

Teaching a computer how to spot you in a crosswalk could be a first step toward teaching it how to figure out what you're thinking.

From left: Postdocs Piotr Dollar and Michael Maire and professors Pietro Perona and David Anderson put the Caltech Pedestrian Detector through its paces. (The number in each box measures the computer's confidence that the object in the box is a person.) But since humans are so complex, the researchers are starting small—turn to page 25 to find out *how* small.

## TEDx CALTECH—JANUARY 14, 2011

Raconteur, visionary, artist, Nobel laureate, and self-proclaimed “curious character” Richard Feynman will get the TED treatment on January 14. TED conferences are organized around “ideas worth sharing” and operate according to a full-throttle format in which each speaker has 18 minutes to “give the talk of their lifetime.”

TEDxCaltech celebrates the 50th anniversary of Feynman's prescient talk, “There's Plenty of Room at the Bottom,” published in these very pages, and the classic *Lectures on Physics* by taking a look at what the next 50 years might bring. The day will offer an eclectic mix of music and art, as well as science on scales from the quantum to the cosmic. Here's a sampling of the more than 30 presenters:

**ANGELA BELCHER**, a MacArthur “genius” who uses viruses to engineer environmentally friendly materials and was named one of *Rolling Stone's* “100 People Who Are Changing the World” in 2009. Physicist **DON EIGLER**, who helped open the nanotechnology era in 1989 by spelling out the letters “IBM” with 35 xenon atoms under a scanning tunneling microscope. **ERIC HELLER**, a chemical physicist whose digital renderings of quantum chaos are sold as fine art. **CHARLIE MARCUS**, a builder of actual nanoelectronics and theoretical quantum computers. Jazz pianist and composer **LYLE MAYS**, cofounder of the multi-Grammy Pat Metheny Group. Tuvan throat singer **KONGAR-OL ONDAR**. Synthesizer programmer and sound designer **BOB RICE**, who has worked with musicians from Michael Jackson to Frank Zappa. String theorist **LEONARD SUSSKIND**. Cosmologist **ALEXANDER SZALAY**. Documentary producer **CHRISTOPHER SYKES**, whose PBS profiles of Feynman include *The Pleasure of Finding Things Out* and *The Best Mind Since Einstein*. **J. CRAIG VENTER**, who in 2001 was among the first to sequence a human genome (his own) and in 2010 helped create the first “synthetic” life form—a cell with a hand-assembled genome. And, of course, there will be Feynman stories, told by two of his colleagues: **JOHN PRESKILL** and **KIP THORNE** (BS '62).

Emcee **RIVES**, who co-hosts the annual TEDActive conference in Palm Springs, will be flipping speakers like flapjacks. Rives is a poet and designer of pop-up books who, in 2008, tooled around the country with Israeli supermodel Bar Refaeli in a red '67 Cadillac El Dorado convertible for Bravo TV's *Ironic Iconic America*. Bar, alas, will not be joining us, but the audience will have ample opportunity to mingle and connect with the speakers during the coffee breaks, at lunch, and at the closing reception.

The sessions run from 10:00 a.m. to 6:30 p.m. in Caltech's Beckman Auditorium, with on-site check-in beginning at 8:00 a.m.; the doors open at 9:30. There are no breakout groups, so you're guaranteed not to miss a thing. Leave your laptops, cell phones, and other electronic umbilicals in the car—you won't have the time or the inclination to turn them on, anyway.

Registration (\$25 for Caltech students; \$65 for Caltech faculty, staff, postdocs, alumni, and JPL employees; and \$85 for all others) includes all food and beverages—from the all-day complimentary espresso bar on through the reception. Sign up now at <http://tedxcaltech.com/>. —DS 



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