: Senior Scientist, Revel Technologies, Inc.
- Anne Steunou, 2007. Current Position: Equivalent of Professor, CNRS, Gif-sur-Yvette
- David Gonzalez-Ballester. 2008. Current Position: Equivalent of Assistant Professor, University of

Cordoba, Spain

- Florence Mus, 2008. Current Position: Junior Manager, Metabolic Explorer, Research Associate, Washington State University
- Jeffrey Moseley, 2009. Current Position: Researcher at Phycoil, also working in Berkeley
- Shaun Bailey, 2009. Current Position: Director of Photosynthesis Research; Synthetic Genomics
- Nakako Shibagaki, 2010. Current Position: Manager at L'Oreal, Kawasaki, Kanagawa, Japan
- Jean Alric, 2013 (Visiting Research Associate). Current Position: Equivalent to Associate Professor, CNRS position, Cadarache, France
- Xenie Johnson, 2013. Current Position: equivalent to Assistant Professor, CEA Research Engineer, Institute of Biotech. Environ. Biology, Cadarache, 13108 Saint-Paul-lez-Durance, France
- Mark Heinnickel, 2013. Current Position: Lumen Biosciences
- Dimitri Tolleter, 2014. Current Position: Assistant Professor, IRHS Team, University of Angers, France.
- Eva Nowack, 2014. Current Position: equivalent to Assistant Professor, Heinrich-Heine-Universität Düsseldorf
- Munevver Aksoy, 2015. Current Position: Assistant Professor, Agricultural Biotechnology Department, Akdeniz University, Turkey
- Claudia Cattalanotti. 2015. Current Position: TenX Genomics (Senior Research Scientist)
- Ru Zhang, 2016. Current Position: Staff Scientist, the Danforth Center
- Wenqiang Yang, 2017. Current Position: Professor, Botanical Institute (Director of Laboratory of Photobiology), Beijing, China
- Adam Idoine, 2017. Current Position: Research Scientist, Safetraces
- Yuval Kaye, 2018. Faculty, The Ramat Negev International Center for Advanced Agricultural Training
- Sophie Cloweze, 2018. Postdoc, The Carnegie Institution for Science
- Tingting Xiang, 2019. Assistant Professor, Univ. North Carolina, Charlotte
- Shai Saroussi, 2020. Processing Engineer, Clal industries in Israel
- Emanuel Sanz Luque. 2020. Equivalent of Assistant Professor, University of Cordoba, Spain

The laboratory has also hosted many undergraduate students

Present Postdoctoral Fellows/Research Associates:

Weichao Huang. Moving reductant from chloroplasts – the functions of shuttles

Petra Redekop. LHCSR regulation

Justin Findinier. Functional and structural adaptations to changing CO₂ conditions

Freddy Bunbury. Recreating hot spring microbial mats (with Devaki Bhaya)

Victoria Calatrava. Probing organelle evolution

Biji Ren. Symbiodinium genome structure and transformation

Neda Fakhimi. Probing the responses of photosynthetic organisms to nutrient limitation

EXTERNAL SUPPORT (SHOWN FROM 1995):

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|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2023 | Engineering a CO ₂ Concentrating Mechanism in the biotechnology chassis Picochlorum (with Matt Posewitz and Adrien Burlacot) NSF (Pending) |
| 2022 | The physical genome across evolution. NIH (with Will Greenleaf, Stanford) NIH (Pending) |
| 2023-2026 | Efficient CO ₂ Use for Robust Marine Microalgae Biomass Yields (MASS). With Matt Posewitz, Colorado School of Mines) (Just awarded) |
| 2021-2024 | Genetic engineering of algal producer strains for advanced biofuels. (Strategic Energy Alliance-Strategic Energy Research consortium Stanford with Ellen Yeh - \$900,000 total) |
| 2020-2023 | Dissecting Mechanisms of Reductant Flow from the Chloroplast. DOE. (\$540,073). |
| 2019-2022 | Focusing a quantitative lens on Synthetic Phototrophic Communities. NSF-BBSRC January 2019 with Devaki Bhaya, Seppe Kuehn, Alison Smith and Chris Howe. \$918,061 to Grossman and Bhaya |

2018-2022 Elucidating the transition to eukaryotic phototrophy. NASA with Debashish Bhattacharya, Dana Price and Desmond Lun. \$398,000 to Grossman

2018-2021 The 18th International Conference on the Cell and Molecular Biology of Chlamydomonas. DOE. \$10,000 Funded.

