



**How to build your own spaceship**

Piers Bizony, Portobello

Books, 2008, 245pp, £12.99, (HB), ISBN 978 1 84627 125 0

After five decades of state-funded space exploration it would seem that private spaceflight is on the verge of realisation.

This popular science book is an overview of mankind's 21st Century foray into space travel, equipping the reader with all the information he or she will need to join the space race themselves.

Whether it is by signing up as a passenger or by becoming an investor, the author Piers Bizony opens up the space tourist business to demonstrate just how possible it is to get involved.

His claim that one day soon we could all have the opportunity to experience weightlessness and look down on our planet may seem a little premature.

As the book was written before the impacts of the global 'credit crisis' one is left to ponder whether this will ultimately have any effect on the growth of the fledgling space tourism industry. Nevertheless it is an interesting read.

Clive Simpson

**SpaceShipOne: An Illustrated History**



Dan Linehan, MBI Publishing

Company, 2008, 160pp, £25.00 (US\$34.95), (HB), ISBN 9780 760 331880

Packed with more than 230 photos, diagrams, flight logs, and interviews with the individuals who made air and space history happen, *SpaceShipOne: An Illustrated History* provides the full scope of drama behind the achievement of a true aviation milestone.

It chronicles the development of the world's first commercial manned space programme. From conception and design to the deals that brought together scaled composites' Burt Rutan and Virgin's Sir Richard Branson with their plans

to build a fleet of commercial suborbital spaceships.

*SpaceShipOne* was the first of a new breed of spaceship, ushering in a sub-orbital personal spaceflight industry that will soon take 21st Century tourists to the final frontier.



**Space enterprise: living & working offworld in the 21st Century**

Philip Robert Harris, Springer-Praxis, 2008, 672pp, £20.50, (PB), ISBN 978 0 387 77639 2, www.praxis-publishing.co.uk

The effects of the migration of humans to other worlds are difficult to predict but they will unquestionably be accompanied by advances in every purposeful field of human endeavour.

Projects such as the International Space Station are already bridging ideological and geographical boundaries as countries work together to form a coherent and rational strategy.

Now there is a growing demand for practical guidance on how space exploration can be useful to humankind - and how human factors will affect the planned industrialisation and settlement of space.

This book focuses upon aspects of human behaviour, culture, man/machine interfaces, organisation, performance and governance when functioning in the unique space environment.

It explores the commercial, legal and political issues of space exploration, and introduces a scheme for the utilisation of space technology and resources for the benefit of the human race.

Fully illustrated - and with case studies illuminating the text - the author identifies and examines the many challenges of future space exploration and development.

For readers interested in understanding the origins and future directions of humankind as an emerging spacefaring species, this is an important book and a must-read for space planners, engineers, entrepreneurs and students.

Clive Simpson



**Space in Miniature: Apollo Command and Service Module & Apollo Lunar Module**

Michael J. Mackowski, available direct from Michael J. Mackowski, 1022 W. Juanita Avenue, Gilbert, Arizona AZ 85233, USA, or www.spaceinminiature.com SIM#7 costs US\$12, plus p&p, and SIM#6 is US\$14

*Space in Miniature* is a series of books written and compiled by Mike Mackowski. His main occupation is as an engineer in the aerospace industry, but he is also a well known spacecraft model-maker and these books are primarily intended for other modellers. They contain as many details as possible to improve the building of the many scale models of the craft that have been available over the years.

To this end there are detailed plans of all the flown Lunar Modules, (even Apollo 13), there being a perhaps surprising amount of difference between the patterns of gold, silver and black on many of the descent stages. However they are more than purely a model-making reference and should also be of interest to historians, and frankly anyone who is curious as to how this spindly device ever got us to the Moon - and back.

This is number seven in the series of books, number six being on the *Apollo Command and Service Modules*, so you can build up a complete reference library on the first craft that took man to the Moon. Also available are books on the Shuttle, Gemini, Mercury and the Soviet Space Programme. (A full list and availability is on his website - see above.) The books are large format, (about A4), in black and white, with soft covers, and the number of pages vary volume to volume, usually between 40 and 60.

Mat Irvine



**Exploding a Myth - Conventional Wisdom or Scientific Truth?**

Jeremy Dunning-Davies, Horwood Publishing Ltd, 2007, 256pp, £22.00, (PB), ISBN 9781 904 275305

Are all scientists really candid about their researches, or are they sometimes swayed by considerations which are definitely not in the true spirit of science? It may well be so, and in this book Professor Dunning-Davies, a distinguished academic, asks some questions that certainly need answering.

Sir Patrick Moore, CBE, FRS

**Planet Zebidee**



Mike Nicholls (*Zebidee*), Music CD 2008, £8.75 (UK), www.zebidee.net

Compared with Earth, Zebidee was a late bloomer. Orbiting its parent star on the outer edge of the goldilocks zone for billions of years, life never evolved beyond microbial organisms deep in the icy oceans, taking sustenance from the planet's internal heat.

As the millennia passed Zebidee's sun warmed and expanded, ushering in a new age. Life soon swarmed through the oceans, eventually taking to the land and the air. In time an ecosystem developed to rival that of earth.

At the time this story begins Zebidee is a complex and beautiful place. Swathes of clouds trap the energy of its pink sun, now grown warmer with age.

Orbiting the planet is a human artefact. An interstellar probe. Sleeping through the hundred year journey from earth it now awakes. Robotic eyes open and survey the pink misty ball floating in the blackness.

