

## CURRICULUM VITA

**Name:** Christopher Roland Somerville

**Address:** Energy Biosciences Institute, University of California Berkeley, 2151 Berkeley Way, Berkeley CA 94704; [crs@berkeley.edu](mailto:crs@berkeley.edu); 510-643-6265

**Birthdate:** October 11, 1947

**Citizenship:** USA (Naturalized)

### **Education:**

Ph.D. (genetics), 1978, University of Alberta, *E. coli* mutants defective in pppGpp hydrolysis

M.Sc. (genetics), 1976, University of Alberta, Positive gene regulation by *relA* in *E. coli*

B.Sc. (mathematics), 1974, University of Alberta

### **Appointments:**

Philomathia Chair in Alternative Energy, UC Berkeley, 2009-

Director, Energy Biosciences Institute, UC Berkeley, 2007-

Professor, Department of Plant & Microbial Biology, UC Berkeley, 2007-

Faculty Scientist, Physical Biosciences, Lawrence Berkeley National Lab, 2006-2011

Director, Carnegie Institution for Science Department of Plant Biology, 1994-2007

Professor, Department of Biological Sciences, Stanford University, 1994-2007

Professor, MSU-DOE Plant Research Laboratory, Michigan State University, 1986-93

Associate Professor, MSU-DOE Plant Research laboratory, Michigan State University, 1982-86

Assistant Professor, Department of Genetics, University of Alberta, 1981

Research Associate, Department of Agronomy, University of Illinois 1978-81

### **Awards:**

D.Sc., University of York (2016); D.Sc. Michigan State University (2012); EPA Presidential Green Chemistry Award (2010); American Chemical Society Sterling B. Hendricks Memorial Lectureship Award (2010); Fellow American Society of Plant Biologists (2007); Balzan Prize (2006); DSc., Guelph University (2006); Fellow of AAAS (2004); Genetics Society, Mendel Medal (2004); Biochemical Society, Sir Frederick Gowland Hopkins Medal (2004); Academia Europaea (2002); Kuhmo Award (2001); D.Sc., Wageningen University (1998); Visiting Professor, University of Glasgow (1998-01); D.Sc., University of Alberta (1997); Elected to U.S. National Academy of Sciences (1996); D.Sc., Queens University (1993); American Society of Plant Physiologists Gibbs Medal (1993); Fellow of Royal Society of Canada (1993); Humbolt Senior Research Award (1992); Elected Fellow of Royal Society London (1991); Schull Award, American Society of Plant Physiologists (1987); National Science Foundation Young Presidential Investigator Award (1984)

### **Professional Service:**

Panel Member, USDA-ARS Federal Support for Soybean Research, (1981); Panel Member, USDA-CRGO Photosynthesis Panel, Washington, (1983-84); Editorial Committee,

