### THE ROYAL SOCIETY OF VICTORIA

### 2011

President	PROFESSOR LYNNE SELWOOD, MSC, PHD	
Vice-President	DR P.G. THORNE, BSC, PHD, DIPPUBPOL, HONDENG(MELB), FACS	
Immediate Past President	PROFESSOR G.D. BURROWS AO, KCSJ, BSC, MB, CHB, DPM, MD, FRANZCP, RCPSYCH, MRACMA, DIPMHLTHSC(CLINHYP), FACHAM, DSC	
Honorary Secretary	DR W.D. BIRCH AM, BSc(Hons), PHD	
Honorary Treasurer	MR N.P. KENNEDY, BENG(COMMUN), MSC(COMP)	
Honorary Librarian	Dr T.A. Darragh, PhD	
Honorary Editor	Dr M. Familari, BSc(Hons), PHD	
Honorary Archivist	Dr D.A. McCann, DipAppChem, DipEd, GradDipLib, MEnvSc, PhD	
Honorary Research Secretary	PROFESSOR S.M. REES, BSC(HONS), MSC, MPHIL, PHD, DSC	

The above Office bearers are ex officio members of the Council of the Society.

Other members of the Council are: DR M.J. ACKLAND, MBBS,MPH FAFPHM DR D.M. CHURCHILL, BSC, MA, APAA, PHD MRS H.J. GARDINER, BA, DIPED PROFESSOR P.Y. LADIGES AO, FAA, PHD, MSC, DIPED DR D. LIGHTFOOT, PHD LT COL R.M. LIGHTFOOT, LLB, LLM, DIPCIVENG, DIPELECENG, DIPMECHENG, BEMINING (HONS), RFD, FIEAUST PROFESSOR J.M. LOVERING AO, FAA, FTSE, FGSAUS, FGSAMERICA, FRSV DR J.L. MCBRIDE, BSC(HONS), DIPMETEOR, MSC, PHD DR M. WILLIAMS, BSC, MSC, PHD MRS N.H. WILLIAMS, BSC, DIPED, MSC, FRACI

*Executive Officer* Dr R.O. Stanley, BSc(Hons), BSc(Hons), DCLINPSYCH, PhD

Honorary Auditor	D. HINDLE, CHARTERED ACCOUNTANT
Trustees	DR D.M. CHURCHILL, BSC, MA, APAA, PHD Professor J.W. Warren, MA, PHD



## PROCEEDINGS

### AND

## TRANSACTIONS

OF

# THE ROYAL SOCIETY OF VICTORIA

Volume 123 NUMBER 1

SPECIAL CENTENARY ANNIVERSARY SYMPOSIUM ISSUE

COMMEMORATING

### GEORG VON NEUMAYER HIS AUSTRALIAN, GERMAN AND POLAR SCIENTIFIC ACHIEVEMENTS AND LEGACIES

Managing Editor ANNE M. MORTON

9 VICTORIA STREET, MELBOURNE, VICTORIA 3000, AUSTRALIA

This symposium was sponsored by



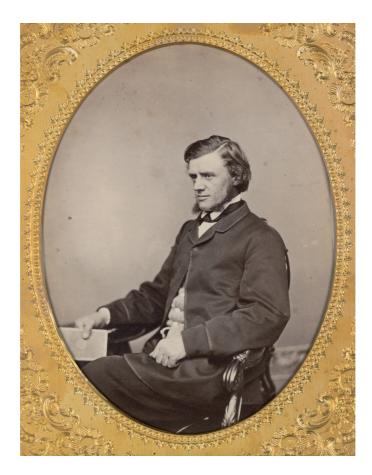
Published by the Royal Society of Victoria ABN 62 145 872 663 9 Victoria St Melbourne, Victoria, 3000, Australia Tel: +61 3 9663 5259 Fax: +61 3 9663 2301 Email: rsv@sciencevictoria.org.au Web: www.sciencevictoria.org.au

Printed by BPA Print Group

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the Royal Society of Victoria.

© The Royal Society of Victoria Incorporated, 2011

ISSN 0035-9211



**Professor Georg von Neumayer** *Frederick Frith*, photograph Latrobe Collection, State Library of Victoria

#### EDITORIAL POLICY

The Society disseminates new scientific knowledge and encourages scientific debate through the medium of its international journal *Proceedings of The Royal Society of Victoria.* 

Each volume of the *Proceedings* may consist of two sections:

The 'Proceedings' proper consists of peer reviewed contributions. Each contribution is reviewed by two reviewers and, in the cases of widely divergent reviewer opinions, a third reviewer may be consulted. The editor's decision, through the Editorial Committee, as to the acceptance or rejection of a submitted or reviewed contribution, is final.

The 'Transactions' of the Society consists of unreviewed items of scientific interest such as occasional addresses, articles of debate or discussion or other contributions deemed appropriate by the editor and in the public's interest. The responsibility of the content of such contributions rests solely with the author.

The Society invites contributions for the *Proceedings* from authors across the various disciplines of the physical and natural sciences and on issues concerning technology and the applied sciences.

Honorary Editor: Mary Familari Managing Editor: Anne M. Morton

### CONTENTS OF VOLUME 123, NUMBER 1\*

#### FOREWORD

DAVID M. DODD The Georg von Neumayer Anniversary Symposium	vi
GRAHAM BURROWS Welcome Address	viii
TRANSACTIONS	
R.W. HOME Neumayer, Humboldt and the search for a global physics	2
PATRICK QUILTY Neumayer in Australia: his scientific legacy	11
RICHARD GILLESPIE Georg Neumayer and Melbourne Observatory: an institutional legacy	19
WOLFGANG KUSCH, REINHOLD ZÖLLNER & FRANK-ULRICH DENTLER Georg von Neumayer: his influence on marine meteorology in the German Meteorological Service	27
Cornelia Lüdecke Neumayer's impact on meteorology in Germany	35
DOUGLAS MORRISON Georg Neumayer's magnetic survey of the colony of Victoria 1858–1864	48
Charles Barton, Doug Morrison & Adrian Hitchman Georg von Neumayer's legacy in geomagnetism	62
JOHN ZILLMAN Von Neumayer and the origins of Australian and international meteorology	70
MARK WILLIAMS The von Neumayer legacy in Australian meteorology	78
DETLEV MACHOCZEK Georg Balthasar von Neumayer: marine sciences in service of sea trade	83
NEVILLE SMITH Australian oceanography today (abstract only)	94
REINHARD KRAUSE Neumayer's ambitions for polar research and his role in the establishment of the first International Polar Year 1882–83	95
IAN ALLISON The State of Polar Research after the International Polar Year 2007–2008 (abstract only)	116
JÖRN THIEDE Georg von Neumayer and his traces in Germany	117
JOHN ZILLMAN Von Neumayer's place in history a century on: closing remarks at the anniversary symposium	123
APPENDICES	125

\*Arabic page numbering has been used throughtout as this special issue consists entirely of Transactions