Forest Service sequencing 1,000 fungal genomes

By Jane Hodgins

A 79-year-old collection of fungal cultures and the U.S. Forest Service's Northern Research Stationare part of a team that will sequence 1,000 fungal genomes in the next five years.

Dan Lindner, a research plant pathologist with the Northern Research Station's Center for Forest Mycology Research (CFMR), is one of 13 scientists participating in the 1000 Fungal Genomes project, which in collaboration with the Department of Energy's Joint Genome Institute will sequence two species from every known fungal family. The project is a first step in creating an encyclopedia of all fungi, which will one day help researchers understand not only what they do, but how fungi operate.

The 1000 Fungal Genomes project was one of 41 research projects awarded funding through the Department of Energy's 2012 Community Sequencing Program.

The CFMR will provide approximately 200 of the 1,000 species that will be sequenced, with the remaining 800 species provided by four other major culture collections from around the world. Established in 1932, the CFMR's culture collection includes 20,000 cultures from 1,600 species of fungi.

"It's an incredible resource," Lindner said. "As far as we know, it's the world's largest collection of wood-inhabiting fungi."

The CFMR culture collection is comprised mainly of Basidiomycetes, or club fungi, which includes the types of fungi that form mushrooms. These fungi play many critical

roles in forests, from species that protect tree roots to species that decompose wood to destructive forest pathogens that actively kill trees. Researchers at the CFMR will grow the fungi and isolate the DNA for sequencing by the DOE's Joint Genome Institute.

Fungi are prevalent, hard working, and largely unknown despite their importance to everything from carbon cycling to production of life-saving drugs, including "old-fashioned" wonder drugs such as penicillin as well as best sellers such as the cholesterol lowering statins and the immunosuppresant ciclosporins, which made organ transplants possible. Fungi are also needed for the production of quality of life products like chocolate, beer and specialty cheeses, such as brie and gorgonzola. There are an estimated 1 million to 1.5 million species of fungi; only about 100,000 species have a name.

"They are so important in so many ways, and we have so much to learn about them," Lindner said. "We know the tip of the iceberg."

The 1000 Fungal Genomes project involves an international team of researchers lead by Oregon State University scientist Joseph Spatafora. Team members include Lindner, scientists with the U.S. Department of Agriculture's Agricultural Research Service, and scientists from universities in the United States, the Netherlands, and France.

Supported by the Office of Biological and Environmental Research in the DOE Office of Science, the DOE Joint Genome Institute's Community Sequencing Program enables scientists from universities and national laboratories around the world to probe the hidden world of microbes and plants for innovative solutions to the nation's major challenges in energy, climate, and environment.

Jane Hodgins works for the U.S. Forest Service.

Mancuso to have surgery, out for season

Recurring hip issues are forcing Julia Mancuso back to the operating table and out of competition for this season.

Mancuso, who trains at Squaw Valley, skipped the World Cup opener last month in hopes the hip would get better. It was aggravated last December when she fell on her right side in a giant slalom race in Are, Sweden. She ended last season early because of it.

The 31-year-old will undergo hip surgery at the Steadman Clinic in Vail on Wednesday. This is her second surgery. The first was after the 2006 season for hip dysplasia.

“If I were to try to push through, get more treatments and try to ski this season, I would just be setting myself back toward the real goal, which is PyeongChang (Olympics) 2018. My goal is to be strong enough to free ski at the end of March, but conservatively, it depends on the outcome of the surgery,” Mancuso said in a statement.

– Lake Tahoe News staff report

Donner resort to offer mountain biking in 2016

Donner Ski Ranch expects to be a multi-season resort – again.

The resort had lift-access mountain biking in 1992 and plans to do so again starting in 2016.

Trails were already being established this summer at the resort off Interstate 80. Five are planned for next year, with more possible.

The trails will cater to various abilities and include man-made features.

Toxin in crab among impacts of warm sea that alarm scientists

By Peter Fimrite and Kurtis Alexander, San Francisco Chronicle

The poisoning of Dungeness crab off the California coast by a mysterious algae bloom may be bad news for the seafood industry, but to marine biologists and climate scientists, it is a frightening omen of future distress to a vibrant ecosystem.

Experts say the toxin in the algae, which likely flourished in this year's record-high ocean temperatures, is one symptom of a wholesale shift in the physical and biological makeup of the Pacific Ocean – a transformation so abrupt and merciless that it is endangering species and forcing migrations before our eyes.

"We are talking about a whole ecosystem change – including a lot of changes besides just the blooms," said Raphael Kudela, a professor of ocean sciences at UC Santa Cruz. "It's really restructuring the way California looks."

The poisonous algae, multiplying since April, is now estimated to be 40 miles wide, in some places reaching down as far as two football fields, marine biologists say. It is the biggest and most toxic bloom researchers have ever seen.

The primary culprit, the experts say, is consistently high ocean temperatures caused by climate aberrations that are being reinforced by a strengthening El Niño weather pattern in the tropics.