Photosynthesis Research (1984-87); Editorial Committee, Plant Physiology (1985-91); American Society of Plant Physiologists, Futures Committee (1985-86); Panel Member, NSF Postdoctoral fellowships in Plant Biology (1985); Panel Member, NSF Eukaryotic Genetics Panel (1985-88); Panel Member, NIH Molecular Biology Panel (1989); Editorial Committee, Archives Biochem. Biophys. (1986-03); Panel Member, NSF Presidential Investigator Panel (1986); Editorial Committee, Development (1986-93); Editorial Committee, Developmental Genetics (1989-91); American Society Plant Physiologists Publication Committee (1989-91); Member, Arabidopsis Genome Project Steering Committee (1989-94); Panel Member, USDA Genome Project Steering Committee (1989-93); Program Manager, USDA-CRGO Genetics Panel (1990-91); Editor, The Plant Journal, (1990-1994); Member, Plant Advisory Group, Cold Spring Harbor Laboratory (1990); Member, ASPP Executive Committee (1990-91); Member, NSF Biology Directors Advisory Committee (1992-1994); Member, AFRC IPSR Visiting Group (1993); Advisory Board, Noble Foundation (1993-97); Advisory Board, TIGR (1992-97); Advisory Board, Molecular Genetics, Massachusetts General Hospital (1989-92); Member of Board, International Society for Plant Molecular Biology (1993-97); Associate Editor, Annual Review Plant Physiol. Plant Mol. Biol. (1993-97); Member, NRC Board on Agriculture (1994-96); Visiting committee, RSBS Australian National University (1995); Visiting committee, Swedish Foundation for Strategic Research (1995); Associate Editor, The Plant Cell (1995-2000); Editorial Board, Current Biology (1996-99); Board of Reviewing Editors, Science (1996-2007); Editor, Current Opinion in Plant Science (1997-04); Presidents Advisory Panel on Plant Biodiversity (1997-98); Editorial Board, Proc., Natl. Acad. Sci. (1997-2000); Visiting committee ETH and University of Zurich (1997); Visiting Committee, Cornell Plant Biology (1998); Visiting Committee, Berkeley Plant Biology (1999); Scientific Advisory Board, The Wellcome Trust (1999-2001); Advisory Board, Danforth Center (1999-2001); Max-Planck-Institut für Molekulare Pflanzenphysiologie Fachbeirat (2000-2005); US-EU Consultative Forum on Biotechnology (2000). Alberta Heritage Foundation for Science and Engineering (2000-2007); Senior Editorial Committee, Science (2001-2007); John Innes Visiting Committee (2001); Cornell Biology Visiting Committee (2001-5); University of Wisconsin Structural Biology Center Advisory Committee (2001-4); NRC Committee on Plant Genome Initiative (2002); Department of Plant Systems Biology VIB/Ghent University advisory committee (2002-5); Design Committee, Koshland Museum (2002-3); NAS Class II TNG chair (2003-6); Helios Advisory Committee, Lawrence Berkeley National Lab (2006-8); US DOE advisory committee (BERAC) (2006-07); JGI advisory committee (2006-2009); NRC Committee for Americas Energy Future, Transportation Fuels subcommittee (2007-08); California Academy of Sciences Committee on California's Energy Future (2009-2011); BP Energy Sustainability Committee (2010-2012); PCAST Committee on Agricultural Preparedness (2012); Secretary of Energy Taskforce on R&D (2013-2014); UNESCO-SCOPE Advisory Committee on Biofuels (2013-15)

***Current Consulting:***

CTC, Piracicaba Brazil; Centrillion, Palo Alto CA

***Past Consulting:***

BP, Mitsui, Eli Lilly, DuPont, Unilever, Warburg Pincus, DowElanco, Monsanto, The Institute of Genomic Research (TIGR), BP, Khosla ventures, Mendel Biotechnology, LS9 Inc., King Abdulaziz University, Jeddah, Saudi Arabia

***Other experience:***

Co-founded Mendel Biotechnology (1997), Poetic Genetics (2004), LS9 Inc (2005), RedLeaf Inc

(2015)

Chairman of the board, Mendel Biotechnology (1997-2008)

Executive Chairman, Mendel Biotechnology (2002-2008)

Board of Directors, Bionova SA (1999-2000)

Scientific advisory board, Monsanto (1990-1997)

**Patents:**

Nucleic Acid Fragment encoding herbicide resistant plant acetolactate synthase, J.R. Bedbrook, R.S. Chaleff, S.C. Falco, B.J. Mazur, C.R. Somerville, N.S. Yadav. US Patent number 5,013,659, May 7, 1991

Nucleic Acid Fragment encoding herbicide resistant plant acetolactate synthase, J.R. Bedbrook, R.S. Chaleff, S.C. Falco, B.J. Mazur, C.R. Somerville, N.S. Yadav. US Patent number 5,141,870, August 25, 1992

Nucleic acid fragment encoding herbicide resistant plant acetolactate synthase. J.R. Bedbrook, R.S. Chaleff, S.C. Falco, B.J. Mazur, C.R. Somerville, N.S. Yadav. US Patent number 5,378,824 Jan 3, 1995

Nucleic acid fragment encoding herbicide resistant plant acetolactate synthase. J.R. Bedbrook, R.S. Chaleff, S.C. Falco, B.J. Mazur, C.R. Somerville, N.S. Yadav. US Patent number 5,605,011 Feb. 25, 1997

Production of petroselenic acid in transgenic plants, E. Cahoon, J. Ohlrogge, J. Shanklin, C.R. Somerville, US Patent number 05430134, Issued 7/4/1995  
Process for producing polyhydroxybutyrate and related polyalkanoates in the plastids of higher plants. C.R. Somerville, C. Nawrath, Y. Poirier, U.S. Patent number 5,610,041, March 11, 1997

Transgenic plants producing polyhydroxyalkanoates, C.R. Somerville, Y. Poirier, D.E. Dennis, US Patent number 5,650,555, Issued 7/22/1997

