

## PG. 3.....Introduction

Can a small gesture make a big impact? During an uncertain time for American basic research, the organizers of the Mag Lab Open House sure hope so.

## PG. 4.....Materials with superpowers

Scientists know what high-temperature superconductivity could theoretically do for consumers worldwide, but how it works is still one of the most important unsolved questions in physics.

## PG. 7.....What is this?

Liquid helium keeps the Magnet Lab's superconducting magnets cool, but using and recycling the stuff is a science in itself.

## PG. 8.....Machine dream team

If you can dream it, the professional, highly trained machinists in the Magnet Lab's machine shop can make it.

## PG. 11...Magnet milestones

Francis Bitter's 1933 invention of the Bitter plate changed magnet science forever.

## PG. 12...Beyond X-ray vision

Researchers at the Magnet Lab's University of Florida satellite use a high-power MRI to peek inside a penguin egg ... what they see isn't what they expected.

## PG. 14...Science starts here

Kenneth Purcell turned a summer research opportunity into a career path.

## PG. 15...Magnet fact or fiction

Do "health" magnets really help arthritis and muscle pain? A look behind the marketing claims.

## PG. 16...Scientist spotlight

Alan Marshall's innovative, egalitarian approach to science and leadership have made him a standout in his field and a Magnet Lab institution.

## PG. 22...Try this at home

It takes only grocery-store supplies and a few simple steps to make your own compass.

## PG. 24...Mag Lab photo album

If you didn't make for the Magnet Lab Open House, here's some of the highlights. See you next year!

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The National High Magnetic Field Laboratory, or Magnet Lab, is a national user laboratory that provides state-of-the-art facilities for magnet-related research in all areas of science and engineering, including biology, medicine, chemistry, geochemistry, bioengineering, materials science, and physics. It is one of the nine laboratories of its kind in the world. The Magnet Lab is supported by the National Science Foundation and the State of Florida. It is operated by Florida State University, the University of Florida, and Los Alamos National Laboratory, with unique facilities at all three campuses. Users come from universities, private industry, and government laboratories worldwide.

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