Read the whole story

Letter: Mt. Tallac High says thank you

To the community,

Mt. Tallac High School would like to thank Maureen and Steve Froyum, John Marchini, and Jose Reza from South Tahoe Refuse for carrying 40-pound plus backpacks with food to Cathedral Lake on Oct. 27 to prepare a hot good lunch for the students

of Mt. Tallac High School. After our amazing lunch they hiked with us to the top of Mt. Tallac.

Thank you,

Esmeralda Yanez and Veronica Roque, Mt. Tallac High School

Polar Express train tickets going fast

Two weeks before the Polar Express takes its first ride from Carson City to the completely reimagined North Pole aboard the Virginia & Truckee Railroad 88 percent of tickets have already been sold.

The seven-week schedule, Nov. 19 to Dec. 22, features 12 rides per weekend. Now in its fifth season, the all-ages holiday train will depart Carson City for a series of one-hour round-trip journeys to the North Pole. The ride is filled with stories, adventure and characters that come to life.

Because of the demand, more trips and passenger cars were added this season. Last year more than 14,000 passengers rode the train.

VIP tickets are $82 for adults and $72 for children 2-12 – free for children under 2 who sit on a lap. Coach tickets are $46 for adults and $36 for children – free for children under 2 who sit on a lap.

To purchase tickets, call 877.724.5007.

Snow impacting some school districts

Students at Zephyr Cove and Whittell High schools will be picked up at only the main bus stops today because of the snow.

Washoe County schools are on a two-hour delay.

No other schools in the basin are reporting impacts to the school day because of the snow.

– Lake Tahoe News staff report

6th-grader's parents sue LTUSD, TVES



Crystal Aguilar is at the center of a lawsuit against Lake Tahoe Unified School

District. Photo/Provided

By Kathryn Reed

Lake Tahoe Unified School District faces a lawsuit stemming from an incident at Tahoe Valley Elementary School that nearly killed a student.

Todd and Marisela Aguilar on behalf of their daughter, Crystal, who is now a sixth-grader at South Tahoe Middle School, are suing the district, TVES and Grace Magnussen. Magnussen was a physical education and special education teacher at TVES at the time of the April incident. She has since left the district.

“For us we would like the school to take more responsibility with these types of children and their needs,” Todd Aguilar told *Lake Tahoe News.*

Crystal was born with a crushed aortic valve and three holes in her heart. Two were repaired within days of her birth. She has had health issues ever since as well as learning disabilities. Each year her parents explain to school officials what their daughter’s limitations are.

On April 15 Crystal was told to run laps with the other kids; this in turn caused her to have a heart attack, her father said.

It is what happened that day that has led to the lawsuit. A claim was filed with the district in May and it was rejected in June. A court date has been set for February.

“We are working on it together,” Superintendent Jim Tarwater said of the lawsuit. He could not discuss the district’s stance as is normal with any litigation.

Mike Doyle, who is on the school board, is also Crystal’s pediatrician.

The Aguilars contend the teacher should have known having Crystal run would have risked her health. It in turn meant more medical expenses for the family. The suit also contends Crystal faces permanent disability because of the incident, will have more expenses and that the family is losing income based on Todd Aguilar having to miss work because of his daughter's needs.

"The best outcome for Crystal is it's all about her health. We want to make sure she gets the proper care she needs and she can move on with her life," Aguilar said.

The couple also hopes the lawsuit will ensure teachers are properly trained to handle the needs of children like Crystal.

Crystal has been having seizures lately, which according to her father, was not happening before the heart attack. A trip to UC Davis Medical Center in Sacramento is scheduled for this month to try to address this latest medical issue.

Opinion: Affirmative action in college admissions threatened

By Ben Backes, Brookings Brief

In the coming months, the Supreme Court will consider—again—whether UT Austin's use of racial preferences in undergraduate admissions decisions violates the Equal Protection Clause of the Fourteenth Amendment.

In 2013, the Supreme Court ruled that the Fifth Circuit Court of Appeals had failed to apply strict scrutiny in affirming UT

Austin’s admissions policy, thus vacating the Fifth Circuit’s original decision and sending the case back down. In the following year, the Fifth Circuit re-affirmed the university’s admissions practices, which was again appealed, and in June of 2015 the Supreme Court announced that they would once agains hear Abigail Fisher’s challenge in Fisher v University of Texas Austin, which is now scheduled for the coming December.

As with the original hearing, there is the possibility that the pending decision will make it more difficult for universities to justify using race as a factor in admissions.

Read the whole story

Alpine, Squaw to open this week

The Nov. 12 opening of Alpine Meadows is one the earliest dates this resort has ever opened.

Sister resort Squaw Valley will start spinning lifts Nov. 14.

Both dates are much sooner than originally planned because of the snow that keeps falling in Lake Tahoe. The North Shore resorts have received more than 2 feet of freshies in the last week, with 6 inches falling on Monday. Snowmaking is also helping to cover the slopes.

Alpine Meadows plans to operate Kangaroo chair as well as limited dining offerings.

Squaw Valley plans to have Gold Coast Express running and offer limited dining at Gold Coast complex.

The resorts will host Squaw Valley Alpine Meadows Foundation Scholarship Day on Nov.14, during which the entire lift ticket cost of $29 will be donated to ski team scholarship funding.