

Ion the prize

Winifred alum wins international award in chemistry

By **WILL BRIGGS** | Reporter

Central Montana has produced a star in the field of chemistry. Erin Baker, the daughter of Alan and Stephanie Shammel of Hilger and now a Professor of Chemistry at the University of North Carolina, has won several awards for her contributions to the field this year.

Her first award, the Biemann Medal from the American Society for Mass Spectrometry, came in June, along with a \$5,000 cash prize. Several months later, she took home the the Curt Brune Award and another \$5,000 prize, from the International Mass Spectrometry Foundation for “outstanding contributions” to the field while attending the group’s conference in the Netherlands.

“It was in Maastricht, which is really beautiful,” Baker said.

Mass spectrometry, a form of chemical analysis used to measure the mass-to-charge ratio of atoms and molecules in a sample, has a wide variety of uses. Many medical tests, for instance, use the technique to identify chemical compounds in bodily fluids or to sequence proteins.

In her laboratory, fittingly called the Baker Lab after its supervisor at UNC, Baker uses the technique to study environmental pollution. In particular, she is interested in the effects of high metal levels, which can be detected in the land and animals, have on human health.

For instance, she’s traced the spread of per- and polyfluoroalkyl substances, long-lasting chemicals with harmful health effects, in North Carolina by studying historical and current pine needle samples. Her work also shows that environmental factors have a significant impact on pregnancy and the development of Alzheimer’s.

Baker’s experience with chemical testing as a child on the ranch had a lot to do with her decision to pursue chemistry.

“I probably got interested in chemistry because the old Kendall Gold Mine was near my parents’ place, so we had a lot of people coming up and doing water testing,” she said. “It’s still in the remedial stage, even after there’s been a few attempts to re-open it.”

Baker’s career has been quite the journey already. A 1997 graduate of Winifred School, she attended Montana State University, earning a B.S. in chemistry before pursuing a Ph.D. in the subject at the University of California Santa Barbara. Once she finished her school, she spent a

decade at Pacific Northwest National Laboratory before moving to North Carolina, working at North Carolina State University prior to moving her lab to UNC this August.

After publishing over 150 academic publications, Baker is grateful for the support she received from Central Montanans at the very beginning of her foray into chemistry. She credits the scholarships like those she received from the local chapter of the Daughters of the American Revolution, the Central Montana Foundation, and her Winifred School valedictorian scholarship for her ability to start her college career nearly 25 years ago.

“I received enough scholarships to pay for my first year of college,” Baker said. “It was definitely a huge help. I would’ve had to take out loans otherwise.”

Now running her own lab and supervising nine of her own undergraduate, graduate and postgraduate researchers, Baker’s goal is to extend whatever support she can to her students and her community, something she said she learned from growing up in Central Montana.

“The students are very fun. They’re dedicated and energetic about their studies,” she said. “We do a lot of community work with the lab. That’s a big part of being raised in Central Montana for me, whether that’s doing science outreach or toy and coat drives here.”

As for her parents, they’re obviously proud of their daughter, but they also appreciate the local community’s willingness to support people like their daughter.

“We’re really proud our community can produce kids who are able to do so many things. People give a lot of money to places like the Central Montana Foundation. She was the oldest of three children and it was tough for us on the ranch, but she was able to get the help she needed to go to school.” Stephanie Shammel said. “It’s really neat she’s been able to do all this.”