Lawrence Krauss kommer til Oslo 21-24 september 2011

Professor Lawrence Krauss
er en internasjonalt kjent fysiker med et bredt spektrum av interesser, blant annet elementærpartikkelfysikk og kosmologi, generell relativitetsteori og nøytrino astrofysikk. I tillegg til sin akademiske forskning er han også en av USAs ledende intellektuelle i offentlig debatt. Han er også en av de få forskere som aktivt krysser grensen mellom vitenskap og populærkultur, både gjennom musikk og gjennom bestselgende bøker om vitenskap og samfunn. Krauss har vunnet mange priser for sin forskning og for sitt offentlige engasjement for å fremme vitenskap og kritisk tenkning i et tid preget av anti-vitenskapelige strømninger og kvasivitenskapelig vås i media og i det politiske liv.

Professor Lawrence Krauss
is an internationally known theoretical physicist with wide research interest, including elementary particle physics and cosmology, general relativity and neutrino astrophysics. In addition to his academic research, he is also among the leading public intellectuals in the US. Krauss is one of the few prominent scientists today to have actively crossed the chasm between science and popular culture. He has received a series of prizes, both for his academic research and for his wor**k** public engagement to promote public understanding of science and critical thinking in an era of anti- and quasi-scientific nonsense in mass media and political life.

Programme in Oslo (*abstracts* at the end of this document)

Wednesday 21. September 1415-1600
Open lecture at Oslo University (arranged by the Seminar in Theory of Science at Oslo University in cooperation with “Science debate” and Fritt Ord)
Kristine Bonnevies hus, UiO, Auditorium 3
Hiding in the Mirror: The Mysterious Allure of Extra Dimensions
http://www.hf.uio.no/ifikk/forskning/aktuelt/arrangementer/konferanser-seminarer/faste-seminarer/vitenskapsteori/2011-host/krauss.html

Thursday 22. September kl 1400
Open lecture: The Physics Building, Oslo University, Store fysiske auditorium,
Einstein's Biggest Blunder? A Comsic Mystery Story Details at
http://www.mn.uio.no/fysikk/english/research/news-and-events/events/colloquia/2011/krauss.html

Friday 23. September, kl 1900
The Norwegian Student Society (Det norske studentersamfund, DNS)
Quantum Man: Richard Feynman and Scientific Integrity
For details. http://studentersamfundet.no/vis.php?ID=4739

Friday 23. September, from ca kl 2030
"Skeptics in the Pub" - Informal meeting with skeptics at Cafe Mistral i Majorstuveien, http://skeptikertreff.wordpress.com/ (You don’t need to be a member.)

Abstracts of the above talks (all based on books by Krauss)

Hiding in the Mirror: The Mysterious Allure of Extra Dimensions

Throughout recorded history, humans have longed for a world in which there is more out there than meets the eye. Everything from Hidden universes and alternate realities to vastly different speculations about heaven, hell, and an afterlife have fascinated humankind for millenia, and more recently have captured the public's imagination in such TV shows as The Twilight Zone and Star Trek , in innumerable science fiction books and movies, and art from Picasso to Dali.

Physicists are now hotly debating the possible existence of any underlying mathematical beauty associated with a host of new dimensions that may or may not exist in nature. Further, it has now been proposed that the extra dimensions of string theory may not even be microscopically small. Instead, they could be large enough to house entire other universes with potentially different laws of physics, and perhaps even objects that, like the eight dimensional beings in a Buckaroo Banzai story, might leak into our own dimensions. Whenever scientists speculate about such hidden realities as extra dimensions we have to ask ourselves whether their speculations are more likely to reflect the world as it is, or as our minds are programmed to want it to be. Does the longstanding human love affair with extra dimensions reflect something fundamental about the way we think, rather than about the world in which we live?

These are the questions I shall discuss in my talk, which will in one sense provide a whirlwind tour of the scientific discoveries of the 20th century, but will do so within the context of art and culture over the past 400 years.

Einstein's Biggest Blunder?: A Cosmic Mystery Story:

Over the past decade, new observations have led to a revolution in cosmology. The standard model of cosmology established over the last 100 years is now dead. Its replacement may be far more bizarre, leading to the biggest unsolved mystery in modern physics. In this talk, Professor Lawrence Krauss will first describe the remarkable developments that have changed what we know about the Universe. He will also address several key questions that have arisen as a result of discovering that the dominant energy of the universe resides in empty space. Are the laws of physics tailored for the existence of life? What might science in the far future tell us?

Quantum Man: Richard Feynman and Scientific Integrity:

It took a man who willing to break all the rules to tame a theory that breaks all the rules. Richard Feynman was one of the most beloved and respected scientists of the 20th century. He was also known as a 'curious character', a 'joke' and 'a prankster'. One of the most charismatic scientists of his time, Feynman captivated his colleagues and the public alike. But what is not often appreciated is that while Feynman was indeed a joker, when it came to science, he was deadly serious. He had no tolerance for scientific nonsense, and demonstrated both by his actions and words that to make progress in understanding nature we have to be willing to accept the universe for what it is, and take our answers from nature, and not from our a priori biases. In this charming overview of Feynman's Life based on his new book, Lawrence Krauss will explore the nature of scientific investigation, and the importance of following nature wherever it leads.

Other possible topics suggested by Krauss (for interviews and discussions):

Nonsense, Non-Science, and Science: From Government to Classroom
The distinction between science and fiction and between sense and nonsense is becoming blurred in popular discourse. At the same time, science is currently under attack on many fronts, and scientists need to play a part in helping defend science beyond the walls of academia, locally and internationally, politically and in the media. I will discuss the challenge that journalists face in presenting science appropriately, and the challenges we face for presenting science in a society in which scientific illiteracy is rampant, and in which the public is exposed in the media to a host of scientific fallacies presented as fact. At the same time, there are well-funded groups whose goal is to suppress and/or distort science. On the one hand, the popular debate about the teaching of intelligent design in public schools in the US presents a perplexing quandary for scientists and policy makers. How do scientists take part in a national debate based on popular misconceptions? This development is taking place in the context of a larger politicization of science in which governments have attempted to restrict the flow of information, and to control the government access of scientists. I will describe how public policy based on sound empirical evidence is necessary and the important issue of what science is, and what it is not. The lecture will be part "tour" through the fascinating world of modern physics, and part sober discussion of the various dangers facing modern society if we fail to learn the lessons science has taught us about the world.

An Atom from Norway
We are all star children. Our nature compels us to think of our own experience as the defining feature of existence, but it is not. The fundamental protagonists in the drama of life are the very atoms that make up our bodies. This lecture will trace the biography of a single atom--- one that will be in a glass of water on stage--- from the beginning of the universe, to the end, tracing myriad tragedies and miraculous accidents as it weaves its way through the cosmos, the earth, and our own bodies. On the way we will encounter great discoveries, and great mysteries, as well as some important lessons about our own place in the universe.

For further programme details and for possible appointments, contact
Professor Svein Sjøberg, svein.sjoberg@ils.uio.no tel +47- 93204549