The ongoing Northern Embayment Lithosphere Experiment (NELE) research project at CERI involves using the passage of the EarthScope Transportable Array (TA) across the Mississippi Embayment. With the assistance of CERI staff and students we are able to go door-to-door and ask residents if we can place these instruments on their properties.

Back in February 1812, the greatest of the New Madrid Earthquakes occurred. CERI has events, videos, interactive posters from the USGS, and more in commemoration of the events. Have you seen them?

2011 has been a “Perfect Storm” for CERI. We continue to get national and international exposure because of the Bicentennial of the 1811-1812 New Madrid earthquakes. The Great Central U.S. Shakeout, the National Level Exercise, the National Meeting of the Seismological Society of America in Memphis…

CERI director Chuck Langston and graduate student Blaine Bockholt visited India in January for an intraplate seismicity workshop. Check out their journey!

Have you “liked” CERI’s facebook page? Like it and share HERE!
CERI at Your Doorstep

Transportable array (TA) instruments for NELE provide an opportunity to investigate lithospheric structure associated with an active deformation and an ancient, intracratonic rift. As the TA passes, six Flex Array (FA) stations are deployed to decrease the nominal 75km TA station spacing. The FA stations are currently deployed on resident’s properties, on farms and other locations in Arkansas and Mississippi.

So how do they get there?

CERI Research Scientist, Dr. Steve Horton, says by knocking on doors if need be! The research project began June 2011, since then Horton along with CERI staff and graduate students - have asked residents and facilities if they would allow a seismic station on their properties.

Most people are receptive to the experiment because they know it is beneficial for The University of Memphis and its research efforts to produce valuable research for our center and the central United States.

The FAs will relocate in March – so Horton, staff and grad students will go out to ask more property owners about installations.

Horton says because of his contacts made at the Arkansas Geological Survey, he has been able to acquire tips on potential host sites. Sometimes he puts coordinates in his vehicle’s GPS system and drives to that location.

Once a location is found, a team of CERI Technicians will go out and install the solar powered stations. Horton wanted to give a special thanks to Chris McGoldrick, Jim Bollwerk, David Steiner, and Akram Mostafanejad for their help on the project.
From Dark Room to Lab: The Basement Cleanup

CERI Technician David Steiner and graduate student John Meredith have been down in the basement cleaning it up to expand CERI!

What's the plan? To install a large ring laser interferometer which uses the Sagnac effect to measure rotational seismic motions.

The team started in mid-December and got to work - the basement used to be a dark room and now David and John are resurrecting it for a whole new purpose.

They have made significant progress over the past couple of months and plan to move on to cleaning out the rest of the basement to make it useful.

Hey! Grad Students!

Yes, we’re talking to you! CERI wants to give you a shout out for all your work that you do!

So if you, or if you know someone, that deserves a holler on our Facebook, twitter, or blog – let us know. You can post it yourself on our Facebook, or tell Ashli at ablow@memphis.edu!

CERI Seismic Network Director, Mitch Withers, reports that ARRA funded upgrades to the seismic networks are completed! That totals eleven upgraded broadband stations in the New Madrid Seismic Zone. Those stations now have 120s Nano-metrics Trilliums and Reftek RT147 strong motion sensors.

In progress is an upgrade of the digitizers for the instrumentation on the I-40 Bridge over the Mississippi. CERI is replacing the PMD recorders with 12 and 24 channel Granites from Kinemetrics. With these improvements we’ll now have real-time data feeds.

The CERI blog! CERI now has a blog with latest on field trips, research, our folks, and more. Click here to see it! Have ideas or stories to share? Email Ashli! ablow@memphis.edu

On April 10, the USGS will host the eighth annual Earthquake Insight Field Trip at the heart of the New Madrid Earthquakes here at CERI! Read More!

In February – more than one million people across nine states participated in the 2012 Great Central U.S. Shakeout. Many schools in Memphis participated. Watch a news segment about it here!
CERI is observing the 200th Anniversary of the New Madrid Earthquakes that forever changed the central region of the country.

