



nature publishing group

► **COVER:** 'All you need is LOV' by Philip Patenall, inspired by the Review on p713.



CHRISTIAAN VAN OOIJ



SHEILAGH MOLLOY



ANDREW JERMY



CESAR SANCHEZ



RACHEL DAVID



JOANNA HUDDLESTON

The contrast between light and dark is a powerful metaphor in art and literature, and this contrast is no less relevant to the field of microbiology. As well as being an energy source, light is a very important signal that can provide valuable information about an organism's position within a niche and its environment. On page 713, Herrou and Crosson describe recent advances in our understanding of how bacteria sense blue photons through the flavin-binding photosensors known as LOV domain proteins. They discuss insights into the mechanisms by which light can regulate the activity of LOV proteins, and how these proteins may be useful for protein-engineering applications.

Turning to a darker place, we now realize that the diversity and prevalence of life on the ocean floor and in the oceanic crust is far greater than we had originally imagined. On page 703, Edwards and colleagues describe the recent advances that have been made in understanding the diversity of microbial populations in this environment, and discuss the technological advances that have allowed us to sample the sea floor at depths of around 4 km below the ocean surface and even within the igneous crust itself.

Light and dark is also frequently used as a metaphor for good and bad. On page 737, Sudbery describes our current understanding of the pathways that control the transition of *Candida albicans* between the more benign yeast form and the disease-linked hyphal form. *C. albicans* is often a benign member of mucosal flora, but it can cause life-threatening diseases. Although the question of whether the hyphal form is absolutely required for virulence remains open, the hyphal form has important roles in virulence, as it is this form that invades epithelial and endothelial cells and causes tissue damage.

EDITORIAL OFFICES

LONDON NatureReviews@nature.com
The Macmillan Building, 4 Crinan Street,
London N1 9XW, UK
Tel: +44 (0)20 7843 3620;
Fax: +44 (0)20 7843 3629

CHIEF EDITOR: Christiaan van Ooij
SENIOR EDITORS: Sheilagh Molloy, Andrew Jermy

ASSOCIATE EDITOR: Cesar Sanchez

ASSISTANT EDITORS: Rachel David,
Joanna Huddleston

SENIOR COPY EDITOR (NRMICRO):
Lucie Wootton

SENIOR COPY EDITORS: Yukie Ozawa,
Catriona Rodwell, Man Tsuey Tse

COPY EDITING MANAGER: Lewis Packwood

ART EDITOR: Philip Patenall

ART CONTROLLER: Susanne Harris

SENIOR ART EDITORS: Vicky Summersby,
Patrick Morgan, Kirsten Lee

MANAGING PRODUCTION EDITOR:
Judith Shadwell

SENIOR PRODUCTION EDITOR: Simon Fenwick

PRODUCTION CONTROLLER: Natalie Smith
SENIOR EDITORIAL ASSISTANT: Laura Corns
EDITORIAL ASSISTANT: Ella Lines
WEB PRODUCTION MANAGER: Deborah Anthony
MARKETING MANAGERS: Tim Redding,
Leah Rodriguez

MANAGEMENT OFFICES

LONDON nature@nature.com
The Macmillan Building, 4 Crinan Street,
London N1 9XW, UK
Tel: +44 (0)20 7833 4000;
Fax: +44 (0)20 7843 4596/7

OFFICE MANAGER: Laura Lee

PUBLISHER: James Butcher

MANAGING DIRECTOR:

Steven Inchcoombe

EDITOR-IN-CHIEF, NATURE PUBLICATIONS:

Philip Campbell

ASSOCIATE DIRECTORS: Jenny Henderson,

Dominic Pettit

EDITORIAL PRODUCTION DIRECTOR:

James McQuat

PRODUCTION DIRECTOR:

Yvonne Strong

DIRECTOR, WEB PUBLISHING:

Dan Pollock

HEAD OF WEB PRODUCTION:

Alexander Thurrell

NEW YORK nature@natureny.com

Nature Publishing Group,
75 Varick Street, 9th floor, New York,
NY 10013-1917, USA
Tel: +1 212 726 9200;
Fax: +1 212 696 9006

CHIEF TECHNOLOGY OFFICER:

Howard Ratner

HEAD OF INTERNAL SYSTEMS DEVELOPMENT:

Anthony Barrera

HEAD OF SOFTWARE SERVICES:

Luigi Squillante

GLOBAL HEAD OF ADVERTISING AND

SPONSORSHIP: Dean Sanderson

HEAD OF NATURE RESEARCH & REVIEWS

MARKETING: Sara Girard

TOKYO nature@natureasia.com

Chiyoda Building 5F, 2-37-1 Ichigayatamachi,
Shinjuku-ku, Tokyo 162-0843, Japan
Tel: +81 3 3267 8751; Fax: +81 3 3267 8746

ASIA-PACIFIC PUBLISHER: Antoine E. Bocquet
MANAGER: Koichi Nakamura

ASIA-PACIFIC SALES DIRECTOR:

Kate Yoneyama

SENIOR MARKETING MANAGER:

Peter Yoshihara

MARKETING/PRODUCTION MANAGER:

Takesh Murakami

INDIA SA/12 Ansari Road, Daryaganj,

New Delhi 110 002, India

Tel/Fax: +91 11 2324 4186

SALES AND MARKETING MANAGER, INDIA:

Harpal Singh Gill

Copyright © 2011 Nature Publishing Group

Research Highlight images courtesy of

Getty Images unless otherwise credited.

Printed in Wales by Cambrian Printers

on acid-free paper