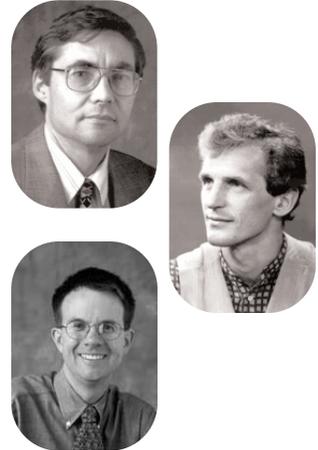


ABSOLUTE ZERO

Winter 2006 Campaign Update

PRODUCTION UPDATE

Executive producer Meredith Burch and Producer/Director David Dugan are in the final editing stages. According to Meredith, they have a "whale of a tale, remarkable visuals and impressive experts. Three distinguished interviewees (among others) will launch viewers on a magical mystery tour of the strange quantum world that exists a few billionths of a degree above absolute zero. They are Eric Cornell, Carl Wieman and Wolfgang Ketterle, who shared the 2001 Nobel Prize for physics for their discovery of Bose Einstein Condensates, a new form of matter never before seen in the universe." A final round of filming will take place in early January. Preliminary 'rough cuts' are being viewed by a national sample of adult and teen respondents and the *Absolute Zero* Advisory Committee will review the programs in early January.



TOP TO BOTTOM:
Weiman, Ketterle and
Cornell

NEW PARTNERS

National High Magnetic Field Laboratory (NHMFL)

Florida State University, University of Florida and Los Alamos National Laboratory



The NHMFL develops and operates state-of-the-art high magnetic field facilities that faculty and visiting scientists and engineers use for research in physics, biology, bioengineering, chemistry, geochemistry, biochemistry and materials science. The Laboratory, sponsored by the National Science Foundation and the State of Florida, is the only facility of its kind in the United States.

The mission of the Lab's Center for Integrating Research & Learning is to expand scientific literacy and to encourage interest in and pursuit of scientific study. The NHMFL supports educational programming at all academic levels. Lab educators reach out to students and teachers through classroom outreach and on-site outreach and tours, middle school mentorship programs, teacher workshops, residential summer research experiences for both undergraduates and teachers, and curriculum development, among other things. www.education.magnet.fsu.edu.

Visit www.absolutezerocampaign.org to download a PDF version, view an HTML version of this campaign update, as well as see archived issues.

MORE NEW PARTNERS

Earlier this Fall, two other organizations joined the *Absolute Zero* campaign as national partners:

Acoustical Society of America



Since the Society's inception in 1929, its members have been involved in the development of acoustical standards concerned with terminology, measurement procedures, and criteria for determining the effects of noise and vibration. The Society is primarily a voluntary organization and attracts the interest, commitment, and service of a large number of professionals.

www.asa.aip.org

Optical Society of America



The mission of OSA is to promote the generation, application and archiving of knowledge in optics and photonics and to disseminate this knowledge worldwide. The Optical Society of America is dedicated to providing its members and the scientific community with educational resources that support technical and professional development.

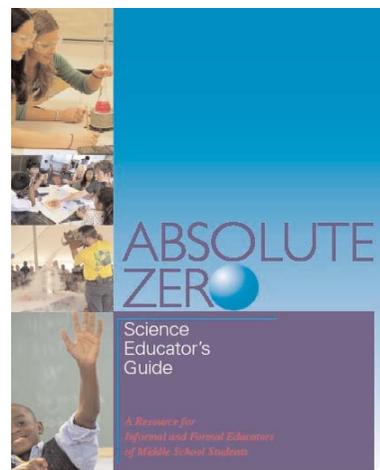
www.osa.org

COMMUNITY EDUCATION GUIDE AND SCIENCE EDUCATOR'S GUIDE

By now you should have received copies of the new educational guides produced in collaboration with the National Partners and other experts. The guides, which were designed for formal and informal educators, offer suggestions on how to engage students in science, specifically in low-temperature physics. We hope you will help disseminate the guides to your members, colleagues, teachers and others involved in science education. We believe the guides are a unique resource.

The *Community Education Outreach Guide* provides a road map for comprehensive presentations including hands-on demonstrations, questions to encourage student participation, resources and ways to encourage students to study the science topic at hand. There are eight modules in the 24-page guide, focusing on such subjects as Thermometers, States of Matter, Superconductivity, Understanding Heat and Energy, Cold Animals and Cryogenics and Technology.

The *Science Educator's Guide* provides suggestions on how to lead a classroom discussion, increase group participation and encourage scientific inquiry.



Both guides can be downloaded at:

www.absolutezerocampaign.org/ask_experts/index.htm



We hope you will feature these companion guides on your Web sites; announce them in blast e-mails and review them in your publications.