2018-2020 Dissecting the Role of Alternative Oxidases in Electron Flow, O₂ Reduction and Cellular Redox Balancing. DOE-BES. \$394,000

2018-2019 The 18th International Conference on the Cell and Molecular Biology of Chlamydomonas. NSF. \$10,000

2018-2021 Integrated view of photosynthetic control in response to light and metabolic signals. HSFP project. \$300,000. In a consortium with Dimitros Petroutsos, Chuan He, Zoran Nikoloski

2018-2022 Where have all the electrons gone? Understanding the role of alternative electron flow and O₂ reduction in balancing cellular redox (DOE-BES Grant in collaboration with Matthew Posewitz. Funded for 1 year at \$100,000.

2017 The Gordon Research Conference on Photosynthesis: Photosynthetic plasticity; From environment to synthetic systems (DOE and NSF) (Funded by both NSF and DOE; \$10,000 from NSF, \$10,040 from DOE)

2017-2022 Functional-genomics tools for cnidarian-dinoflagellate symbiosis (Edge Grant with Virginia Weis, John Pringle and others, in review) (\$475,000)

2016-2021 Carnegie Venture Competitive Grant for developing new coral system (\$100,000)

2014-2017 Coral resilience investigated in the field and via a sea anemone model system (Moore Foundation – \$533,008)

2014-2017 Unraveling the mechanisms that enables record high growth and photosynthetic rates in a newly isolated *Chlorella* sp. from desert crusts (NSF \$300, with Aaron Kaplan at Hebrew University)

2013 The Western Photosynthesis Conference, 2013 (NSF \$10,596)

2012-2015 A window into the evolution of plastids (NSF \$320,000 total)

2011-2014 Understanding the death of the coral reefs and the role of the algal endosymbiont (NSF \$596,000)

2012-2015 A mutant resource to transform reverse genetics in *Chlamydomonas reinhardtii* (with Martin Jonikas) (NSF \$2,661,285)

2012-2015 Biochemical integration of metabolic networks critical for energy transformation in *Chlamydomonas reinhardtii* (DOE \$330,000)

2010-2014 From the genome to photosynthetic function (NSF \$732,000 total).

2010-2012 The *Porphyra* model system and the need for transformation (NSF \$65,362 total)

2008-2011 Acclimation of Chlamydomonas to sulfur deprivation conditions (NSF \$450,000 total)

2007-2010 Filling knowledge gaps in biological networks: Integrated global approaches to understand H₂ metabolism in *Chlamydomonas reinhardtii* (NSF \$600,000 total)

2003-2010 Chlamydomonas genomics: Photosynthesis and acclimation (NSF \$3,197,682)

2004-2008 Probing acclimation responses in *Prochlorococcus* ecotypes through analyses of global gene expression. NSF Oceanography (\$500,000 total)

2004-2007 Generation of bioelectricity in algae. GCEP (\$450,000 total)

2003-2010 Do species matter in microbial communities? NSF (\$5,000,000 - total for the consortium)

2004-2006 The role of the STAS domain in sulfur deprivation. USDA (180,000)

2003-2008 Chlamydomonas genomics: Photosynthesis and acclimation. NSF (\$3,100,000 - total for the consortium)

2002-2004 Acclimation of Chlamydomonas to phosphorus starvation. USDA (\$90,000)

2001-2005 Genetic dissection of photoprotection and characterization of npq mutants. NSF (\$460,000)

2001-2002 Global analysis of acclimation processes in cyanobacteria. NSF (\$100,000)

2000-2003 Analysis of gene expression during acclimation of cyanobacteria to stress conditions. NSF International Program (\$21,000). This grant is for travel and collaborative work with Daniel Vaultot in Roscoff