Altered Linoleic and linolenic acid content in plants, C.R. Somerville, G. Kishore, T. Ruff, V. Arondel, S. Gibson, filed February 5, 1993

Use of plant fatty acyl hydroxylases to produce hydroxylated fatty acids and derivatives in plants. C.R. Somerville, F. van de Loo, US Patent number 5668292, Issued 9/16/1997

Use of plant fatty acyl hydroxylases to produce hydroxylated fatty acids and derivatives in plants. C.R. Somerville, F. van de Loo, US Patent number 5801026 issued 9/1/98

Fatty acyl CoA Reductase. C.R. Somerville and S. Reiser, US Patent number 6143538 issued 11/7/00

Production of hydroxylated fatty acids in genetically modified plants. C.R. Somerville, P. Broun, F. van de Loo, US Patent number #6,291,742 issued 9/18/2001

Plant Fatty Acid Hydroxylases. C.R. Somerville, P. Broun, F. van de Loo, US Patent number #6310194 issued 9/30/2001

Structure and Expression of the biotin carboxylase subunit of heteromeric acetyl-CoA carboxylase. J. Ohlrogge, B. Shorrosh, D. Shintani, C. Somerville. 6218600 Issued April 17, 2001

Use of Plant Fatty Acyl Hydroxylases to Produce Hydroxylated Fatty Acids in Derivatives in Plants 6,433,250 issued August 13, 2002

Strong early seed-specific gene regulatory region. P. Broun, C. Somerville. US Patent number 5965793 issued 10/99.

Strong early seed-specific gene regulatory region. P. Broun, C. Somerville. US Patent number 6,437,220 issued 8/20/2002.

Production of hydroxylated fatty acids in genetically modified plants. C.R. Somerville, P. Broun, F. van de Loo, S.S. Boddupalli US Patent number #6,936,728 issued 8/30/2005

Altered linolenic and linoleic acid contents in plants. G. Kishore, T. Ruff, T. gene, V. Arondel, V. Armel, S. Gibson, S. Irma, C.R. Somerville. US patent issues April 17, 2007

Modified cellulose synthase gene from Arabidopsis thaliana confers herbicide resistance to plants. C.R. Somerville, W. Scheible US Patent #7,241,878 issued July 10, 2007

Production of hydroxylated fatty acids in genetically modified plants. C.R. Somerville, P. Broun, F. van de Loo, Boddupalli; Sekhar S US Patent number #8003855 issued 8/23/2011

### ***Invited Seminars:***

Laboratoire Physico-Chimique de Fondation Rothschild, Paris; Du Pont Central Research Department, Wilmington, Delaware; University of Alberta, Edmonton, Alberta; York University, Toronto, Ontario; Du Pont Central Research Department, Wilmington, Delaware; Queens University, Kingston, Ontario; University of California, San Diego, California; Monsanto, St. Louis, Missouri; University of Toronto, Toronto, Ontario; Kettering Institute, Yellow Springs, Ohio; University of California, Davis, California; University of California, Berkeley, California; ARCO Research Institute, Dublin, California; University of Michigan, Ann Arbor, Michigan; Purdue University, W. Lafayette, Indiana; Shell Development Labs, Modesto, California; University of Colorado, Boulder, Colorado; University of Pennsylvania, Philadelphia, Pennsylvania; Washington University, St. Louis, Missouri; University of Utah, Salt Lake City, Utah; University of Chicago, Chicago, Illinois; Amoco Research Center, Chicago, Illinois; Rothamsted Experiment Station, Harpenden, England; Du Pont Central Research Department, Wilmington, Delaware; University of Washington, Seattle, Washington; Rockefeller University, New York, New York; Massachusetts General Hospital, Boston, Massachusetts; Cornell University, Ithaca, New York; University of Ghent, Ghent, Belgium; University of California, Davis; MIT, Boston; University of Illinois, Urbana; Queens University, Kingston Ontario; Cold Spring Harbor Laboratory, Cold Spring Harbor, New York; Eli Lilly Research Dept, Indianapolis, Indiana; Case Western Reserve University, Cleveland, Ohio; Carnegie Mellon University, Pittsburgh, Pennsylvania; Dow Chemical Co, Midland, Michigan; Monsanto, St. Louis, Missouri; Washington State University, Pullman, Washington; Colorado State University,

