Optics & Photonics News

September 2011 | Vol. 22 No. 9 An OSA Member Benefit

Integrated
Photonics Research

in CHINA

研究学成

Light and Color in Nature The Green Laser Diode

FEATURES | CONTENTS

OPN September 2011 Vol. 22, No. 9

China's number of conference proceedings and journal articles related to integrated photonics is consistently the highest in Asia and second only to the United States.

[COVER STORY]

22 Integrated Photonics Research in China

Chinese researchers already have a decades-long history of making key contributions to integrated photonics research. Now, with a growing number of research groups and unprecedented government backing, the country is poised to take a leading role in this exciting area, which is a critical driver of global communications technology.

Andrew W. Poon, Linjie Zhou, Jianping Chen, Yong-Zhen Huang, Jinzhong Yu, Jian-Jun He and Hon K. Tsang

30 Light and Color in Nature: A Return to Optics' Roots

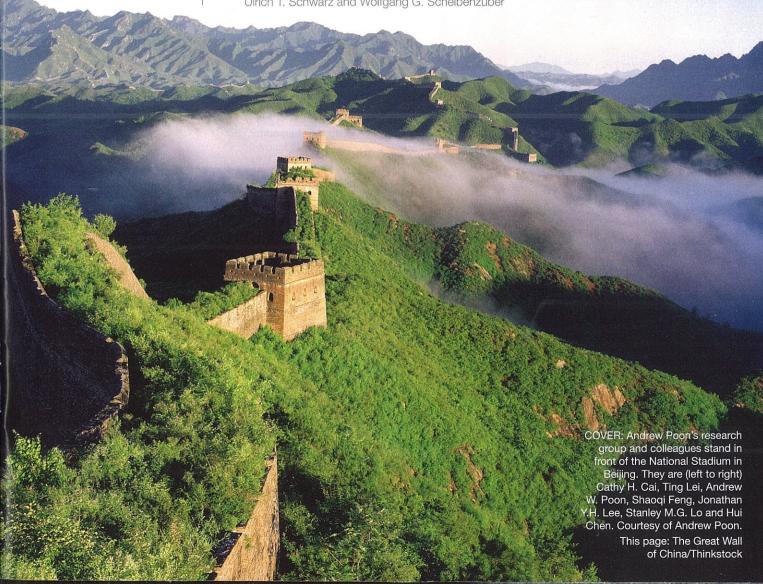
Past OSA President Bob Greenler and OSA Fellow Dave Lynch describe a remarkable conference series in which scientists gather to explore beautiful naked-eye phenomena in the world around us.

Robert Greenler and David K. Lynch

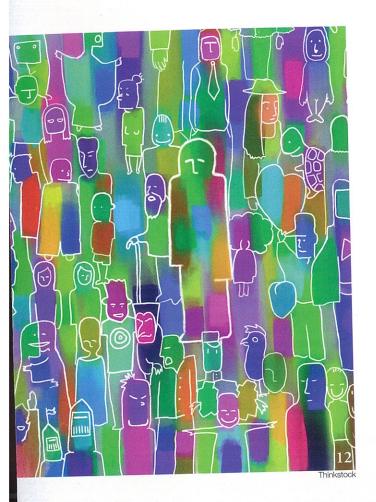
38 The Green Laser Diode: Completing the Rainbow

Traditionally, green laser diodes have been difficult to construct due to the characteristics of the quantum wells that serve as their gain region. Now, however, several companies and research groups have found ways to fill this "green gap," by mastering the epitaxy of high-indium-containing quantum wells, balancing strain and defect formation against the quantum-confined Stark effect and using optimized waveguides. Their work is driving new applications in consumer electronics, biophotonics and other areas.

Ulrich T. Schwarz and Wolfgang G. Scheibenzuber



CONTENTS | DEPARTMENTS



- 4 President's Message
- Letters
- 52 Book Reviews
- 54 Marketplace
- 56 After Image

6 Scatterings

Single laser powers record data-transfer rate over fiber; broadband terahertz cloaking at CLEO:2011; detecting skin cancer in place; graphene oxide oxidation increases transparency.

Patricia Daukantas and Yvonne Carts-Powell

10 Career Focus

Managing a research group. Jean-luc Doumont

12 Reflections in Diversity

Promoting diversity in optics: A column is born. Ursula Keller and Anthony Johnson

14 Viewpoint

Congressional Fellows discuss supporting U.S. science education and building public trust in science.

16 Conversations in Optics

OPN talks with Sir John Pendry, metamaterials pioneer and Frontiers in Optics keynote speaker.

18 Global Optics

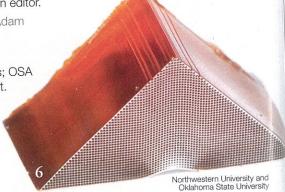
Optics shine in Wuhan, China. Barry R. Masters

20 The History of OSA

Memories of an editor. Keith B. MacAdam

46 OSA Today

Member news; OSA financial report.





OPN Optics & Photonics News (ISSN 1047-6938), Vol. 22, No. 9 © 2011, Optical Society of America. OPN is published monthly except birmonthly July-August by the Optical Society of America, 2010 Massachusetts Ave., N.W., Washington, D.C. 20036; 202.223.8130; Fax 202.223.1096; Email opn@osa.org; Web www.osa-opn.org. OPN was Society of America, 2010 Massachusetts Ave., N.W., Washington, D.C. 20036; 202.223.8130; Fax 202.223.1096; Email opn@osa.org; Web www.osa-opn.org. OPN was Society of America, 2010 Massachusetts Ave., N.W., Washington, D.C. 20036; 202.223.8130; Fax 202.223.1096; Email opn@osa.org; Web www.osa-opn.org. OPN was Society of America, 2010 Massachusetts Ave., N.W., Washington, D.C. 20036; 202.223.8130; Fax 202.223.1096; Email opn@osa.org; Web www.osa-opn.org. OPN was Society of America, 2010 Massachusetts Ave., N.W., Washington, D.C. 20036; 202.223.8130; Fax 202.223.1096; Email opn@osa.org; Web www.osa-opn.org. OPN was Society of America, 2011 normember and ibrary subscription rates (domestic): a publication in scientific works with the customary acknowledgment of the name of the publication, page, year and name of the Society, Reproduction of figures and tables is likewise permitted in other articles and books provided that the customary acknowledgment of the name of the publication is given to the Optical Society of America. 2011 normember and library subscription rates (domestic): \$100/year. Membership in the Optical Society of America. 2011 normember and library subscription rates (domestic): \$100/year. Membership in the Optical Society of America. 2011 normember and library subscription rates (domestic): \$100/year. Membership in the Optical Society of America. 2011 normember and library subscription rates (domestic): \$100/year. Membership in the Optical Society of America. 2011 normember and library subscription rates (domestic): \$100/year. Membership in the Optical Society of America. 2011 normember and library subscription rates (domestic): \$100/year. Membership in the Optical Society of America