



A curious paradox faces modern science. Scientists are specializing more than ever before within their fields of research but some of the greatest progress is being made by those who bridge fields using a cross-fertilization of ideas.

Particle physics and cosmology, for example, might appear to have divergent concerns: one looking ever smaller and the other with no larger field of view possible. But in recent years, we have found some very specific links between the large and the small, revealing fundamental truths about both, and showing that our understanding of the universe is far less complete than some of us had fooled ourselves into believing. Similarly, a combination of accelerator physics and biological science is revolutionizing the way we look at living organisms.

The important lesson to learn from these advances is that no field of science lives in its own universe. For science to play an effective role in society, it must make clear its interactions with other aspects of life, ranging from philosophy through policy to popular culture.

*symmetry* will explore the connections between particle physics and the rest of the world. The magazine originates from a very specialized endeavor—the world of particle physics—but recognizes that the field has important things to both teach and learn, and it does this in the spirit of collaboration. For instance, *symmetry* is a joint project of the two largest particle physics facilities in the United States, Fermi National Accelerator Laboratory and Stanford Linear Accelerator Center, each of which has evolved and expanded beyond its original accelerator focus. The field of particle physics realizes the importance of looking beyond its traditional boundaries and we at *symmetry* hope to share the excitement of this exploration.

We also hope to work in collaboration with our readers and encourage your contributions through letters, commentaries and opinion pieces, and suggestions for content that you feel is important for those inside and outside particle physics to share.

David Harris  
Editor-in-Chief

*Submit letters to the editor for publication via [letters@symmetrymagazine.org](mailto:letters@symmetrymagazine.org).*

**Symmetry**  
PO Box 500  
MS 206  
Batavia Illinois 60510  
USA  
  
630 840 3351 telephone  
630 840 8780 fax  
[www.symmetrymagazine.org](http://www.symmetrymagazine.org)  
[mail@symmetrymagazine.org](mailto:mail@symmetrymagazine.org)

(c) 2004 *symmetry* All rights reserved

*symmetry* is published 10 times per year by Fermi National Accelerator Laboratory and Stanford Linear Accelerator Center, funded by the US Department of Energy Office of Science.

# symmetry

**Editor-in-Chief**  
David Harris  
650 926 8580

**Executive Editor**  
Mike Perricone

**Managing Editor**  
Kurt Riesselmann

**Web Editor**  
Elizabeth Clements

**Staff Writers**  
Kate Metropolis  
Heather Rock Woods

**Interns**  
Jeb Burt  
Davide Castelvechi  
Alan Chou  
Shawne Neeper  
Katie Yurkewicz

**Publishers**  
Neil Calder, SLAC  
Judy Jackson, FNAL

**Contributing Editors**  
Roberta Antolini, LNGS  
Dominique Armand, IN2P3  
Peter Barratt, PPARC  
Bobbi Bowen, ANL  
Reid Edwards, LBNL  
Petra Folkerts, DESY  
Barbara Gallavotti, INFN  
James Gillies, CERN  
Silvia Giromini, LNF  
Jacky Hutchinson, RAL  
Youhei Morita, KEK  
Marcello Pavan, TRIUMF  
Mona Rowe, BNL  
Yuri Ryabov, IHEP Protvino  
Yves Sacquin, CEA-Saclay  
Boris Starchenko, JINR  
Maury Tigner, LEPP  
Tongzhou Xu, IHEP Beijing  
Linda Ware, JLab  
Jacques Visser, NIKHEF

**Print Design and Production**  
Sandbox Studio  
Chicago, Illinois

**Art Director**  
Michael Branigan

**Designers**  
Aaron Grant  
Sharon Oiga  
Matt Stone

**Design Assistant**  
Jared Grodt

**Web Design and Production**  
Xeno Media  
Hinsdale, Illinois

**Web Architect**  
Kevin Munday

**Web Design**  
Karen Acklin

**Web Programmer**  
Mike Acklin