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The INTERVIEW Issue

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FEATURING

- SALON LEGEND GENE JUAREZ
- HEALTHY-LIVING ADVOCATE MARILYN MCKENNA
- CARTOONIST DANA SIMPSON
- STATE TEACHER OF THE YEAR NATHAN GIBBS-BOWLING
- AUTHOR MARISSA MEYER
- BRAD GILLIS AND BEN FRIEDMAN OF HOMEGROWN SUSTAINABLE SANDWICH SHOP
- AND MORE!

PLAN A STEM SPRING BREAK

Head to the Tri-Cities for science and fun

STORY AND PHOTOS BY LINDA JENKINS

The author's daughter in front of one arm of the LIGO Interferometer, stretching for 4 kilometers

Many parents are looking for STEM immersion activities for their kids that are fun, hands-on, and unique. In the technology-focused Tri-Cities of Richland, Pasco, and Kennewick, scientists and engineers from all over the world come to work and research in fields as diverse as geology, physics, and astronomy. The Tri-Cities, with its comfortable lifestyle and abundance of unique family-friendly activities, is a great place to plan your STEM spring break.

Look what I found!

We've come to a Columbia mammoth excavation site in arid and windy **Coyote Canyon.** It's an ongoing project of the Mid-Columbia Basin Old Natural Education Sciences (MCBONES) Research Center Foundation. My husband and 6-year-old twins made the three-hour drive over from Seattle with me, and I suspect that my family's contribution to the volunteer dig team might be negligible. Still, we were greeted with a welcome and an immediate job for the kids, who bound off happily.

"We are all citizen scientists," geologist George Last, board member and volunteer coordinator of MCBONES, said. Last is also a senior research scientist at Pacific Northwest National Laboratory and a geology professor at Columbia Basin College.

The white noise of the strong desert wind and swirling dust carries over our conversation as Last tells me about the researchers' work here. "We're looking for what the distribution of **mammoth fossils** can tell us about Ice Age flooding," he said. The Coyote Canyon mammoth site is a real-world STEM lesson, an opportunity for visitors to experience the scientific method while learning about geology, paleontology, forensics, and more.

I look over at my twins, whose happy voices ring out over the quiet, thoughtful conversations of the other volunteers. >>

The author's son at the MCBONES dig site


Data collection at the LIGO Hanford Observatory

They're squealing at the wet screening table, and I wonder if they've made a big discovery, or just broken something.

Last, who is careful and well-spoken, gives only the slightest glance in that direction. "This site is a sandbox for teachers and students to develop an understanding of science, technology, and math," he says. Both of my kids are excited by their discoveries; they show me small bits of what could be rocks, rodent bones, insects, or other fossils.

Teaching patience

We head up the hill to the dig house, a small building where there is a classroom with laboratory equipment, interpretive displays, and fossils being cleaned and catalogued. It feels like the kind of place where discoveries are happening, not set up as a show but more for real science.

Last speaks kindly and respectfully to kids, answering their questions as if it were his first time thinking about the topic. My son, a big dinosaur fan, is buoyed by his newfound knowledge. "Mom, a mammoth is like an elephant," he interjects when I ask about dinosaurs again. This is paleontology, not archaeology. Got it.

We meet Bax Barton, curator of special collections at the University of Washington's Quaternary Research Center. He's also a research associate in the paleontology division of the Burke Museum of Natural History and Culture, and director of the research at the Coyote Canyon site. "I'm a mammoth guy," Barton says. "Kids think I know a lot about dinosaurs because I work at the Burke, but I don't."

Barton eschews the Indiana Jones comparisons that inevitably come from this kind of research. The dig crew here works carefully, and much of the focus is on recording accurate data. "I teach patience. Here you have to slow down and record what you're recovering," he said.

He said advanced students in middle school or high school may be able to join the dig crew after attending training and working with the education coordinator. "Some may not be ready, but if they are, we can give them a job to do," he said.

Public tours of the dig site are held March to October, with plans for more educational programs as the MCBONES foundation expands. *mcbones.org*

> "This site is a sandbox for teachers and students to develop an understanding of science, technology, and math."

The music of the cosmos

My family is at the **LIGO Hanford Observatory** in Richland, touring with a group of space-time research enthusiasts, many of them well-versed in the language of gravitational waves and the state-of-the-art optical and laser technology at work here.

"We're still waiting to discover the first radio signal from another life form," Education and Outreach Coordinator Dale Ingram of LIGO (Laser Interferometer Gravitational-Wave Observatory) said. There are many questions from the group and Ingram provides careful, thorough answers to all of them.

My twins, who are as savvy and well-informed as any 6-year-olds, seem to understand that we're visiting a place where they wouldn't usually be allowed. Still, I keep a watch on them not to stray from the path, be too rough with the equipment, or generally touch anything. The workers here appear to be immune to the sudden, chaotic energy that young children bring with them and I'm happy for their patience.

"This is cool, Mom," my daughter tells me. She and her brother have discovered the hyperbolic funnel, a fun activity for kids with a little physics thrown in. Along the way there are pulleys and mirrors, things to see and manipulate.

LIGO is a project to collect data on **gravitational waves from space.** There are two of these observatories in the United States, one in Richland and one in Livingston, Louisiana. It's a collaboration of a number of academic institutions, including Cal Tech and MIT, along with over 80 other scientific institutions, with the aim to study theories about the first moments of space and time — all the way back, they hope, to the "big bang."