Fort Collins, Colorado; Scripps Research Institute, San Diego, California; Rockefeller University, New York; Louisiana State University, Baton Rouge, Louisiana; Cold Spring Harbor Laboratory, New York; McGill University, Montreal, Quebec; Iowa State University, Ames, Iowa; Pioneer HiBred Co., Des Moines, Iowa; Northern Illinois University, DeKalb, Illinois; University of Tokyo, Japan; Ajinomoto Co., Kawasaki, Japan; UCLA, Los Angeles CA; Oregon State University, Corvallis OR; University of Minnesota, Minneapolis MN; Brookhaven National Laboratories, Upton NY; University of Guelph, Guelph Ontario; Roche Institute, Nutley NJ; Ohio State University, Columbus OH; University of Saskatchewan, Saskatoon, Sask; Cornell University, Ithaca, NY; Monsanto, St Louis, MO; Cold Spring Harbor, NY; University of Wisconsin, Madison; University of Kansas, Manhattan, KS; University of Florida, Gainesville, FL; Harvard University, Boston, MA; Procter and Gamble, Cincinnati, OH; Calgene, Davis, CA; DNA PLant Technology, Oakland, CA; University of California, Berkeley, CA; Max-Planck-Institut für Zuchtungsforshung, Köln, Germany; Cold Spring Harbor Laboratory, New York; Monsanto Corporation, St. Louis, MO; John Innes Institute, Norwich, England; Cambridge University, Cambridge, England; Rockefeller University, New York, NY; University of Georgia, Athens GA; MoGen International, Leiden, Netherlands; University of Kentucky, Lexington; University of British Columbia, Vancouver BC; UCLA, Los Angeles CA; Cold Spring Harbor Laboratory, Cold Spring Harbor, NY; Virginia Polytec, Blacksburg VA; University of Paris, Paris France; Salk Institute, San Diego, CA; Yale University, New Haven, CT; University of Alberta, Edmonton, Canada; Monsanto Corporation, St. Louis, MO; Friedrich Miescher Institute, Basel Switzerland; Cold Spring Harbor Laboratory, Cold Spring Harbor; University of California, San Diego; Laboratorium voor Genetica, Gent, Belgium; University of Nebraska, Lincoln; DuPont central Research, Wilmington DE; University of Arizona, Tucson AZ; Rockefeller University, New York; Pioneer Hybrid International, Johnson City, IA; University of Iowa, Iowa City, IA; Cornell University, Ithaca, NY; Stanford University, Palo Alto, CA; University of California, Berkeley, CA; Oxford University, Oxford England; John Innes Institute, Norwich England; Max-Planck Institut, Koln, Germany; University of Freiburg, Freiburg Germany; University of Hamburg, Hamburg Germany; Hoechst, Frankfurt Germany; BASF, Mannheim Germany; University of Munich, Munich, Germany; ETH, Zurich; University of Calgary, Calgary Alberta; Purdue University; University of Oklahoma; Noble Foundation; Carlsberg Laboratory, Copenhagen; University of California, Davis; Rice University, Houston TX; Williams College; UC Santa Cruz, Santa Cruz CA; Washington University, St Louis MO; Texas A&M University, College Stn, TX; University of Tennessee, Knoxville TN; University of Lausanne, Lausanne Switzerland; Wageningen University, Wageningen, Netherlands; Max Planck Institute, Koln, Germany; University of Illinois; Penn State University; University of Nevada; University of Minnesota; Washington University; Colorado State University; KRIBB, Tejon, Korea; CNRS, Gif-Sur-Yvette; University of Gent, Gent Belgium; University of Arizona, Tucson AZ; University of Florida, Gainesville; University of Minnesota; University of California, Davis CA; University of California, Riverside; John Innes Institute; University of British Columbia, Vancouver BC; John Innes Institute; Plant Gene Expression Center, Albany CA; Michigan State University; Moore Foundation; Lawrence Berkeley National Lab; Salk Institute, San Diego CA; Flanders Institute for Biotechnology, U Massachusetts, Amherst MA; Procter & Gamble; Harvard University; MIT

### ***Invited symposia***

International Botanical Congress, Sydney, Australia (1981); Minnesota Spring Symposium, St. Paul, Minnesota (1982); Gordon Conference on Photosynthetic, Carbon Metabolism (1982); Miami Winter Symposium, Miami, Florida (1983); Plant Growth Regulator Society Meetings, E.

