

The EarthScope AGeS program: A progress report

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The EarthScope AGeS (Awards for Geochronology Student Research) program is a multi-year educational initiative aimed at enhancing interdisciplinary, innovative, and high-impact science by promoting training, education, and new interaction between graduate students, scientists, and geochronology labs at different institutions. The program offers support of up to \$10,000 for graduate students to collect and interpret geochronology data that contribute to EarthScope science targets through visits and hands-on data acquisition in participating geochronology labs (www.earthscope.org/geochronology).

The AGeS program was launched by the EarthScope Institute on “Geochronology and the Earth Sciences” held on October 17-18, 2014 in Vancouver, British Columbia before the 2014 GSA National Meeting. The short course gathered 16 geochronology experts who introduced 43 participants to the basic theory of well-established geochronology methods, and highlighted examples of how geochronology datasets can be used to answer significant Earth science questions, guided to a large degree by EarthScope Science targets (<http://www.earthscope.org/information/publications/science-plan/>). The course also emphasized practical considerations and tactical strategies for designing projects that include geochronology. The course covered an unusually broad spectrum of methods, from U-Pb and $^{40}\text{Ar}/^{39}\text{Ar}$ to luminescence and ^{14}C dating. The open discussion period included insightful exchanges about how to promote successful interdisciplinary collaborations between users, managers, and directors of geochronology facilities.

The first proposal submission deadline was March 16, 2015. By this time, 33 geochronology labs had joined the program as participating labs by submitting lab plans that were posted on the EarthScope website. The lab plans provide information about preparation, realistic time frames for lab visits and data acquisition, and analytical costs. Forty-seven proposals were submitted by graduate students from 32 different institutions, and included the full array of methodologies represented by the participating labs. An independent review panel composed of four geochronology experts who are otherwise not participating in the program (as labs or advisors or PIs on the project grant) subsequently reviewed and ranked the proposals. Awards were announced in mid-May 2015. Ten projects were funded, ranging from \$5,273 to \$9,500. Funded projects include using OSL dating to estimate deformation and incision rates in the vicinity of the Yellowstone hotspot, apatite (U-Th)/He dating to constrain fault kinematics in the Alaska Range, high-precision U-Pb geochronology to determine the timescale of silicic magma production in the Guadalupe intrusive complex, and U-Series dating of calcite cements to constrain the recurrence and timing of fault slip and fracture formation.