Inspired by an interest in science fiction and the latest discoveries in astronomy, this

CD is what one might call a 'soundtrack to an alien planet', telling the musical story of an unmanned explorer's journey to a mythical planet.

*Planet Zebidee* is the debut album from Mike Nicholls, a session musician who has worked in the music industry for 20 years.

His electronica sound might be a little too 'alien' for some *Spaceflight* readers but nevertheless it takes the listener on an interesting and thought-provoking journey. If in doubt sample tracks on the website before you buy.

Clive Simpson



## SuperStructures in Space

Michael H. Gorn, Merrell Publishers, 2008, 192pp, £24.95, (HB), ISBN 9781 858 944173

Since the launch of Sputnik 1 in 1957, hundreds of spacecraft - from satellites and probes to space stations - have ventured beyond Earth's atmosphere to orbit the globe, fly to other planets, peer into the depths of the universe, or encounter comets or asteroids.

Many of these spacecraft, including the Space Shuttle, the Hubble space telescope and the Mars exploration rovers, have become household names. With China, Russia and the US all investing in new and ambitious projects, the next generation of spacecraft looks set to take humans back to the Moon and points beyond.

*SuperStructures in Space* presents pictorially the world's most significant and fascinating spacecraft. It reveals in depth the full and exciting story behind each craft, its origins and development, its designers and manufacturers, and its launch objectives.

In particular this book concentrates on civil space programmes and looks in detail at four specific areas of interest - human spaceflight, Earth observation, exploring the solar system and exploring the universe.

## Hubble - the mirrors on the universe



Robin Kerrod & Carole Stott, David and Charles, 2008, 192pp, £12.99, (PB), ISBN-13: 978 0 7153 2923 8

For many of us, whether we are lifelong astronomers, scientists or fans of science fiction, the Hubble Space Telescope is a surrogate starship that transports us across the universe.

Imagery from Hubble has given flight to our imaginations and creativity so this beautifully presented book, with an informative narrative, will appeal to many. It features 300 of Hubble's best images, including more than 80 new, full-colour photographs.

Actually, this is an updated version of the original book which was first published in 2003 - but don't let that put you off. And, of course, it would also make an ideal and inspirational Christmas gift for younger members of your family.

Clive Simpson



## A Sumerian Observation of the Kofels' Impact Event

Alan Bond and Mark Hemsell, Alcuin Academics, 2008, 113pp, £12.99, ISBN 1904623646

This monograph is the result of several years' research by the authors which began with an examination into the possibility that the Kofels site in Austria might be an impact site. The investigation took on a different and important turn when it became apparent that a Sumerian tablet, called a 'Planisphere' in the British Museum, could be a recording of an observation of the object which caused the Kofels impact.

By combining a detailed analysis of the tablet with modern software tools the conclusion is reached that a near Earth object was responsible for the Kofels

event and that indeed there is a very strong probability that the Sumerian tablet does describe this event.

The monograph has a systematic approach which gives an analysis of methods and assumptions. The various parts of the tablet are considered in detail, timing and date determination is discussed, and an analysis of the orbit, trajectory, impact and plume of the object is presented.

This work makes very interesting reading and is written in a manner which unwinds as a fascinating detective story. It is an excellent example of a multi-disciplinary approach to a scientific problem and has the rare quality of being comprehensible to a wide range of interests both professional and amateur.

Andrew Chatwin

## Secrets of the Hoary Deep



Riccardo Giacconi, John Hopkins University Press, 2008, 415pp, £30.00, US\$45.00 (HB), ISBN 9780 801 88090

Part history, part memoir and part cutting-edge science, *Secrets of the Hoary Deep* is the tale of x-ray astronomy from its infancy through what can only be called its early adulthood. It also offers the companion story of how the tools, techniques and practices designed to support and develop x-ray astronomy were transferred to optical, infrared and radio astronomy, drastically altering the face of modern space exploration.

From the first Earth orbiting x-ray satellite to the opening of the Space Telescope Science Institute, the lift-off of the Hubble Space Telescope to the construction of the Very Large Telescope, this book recounts the ways in which the management methods and scientific methodology behind successful astronomy projects came to set the standards of operations for all subsequent space and Earth-based observatories.

## Essentials of Scientific Computing



Victor Zalizniak, Horwood Publishing, 2008, 220pp, £47.00 (PB), ISBN 9781 904 275329

This book covers the basic ideas of different numerical techniques and the interrelation between them, including iterative process, extrapolation and matrix factorization. Practical implementations of the methods shown are explained clearly and concisely through numerous examples, considering a variety of methods for each type of problem.

Appendices contain information on the nodes and weights of Gaussian type quadratures, transformations of some integration domains and stability regions for various schemes for ODE. An introduction to MATLAB is included, together with a brief overview of modern software widely used in scientific computations. Although intended for use on a numerical methods course for engineering and science students, this text will also be invaluable to research students as a handbook on numerical techniques.

## Extrasolar Planets



Edited by Hans J Deeg et al, Cambridge University Press, 2008, 282pp, £75.00, ISBN 9780 521 868082

This volume presents the lectures from the 16th Canary Island Winter School, which was dedicated to extrasolar planets. It covers a wide range of issues involved in extrasolar planet research, from observational techniques used to detect extrasolar planets, to the characterisations of these planets, and the techniques used in the remote detection of life. This book presents insights we can gain from our own solar system, and how we can apply them to the research of planets in other stellar systems.