



Editor:

David Baker, PhD, BSc, FBIS, FRHS

Sub-editor:

Ann Page

Production Assistant:

Ben Jones

Spaceflight Promotion:

Gillian Norman

Spaceflight

Arthur C. Clarke House,
27/29 South Lambeth Road,
London, SW8 1SZ, England.

Tel: +44 (0)20 7735 3160

Fax: +44 (0)20 7582 7167

Email: spaceflight@bis-space.com

www.bis-space.com

ADVERTISING

Tel: +44 (0)1424 883401

Email: d.baker146@btinternet.com

DISTRIBUTION

Spaceflight may be received worldwide by mail through membership of the British Interplanetary Society. Details including Library subscriptions are available from the above address.

* * *

Spaceflight is obtainable from UK newsagents and other retail outlets in many countries.

In the event of difficulty contact: Warners Group Distribution, The Maltings, Manor Lane, Bourne, Lincolnshire PE10 9PH, England.

Tel: +44 (0)1778 391 000

Fax: +44 (0)1778 393 668

* * *

Spaceflight is a publication which promotes the mission of The British Interplanetary Society. Opinions in signed articles are those of the contributors and do not necessarily reflect the views of the Editor or the Council of the British Interplanetary Society.

* * *

Back issues of *Spaceflight* are available from the Society. For details of issues and prices go to www.bis-space.com or send an sae to the address at top.

* * *

Published monthly by the British Interplanetary Society. Registered Company No: 402498. Registered Charity No: 250556. Printed in the UK by Latimer Trend & Company Ltd.

* * *

Copyright © British Interplanetary Society 2016 ISSN 0038-6340. All rights reserved. No part of this magazine may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying or recording by any information storage or retrieval system without written permission from the Publishers. Photocopying permitted by license only.

* * *

The British Interplanetary Society is a company limited by guarantee.

Mission

The British Interplanetary Society promotes the exploration and use of space for the benefit of humanity, by connecting people to create, educate and inspire, and advance knowledge in all aspects of astronautics.

Published by the British Interplanetary Society

Volume 58 No. 9 September 2016

**331-333 The RAF's Thor Sites**

John Boyes follows up his latest book on the British deployment of the Thor missile with a summary of the choices available supporting a deployment which was at best a short-lived political move.

**334-335 ESA head aims for innovation**

David Todd interviewed ESA Director-General Johann-Dietrich Woerner to seek his views on a range of critical issues as a challenging period ahead brings questions concerning direction and future policy.

**336-341 Humans in Space and Chemical Risks to Health**

A government expert on health issues, Dr John R. Cain explores the many ways in which future space explorers should manage health risk and about the chemical cocktails that could threaten life.

**342-343 Peake reflections**

On returning to Europe after his historic six-months in space between December 2015 and June 2016, UK astronaut Tim Peake speaks about his memorable stay aboard the ISS.

**344-347 BRICS in Space**

Spaceflight contributor Gurbir Singh reports on a unique and progressive organisation which brings together a group of space-faring countries to pool assets for civilian applications and asks whether this could be a model for the future.

Regular Features

324-326 News Analysis – JUNO at Jupiter

326 A Letter from the Editor

327 Briefing notes – news shorts from around the world

328-330 ISS Report – 15 June-16 July 2016

348-350 Satellite Digest – 524 June 2016

351 Obituaries – Hartmut Sänger – Harry Oskar Ruppe – Hervé Moulin

352-353 Flashback – A regular feature looking back 50 years ago this month

354-355 Correspondence – Rocket Planes – An appreciation – For humanity – Site survey

356 Society News – With gratitude

358 What's On

Cover image: NASA astronaut Michael Fincke wears a Russian Orlan space suit during a spacewalk in August 2004. Exploring space will bring hazards completely different to anything experienced before (see pages 336-341).

NASA