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# **Plant Membranes**

## **Structure, Function, Biogenesis**

**Editors**  
**Christopher Leaver**  
**Heven Sze**

# **Plant Membranes**

## **Structure, Function, Biogenesis**

Proceedings of the ARCO Plant Cell  
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### **Editors**

#### **Christopher Leaver**

Department of Botany  
University of Edinburgh  
Edinburgh, Scotland

#### **Heven Sze**

Department of Botany  
University of Maryland  
College Park, Maryland

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**Address all Inquiries to the Publisher**  
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Eastern Regional Research Center  
USDA-ARS

**Donald F. Steiner, M.D.**  
Professor of Biochemistry  
University of Chicago

# **Plant Membranes**

## **Structure, Function, Biogenesis**

## Contributors

**Claudio L. Afonso**, School of Biological Sciences, University of Nebraska-Lincoln, Lincoln, NE 68588-0118 [123]

**Anne J. Anderson**, Department of Biology, Utah State University, Logan, UT 84322-4500 [403]

**M. Andreae**, Abteilung Cytologie des Pflanzenphysiologischen Instituts, Universität Göttingen, D-3400 Göttingen, Federal Republic of Germany [341]

**Mordhay Avron**, Department of Biochemistry, The Weizmann Institute of Science, Rehovot 76100, Israel [241]

**Alice Barkan**, Department of Genetics, University of California, Berkeley, Berkeley, CA 94720 [181]

**John Bennett**, Biology Department, Brookhaven National Laboratory, Upton, NY 11973 [85]

**A.P. Bidwai**, Department of Biology, Utah State University, Logan, UT 84322-0300 [383]

**M.T. Black**, Department of Biological Sciences, Purdue University, West Lafayette, IN 47907 [65]

**Maryse A. Block**, Laboratoire de Physiologie Cellulaire Végétale, Département de Recherche Fondamentale, Centre d'Etudes Nucléaires et Université Scientifique, Technologique et Médicale de Grenoble, F-38041 Grenoble-Cédex, France; present address: Carnegie Institution of Washington, Stanford, CA [103]

**D. Blowers**, Department of Botany, University of Edinburgh, Edinburgh EH9 3JH, Scotland [371]

**Eduardo Blumwald**, Centre for Plant Molecular Biology, Biology Department, McGill University, Montreal, Quebec, Canada H3A 1B1; present address: Department of Botany, University of Toronto, Toronto, Ontario, Canada M5S 1A1 [209]

**Roberto Bollini**, Istituto Biosintesi Vegetali, CNR, 20133 Milano, Italy [359]

**Alain M. Boudet**, Centre de Physiologie Végétale de l'Université Paul Sabatier, U.A. CNRS no 241, 31062 Toulouse, Cédex, France [141]

**Andrew O. Brightman**, Departments of Medicinal Chemistry and Biological Sciences, Purdue University, West Lafayette, IN 47907 [141]

The numbers in brackets are the opening page numbers of the contributors' articles.

**J. Browse**, Plant Physiology Division, DSIR, Palmerston North, New Zealand [437]

**Barry D. Bruce**, Division of Molecular Plant Biology, University of California, Berkeley, Berkeley, CA 94720 [47]

**Daniel R. Bush**, Isotope and Nuclear Chemistry Division, Los Alamos National Laboratory, Los Alamos, NM 87545; present address: Plant Photobiology Laboratory, USDA-ARS, Beltsville, MD 20707 [257]

**Douglas S. Bush**, Department of Botany, University of California, Berkeley, Berkeley, CA 94720 [325]

**Hervé Canut**, Departments of Medicinal Chemistry and Biological Sciences, Purdue University, West Lafayette, IN 47907 [141]

**Maarten J. Chrispeels**, Department of Biology, University of California, San Diego, La Jolla, CA 92093 [275]

**M. Collinge**, Department of Botany, University of Edinburgh, Edinburgh EH9 3JH, Scotland [371]

**Jacques Covès**, Laboratoire de Physiologie Cellulaire Végétale, Département de Recherche Fondamentale, Centre d'Etudes Nucléaires et Université Scientifique, Technologique et Médicale de Grenoble, F-38041 Grenoble-Cédex, France [103]