Lansing, Michigan (1983); Gordon conference on Plant Molecular Biology, Andover, New Hampshire (1984); Genetics Society Meeting, Vancouver, B.C. (1984); UCLA Symposium, Keystone, Colorado (1985); US-Australia Workshop, Fraser Island, Australia (1985); Gordon Conference on CO<sub>2</sub>-fixation, New Hampshire (1985); American Chemical Society, Chicago, Illinois (1985); Royal Society of London, London, England (1986); Hoechst Molecular Biology Workshop, Graineau, W. Germany (1986); American Society of Plant Physiologists, Baton Rouge, Louisiana (1986); 7th International Congress in Plant Lipids, Davis, California (1986); Symposium on Genetic Engineering of Crops, Davis, California (1986); UCLA Symposium on Molecular and Cellular Biology, Part City, Utah (1987); Phytochem Society, Tampa, Florida (1987); FASEB, Copper Mountain, Colorado (1987); Lilly Symposium on Innovative Approaches to Agrichemical Research, Indianapolis, Indiana (1987); Toyobo Foundation Symposium on Plant Biotechnology, Nagaja, Japan (1987); National Institute for Basic Biology, Okazaki, Japan (1988); Purdue Symposium on Biotechnology, Purdue University, West Lafayette, IN (1988); Annual meeting American Society Plant Physiologists, Reno, NV (1988); International Congress on Plant Lipids, Budapest, Hungary (1988); US-Japan Symposium on photosynthetic productivity, Honolulu Hawaii (1988); Gordon Conference on Temperature Stress in Plants, Oxnard CA (1989); American Oil Chemists Society, Cincinnati OH (1989); EMBO Symposium, Heidelberg, Germany (1989); Australian Biochemical Society Meeting, Brisbane Australia (1989); The Genetics and Molecular Biology of *Arabidopsis*, Bloomington, IN (1989); UCLA Symposium, Keystone, CO (1990); Ann. Mtg, American Society of Clinical Nutrition, Washington, DC (1990); Fourth International Arabidopsis Meeting, Vienna, Austria (1990); IX International Symposium on Plant Lipids, Wye College, England (1990); National Research Council Seed Oil Modification Workshop, Saskatoon, Canada (1990); Conference on Biotechnology for Safe and wholesome foods, Vlaardingien, Netherlands (1990); Symposium on Metabolic Compartmentation, Riverside, CA (1991); UCLA Symposium, Keystone, CO (1991); American Association for Advancement of Science Annual Meeting, Washington DC (1991); Canadian Genetics Society, Kingston, Ontario (1991); ICI-Harvard Frontiers of Science Symposium, Boston MA (1991); Penn State Symposium in Molecular Biology, College Station, PA (1991); Monod Conference on Membrane Flow, Roscoff, France (1991); Human Genome III, San Diego, CA (1991); Keystone Symposium on Crop Improvement via Biotechnology, Keystone CO (1992); 10th ISF World Congress & 83rd AOCs Annual Meeting, Toronto (1992); Gordon Conference on Plant Molecular Biology, Proctor Academy, NH (1992); Royal Society meeting on Transgenic plants and animals, London, England (1992); FEBS Meeting, Dublin, Ireland (1992); ACS International Symposium on Biotechnology, Washington, DC (1992); Foundation Ramon Areces Symposium "Biotechnology:the future today", Madrid, Spain (1992); EC-Bridge T-project, Copenhagen, Denmark (1992); US-Japan Workshop on Molecular Biology of Plant Lipids, Kona HI (1992); Tel-Aviv Biotechnology Meeting, Tel-Aviv, Israel (1993); Royal Society Meeting on Transgenic Plants, London, England (1993); FEBS Meeting, Stockholm (1993); Recent Advances in Plant Molecular Biology, Kyoto Japan (1993); Annual Meeting of American Society of Plant Physiologists, Minneapolis, MN (1993); Annual Meeting of Canadian Society of Plant Molecular Biology, Toronto (1993); Genome V, Hilton Head, SC (1993); Chicago Symposium, Chicago IL (1993); Plant genome II, San Diego CA (1994); Federation of Canadian Biological Societies Annual Meeting, Montreal (1994); International Society for Plant Molecular Biology Congress, Amsterdam (1994); International Plant Lipid Congress, Paris (1994); Keystone meeting on Plant Cell Biology, Taos NM (1995); Glasgow University Symposium on Biochemical Genetics, Glasgow (1995); IAEA, Vienna, Austria (1995); Symposium on Plant genetic Engineering, Lexington KY (1995); National Academy of Sciences, Conference on resource sharing (1996); Workshop on Transgenic Plants, Tuskegee University, Tuskegee AL (1996); SEB Symposium on Plant Development, Dublin Ireland

