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“THE ATOM SMASHERS,” AN EXCITING INSIDE LOOK AT THE FRONTIER OF SCIENTIFIC RESEARCH, TO HAVE ITS BROADCAST PREMIERE ON THE EMMY[®] AWARD-WINNING PBS SERIES *INDEPENDENT LENS* ON TUESDAY, NOVEMBER 25, AT 10 PM

“Finding this Higgs particle will help scientists figure out why the universe is made of something instead of nothing, why there are atoms, people, planets, stars and galaxies. But it also will do much more than that. It will open a door to a hidden world of physics, where scientists hope to find unimagined wonders that will make relativity and quantum mechanics seem like Tinker Toys.” —Ronald Kotulak, *Chicago Tribune*

(San Francisco, CA)—Physicists at Fermilab, the world’s most powerful particle accelerator laboratory, are closing in on one of the universe’s best-kept secrets, the Holy Grail of physics: why everything has mass. With the Tevatron, an underground particle accelerator buried deep beneath the Illinois prairie, Fermilab scientists smash matter together, accelerating protons and antiprotons in a four-mile-long ring at nearly the speed of light, to find a particle—the Higgs boson—whose existence was theorized nearly 40 years ago by Scottish scientist Peter Higgs. The physicists searching for the Higgs boson are excited; they may be approaching the discovery of a lifetime, and there’s almost certainly a Nobel Prize for whoever finally finds it. Produced and directed by Clayton Brown and Monica Long Ross, **THE ATOM SMASHERS** will have its television premiere on the Emmy Award- and Peabody Award-winning PBS series *Independent Lens*, hosted by Terrence Howard, on Tuesday, November 25, at 10 PM (check local listings).

Wars, natural disasters and a growing deficit are chipping away at America’s ability to maintain its role as science leader. Many science programs have been cut from the federal budget, and critical support for Fermilab is waning. In the midst of this uncertainty, Fermilab struggles to stay alive. Its experimental physicists, including Nobel laureate and elder statesman Leon Lederman, rock band frontman Ben Kilminster, and newlyweds John Conway and Robin Erbacher, contemplate their future in physics. Despite dwindling support, the scientists have infectious enthusiasm, wrangling the cantankerous Tevatron to record-breaking energies, increasing the odds of a discovery. And in December 2006, increasing the excitement, research findings indicate that the Higgs might be lighter than previously believed and, therefore, easier for Fermilab to find.

Then comes a bombshell: A new and more powerful accelerator in Europe will open its doors in 2008, and if Fermilab does not make a major discovery before then, the Tevatron will be turned off permanently.

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THE ATOM SMASHERS chronicles 15 tense months at Fermilab as it scours the subatomic world for the Higgs. Will the discovery happen? Will the United States continue to lead the world in science? Or will it slip behind and watch as the greatest minds in physics drift across the Atlantic, closing a great chapter in American scientific progress?

To learn more about the film and the issues, visit the companion website for **ATOM SAMSHERS** at pbs.org/independentlens/atomsmashers. Get detailed information on the film, watch preview clips, read an interview with the filmmaker, and explore the subject in depth with links and resources. The site also features a Talkback section for viewers to share their ideas and opinions.

On-Screen Participants (in alphabetical order)

Natalie Angier is a Pulitzer Prize–winning science writer for *The New York Times*. She has also been honored with the American Association for the Advancement of Science award for excellence in journalism.

Gregorio Bernardi works with the Collider Detector at Fermilab (CDF) and DØ collaborations at Fermilab. He is a professor at the University of Paris and author of *Searches and Prospects for the Standard Model Higgs at the Tevatron*.

Marcela Carena is a senior scientist at Fermilab and a professor in the physics department and the Enrico Fermi Institute at the University of Chicago. Her research explores the possible connections between Higgs physics, supersymmetry, unification, flavor physics and dark matter. She also hosts the Fermilab Tango Club.