**W.A. Cramer**, Department of Biological Sciences, Purdue University, West Lafayette, IN 47907 [65]

**H. Depta**, Abteilung Cytologie des Pflanzenphysiologischen Instituts, Universität Göttingen, D-3400 Göttingen, Federal Republic of Germany [341]

**Roland Douce**, Laboratoire de Physiologie Cellulaire Végétale, Département de Recherche Fondamentale, Centre d'Etudes Nucléaires et Université Scientifique, Technologique et Médicale de Grenoble, F-38041 Grenoble-Cédex, France [3,103]

**Paul P.J. Dunn**, Botany School, University of Cambridge, Cambridge CB2 3EA, England [163]

**Christopher J. Eccles**, Botany School, University of Cambridge, Cambridge CB2 3EA, England [163]

**Loïc Faye**, Department of Biology, University of California, San Diego, La Jolla, CA 92093; present address: Faculté des Sciences de Rouen, F-76130, Mont Saint Aignan, France [275]

**Ulf-Ingo Flüge**, Institute of Plant Biochemistry, University of Göttingen, Göttingen, Federal Republic of Germany [223]

**P.N. Furbacher**, Department of Biological Sciences, Purdue University, West Lafayette, IN 47907 [65]

**David W. Galbraith**, School of Biological Sciences, University of Nebraska-Lincoln, Lincoln, NE 68588-0118 [123]

**Anthony A. Gatenby**, E.I. du Pont de Nemours and Co., Central Research and Development Department, Wilmington, DE 19898 [289]

**S. Gilroy**, Department of Botany, University of Edinburgh, Edinburgh EH9 3JH, Scotland [371]

**M.E. Girvin**, Department of Biological Sciences, Purdue University, West Lafayette, IN 47907; present address: Department of Physiological Chemistry, University of Wisconsin Medical Center, Madison, WI 53706 [65]



**John C. Gray**, Botany School,  
University of Cambridge, Cambridge  
CB2 3EA, England [163]

**William J. Hansen**, Department of  
Biochemistry and Biophysics,  
University of California, San Francisco,  
San Francisco, CA 94143 [305]

**Kristi R. Harkins**, School of Biological  
Sciences, University of Nebraska-  
Lincoln, Lincoln, NE 68588-0118 [123]

**D. Hartmann**, Abteilung Cytologie des  
Pflanzenphysiologischen Instituts,  
Universität Göttingen, D-3400  
Göttingen, Federal Republic of  
Germany [341]

**H. Harvey**, Department of Botany,  
University of Edinburgh, Edinburgh  
EH9 3JH, Scotland [371]

**Hans Walter Heldt**, Institute of Plant  
Biochemistry, University of Göttingen,  
Göttingen, Federal Republic of  
Germany [223]

**S. Hillmer**, Abteilung Cytologie des  
Pflanzenphysiologischen Instituts,  
Universität Göttingen, D-3400  
Göttingen, Federal Republic of  
Germany [341]

**Sean M. Hird**, Botany School,  
University of Cambridge, Cambridge  
CB2 3EA, England [163]

**Anna-Stina Höglund**, Botany School,  
University of Cambridge, Cambridge  
CB2 3EA, England [163]

**John V. Jacobsen**, Division of Plant  
Industry, CSIRO, Canberra, ACT 2601,  
Australia [325]

**K.D. Johnson**, Department of Biology,  
University of California, San Diego,  
La Jolla, CA 92093; present address:  
Department of Biology, San Diego State  
University, San Diego, CA 92182 [275]

**Russell L. Jones**, Department of  
Botany, University of California,  
Berkeley, Berkeley, CA 94720 [325]

**Jacques Joyard**, Laboratoire de  
Physiologie Cellulaire Végétale,  
Département de Recherche  
Fondamentale, Centre d'Etudes  
Nucléaires et Université Scientifique,  
Technologique et Médicale de Grenoble,  
F-38041 Grenoble-Cédex, France [103]

