Johan Garza, a biotechnology senior, studies calcification in a strain of marine algae, Emiliania huxleyi, which could help scientists develop treatments for osteoporosis. He presented his findings in the CSUSM student research competition Friday. Courtesy photo

SAN MARCOS: From punk rock to pandas; students compete in CSUSM research contest

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One student in Cal State San Marcos’ student research competition Friday presented a study on pandas’ pregnancy cravings, while another looked at what tickles the funny bones of kids with language delays.

Others examined the role of femininity in San Diego punk culture, the rise of craft brewing and how skaters hone their skills at skate parks.

Science topics ranged from the genetics of rhesus monkeys to calcification of marine algae.

The 10 winning presentations spanned subjects from Eleuterio Limas’ research on reusable bag use to Aaron Harlan’s study on panda reproduction.
“It’s a pretty diverse representation” of projects, said Gerardo Gonzalez, associate vice president for research and dean of graduate studies. “We’re really happy.”

The competition, which showcases research projects by graduate and undergraduate students, attracted 47 students presenting 42 projects and competing for 10 slots in a statewide research contest.

The competitions highlight students’ scholarship and groom them for professional presentations and advanced academic work.

“They’re picking up all kinds of skills that would make them marketable upon graduation, either for graduate school or employers,” Gonzalez said.

Harlan, an undergraduate in biological sciences, analyzed data on panda reproduction and found a correlation between the part of the bamboo that female pandas eat and the timing of their pregnancies.

Harlan, who is publishing the research with his professors, said the finding could help streamline the costly monitoring required in captive breeding programs for the endangered species.

“I’m the primary author, which is really cool as an undergraduate,” he said. “I happened to get in at the right time with this project and run with it.”

Limas, a graduate student in experimental psychology, examined the values and behaviors that lead shoppers to use reusable bags at grocery stores.

Charging for plastic bags, or banning them outright, hasn’t proven effective at cutting their consumption, he said, so his study sought to quantify factors that lead people to bring their own bags.

In surveys of 160 customers at four major grocery stories in San Marcos, he found that although about three quarters of people supported reusable bags and owned many of them, only a quarter of participants had the bags with them at the time.

Most, he said, admitted that they wanted to use the bags, but simply forgot to bring them.

A retailer could promote the habit by recognizing customers with reusable bags, or by identifying the store as a place where everyone brings their own bag, Limas said.
“You are in the store, everyone has one in hand, so you don’t want to be that guy” without one, he said.

Ashley Wright, a graduate student in communicative sciences and disorders, studied how training kids with language delays to initiate play can foster their friendships, noting that the communication difficulties those kids face often leave them socially awkward and isolated.

Her classmate Kelsey Johnson, also a graduate student in the program, asked whether kids with language delays would understand humor as well as other children.

She ran visual jokes by both groups of kids, showing images of say, a man with a bird on his head and a man with a hat on his head, and asking “Which is funnier?”

While both language-delayed kids and their counterparts laughed at the sillier image, language-delayed kids had a harder time understanding verbal jokes.

“Inability to interpret humor is related to social isolation,” Johnson said.

Her research shows that “speech therapists may offer more effective interventions to interpret this core skill,” she said.

Students are graded on a variety of points, including clarity of purpose, appropriateness of the methodology, interpretation of the results, the value of the research, ability to present the research, organization of the material, and presenters’ ability to handle questions from the jury or the general audience, Gonzalez said.

Last year, the school tied in the statewide competition with San Francisco State University, with two of 10 CSUSM participants winning their categories, and three coming in as runners up. Ten winners this year will attend the statewide competition at Cal State Long Beach in May.

Other winners were sociological practice graduate Sean J. Davis, biological sciences undergraduate Carlos Gutierrez Gonzalez, biochemistry undergraduate student Jehovani Lopez, biological sciences undergraduate Joanna Malfavon-Broja, psychology undergraduate Shirlee Moore, communication undergraduate Kaitlin Phillips, kinesiology undergraduate Dalziel Soto, and anthropology undergraduates Xochitl Cruz, Gavin Rose and Ryan Suffridge, who presented jointly.