ABSOLUTE ZERO EXPERTS

An integral part of the national outreach campaign is an informal Speakers Bureau comprised of experts in the field of low-temperature physics. Primarily drawn from our National Partners, the *Absolute Zero* Experts will spread the word in formal and informal settings, serve as mentors and enlist the support of their colleagues in this important endeavor. We very much appreciate their support. Contact information for these experts can be found on the *Absolute Zero* campaign web site. Experts include:

David G. Haase, professor of physics and director of the Science House based at North Carolina State University. Dr. Haase, who conducts research in low-temperature physics, is a member of APS, AAPT and NSTA. The Science House increases student enthusiasm for science by partnering with K-12 teachers and promotes hands-on, inquiry-based science learning. It is a national model of university collaboration with K-12 schools. The Science House has an extensive outreach program that connects with more than 5,000 teachers and 20,000 students across the state.

Alina Gearba, assistant professor of physics, University of Southern Mississippi. A member of AAPT, SPS and the APS, Dr. Gearba also serves as the faculty advisor for the local chapter of SPS. She will use the SPS Outreach Catalyst Kit, including *Absolute Zero* materials, in her physics demonstrations at local high schools, and also invite students and teachers to visit her research lab ... "the coldest spot in Mississippi."



Students and Teachers at an educational presentation at the Jefferson Lab in Virginia.

Eric Palm, Millikelvin Facility Chief at the National High Magnetic Field Laboratory. Dr. Palm, a member of APS, has been doing experiments in low temperature for two decades. He works closely with the Lab's Center for Integrating Research & Learning and has given numerous classroom demonstrations from elementary through high school.

John Pfothauer, professor, department of engineering physics, University of Wisconsin. Dr. Pfothauer is a member of ASME, ASEE, APS and the Cryogenic Society of America and president of the Cryogenic Engineering Conference. He will disseminate *Absolute Zero* materials to high school teachers and incorporate *Absolute Zero* in his low-temperature demonstrations at the University. He would also like to feature *Absolute Zero* at the annual Cryogenic Engineering Conference.

Roberto Ramos, assistant professor of physics, Drexel University. A member of APS and AAPT, Dr. Ramos also serves as a faculty advisor to physics students. He wants to feature *Absolute Zero* at a Drexel University open house for 500 high school students and has already begun to incorporate *Absolute Zero* materials in his classes.

Greg Swift, fellow at Los Alamos National Laboratory. Dr. Swift is a member of APS, the Acoustical Society of America and the Cryogenic Society of America. He was a member of the original Los Alamos Low-Temperature Physics Group.

[... more experts on the next page ...](#)

MORE EXPERTS ...

Dwight Whitaker, assistant professor of physics, Williams College. A member of APS and AAPT, Dr. Whitaker plans to make *Absolute Zero* presentations to middle schools and high schools in Williamstown, MA.

Please submit recommended experts to Allan Childers (achilders@devillier.com).
For more information visit: www.absolutezerocampaign.org/ask_experts/index.htm

NATIONAL PARTNER CONFERENCES AND MEETINGS

We are grateful to our Partners for allowing us to promote *Absolute Zero* and to make related presentations at their conferences. For example:



The AAPT and the American Astronomical Society (AAS) has invited Dr. Russell Donnelly, principal investigator and advisory committee chair of the *Absolute Zero* Advisory Committee to make a presentation during their annual meeting (Jan. 5-10) in Seattle, Washington.

The American Association of Physics Teachers (AAPT) distributed *Absolute Zero* flyers and the new *Absolute Zero Community Education Outreach Guide* at the regional NSTA meeting in Baltimore on Nov 2 – 4 and also at the Chemistry and Science Teachers (CAST) meeting in Texas on Nov. 8 - 12.



Thanks to Dr. Charles Clark of NIST, the AAAS has invited Dr. Donnelly, and Tom Shachtman, author of *Absolute Zero and the Conquest of Cold*, to make a presentation at its annual meeting on Feb. 17 in San Francisco. The three-hour symposium, featuring several other highly regarded physicists, is entitled "What's Hot in Cold"

The Center at the National High Magnetic Field Laboratory wants to feature *Absolute Zero* at its bi-annual Open House on February 24 where they normally have two to three thousand students, parents and teachers.



Please let us know about your upcoming conferences. We will be happy to discuss how best to promote *Absolute Zero* with speakers, flyers, posters and more. Contact Allan Childers (achilders@devillier.com).

NATIONAL AWARENESS ADVISORY COMMITTEE (NAAC)

The NAAC will receive an update on the production and the campaign on Tuesday, January 16. Please contact Allan Childers for more information.

THANKS AND APPRECIATION TO OUR UNDERWRITERS:
ALFRED P. SLOAN FOUNDATION -- NATIONAL SCIENCE FOUNDATION

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