1999-2002 Analysis of the *Chlamydomonas reinhardtii* genome: A model unicellular system for analyzing gene function and regulation in vascular plants. NSF (\$3,300,000, approximately \$2,000,000 of that comes to Carnegie and the rest to other institutions that are participating in the project)

1998-2001 Dissection of nutrient deprivation responses in cyanobacteria. NSF (\$300,000)

1998-2001 Defining the regulation of the blue/UV-A light inducible *hliA* gene. USDA (\$210,000)

1998-1999 US-Japan Binational Conference; The effects of environmental conditions on CO₂ fixation and the photosynthetic apparatus. NSF (\$12,000)

1998-2000 The use of transformation in diatoms. NSF/Martek Corporation (subcontract for \$150,000)

1996-1999 Acclimation of *Chlamydomonas* to sulfur limitation: Regulation and survival. USDA (\$202,000)

1996-1999 Photobiology and genetic analysis of complementary chromatic adaptation. NSF (\$300,000)

1996-1999 The acclimation of a photosynthetic eukaryote to phosphorus limitation. NSF International Program (33,000). Collaborative work with Hideaki Usuda and Kosuke Shimogawara

1997-1999 High light and blue-UV-A regulated light responses in photosynthetic organisms. USDA (\$140,000)

1994-1996 NblA/TxlA and the biosynthesis of the photosynthetic apparatus. USDA (\$100,000)

1993-1996 Gene transfer in marine algae. Martek (\$72,000)

1992-1995 Regulation and targeting of light harvesting proteins in marine diatoms. NSF (\$230,000). Neil Hoffman as co-PI

PUBLICATIONS

1. Findinier, J., Lydia-Marie Joubert, L.-M., Michael Schmidt, M., Chiu, W., Grossman, A.R. (2023) Spatial and Morphological Changes of Mitochondria during Development of the Carbon Concentrating Mechanism and the Role of Microtubules. In Preparation.
2. Findinier, J., Grossman, A.R. (2023) One step further toward a crop CCM. In Preparation.
3. Gorman, L.M., Raymond, E., Tivey, T.R., Oakley, C.A., Grossman, A.R., Weis, V.M., Davy, S.K. (2023) Symbiont identity influences biomass regulatory mechanisms in a model cnidarian-dinoflagellate symbiosis. In Preparation.
4. Findinier, J., Grossman, A.R. (2023) *Chlamydomonas*; from strength to strength. Invited review. *J Phycol.* In Preparation.
5. Calatrava, V., Stephens, T.G., Grossman, A.R., Bhattacharya, D. (2023) What has *Paulinella* taught us about endosymbiont metabolic integration? In Preparation.
6. Lust, B., Matthews, J.L., Oakley, C.A., Lewis, R.E., Mendis, H., Grossman, A.R., Weis, V.M., Davy, S.K. (2023) Metabolomic and proteomic responses to heat stress in the model symbiotic cnidarian *Aiptasia* with homologous and heterologous symbionts. In Preparation.
7. Kim, R.G., Huang, W., Bunbury, F., Findinier, J., Redekop, P., Shrestha, R., Malkovskiy, A.V., Vilarrasa-Blasi, J., Jinkerson, R.E., Fauser, F., Jonikas, M.C., Onishi, M., Xu, S., Grossman, A.R. (2023) Putative Methyltransferase Involved in Photosystem I Biosynthetic Machinery Enriched in Pyrenoids. In Preparation.

