Letter From the Deans - Issue 17

In this 17th issue of Convergence magazine, we explore research at UC Santa Barbara that goes beyond our familiar coastline of California to the farthest reaches of rural Africa, the frigid waters of Antarctica, and the outer limits of space. We look under the surface of what’s visible to illuminate the fringes of hacker culture and the microscopic world of bacteria.

Watch video interviews and listen to special Convergence podcasts, produced by Jai Ranganathan, which offer additional depth to the feature stories in this issue.

Our cover story ?Oceans of Change? takes the reader across many oceans—from Antarctica to the tropics—to dive into a study by scientists who are asking, “Will critical sea species be able to adapt to global ocean acidification, and how will this affect humans?” The study is the largest of its kind and an
impressive model of collaboration?forming a worldwide, multi-campus consortium between four UC campuses and other top research institutions, such as Scripps Oceanographic Institute.

In ?Bridging the Digital Divide[3],? we highlight the work of a collaborative team in engineering and media studies to bring new wireless internet technology to rural Africa. This project could have a significant impact on public health in these remote villages?and, in the future, any rural area?opening doors to education and working with the community to establish technology that will succeed in the long-term.

Our special fold-out story ?Dead Clever[4]? looks at the discovery of a strain of Salmonella enterica that uses a ?Trojan Horse? stealth mechanism to invade its hosts without detection while it replicates in a hypervirulent mode, and how it has helped researchers develop new vaccines that outsmart these clever bacteria. On the flip side, ?Second Life[5]? examines the work of materials researchers who have turned bioplastic food packaging into value-added chemicals. Their work is a promising innovation in materials that could help launch a new industry in harnessing the entire lifecycle of bioplastics.

This has been a tremendous year for physics and astrophysics in the public eye, and there is more happening at UCSB than we can fit in one issue. In ?Redshift into Focus[6],? astrophysicists are developing a new low resolution spectroscopy detector that returns spectra of billions of galaxies at a time, a thousand-fold leap above the current standard. This technology could quickly broaden our knowledge of entities in the Universe and our understanding of Dark Energy.

Earlier this year, in a historic moment for UCSB and the College of Engineering, Jeff and Judy Henley invested $50 million dollars this year to support the College and the Institute for Energy Efficiency. Dean Rod Alferness and John Bowers, Director of IEE, sat down with Henley to discuss the future of discovery and achievement at UCSB. Read ?Q&A: The Visionaries[7]? and watch the video interview with Henley.

There?s more exciting research to explore in this issue than ever, and new content every week at Convergence online. We hope you enjoy all that Convergence has to offer.

- Rod Alferness, Pierre Wiltzius, and David Awschalom, Fall 2012

Latest Issues

Tag Cloud

disease solid state lighting electromagnetic spectrum Mark Rodwell
astrophysics memory Computer Engineering biomedical stem cells LEGO robots
transistor photonics environment animals detection MOMA superconducting
electromagnets engineering Google herbarium biomolecular organic semiconductors Kavli Institute woman in mechanical engineering dinosaurs gallium nitride scott grafton Mars claude weisbuch
Computer Science mentor Shuji Nakamura CNSI diagnostics data centers preservation energy solid state electronic voting system bioengineering semiconductors robotics materials Allosphere cells parasites more tags...

Source URL: http://convergence.ucsb.edu/deans-letter/17

Links: