

# Science on the Streets of the Big Apple

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**A five-day festival of science takes place this week at venues across New York City. The festival features not only leading researchers from New York and beyond but also actors, writers, musicians, and choreographers in a series of multimedia programs designed to reveal science to the general public in exciting new ways.**

We believe that every child begins life as a scientist. Most are full of wonder at the animals, stars, plant life, and all else they encounter in the natural world. It is a testament to the failure of scientific education that so many children lose this interest before they reach their teen years. That is why we, together with many others, are launching the World Science Festival this week in New York City (<http://www.worldsciencefestival.com>). The objective of the World Science Festival is to help sustain that curiosity through engaging programs showing that science is so much more than material learned in the classroom. Science, as the numerous events and programs will make clear, pervades everything we encounter in our everyday lives.

The World Science Festival also provides a vital step toward preparing the general public to actively shape science's role in addressing a whole host of issues that will affect how we live our lives in the immediate as well as the not too distant future. Accordingly, the Festival is aiming to help usher in a shift in how the public perceives science, moving it from the cultural outskirts toward the cultural center. Much as is the case with festivals in film and the humanities, a science festival has the capacity to garner a critical mass of public excitement and media attention necessary for such an essential shift to commence.

The Festival itself comprises four broad groups of programs: Signature Programs, aimed at a lay adult audience and focusing on a wide spectrum of developments in modern science; Science & Culture Programs, which seek to draw an audience that might not otherwise become engaged in the sciences; Youth & Family Programs, which will bring children into the world of scientific discovery; and the World Science Summit, an invitation-only event where global

issues will be addressed with science taking center stage. Each of these four categories has been designed to compensate for an absence of science in our broader culture.

The Festival's Signature Programs aim to reveal insights from fields as varied as quantum mechanics, the neuroscience of creativity, Einstein's search for a unified theory, the science of morality, of sustainability, and of personal genomics, and many more. By bringing together leading researchers and young rising stars both from the United States and the world, the Festival will highlight the vitality at the forefront of research while showcasing some of the stunning developments in our understanding of the universe and ourselves.

The Science & Culture Programs carry forward the Festival's belief that there is an urgent need for new avenues of entry into science, ones that can attract those who might never imagine themselves becoming engaged by science. Through film, theater, music, and dance performances that have an organic connection to science, these programs aim, in the words of the Festival's Executive Director and cofounder Tracy Day, "to bring audiences in for the art and have them leave with the science." Among the many events are a screening of *The Bourne Identity* at the Museum of Modern Art, which will be followed by a discus-



**Figure 1. Alan Alda Puts Science in the Spotlight**

Six-time Emmy Award-winning actor Alan Alda speaks at a press conference earlier this year announcing the launch of the World Science Festival, taking place May 28th to June 1st, 2008, in New York City. Image courtesy of Chris Lee.

sion about the neuroscience of memory and amnesia, featuring Doug Liman, the film's producer and director, James Schamus, President of Focus Features, and neuroscientist Giulio Tononi of the University of Wisconsin-Madison. The Works & Process series at the Guggenheim Museum will present a dance piece by director/choreographer Karole Armitage inspired by the book *The Elegant Universe*. And actor and writer Alan Alda (Figure 1) will premiere a new work, *Dear Albert*, which delves into the treasure trove of letters written by Einstein, tracing an intimate and unfamiliar line across his life and work.

The Youth & Family Programs are structured to provide events that will get kids excited, while presenting the scientific underpinnings of everything from climbing Mt. Everest to robotics. For example, Disney's Imagineers are coming to the Festival and will pull back the curtain to demonstrate the science underlying pyrotechnics, virtual reality, robotics and animation. In partnership with the National Basketball Association, the Festival will present a program, "Science of Sports," revealing to kids that there is much science in the mechanics of sports as well as in the training regimens of athletes. Nobel Prize-winning physicist William Phillips will amaze his audience with experiments performed with objects plunged to a temperature of absolute zero. Meanwhile, "Mathemagician" Arthur Benjamin will hand out pocket calculators, beat those machines at complex multiplication and division, then finally turn the tables and explain to

the attendees how he is able to process such large numbers in his head. And a group of high school students will get to quiz MIT robotics engineer Cynthia Breazeal and physics Nobel Laureate Leon Lederman, asking any question they like about robots or the so-called God-particle.

The fourth component of the Festival, produced in collaboration with Columbia University, is called the World Science Summit. It is of a rather different character from the other three and is modeled on the World Economic Summit held annually in Davos, Switzerland. The World Science Summit is not open to the general public but rather is a forum for more than 100 leaders in government, business, and the media to interact with some of the world's most respected and accomplished scientists in a program that focuses on the impact that cutting-edge advances may have on a broad range of policy decisions. When a host of critical topics—from climate change, to stem cell research, to cloning, to alternate energy sources, and so on—are discussed in the public sphere, all too quickly the conversation segues into politics, economics, international relations, or even morality, quickly leaving the core science behind. And it is not that the science is secondary—indeed it is primary—but most people are not sufficiently comfortable with the basic research to embrace the science as an equal part of the discussion. By gathering a large number of leading scientists—including more than a dozen Nobel Laureates—together

with policy makers, journalists, business leaders, and other thinkers, the World Science Summit aims to elevate science to its proper place in such vital discourse. The Summit will also host the launch of the Kavli Awards, featuring the debut announcement by the Norwegian Academy of Science and Letters of the winners of \$3 million in prizes for basic research in nanotechnology, astrophysics, and neuroscience. Such a commitment to basic scientific research resonates with the Festival's celebration of the scientific enterprise.

Through the centuries, basic science has been a key driver of human growth, advancement, and prosperity. Recently, we have seen not only science being relegated to the back seat on matters of public policy where it should be at the core, but also the marginalization of science in all parts of public life. This was emphasized eloquently by New York Times columnist Nicholas Kristof who, in December 2005, wrote a column called "The Hubris of the Humanities," in which he addressed the dangers surrounding the public's "profound illiteracy about science and math as a whole." He noted that an educated person could never laugh off ignorance of Plato or Monet or Dickens, yet so many shrug off a lack of interest in quantum mechanics or genetics as a reasonable intellectual stance. The World Science Festival is committed to sparking a movement that will reverse this trend by building a bridge over which the public might pass toward a rich appreciation for the challenges and triumphs of the scientific journey.