A team of some 40 workers — physicists, mechanical engineers, post-doctoral students, and international scientists, monitors the data collection 24 hours a day. The actual lasers stretch >>

The REACH Interpretive Center at dusk

four kilometers in two directions. Crews work in noise-controlled rooms and the sensitive instruments hear everything, from distant ocean waves, to windstorms, volcanoes, and even passing traffic. "Our whole planet is shaking and vibrating," Ingram said.

"We haven't made a detection yet," Ingram said. "Once the detector gets sensitive enough, we think it will happen regularly."

LIGO offers free public tours twice a month and private tours for groups of 15 or more. The tour is ideal for middle school students and up, but all ages are welcome. *ligo.caltech.edu/wa*

A theater for the stars

My kids talk a lot in movies, and that's perfect for our visit to the **Bechtel National Planetarium** at Columbia Basin College in Pasco. The planetarium shows science-focused films on a 36-foot domed screen. Visitors sit under the dome, which can simulate a 3D effect, surrounding everyone with images and sound.

Before each film, professors from the college lead introductory talks with theatergoers under the dome. We visit on a Friday night to see the film *Secret Lives of Stars*, narrated by Patrick Stewart. During the introduction before the film, an image of the night sky outside is projected above and an all-ages conversation about stars and planets gets everyone involved. My kids love the chance to let loose with questions and come up with their own answers, a happy sight for many parents.

"My goal is for kids to see that science is exciting," Kristy Henscheid, director of the planetarium and a biology professor at Columbia Basin College, said. "All of our movies are educational. They're affordable, too."

The Bechtel National Planetarium was opened three years ago as a science education venue for the Tri-Cities community. There are shows every weekend, with acclaimed films on a variety of topics like astronomy, biology, history, and technology. The films are entertaining and engaging, and the planetarium provides guidance on the appropriate grade level for each show. *columbiabasin.edu/planet*

The Columbia Basin College is also home to the **Robert and Elisabeth Moore Observatory,** which is open to the public on Friday nights depending on the weather. A short walk from the planetarium, the observatory has a high-power telescope for kids to get their own view of the night sky above. *columbiabasin.edu/observatory*

Tell us a story

There are a lot of sunny days in the Tri-Cities, and on the day that we visit **The REACH Interpretive Center,** we pass locals relaxing, skating, and strolling along the Columbia River. The REACH sits on 18 acres overlooking the river in Richland. Outside, gardens highlight area wildlife and serve as a rotating gallery for sculptures created by student artists.

The REACH is a hybrid museum, theater, performance, and special events facility. Information about the cultures and history of the Tri-Cities is exhibited in over 10,000 square feet of gallery space. The approach is unique and lends itself to showcasing many of the region's stories.

"A lot of stories we tell tie back to the river," CEO Lisa Toomey tells me. We're standing at the aquarium full of native fish and plants, a project of the Washington Department of Fish and Wildlife. My twins have a scavenger hunt sheet, so we head farther in to the galleries. They find fun, interactive exhibits on the history of the area, from Paleolithic times to the present day, including the region's ecosystems and Native cultures.

Gallery II's focus is The Manhattan Project, Hanford, and the Tri-Cities area's role in World War II history. This exhibit is especially interesting to my husband and other adults, with its rare video footage, detailed vintage photographs, and oral history.

My daughter is drawn to the baby mammoth skeleton. After her work at the dig site in Coyote Canyon, she has context for what she's seeing. "They found this in the ground," she tells me. "It's the baby." I see compassion on her face, and I am immediately proud of her.

For the youngest visitors, The REACH has an outdoor learning area with hands-on activities for active play. There is a water wall, vegetable garden, and play equipment. For parents with toddlers and preschoolers, this area provides a good way to work off some energy.

The REACH coordinates STEM-focused career programs, regional tours, and summer camps for kids. There are family workshops and arts performances year-round. *visitthereach.org*

"THE REACH UNDER THE MOON" ©2015 GNAWME, CREATIVE COMMONS

More Tri-Cities fun for kids:

- Ride the **Gesa Carousel of Dreams,** a restored 110-year-old carousel in Kennewick. *gesacarouselofdreams.com*

- Head to **Howard Amon Park** in Richland for a large playground, bike path, and climbing wall along a scenic stretch of the Columbia River. *richlandparksandrec.com*

Where to eat:

- Take the family for old-school burger baskets with modern flavor twists. Try the salted caramel vanilla ice cream or share a sundae. **Rosy's Ice Cream & Diner,** *404 Bradley Blvd., Richland.*

- For breakfast, join the fast-moving line at The Spudnut Shop. What's a Spudnut? Try one and find out why they've been a local favorite for over 60 years. **The Spudnut Shop,** *228 Williams Blvd., Richland. thespudnutshop.com*

- If you're one of the lucky couples who can sneak off for a date night, head to **Tagaris Winery and Taverna** for its award-winning menu and acclaimed wines. *844 Tulip Lane, Richland. tagariswines.com*

Where to stay:

- The family-friendly **Courtyard Richland Columbia Point** is modern and well located on the Columbia River, ideal for exploring the Tri-Cities. *480 Columbia Point Drive, Richland. marriott.com*

Get there:

- If you're driving, check pass conditions and Tri-Cities weather before heading out.

- **Alaska Airlines** and **Delta** offer flights from SeaTac to Tri-Cities Airport in Pasco.