(1996); NATO Conference on Signals in Plant Development, Maratea, Italy (1997); National Academy of Sciences Symposium on Plant Genomes, Irvine CA (1997); National Plant Lipid Meeting, Lake Tahoe CA (1997); 17th International Congress of Biochemistry & Mol Biol, San Francisco (1997); Ninth International Genome Sequencing and Analysis Conference, Hilton Head SC (1997); International Society of Plant Molecular Biology Congress, Singapore (1997); International Prize in Biology Symposium, Kyoto (1997); Keystone meeting on Plant Cell Biology, Taos NM (1998); Swedish Foundation for Strategic Research Next Millennium Symposium (1998); American Society of Plant Physiologists, Madison WI (1998); Ohio State Biotechnology Symposium, Columbus OH (1998); National Academy meeting on the Future of Plant Biology, Lansing MI (1999); TIGR Genome meeting, Miami FL (1999); Biotechnology: Promises and Problems, The Hague (2000); DARPA Opportunities in AgBiotech Meeting (2000); AAAS Annual Meeting (2000); Thornton-Masa Lecture, Colorado State University (2000); Lemieux Lecture, University of Alberta (2000); International Biotechnology Congress, Berlin Germany (2000); Rothamstead Biomarket, Harpenden, England (2000); Plant development: Cell fate to Organ Formation, Capri, Italy (2000); American Chemical Society Annual meeting (2001); Kuhmo Symposium, Seoul Korea (2001); Annual meeting of American Botanical Society, Albuquerque NM (2001); Arabidopsis meeting, Seville (2002); Garnet Meeting, York (2002); Chilean Life Science Foundation, Santiago (2002); Leibnitz Kollegium, Postdam, Germany (2003); Riverside Symposium on Plant cell Biology, Riverside CA (2003); International Society of Plant Molecular Biology, Barcelona (2003); American Chemical Society meeting (2004); Biochemical Society Symposium, Glasgow (2004); Royal Society Meeting on Domestication, London (2004); Iowa Symposium on Bioenergy, Ames IA (2005); DOE Planning Meeting on Solar Energy, Washington, (2005); DOE-BER-BP meeting on Biomass Energy, Washington DC (2005); Arabidopsis Meeting, Madison WI (2005); BIO Meeting, Philadelphia PA (2005); Ten Years of Genome Sequencing, UC San Diego (2005); Int. Congress on Plant Microbe Interactions, Merida MX (2005); Interacademy Mtg on Energy Technologies, UC Berkeley (2006); Rick Symposium, UC Davis (2006); Symposium on Biofuels, University of Illinois (2006); 28<sup>th</sup> symposium on Biofuels and Biomass, Nashville (2006); EPSO meeting, Visegrad Hungary (2006); ASPB Annual meeting, Boston (2006); Gordon Conference, Maine NH (2006); Royal Society, London (2006); Canadian Genome Mtg, Vancouver (2007); Soc Computational Biology, San Diego (2007); Illinois Biofuels Mtg, Urbana IL (2007); Newsweek keynote, National Press Club, Washington DC (2007); Toxicology Society Annual Mtg, Seattle (2008); Material Research Society, San Francisco (2008); Washington International Renewable Energy Conference, Washington DC (2008); Environmental defense Fund Biofuels Symposium, Menlo Park (2008); La Jolla Spring Symposium, San Diego (2008); Genetics Society Mtg, San Diego (2008); Society for Industrial Microbiology (2008), FEBS mtg, Tampere Finland (2008); Indian Institute of technology Energy Symposium, Kharagpur India (2010); American Chemical Society Annual meeting, San Francisco (2010); Biophysical Society Annual meeting, San Francisco (2010); Kobe Symposium on Bioproducts, Kobe Japan (2010); BBEST Symposium, Campos do Jordao, Brazil (2011); International Botanical Symposium, Melbourne Australia (2011); BIO Leadership Summit (2012); NAS Symposium on Biofuels (2012); CERA Houston TX (2012); Gordon Conference on Cell Walls, Waterville ME (2012); STS Forum Kyoto (2012); JETRO Symposium, Tokyo (2012); Symposium on renewable Energy, IIT Kharagpur India (2013); SCOPE workshop on biofuels, Sao Paulo Brazil (2013); Oslo Energy Forum, Oslo Norway (2013); MIT Climate Symposium, MIT Boston MA (2013); Symposium on Biofuels, Bioproducts and Extractive Industries, Edmonton Alberta (2013); Symposium on the use of CO<sub>2</sub>, Tokyo (2013); World Science Forum, Rio de Janeiro, (2013); SCOPE-UNESCO Conference on Sustainability of Biofuels, Paris (2013); World Energy Future Summit, IRENA, Abu Dhabi (2014); APS Conference on Physics of Renewable Energy, Berkeley (2014);

