

Recreating the beginning with the Large Hadron Collider

By Amber Reese
STAFF WRITER

On Feb. 20, the Large Hadron Collider (LHC) will recommence operations after undergoing repairs. The fifth hadron collider in the world, it is located at the European Organization for Nuclear Research (CERN) in Switzerland.

"The Large Hadron Collider has one simple but audacious aim," said CERN physicist Brian Cox on the Discovery Channel's "The Big Bang Machine," "to recreate the conditions of The Big Bang in an attempt to answer the most profound questions of our universe."

Smashing protons into each other at near light speed within its 17 mile long circular tunnel, the LHC contains four massive particle detectors that photograph the particles as they collide, break apart and recombine. According to the New York Times, each proton requires up to seven-trillion electron volts in order to reach the appropriate speed.

From these experiments, physicists hope to find the Higgs boson particle in order to prove the Higgs Field theory. Named after English theoretical physicist Peter Higgs,

this theory explains how matter attains mass. If proven, it could shed significant light on how subatomic particles colliding in the Big Bang led to the formation of the greater universe.

"By far their most challenging quarry has been the Higgs, the last missing piece of the standard model of particle physics, thought to give mass to its fellow particles by acting sort of like a molasses through which they all have to plow," said JR Minkel in a 2008 article in Scientific American. "If the Higgs exists, everyone is confident that the LHC will find it."

"The Higgs brings simplicity and beauty to a nature which looks too complicated," said Dr. Leon Lederman on "The Big Bang Machine." "It introduces a kind of symmetry and a kind of beauty to nature which gives us an understanding of one of the most puzzling features of (the Standard Model)."

The Higgs boson is theoretically so massive that it will decay into lighter particles almost instantly. Therefore, finding the Higgs boson requires finding its decay.

However, because creating a high mass particle like the Higgs

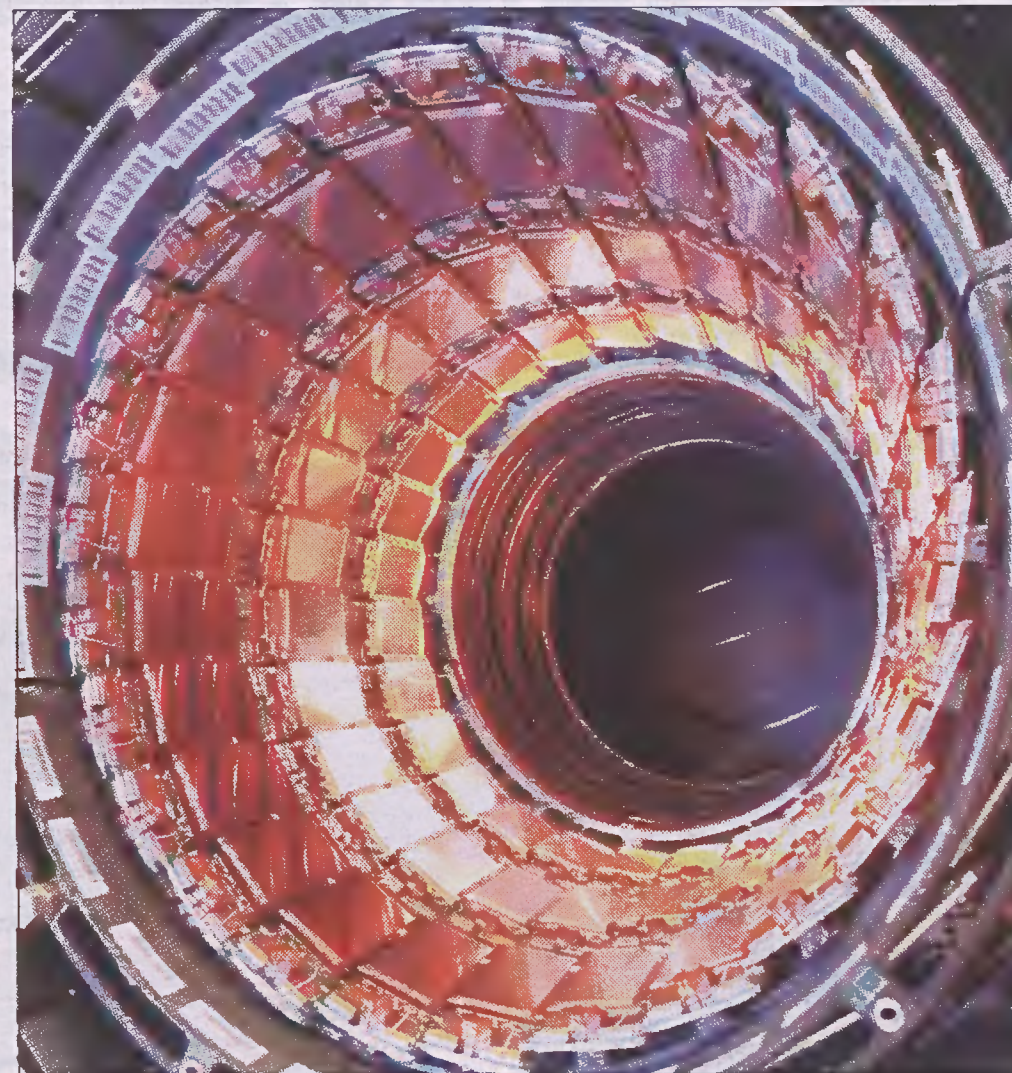
could statistically produce a black hole in the wake of its decay, the LHC has garnered some concern both inside and outside of the scientific community.

