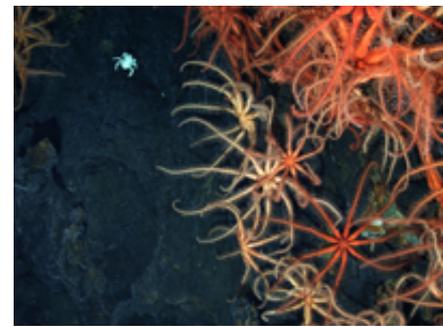


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Shining a light on deep-sea vents: Science meets policy

InterRidge to unveil responsible research statement at upcoming AAAS session

A statement of commitment to responsible research practices in the deep sea will be unveiled by InterRidge, an international scientific collaboration, at a special session during the annual meeting of the American Association for the Advancement of Science (AAAS) in St. Louis, Missouri, USA on the 19th of February. The statement, written by key members of InterRidge on behalf of its 27 member countries, publicly reaffirms the science community's long-standing commitment to responsible research and provides a guideline for NGOs (nongovernmental organizations), regulatory bodies, and researchers new to the field.



"Although the ocean is vast and the sea deep, human impacts now reach all corners of the planet, and we must understand what we are impacting as well as the possible consequences," said Chuck Fisher at Penn State, former chair of the US Ridge 2000 program, a vent biologist, and a co-author of the InterRidge statement of commitment.

Brisingid sea stars in the Lau Basin/South Pacific vent system. Credit: "Ridge 2000" Lau expedition, taken with Jason II in 2005. Click [here](#) for a high resolution photograph.

The special session titled "The Latest Ocean Ridge Research: Microbes, Mining, Management and More," which is hosted by InterRidge, will bring journalists, policy-makers, other scientists, and the public up to speed on the latest -- and sometimes controversial -- topics related to ocean-ridge exploration. "These groups are looking to scientists to take the lead in establishing professional standards," said InterRidge chair Colin Devey, who will present the InterRidge statement. "We want to make a clear statement about why vent research is important, how the scientists are going about it, and what they are doing to learn as much about the planet as they can without harming it," Devey said.



Chuck Fisher (left) and crew members near research submarine on deck of research vessel. Credit: James Nguyen. Click [here](#) for a high resolution photograph.

Scientists first discovered undersea hot springs, known as hydrothermal vents, nearly 30 years ago. These vents, which are among the world's most extreme ecosystems, are found along the ocean ridge, 40,000 miles of underwater mountain range that zig-zags throughout the world's ocean basin. The vents spew super-hot, mineral-rich water that helps support exotic communities of animals and microbes. Issues surrounding research practices in vent areas have been sporadically discussed in the scientific literature since the late 1990s. Now, hydrothermal vents and the habitat they create are in the scientific, public, and political limelight as a result of improved technology that allows for greater studies of these remote areas.

Another influence is the proliferation of popular films and websites about the deep seafloor. "The increasing use of high-bandwidth imagery of the seafloor is making vent ecosystems more 'real' to the public than ever before," said Edward T.

Baker, a supervisory oceanographer at the National Oceanographic and Atmospheric Administration (NOAA) Pacific Marine Environmental Laboratory, who has participated in more than 30 hydrothermal research cruises. "If mining of hydrothermal deposits becomes profitable, the public will need, and I hope will demand, to become more aware of what is happening on their seafloor," he said. Several vent areas already have been studied for their potential as mineral resources; in fact, prospective mining work currently is taking place in vents located in the south Pacific.

Environment and policy discussions regarding deep-sea conservation and management now involve not only scientists but also conservation groups, industry groups, international and national government authorities, and even some tourism groups. A handful of vent sites already have been designated MPAs (marine protected areas), which are analogous to national parks on land.

"It is a concern that citizens already are touring the Titanic and some Atlantic vent sites with deep-diving submersibles," notes Steve Scott, a geology professor at the University of Toronto. "When Yellowstone Park -- which features geothermal geysers analogous to deep-sea vents -- was established in the mid-1800s, no ordinary person could get there because it was a four-day trip by horse from the nearest rail line, but roughly 3,000,000 visited Yellowstone last year," Scott said.

"The InterRidge statement of commitment is a case of 'science meets policy'," Devey said. "There has been a fundamental change in the public's interest in the oceans and in how the oceans are treated. Scientists have realized in the last few years that although they always have been careful with the marine objects they study, it is not enough," Devey said. "It's time for members of the science community to come out and stand up for what they believe and to fulfill their role as experts."

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This press release is being issued jointly by InterRidge and Penn State University.

IMAGES:

High-resolution images are on the web at <http://www.science.psu.edu/alert/Fisher2-2006.htm>.

SCIENCE CONTACTS (session speakers and topics):

- Colin Devey, InterRidge, Germany, "Writing the Code of Conduct: The Future of Ridge Research," +49 431 600 2257, cdevey@ifm-geomar.de
- Chuck Fisher, Penn State University, USA, "Life at the Edge: Real Animals in Extreme Environments," 814-865-3365, cfisher@psu.edu
- Edward T. Baker, National Oceanic and Atmospheric Administration, USA, "Unseen Volcanoes: Recycling on a Planetary Scale," 206-526-6251, edward.baker@noaa.gov
- Steve Scott, University of Toronto, Canada, "Mining Deep Ocean Metallic Sulfides Is Closer than You Think," 416-978-5424, scottsd@geology.utoronto.ca

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MORE INFORMATION:

InterRidge is an international program dedicated to exploring volcanic spreading centers at the bottom of the ocean, one of the Earth's last true frontiers. More information about InterRidge is on the web at www.interridge.org. More information on the AAAS meeting is on the web at www.aaas.org.

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