**Klaus H. Kaestner**, Department of  
Botany, University of Maryland,  
College Park, MD 20742; present  
address: Department of Biological  
Chemistry, Johns Hopkins University  
Medical School, Baltimore, MD 21205  
[195]

**Adriana Katz**, Department of  
Biochemistry, The Weizmann Institute  
of Science, Rehovot 76100, Israel [241]

**L. Kunst**, MSU-DOE Plant Research  
Laboratory, Michigan State University,  
East Lansing, MI 48824 [437]

**Shoupeng Lai**, Department of Botany,  
University of Maryland, College Park,  
MD 20742 [195]

**Pat J. Langston-Unkefer**, Isotope and  
Nuclear Chemistry Division,  
Los Alamos National Laboratory,  
Los Alamos, NM 87545 [257]

**David I. Last**, Botany School,  
University of Cambridge, Cambridge  
CB2 3EA, England [163]

**Chu-Yung Lin**, Department of Botany,  
National Taiwan University, Taipei,  
Taiwan [431]

**Richard Malkin**, Division of Molecular  
Plant Biology, University of California,  
Berkeley, Berkeley, CA 94720 [47]

**Robert A. Martienssen**, Department of  
Genetics, University of California,  
Berkeley, Berkeley, CA 94720 [181]

**P. McCourt**, MSU-DOE Plant Research Laboratory, Michigan State University, East Lansing, MI 48824 [437]

**D. Mende**, Department of Biological Sciences, Purdue University, West Lafayette, IN 47907; present address: Pflanzenphysiologisches Institut der Universität Göttingen, Abteilung für Experimentelle Phykologie, D-3400 Göttingen, Federal Republic of Germany [65]

**David J. Meyer**, School of Biological Sciences, University of Nebraska-Lincoln, Lincoln, NE 68588-0118 [123]

**Hanspeter Michel**, Biology Department, Brookhaven National Laboratory, Upton, NY 11973 [85]

**Kenneth R. Miller**, Division of Biology and Medicine, Brown University, Providence, RI 02912 [27]

**D. James Morré**, Departments of Medicinal Chemistry and Biological Sciences, Purdue University, West Lafayette, IN 47907 [141]

**Michel Neuburger**, Laboratoire de Physiologie Cellulaire Végétale, Centre d'Etudes Nucléaires de Grenoble, F-38041 Grenoble-Cédex, France [3]

**Barbara J. Newman**, Botany School, University of Cambridge, Cambridge CB2 3EA, England [163]

**A.A. Peterson**, Department of Biological Sciences, Purdue University, West Lafayette, IN 47907; present address: Department of Bioengineering, University of Utah, Salt Lake City, UT 84112 [65]

**Uri Pick**, Department of Biochemistry, The Weizmann Institute of Science, Rehovot 76100, Israel [241]

**Bernard Pineau**, Laboratoire de Physiologie Cellulaire Végétale, Département de Recherche Fondamentale, Centre d'Etudes Nucléaires et Université Scientifique, Technologique et Médicale de Grenoble, F-38041 Grenoble-Cédex, France; present address: Laboratoire de Cytophysiologie de la Photosynthèse, CNRS, Gif sur Yvette, France [103]

**Ronald J. Poole**, Centre for Plant Molecular Biology, Biology Department, McGill University, Montreal, Quebec, Canada H3A 1B1 [209]

**Stephen K. Randall**, Department of Botany, University of Maryland, College Park, MD 20742 [195]

**D.G. Robinson**, Abteilung Cytologie des Pflanzenphysiologischen Instituts, Universität Göttingen, D-3400 Göttingen, Federal Republic of Germany [341]

**Kim Rogers**, Department of Biology, Utah State University, Logan, UT 84322-4500 [403]

**Vahé Sarafian**, Centre for Plant Molecular Biology, Biology Department, McGill University, Montreal, Quebec, Canada H3A 1B1 [209]

**G. Eric Schaller**, Department of Horticulture and Cellular/ Molecular Biology Program, University of Wisconsin, Madison, WI 53706; present address: Department of Horticulture, University of Wisconsin, Madison, WI 53706 [419]

