

BIOGRAPHICAL MEMOIRS

63

Biogr. Mem. Fell. R. Soc. 2017 **63**, 1-583, published 1 December 2017

Email alerting service

Receive free email alerts when new articles cite this article - sign up in the box at the top right-hand corner of the article or click [here](#)

To subscribe to *Biogr. Mem. Fell. R. Soc.*, go to:
<http://rsbm.royalsocietypublishing.org/subscriptions>

BIOGRAPHICAL MEMOIRS
OF FELLOWS
OF THE ROYAL SOCIETY

VOLUME 63

BIOGRAPHICAL MEMOIRS
OF FELLOWS
OF THE ROYAL SOCIETY

2017
VOLUME 63

Published by the Royal Society
6–9 Carlton House Terrace
London SW1Y 5AG

The Royal Society is a Registered Charity (No. 207043)

Published December 2017

Editor: Professor Malcolm Longair

Editorial Board

Professor Tim Birkhead	Professor David Garner	Professor Jeremy Sanders
Professor Keith Browning	Professor Allen Hill	Professor Elizabeth Simpson
Professor David Buckingham	Professor James Jackson	Professor Claudio Stern
Professor Christopher Calladine	Professor Martin Johnson	Professor Ian Stewart
Professor Martin Campbell-Kelly	Professor Steve Jones	Professor Trevor Stuart
Professor John Coates	Professor Bruce Joyce	Professor Tilli Tansey
Dr Peter Collins	Professor Eric B. Keverne	Sir John Meurig Thomas
Professor John Dainton	Professor Brian Launder	Professor Denis Weaire
Professor Dianne Edwards	Professor David Lilley	Professor Bryan Webber
Ms Georgina Ferry	Professor Leon Mestel	Professor Robin Weiss

Commissioning editor: Helen Eaton

Production editor: Kelly Mulroue

Fellowship records and archives: Keith Moore

Picture curator: Katherine Marshall

Typeset by Nova Techset Private Limited, Bengaluru and Chennai, India

Printed by Henry Ling Limited, The Dorset Press, Dorchester

The Royal Society makes all reasonable efforts to obtain necessary permissions for the use of images that are copyright material. If you are the copyright owner of any images reproduced within any volume of *Biographical Memoirs* (or its forerunner, *Obituary Notices*) and are uncertain as to whether we hold your up-to-date contact information, please contact The Librarian, Library and Information Services of the Royal Society (email: library@royalsociety.org).

ISBN: 978-1-78252-289-8

ISSN: 0080-4606

Copyright

This publication is © 2017 The Royal Society

Except as otherwise permitted under the Copyright, Designs and Patents Act, 1988, this publication may only be reproduced, stored or transmitted, in any form or by any means, with the prior permission in writing of the publisher, or, in the case of reprographic reproduction, in accordance with the terms of a licence issued by the Copyright Licensing Agency. In particular, the Society permits the making of a single photocopy of an article from this issue (under Sections 29 and 38 of the Act) for an individual for the purposes of research or private study.

CONTENTS

	PAGE
EDITORIAL	
by Malcolm Longair CBE FRS FRSE	1
ANATOLE ABRAGAM	
by Maurice Goldman	7
DANIEL JOSEPH BRADLEY	
by J. Roy Taylor	23
GEOFFREY RONALD BURBIDGE	
by Malcolm Longair CBE FRS FRSE and Martin Rees OM FRS FREng FMedSci	55
SIR PAUL TERENCE CALLAGHAN PCNZM	
by Michael J. Kelly FRS FREng	79
DAVID EDGAR CARTWRIGHT	
by David J. Webb	99
MALCOLM HAROLD CHISHOLM	
by Richard J. Puddephatt OC FRS	117
ROGER ARTHUR COWLEY	
by Robert J. Birgeneau FRS	137
FRANCIS HARRY COMPTON CRICK OM	
by Mark S. Bretscher FRS and Graeme Mitchison	159
ALAN DAVISON	
by Malcolm L. H. Green FRS, Christopher C. Cummins and James F. Kronauge	197
JOHN HILTON EDWARDS	
by Malcolm A. Ferguson-Smith FRS	215
SIR SAM EDWARDS	
by Mark Warner FRS	243
FREDERICK GERARD FRIEDLANDER	
by D. E. Edmunds, L. E. Fraenkel FRS and M. Pemberton	273
HUGH ESMOR HUXLEY MBE	
by Kenneth C. Holmes FRS and Alan Weeds	309

	PAGE
FRANÇOIS JACOB by Michel Morange	345
LISA JARDINE CBE by Michael Hunter FBA	363
DAVID STEWART JENKINSON by David Powlson and Phil Brookes	377
SIR HAROLD WALTER KROTO by Anthony C. Legon FRS	413
SIR DAVID JOHN CAMERON MACKAY by Malcolm Longair CBE FRS FRSE and Michael Cates FRS FRSE	443
JOHN NORMAN MURRELL by Sir David C. Clary FRS, Anthony J. Stace FRS and Jonathan Tennyson FRS	467
KLAUS FRIEDRICH ROTH by Sir William Chen and Robert Vaughan FRS	487
EDWARD CHARLES SLATER by Piet Borst	527
EDWIN SMITH by Frederick Michael Burdekin OBE FRS FREng and John Frederick Knott OBE FRS FREng	553
DUDLEY HOWARD WILLIAMS by Jeremy K. M. Sanders CBE FRS and Dame Carol V. Robinson DBE FMedSci FRS	567