

SLAC

By the Numbers

What is SLAC National Accelerator Laboratory? The numbers tell the tale.

SLAC began in **1962** with **200** employees.

More than **1,400** people now work on staff, along with **230** postdoctoral researchers and graduate students.

2,900 scientists from around the world use our cutting-edge facilities each year.

850 scientific papers are published each year based on SLAC research.

6 scientists have been awarded Nobel prizes for research at SLAC that discovered **2** fundamental particles, proved protons are made of quarks and showed how DNA directs protein manufacturing in cells.

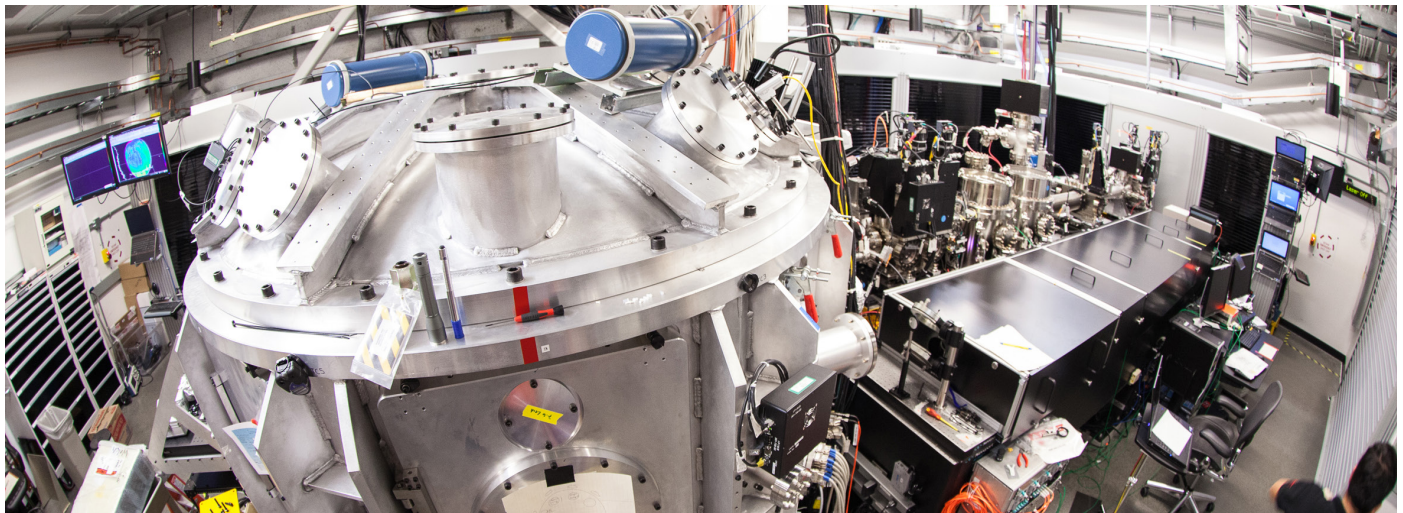
150 buildings sit on our **426**-acre site up the road from the main Stanford campus.

At **3,073.72** meters (**1.9** miles) long, our linear accelerator is the longest modern building on Earth.

Electrons zip down that linac at **669,600,000** mph – **99.9999999** percent of the speed of light.

You'd need **33 billion** AA batteries to generate the amount of energy an electron gains when accelerated down the length of the SLAC linac. Connected end to end, they'd stretch more than **2** times as far as a round trip to the moon.





280 universities and government institutions make use of our resources. **30** companies use our X-ray facilities for research aimed at developing medicines and other products.

SLAC works with Stanford in **4** joint research centers that focus on cosmology and astrophysics, materials and energy science, catalysis and ultrafast science.

Our X-ray laser zaps samples with pulses of brilliant light that are **millionths of a billionth** of a second long.

A **3.2-billion**-pixel camera we're building for the world's deepest sky survey will shoot the equivalent of **800,000 8**-megapixel digital camera images per night. Over a span of **10** years it will take pictures of more galaxies than there are people on Earth.

3.6-million-degree-F matter created in our labs mimics extreme conditions in the hearts of stars and planets. We also create pressures equivalent to **5,200** large African elephants stacked on **1** square inch of ground.

SLAC's highest experiment looks for gamma rays while orbiting **350** miles overhead.

SLAC's deepest experiment will hunt for dark matter in a former gold mine **4,850** feet below ground in South Dakota.

Our farthest look back in time is an array of sensors near the South Pole that searches for patterns left by cosmic inflation in the first **trillionth of a trillionth of a trillionth** of a second after the Big Bang.

The **1st** website in North America was at SLAC, designed to help physicists share their research results.

SLAC's **1st** scientific discovery was a fossil: *Paleoparadoxia*, found in **1964** during excavation for the linac. It lived **14 million** years ago and resembled a hippopotamus.

Top: An experimental station at SLAC's Linac Coherent Light Source X-ray laser where scientists study matter exposed to extreme heat and pressure. Bottom: **10 million** years after the Big Bang, a halo of dark matter forms around a galaxy in this visualization from the joint SLAC/Stanford Kavli Institute for Particle Astrophysics and Cosmology.