**Alistair Scriven**, Department of Genetics, University of California, Berkeley, Berkeley, CA 94720 [181]

**Elizabeth K. Shaw**, Biology Department, Brookhaven National Laboratory, Upton, NY 11973 [85]

**J.W. Shiver**, Department of Biological Sciences, Purdue University, West Lafayette, IN 47907 [65]

**Patrice Simon**, Department of Botany, University of California, Berkeley, Berkeley, CA 94720 [325]

**C.R. Somerville**, MSU-DOE Plant Research Laboratory, Michigan State University, East Lansing, MI 48824 [437]

**Liliane Sticher**, Department of Botany, University of California, Berkeley, Berkeley, CA 94720 [325]

**Arnd Sturm**, Department of Biology, University of California, San Diego, La Jolla, CA 92093 [275]

**Michael R. Sussman**, Department of Horticulture and Cellular/ Molecular Biology Program, University of Wisconsin, Madison, WI 53706; present address: Department of Horticulture, University of Wisconsin, Madison, WI 53706 [419]

**Heven Sze**, Department of Botany, University of Maryland, College Park, MD 20742 [195]

**J.Y. Takemoto**, Department of Biology, Utah State University, Logan, UT 84322-0300 [383]

**William C. Taylor**, Department of Genetics, University of California, Berkeley, Berkeley, CA 94720 [181]

**A. Trewavas**, Department of Botany, University of Edinburgh, Edinburgh EH9 3JH, Scotland [371]

**Alessandro Vitale**, Istituto Biosintesi Vegetali, CNR, 20133 Milano, Italy [359]

**Peter Walter**, Department of Biochemistry and Biophysics, University of California, San Francisco, San Francisco, CA 94143 [305]

**Meira Weiss**, Department of Biochemistry, The Weizmann Institute of Science, Rehovot 76100, Israel [241]

**W.R. Widger**, Department of Biological Sciences, Purdue University, West Lafayette, IN 47907; present address: Department of Biochemical and Biophysical Sciences, University of Houston, University Park, Houston, TX 77004 [65]

**David L. Willey**, Botany School, University of Cambridge, Cambridge CB2 3EA, England [163]

**Monica Zoppè**, Istituto Biosintesi Vegetali, CNR, 20133 Milano, Italy [359]

## Preface

This volume reflects much of what happened during a very enjoyable week at the ARCO Plant Cell Research Institute-UCLA Symposium on **Plant Membranes: Structure, Function, Biogenesis**. The meeting was held at Park City, Utah from February 8-13, 1987. Researchers with disparate backgrounds studying a wide variety of problems related to plant membranes and using diverse approaches were brought together for the first time. There were 27 speakers, and participants from 11 countries.

Exciting progress is being made on several fronts, such as secretion and the biosynthesis, targeting and transport of proteins into the chloroplast and mitochondria. It was apparent how poorly we understand the structure, function and dynamics of plant membranes. The approaches taken by Kenneth Miller will help resolve the organization of proteins in the membrane, and the ultra-rapid freezing technique employed by Andrew Staehelin demonstrated impressively the dynamic process of plasma membranes during secretion. To understand how biological, environmental or chemical signals are perceived and transduced by plant cells, it is clear we need to identify membrane proteins as well as their specific functions. For example, the physiological and biochemical information from Roland Douce and colleagues on plant mitochondria will provide clues regarding the molecular basis for cytoplasmic male-sterile corn (C. Leaver). The mutational approach taken by C. Somerville and J. Williams will continue to be powerful methods. Several of the speakers chose not to contribute to this volume since much of their data were, or soon would appear, in print.

We wish to thank ARCO Plant Cell Research Institute for sponsoring this meeting. Additional gifts were received from E.I. du Pont de Nemours & Company, and Calgene Inc. To the contributors of the volume, we thank you for a job well done. We especially acknowledge J. Eugene Fox (formerly of ARCO Plant Cell Research Institute) for helping to bring this diverse group together. To the UCLA Symposia staff, thank you for the expert help and patience in transatlantic coordination.

**Heven Sze  
Christopher Leaver**

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# **I. STRUCTURE AND FUNCTION OF ENERGY TRANSDUCING MEMBRANES**