8. Huang, W., Krishnan, A., Plett, A., Meagher, M., Linka, N., Ren, B., Findinier, J., Redekop, P., Fakhimi, N., Xu, J., Kim, R.G., Karns, D.A., Boyle, N., Posewitz, M.C., Grossman, A.R. (2023) Triose phosphate translocator drives carbohydrate/energetic shuttling from the chloroplast in *Chlamydomonas reinhardtii*. **The Plant Cell**. doi: <https://doi.org/10.1101/2022.07.25.501471>.
9. Mashini, A.G., Oakley, C.A., Beepat, S., Peng, L., Grossman, A.R., Weis, V.M., Davy, S.K. (2023) The influence of symbiosis on the proteome of the symbiotic dinoflagellate *Breviolum minutum*. **Microorganisms** 11 (2), 292. 11(2):292. <https://doi.org/10.3390/microorganisms11020292>.
10. Ruiz-Sola, M.A., Flori, S., Yuan, Y., Villain, G., Sanz-Luque, E., Redekop, P., Tokutsu, R., Kueken, A., Tschla, A., Alloreant, G., Arend, M., Iacono, F., Finazzi, G., Hippler, M., Nikoloski, Z., Minagawa, J., Grossman, A.R., Petroustos, D (2023) Photoprotection is regulated by light-independent CO₂ availability. **Nature Communications** 14, 1977 (2023). <https://doi.org/10.1038/s41467-023-37800-6>.
11. Ashley, I.A., Kitchen, S.A., Gorman, L.M., Grossman, A.R., Oakley, C.A., Suggett, D.J., Weis, V.M., Rosset, S.L., Davy, S.K. (2023) Genomic conservation and putative downstream functionality of the phosphatidylinositol signaling pathway in the cnidarian-dinoflagellate symbiosis. **Front. Microbiol.** Sec. Microbial Symbiosis, Vol. 13 <https://doi.org/10.3389/fmicb.2022.1094255>.
12. Wollman, F.A., Grossman, A.R., Dutcher, S., Goodenough, J.A. (editors) (2023) **The Chlamydomonas Sourcebook**, 3rd edition. Elsevier Academic Press. ISBN: 9780128214305
13. Posewitz, M., Atteia, A., Hemschemeier, A., Happe, T., Grossman, A.R. (2023) Metabolic switches in anoxia. **The Chlamydomonas Sourcebook**, ed. F.A. Wollman, S. Dutcher, A.R. Grossman, U. Goodenough. Elsevier Academic Press. In Press. ISBN: 9780128214305
14. Sanz-Luque, E., Grossman, A.R., (2023) Sulfur and phosphorus metabolism and their integration. **The Chlamydomonas Sourcebook**, ed. F.A. Wollman, S. Dutcher, A.R. Grossman, U. Goodenough. Elsevier Academic Press. ISBN: 9780128214305.
15. Saroussi, S., Redekop, P., Karns, D., Thomas, D.C., Wittkopp, T.M., Posewitz, M.C., Grossman, A.R. (2023) Restricting electron flow at cytochrome b₆f when downstream electron acceptors are severely limited. **Plant Physiol.**, <https://doi.org/10.1093/plphys/kiad185>.
16. Wuerz, M., Lawson, C.A., Ueland, M., Oakley, C.A., Grossman, A.R., Weis, V.M., Suggett, D.J., Davy, S.K. (2022) Symbiosis induces unique volatile profiles in the model cnidarian *Aiptasia*. **J Exp Biol.** 25 (19) jeb244600.
17. Ashley, I.A., Kitchen, S.A., Gorman, L.M., Grossman, A.R., Oakley, C.A., Suggett, D.J., Weis, V.M., Rosset, S.L., Davy, S.K. (2022) Genomic Conservation and Putative Downstream Functionality of the Phosphatidylinositol Signaling Pathway in the Cnidarian-Dinoflagellate Symbiosis. **Frontiers in Microbiology**. Jan 26;13:1094255. doi: 10.3389/fmicb.2022.1094255.
18. Jinkerson, R.E., Russo, J.A., Newkirk, Kirk, A.L., Chi, R.J., Martindale, M.Q., Grossman, A.R., Hatta, M., Xiang, T. (2022) Cnidarian-Symbiodiniaceae symbiosis establishment is independent of photosynthesis. **Current Biology**, ISSN 0960-9822, <https://doi.org/10.1016/j.cub.2022.04.021>.
19. Huang, W., Krishnan, A., Plett, A., Meagher, M., Linka, N., Wang, Y., Ren, B., Findinier, J., Redekop, P., Fakhimi, P., Kim, R., Karns, D.A., Boyle, N., Posewitz, M., Grossman, A.R. (2022) Export of triose phosphate from the chloroplast strongly impacts photosynthetic efficiency and intracellular ROS accumulation in *Chlamydomonas*. **BioRxiv** doi: <https://doi.org/10.1101/2022.07.25.501471>.

Field Code Changed

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