National Academy Conference on Industry Academic Interactions, Washington (2014); DOE Workshop on Future of Biofuels and Biomaterials, Washington (2014); Pacific Northwest National Lab (EMSL), Richland WA (2015), Hebrew University, Tel Aviv (2015)

## **PUBLICATIONS**

### **Books**

Biochemistry and Molecular Biology of Membrane and Storage Lipids of Plants. N. Murata and C.R. Somerville, eds, American Soc. Plant Physiol., Rockville MD (1993)

Arabidopsis. E. Meyerowitz and C.R. Somerville, eds, Cold Spring Harbor Laboratory Press (1994)

The Arabidopsis Book, E. Meyerowitz and C.R. Somerville, founding editors 2002, Published online by American Society of Plant Biologists. A free ebook, currently 13 volumes, Continuously expanded by a series of editors. Chapters downloaded ~ 100,000 times per year. DOI 10.1199/tab.9999 <http://www.arabidopsisbook.org>

### **Major Reports Coauthored**

Bioenergy & Sustainability. Policy Brief. Souza, G.M. et al. (2015) SCOPE, Paris ISSN 2411-6149

Task Force Report to Support the Evaluation of New Funding Constructs for Energy R&D in the DOE . Secretary of Energy Advisory Board (2014) 16pp

Report to the President on Agricultural Preparedness and the Agricultural Research Enterprise, Presidents Council of Advisors on Science and technology (2012). 52 pp

California's Energy Future – The Potential for Biofuels. California Council on Science and Technology (2012). 51 pp

California's Energy Future – the view to 2050. California Council on Science and technology (2011). 57 pp

Liquid Transportation Fuels from Coal and Biomass, National Academy of Sciences, National Academy of Engineering, National Research Council (2009). 370 pp

Breaking the Biological barriers to Cellulosic Ethanol. DOE/SC-0095 (2006). 212 pp

Basic Research Needs for Solar Energy Utilization. Report of the basic Energy Sciences Workshop on Solar Energy Utilization, April 18-21 (2005).

Applications of Molecular Biology for the Production of Plants for Biobased Products and Biofuels, US-EU Taskforce on Biotechnology Research, 2004



The National Plant Genome Initiative. National Research Council, NAS, 2002.

US-EU Consultative Forum on Biotechnology, US State Department, 2000

The Multinational Coordinated Arabidopsis 2010 Project. Functional Genomics and the Virtual Plant: A blueprint for understanding how plants are built and how to improve them. National Science Foundation, 2000

Realizing the Potential of Plant Genomics: From Model Systems to the Understanding of Diversity. National Science Foundation, 1999

Teaming with Life: Investing in Science to Understand and Use Americas Living Capital. Presidents Committee on Science and Technology Report, 1998

Designing an Agricultural Genome Program, National Research Council, 1998

Resource Sharing in Biomedical Research, Institute of Medicine, NAS, 1996

A Long-range Plan for the Multinational Coordinated Arabidopsis thaliana Genome Research Project, Progress Report Year 4 National Science Foundation 1994

A Long-range Plan for the Multinational Coordinated Arabidopsis thaliana Genome Research Project, Progress Report Year 3 National Science Foundation 1993

A Long-range Plan for the Multinational Coordinated Arabidopsis thaliana Genome Research Project, Progress Report Year 2, National Science Foundation 1992

A Long-range Plan for the Multinational Coordinated Arabidopsis thaliana Genome Research Project, Progress Report Year 1, National Science Foundation 1991

A Long-range Plan for the Multinational Coordinated Arabidopsis thaliana Genome Research Project, National Science Foundation 1990

## Research Publications

1. Morgan, K., C.R. Somerville. Maximum entropy spectral analysis of monte carlo simulations of a closed finite human population. *Can. Studies Populat.* 3,1-17 (1976).

2. Somerville, C.R., A. Ahmed. *rel*-dependent methionine requirement in methionyl-tRNA synthetase mutants of *E. coli*. *J. Mol. Biol.* 111,77-81 (1977).

