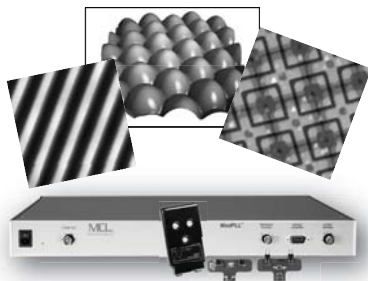


Introducing MadPLL™

Instant AFM and NSOM—just add science.

MadPLL™ includes software, digital PLL controller, probe and amplifier boards, and is fully compatible with Mad City Labs nanopositioning systems.

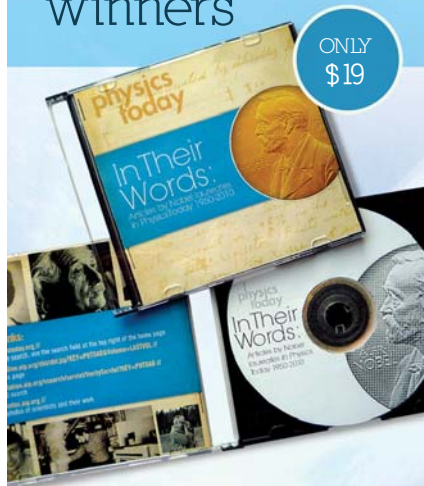


- Low cost imaging tool
- Automated control
- Integrated package
- Integrated z-axis control loop
- Suitable for resonant probes
- Build your own closed loop AFM!

MCL
MAD CITY LABS INC.

+1 608 298-0855
sales@madcitylabs.com
www.madcitylabs.com

Learn from the writings of Nobel Prize winners



"In Their Words" contains PDFs of 93 Physics Today articles written by 78 different Nobel laureates.

<http://store.aip.org> | AIP

papers are becoming the most important metric by which scientists are judged. Unfortunately, once one makes sense of the h-index, for example, it collapses under the burden of irrelevant authors. It doesn't take a rocket scientist to figure out that multiauthor articles eventually result in higher h-indices.

I regret having carelessly stated the helium question I often ask newly minted PhDs. Both R. Bruce Doak and Willem Wieme pointed out my error. The actual question I ask is about the molar mass at standard temperature and pressure. For my commentary, I should have selected one of my simpler questions: Why do stars have different colors? As with the helium question, I get a 75% failure rate on that one. That new PhD physicists can't answer those and even more basic questions tells me that they, like other graduate students in the sciences and engineering, spend too much of their time generating papers at the expense of learning the foundations of their subject.

My statement that "I have found the presence of the basic building blocks of the science decreasing with each passing year" appears very well corroborated by even a casual reading of our international ranking in scientific competitions—for example, in the 42nd International Physics Olympiad.

Philip J. Wyatt

(pjwyatt@verbsat.com)
Wyatt Technology Corporation
Santa Barbara, California

Can a scientist knock on heaven's door?

The book *Knocking on Heaven's Door: How Physics and Scientific Thinking Illuminate the Universe and the Modern World*, by Lisa Randall, was reviewed by Alain Blondel on page 54 of the March 2012 issue of PHYSICS TODAY. The book title is intriguing but certainly not appropriate, coming as it does from a theoretical physicist. Particularly unsettling is that, in Blondel's words, Randall "argues that scientists have not found any problem that demonstrably requires the intervention of a supernatural being animated with a purpose."

I am disturbed at how we scientists can so readily extrapolate our meager knowledge, acquired over a mere few hundred years, into such a broad claim. For example, we have no theory, and most probably never will, on the biggest question: how life originated. To imagine that DNA and the genetic code came about by chance takes a lot

of faith. Mathematicians tend to run out of zeroes when they calculate the probabilities. Moreover, other questions such as the chicken-and-egg problem remain extremely intriguing.

Life remains a mystery, as does this universe, but to think that science is getting any closer to resolving the biggest question of all is arrogance.

Keith Schofield

(combust@mrl.ucsb.edu)
University of California, Santa Barbara

Putting the Savannah River Site where it belongs

The authors of "The many uses of electron antineutrinos" (PHYSICS TODAY, March 2012, page 46) have managed to move the Savannah River Site. The site, where Frederick Reines and Clyde Cowan first sighted neutrinos (actually electron antineutrinos) at reactor P, is in Aiken and Barnwell Counties on the South Carolina side of the Savannah River, not in Georgia as stated in the article. In recognition of that important first sighting, the city of Aiken hosted a neutrino celebration in the summer of 2010, complete with the unveiling of a roadside historical marker about the event.

G. Samuel Lightner

(lightner@westminster.edu)
Contemporary Physics Education Project
Aiken, South Carolina

Corrections

April 2012, page 52—The last sentence of the caption for figure 3 should read, "In particular, the Sun is about 8 kpc from the galactic center."

May 2012, page 42—The last two sentences in box 1 should read, "Atoms became the subjects of chemistry and the basis for statistical models of gases. In the early 20th century, with Jean Perrin's observation of Brownian motion in a colloidal suspension, the concept of the atom returned at long last to the realm of physics."

June 2012, page 14—Although Grigori Volovik and others realized the important connection between zero-energy modes and *p*-wave vortices early on, the first to relate self-adjoint (and thus explicitly Majorana) zero-energy modes to the vortices and to novel (non-abelian) statistics were Nicholas Read and Dmitry Green, in work published in 2000. ■