"There is a minute possibility that they could create a big enough mass in a small enough space that it could become a black hole, but on the same level, there is a minute possibility that when you sit in a chair, the atoms in your body will go through the atoms in that chair and you'll fall through," said Assistant Professor of Physics Don Smith.

"The probability that you would go right through is not zero, it's just so small that it never comes up," Smith added.

CERN addressed the black hole fear by creating a risk assessment. According to CERN physicists, the fear is misplaced, and the LHC is necessary.

"If you're going to go for the big questions, then you have to go for it," CERN Professor John Ellis said on "The Big Bang Machine." "There's no sense in messing around. If you really want to understand how the universe ticks, then the LHC is what you need."



Three concentric cylinders surround the region in the Large Hadron Collider where the protons collide. After undergoing extensive repairs, this "Big Bang Machine" will resume operations at the European Organization for Nuclear Research.

Despite bad weather, eventful start to winter Olympics

By Andrew Kelley
STAFF WRITER

A crisp winter breeze, accompanied by the faint chirping of birds waking up to a fresh Canadian snowfall – this is something like the typical scene one would expect at the Winter Olympics after forking up all that cash to attend such a spectacle. Instead, as the Olympians began to flow into Vancouver, there was a pesky heat wave accompanied by the faint sounds of trucks backing in and dumping snow.

As the Winter Olympics drew closer, the mountain on which the snowboarding and skiing events will be held remained untouched by any sort of fresh Canadian powder. According to Anne Casselman of

from neighboring mountains and transporting them via truck to the event site.

Just days before events were set to begin, Vancouver continued with its unusually warm ways, and snow still had yet to fall.

"That's hilarious, and kind of ironic," said first year Blane Tobin in response to the news of Vancouver desperately needing snow. He went on to say, "If they really need snow that bad, they are more than welcome to come to Guilford and pick ours up."

Lack of fresh powder poses potential problems for Olympic events relying on ideal winter weather conditions.

"I don't expect the competition to change. It's the Olympics; athletes are going to come ready to compete," said first-year Bret Peterson. He later stated, "Performance would be affected the most by poor conditions, you may not see the best show, but the competitive fire will definitely be there."

As the opening weekend came to a close, weather conditions on the mountain still remained questionable. According to David Crary of NBC News, the less than ideal conditions delayed the alpine skiing training sessions, forcing officials to delay the men's downhill and

women's super-combined events because athletes are required at least one training session before participating in an event.

With slope conditions sketchy to say the least, Olympic officials hope to keep events running smoothly and on time. Pushing through a rough first weekend, which included the death of a Georgian luger during a practice run, the events have weathered the first of many tests from Mother Nature. But as they stand right now, the Olympics are in good shape and on schedule. With any luck, the temperatures in Vancouver will begin to cooperate and squeeze out a little snow flurry sometime soon.

"I don't expect the competition to change. It's the Olympics; athletes are going to come ready to compete."

Bret Peterson, first-year

National Geographic News, Vancouver, already the warmest city to ever host the winter games, just experienced its warmest January recorded since 1937.

"Temperatures averaged 44.8 degrees Fahrenheit (7.1 degrees Celsius), considerably warmer than the average of 37.9 degrees Fahrenheit (3.3 degrees Celsius). Average February temperatures for Winter Olympic host cities are typically below freezing," reported Casselman.

In efforts to beat Mother Nature, event officials turned to a strategy called "snow farming." The method consists of collecting large piles of snow

INLA

INLA agrees to decommission

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Chastelain's decommissioning body was unexpected but reflected their analysis that the war was over," wrote one analyst for the Irish Left Review. "This should be seen for what it is: further evidence of the historic decline of militant republicanism."

Assistant Professor of History Philip Slaby agreed, pointing out that the INLA was among the last radical groups to throw down their weapons.

"Most of the other militant Catholic groups have already decommissioned," Slaby said. "(The INLA) were really behind the wave with the type of guerilla violence they've continued to employ."

In a press conference, INLA spokesman Martin McMonagle shed some light on their decision to disarm.

"We believe conditions have now changed in such a way that other options are open to revolutionaries to pursue and ultimately achieve our objectives," he said, according to the BBC.

McMonagle, himself had been an active member of the INLA and had been arrested in England in 1993 for participating in a bombing initiative.

"We make no apology for our

part in the conflict," he announced at the open of the press conference. Nevertheless, he confirmed that the INLA would be disposing of their weapons and weapons caches. "We hope that this will further enhance the primacy of politics and that it will in time unite and advance the working class struggle in Ireland."

Prominent leaders in the region have been quick to commend the INLA for its unexpected cooperation in disarmament.

"The significance of decommissioning goes well beyond the removal of arms, as important as that is," said Northern Ireland Secretary of State Shaun Woodward to The Independent. "It is a physical manifestation of triumph of politics over violence."

As the INLA turns over a new leaf, hopes are that Ireland will finally enter into a time of relative peace.

According to the BBC, Irish Justice Minister Dermot Ahern saw the INLA's cooperation as a major step towards resolving the drawn-out conflicts that have plagued Northern Ireland for decades.

"These events are further positive developments as we look to finally close the last chapter of the conflict and ensure a peaceful future for all the people of Northern Ireland," he said.