3. Somerville, C.R., A. Ahmed. Mutants of *E. coli* defective in the degradation of guanosine 5'-triphosphate, 3'-diphosphate (pppGpp). *Molec. Gen. Genet.* 169,315-323 (1979).

4. Somerville, C.R., W.L. Ogren. A phosphoglycolate phosphatase deficient mutant of *Arabidopsis*. *Nature* 280,833-836 (1979).

5. Somerville, C.R., W.L. Ogren. Photorespiration mutants of *Arabidopsis thaliana* deficient in

- serine:glyoxylate aminotransferase. Proc. Natl. Acad. Sci., USA 77,2684-2687 (1980).
6. Somerville, C.R., W.L. Ogren. Defective photosynthesis in mutants of *Arabidopsis* deficient in leaf glutamate synthase activity. Nature 286,257-259 (1980).
  7. Somerville, C.R., S.C. Somerville, W.L. Ogren. Isolation of photosynthetically active protoplasts and chloroplasts from *Arabidopsis thaliana*. Plant Sci. Lett. 21,89-96 (1981).
  8. Somerville, C.R., W.L. Ogren. Photorespiration deficient mutants of *Arabidopsis thaliana* lacking mitochondrial serine transhydroxymethylase activity. Plant Physiol. 67,666-671 (1981).
  9. Somerville, C.R., S.C. Somerville, W.L. Ogren. Genetic analysis of photorespiration. In: Proceedings of the Fifth International Congress on Photosynthesis (G. Akoyunoglou, ed.), Vol. VI, pp. 145-152 (1982).
  10. Somerville, C.R., W.L. Ogren. Mutants of *Arabidopsis* deficient in glycine decarboxylase activity. Biochem. J. 202,373-380 (1982).
  11. Somerville, C.R., W.L. Ogren. A mutant of *Arabidopsis* which lacks light activation of RuBP carboxylase. Plant Physiol. 70,381-387 (1982).
  12. Somerville, C.R., W.L. Ogren. Genetic modification of photorespiration. Trends Biochem. Sci. 7,171-174 (1982).
  13. Somerville, C.R., W.L. Ogren. Isolation of photorespiration mutants in *Arabidopsis thaliana*. In: Methods in Chloroplast Molecular Biology (M. Edelman, R.B. Hallick and N.H. Chua, eds.), Elsevier, pp. 129-138 (1982).
  14. Somerville, C.R. Genetic modification of photorespiration. Whats New Plant Physiol., 13,29-32 (1982).
  15. Somerville, S.C., C.R. Somerville. The effect of O<sub>2</sub> and CO<sub>2</sub> on photorespiratory flux determined from measurements of glycine accumulation in a mutant of *Arabidopsis*. J. Expt. Bot. 34,415-424 (1983).
  16. Somerville, C.R., S.C. Somerville. Cloning and expression of the *Rhodospirillum rubrum* ribulose biphosphate carboxylase gene in *E. coli*. Molec. Gen. Genet., 193,214-219 (1984).
  17. Somerville, C., J. Fitchen, S. Somerville, L. McIntosh, F. Nargang. Enhancement of net photosynthesis by genetic manipulation of photorespiration and RuBP carboxylase/oxygenase. In: Advances in Gene Technology: Molecular Genetics of Plants and Animals, (F. Ahmad, K. Downey, J. Schultz and R. Voellmy, eds.) Academic Press, N.Y., pp. 295-309 (1983).
  18. Ogren, W.L., C.R. Somerville, R.J. Spreitzer, M.H. Spalding. Strategies to improve photosynthesis by induced mutation. In: Selection in Mutation Breeding, (A. Micke, ed.) International Atomic Energy Agency, Vienna, pp. 59-66 (1984).
  19. Nargang, F., L. McIntosh, C.R. Somerville. Nucleotide sequence of the ribulose biphosphate carboxylase gene from *Rhodospirillum rubrum*. Molec. Gen. Genet. 193,220-224

(1984).

20. Ogren, W.L., C.R. Somerville, S.C. Somerville, R.J. Spreitzer, M.H. Spalding and D.B. Jordan. Genetic analysis of photosynthetic carbon pathways in higher plants. In: *Advances in Photosynthesis Research*, (C. Sybesma, ed.) Martinus Nijhoff, The Hague, Vol. 3, pp. 429-435 (1984).
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