John Conway is a professor of physics at the University of California, Davis. Prior to UC Davis, he was on the faculty at Rutgers University. Conway is an experimental particle physicist, a member of the CMS (Compact Muon Spectrometer) experiment at CERN (the European Organization for Nuclear Research, the world's leading laboratory for particle physics) and the CDF experiment. Conway's research focuses on the search for new particles in high-energy particle collisions, including the Higgs boson, and particles predicted by supersymmetric theory and other new theories of particle physics.

Robin Erbacher is an associate professor at the University of California, Davis, and an experimental particle physicist working with the CDF experiment. Erbacher's special interest is exotic physics, including searches for the Higgs boson and supersymmetric particles.

Ben Kilminster is currently a postdoctoral researcher for Ohio State University working with the CDF experiment. He was recently honored with the Universities Research Association 2008 Tollestrup Award for his fundamental contributions to the improvement of the sensitivity in the search for the Standard Model Higgs boson at the Tevatron. He is also the lead singer of the Fermilab rock band, The Drug Sniffing Dogs.

Leon Lederman is a 1988 Nobel Prize winner in Physics and Director Emeritus of Fermilab, of which he was director from 1978 to 1989. In 1963, he proposed the idea that eventually became Fermilab. Lederman has also been awarded the National Medal of Science, the Wolf Prize and the Ernest O. Lawrence Medal. The Chicago Museum of Science and Industry has called him a “modern-day Leonardo da Vinci.” Lederman has championed the search for the Higgs boson and is author of the best-selling book *The God Particle* (1993).

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John Marburger is Science Adviser to the President, George Bush Administration, and director of the Office of Science and Technology Policy.

Mark Oreglia is a professor of physics at the University of Chicago. He is involved in planning for the International Linear Collider and the search for the Higgs boson at Fermilab and CERN. Oreglia is also adviser to the nonprofit documentary film production company 137 Films.

Chris Quigg is a physicist (Scientist III) in the theoretical physics department at Fermilab and a visiting scientist at CERN. Quigg is internationally known for his studies of heavy quarks.

About the Filmmakers

Director/Producer Clayton Brown is a musician and documentary and fiction filmmaker whose films have been screened across the country. His most recent film, *Galileo's Grave* (with producer Andrew Suprenant), won the IFP/Chicago Production Fund grant. He was born in Kansas City, Missouri, and earned an M.F.A. in film from Northwestern University, where he is now on the faculty teaching film production and postproduction.

Director/Producer Monica Long Ross's short films (*The Story of My Life, Memory, Dinner*) have been screened nationally and internationally, and her published theatrical plays (*Clarissa's Closet, Montana Molly and the Peppermint Kid*) have been produced around the country. Born in Milwaukee, Wisconsin, she earned an M.F.A. in film from Northwestern University, and she lives and works in Chicago. Along with her work with 137 Films as director and writer, she teaches at Columbia College in Chicago. Ross is also associate director of the Arizona Women's Theatre Company in Scottsdale, Arizona.

Producer Andrew Suprenant has been creating commercial projects in Chicago for six years. His work has been recognized by INTERCOM, the industrial arm of the Chicago International Film Festival. Suprenant's clients include New Balance, Asthmatic Kitty Records, Indy Racing League, the Chicago Museum of Science and Industry, PepsiCo, Thrillist, *Blender Magazine*, and Lollapalooza. His film debut, *Galileo's Grave* (with Clayton Brown), won the IFP/Chicago Production Fund grant. He was born in Kankakee, Illinois, and has a degree in radio/TV/film from Northwestern University. Brown, Ross and Suprenant are co-founders of 137 Films. This is the organization's first documentary.

About *Independent Lens*

Independent Lens is an Emmy® Award winning weekly series airing on PBS. The acclaimed anthology series features documentaries and a limited number of fiction films united by the creative freedom, artistic achievement and unflinching visions of their independent producers. *Independent Lens* features unforgettable stories about unique individuals, communities and moments in history. Presented by ITVS, the series is supported by interactive companion websites and national publicity and community engagement campaigns. *Independent Lens* is jointly curated by ITVS and PBS and is funded by the Corporation for Public Broadcasting, a private corporation funded by the American people, with additional funding provided by PBS and the National Endowment for the Arts. The series producer is Lois Vossen. Further information about the series is available at pbs.org/independentlens