

Cascadia Meteorite Laboratory



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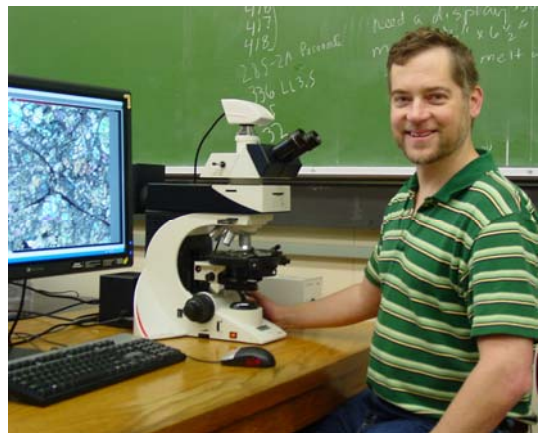
Welcome to our second newsletter. It has been quite a bit of time since our first one. A lot has happened. We've been very busy. And we've also discovered that having twins slows everything down.



For all of you who've asked, Catherine (above left) and Christopher (above right) are growing like weeds and beginning to walk.

The biggest news of this past year is that after spending several years occupying space in Martin Streck's lab (thank you Martin), the Cascadia Meteorite Laboratory (CML) finally moved into its own lab space in Science Building 2. Along with the move, we received new equipment, including microscopes with a digital imaging system, and a set of climate-controlled cabinets to preserve meteorite samples.

As you can see in the photograph at the top of the right hand column, Alex is really enjoying using the new petrographic microscope.



Between July 2007 and April 2008, Dick Pugh traveled all over the state (and into Washington), driving over 4000 miles on six multi-day tours to schools and libraries in rural communities, including Summerville, Elgin, LaGrande, Pendleton, Hermiston, John Day, Dayville, Monument, Echo, Heppner, Ukiah, spray, and Mitchell, Oregon and Walla Walla and Kennewick, Washington. For many of these communities, this was a major event. Attendees reported having driven 60 or 70 miles to hear Dick's presentation. Dick carried a collection of meteorites with him so that people could handle a real meteorite. Scenes from Dick's presentation in Kennewick in March 2008 are shown at the top left of the next page. As is visible in the photographs, these events draw people with a large variety of ages, ranging from children to senior citizens.



As many of you are aware, Dick has put out this tremendous effort in public outreach with a leaky heart valve. He just recently (two days ago at the time of this writing) had a heart valve replacement. The surgery went well and he appears to be recovering nicely. I suspect it will be difficult to keep him inactive for very long.

Everyone in the lab became part of a brief media frenzy this winter when a bright fireball (being referred to by Dick as the Blue Mountain Fireball) was seen across the entire Pacific Northwest and two Canadian provinces on February 19, 2008. After looking at video footage of the fireball and reviewing numerous eyewitness reports, Dick concluded that the fireball probably dropped dozens of meteorites in a strewn field approximately 10 miles wide and 20 miles long in the vicinity of Summerville, Oregon.

We have two undergraduate students working on research projects using CML meteorites that were donated by Edwin Thompson. Both of these projects involve extensive use of equipment both at Portland State University and at Oregon State University. The costs involved in this equipment use are being covered by cash donations from supporters of the lab.



Thomas (TJ) Scheper (on the right in the picture above) presented a poster at the Meteoritical Society Meeting in Tucson Arizona on using X-ray diffraction (XRD) to help classify chondritic meteorites. The presentation was a success and generated interest from scientists looking for faster/cheaper ways to classify chondrites. TJ is currently starting a project with Alex involving HED meteorites, which are believed to come from the asteroid Vesta.

Niina Jamsja (in the center in the picture above) won the award for best undergraduate science poster at the AEG meeting held at PSU this spring. Her study grew out of work done to classify a newly discovered LL-chondrite that has a number of unusual features.

In May 2008, the classification information for Niina's meteorite, as well as that of four other meteorites was submitted to the nomenclature committee of the Meteoritical Society for approval, and will hopefully be published in Meteoritical Bulletin #94.

We have also been busy juggling acquisition of data on new research projects and the writing of manuscripts on old research projects. Since the last newsletter, the manuscript on the Buck Mountain Wash meteorite was published in *Meteoritics and Planetary Science*. A manuscript on relict olivine grains was

submitted to *Geochimica et Cosmochimica Acta*. Yesterday we got back the reviews (positive) and request for minor changes (mostly to shorten the manuscript—it is huge). An article by Melinda on angrites was just published in *Meteorite Magazine*. Finally, Alex received an invitation to write a review paper on silicate inclusions in iron meteorites, which should keep him busy during a large part of the summer.

We would like to thank everyone who has supported the lab with donations of money, samples, supplies, and equipment. There are far too many of you to name individually, and we never know whether people wish to be anonymous or not. However, we would like to mention a few particularly notable donations.

First, we want to thank Edwin Thompson for holding his annual fund raiser/pot luck/ barbecue this past fall. We raised around \$15,000 for the Erwin F. Lange endowment. For those of you unfamiliar with the endowment, we can't actually spend any of that money. It goes into a fund at Portland State that earns interest. Any interest over 4% goes back into the fund. The 4% interest is put into an operating account and represents the funds that the lab can actually spend for research, supplies, etc. The idea is that over time we will build up sufficient principal that the interest will provide all of the funding necessary to operate the lab. We still have a long way to go for that to happen.

We also received some valuable reference materials. There are several journals that are critical for us to be able to access. Portland State University does not have many of these journals. Recently, CML received donations of two of the most important of these journals, starting with the very first issue to the present. We received *Meteoritics* (which later became *Meteoritics and Planetary Science*) from Dr. Carleton Moore, Emeritus Faculty at Arizona State University and former curator of the Nininger meteorite collection at ASU. We also received *Icarus* (published by the Division for Planetary Sciences of the American Astronomical Society) from Dr. Donald Hunten, Emeritus Faculty at the University of Arizona.

Everyone has a story about “the one that got away”. Mine is about a three volume set of books called The Handbook of Iron Meteorites, by W.F. Buchwald. Back in the early 1980s, Alex and I were in graduate school working on chondritic meteorites. We saw a copy of this set in a used book store for around \$100. At the time, that was a huge amount of money for us and Alex said “we’ll never be working on iron meteorites”. So we didn’t buy the books. Fast forward a few decades. Alex got a NASA grant to work on silicate inclusions in iron meteorites. We suddenly needed to access data from Buchwald’s books. We discovered that they had become collector’s items, and the cheapest copy available on-line was around \$1500. We still couldn’t afford to buy them. So we are extremely grateful that Dick Pugh recently donated a three volume set of the Handbook of Iron Meteorites by Buchwald to the lab.

We want to thank all of you for your support!

Your support is more important than ever. Donations make a huge difference to our lab and to our students. If you want to help, please make your check out to:

**PSU Foundation/ Erwin F. Lange
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