

## ATF2 Narrows the Focus

Last month the KEK facility in Japan hosted the [ninth Project Meeting](#) for the [Accelerator Test Facility 2](#), or ATF2, and a few SLAC staff traveled overseas to participate. The group reviewed progress made in 2009, plans for 2010, and the possibility of extended studies beyond the primary ATF2 goals in 2011, 2012 and beyond. A total of 44 collaborators, including 28 from outside Japan, discussed the technical progress of the ATF2, which began commissioning in [December of 2008](#). The program also covered the future of the project in the face of some major cuts to science funding bodies by the Japanese government.

The meeting took place from December 14 to 17, and the group took time to celebrate the New Year together with a traditional "bōnenkai" celebration—a "forget the year" party. They followed up the Japanese style banquet with karaoke.

The objective of ATF2 is to produce very small accelerator beams with the intention of testing how the reduction in beam size, which is needed for next-generation colliders, will put pressure on accelerator technologies. To operate with such an advanced beam system will require advances in areas including accelerator tuning technology, which fixes minor errors and problems with the beam. ATF2 has been conceived and developed as a prototype of a final focus system for the proposed [International Linear Collider](#).



The ATF2 collaboration. (Photo courtesy KEK ATF2 team.)

"SLAC has been involved in the design of the [ATF2] accelerator, provided and supported many of the hardware subsystems, and contributed in the software and operational aspects since the beginning of the ATF project in the 1990's," said SLAC researcher Glen White. About 10 to 15 SLAC staff are currently involved with ATF2.

For many of the December meeting attendees, this was not a first trip to the KEK facility. "We try to maintain constant SLAC presence during beam running times by having a least one of our team physically at KEK," said White. "The rest of us are able to participate remotely—for example, by diagnosing hardware problems with the help of the onsite personnel or helping out with data analysis."

In the two weeks prior to the meeting, ATF2 staff commissioned the Shintake Interaction Point interference-mode laser system. This system allows the team to measure the electron beam size down to the goal size of about 35 nanometers. ATF2 hopes to start using the laser system this month, and with additional systems in place, will start working toward getting the beam spot size below 1 micrometer.

*The ATF2 was constructed and is commissioned by the ATF international collaboration, which includes more than 20 institution from countries all over the world, including Japan, China, South Korea, France, Switzerland,*



From left: Marc Ross (formerly of SLAC), Nan Phinney, Carsten Hast, Janice Nelson and Glen White of SLAC, with KEK colleagues Hitomi Kusana, Kimiyo Ikeda, Ryuhei Sugahara, Toshiyuki Mitsuhashi, Hitoshi Hayano and Takayuki Saeki at the annual bōnenkai (Forget the Year Party). (Photo courtesy Tsunehiko Omori.)