The largest historical earthquakes to strike the continental United States occurred in the winter of 1811-1812 along the New Madrid Seismic Zone, which stretches to southeast Missouri and western Kentucky. These earthquakes produced at least three temblors between magnitude 7-8, and hundreds of aftershocks.

So how can we share this with the rest of the world? Blogs, Youtube videos, and more! Check it out!

Click on the images to find out more!
Message from CERI Director Chuck Langston:

(Continued from Page One)

The National Earthquake Prediction Evaluation Council report on New Madrid, and the excitement of an on-going earthquake swarm in Arkansas were several really big events that happened all before summer. Having only one of these activities happen would have been remarkable, but we were given this bounty of opportunity only in the first 4 months of 2011!

On top of this, the EarthScope Transportable Array moved into our region that will help us solve the major scientific conundrums that most of us have been chipping away at for years.

Internally, and thanks to our very capable staff, we also underwent major renovations and IT upgrades. We have a new student computer laboratory where the library used to be, have significantly improved IT facilities in the House 3 conference room and CERI seminar room, have new graduate student space, new furniture in all public areas, and a new conference room in House 2.

On top of it all, we had enough funds left over to purchase a 48 channel GEODE seismograph that will find excellent use in field research and course work.

While all of this activity was happening, we also underwent a very thorough external review by an outstanding trio of scientists from the USGS and academia. The Dean was very impressed with the committee’s credentials and the depth of the review.

Although I have to admit that I found the review process a bit harrowing at times, the committee’s report was excellent and is currently being used to address structural problems that we encounter in working with various other units in the university.

We are also using it to justify our current searches for tenure-track Geodynamics and Engineering Seismology positions at CERI. One of things that caught my attention in the report was how the committee was very impressed by high quality of the staff and the graduate students. It is nice to get this recognition.

The coming year at CERI will be one of change. New faculty will be arriving, others will be moving on, and the research atmosphere will be different in many obvious and, sometimes, subtle ways.

I am looking forward to 2012 being a little less busy so we concentrate a bit more on our mentoring and research and be aware of the changes that will be occurring. Thank you faculty, staff, and students for all of your hard work in making 2011 such a productive year!

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Upcoming Events

Thursday, March 1st:
Grab a Downtowner Magazine – there will be an article on the History of CERI!

Friday, March 9th-8 AM - 4:30 PM:
Preparing for the Next New Madrid Earthquake at Mid-South VOAD (Voluntary Organizations Active in Disasters). A public meeting for coordinating the VOAD response to future disasters – read more about it here!

Friday, March 16th- 11:30 AM:
West TN Earthquake Forum for Policy Makers and Emergency Responders. CERI will provide presentations and serve on a review panel for The University of Memphis, Lambuth Campus in Jackson, TN. By invitation only. Sponsored by The University of Memphis: Papasan Public Policy Institute, Center for Earthquake Research and Information, and the U of M Lambuth Campus Office of Government Relations

Tuesday, April 10th:
Earthquake Insight Field Trip
The US Geological Survey will host the eighth annual Earthquake Insight Field Trip at CERI!! This one-day outreach event will start and end in Memphis. Field trip participants will learn about the earthquake history of the central US and current exposures to earthquake hazards in this area. Read more and register here!

Friday, April 13th - 4 PM-8:30 PM:
EERI/NEC Downtown Seismic Retrofit Fieldtrip
Get the registration PDF here!
Sponsored by the West TN Seismic Safety Commission and the Center for Earthquake Research and Information.
CERI graduate students Donny Dangkua, Blaine Bockholt, and Shisay Bisrat along with CERI director Chuck Langston participated in an experiment that took place last October involving dynamite.

It was a one-day experiment. The goal was to get a proof-of-concept of the field measurement of soil nonlinearity behavior using gradiometer array.

1.) The first photo shows someone holding the device for the explosives.

2.) The group working on installing the MEMS-based accelerometers as gradiometer array. In this picture they are making a hole to put in the instrument.

3.) The third photo shows the hole on the ground created by explosion of 5-lbs dynamite. Boom!

So, Where’s Seismo?
No, really. Where is Seismo?

Let’s bring this little guy back around CERI - do you know where he has been?

Do you have pictures from the past –post them on facebook so we can blog about it!