GNAO

The next-generation adaptive optics for Gemini North

- Part of NSF-funded Gemini in the Era of Multi-Messenger Astronomy (GEMMA) program
- Telescope: 8-meter Gemini North Telescope (Maunakea)
- Adaptive Optics:
  - 4 laser guide stars, 1-3 natural guide stars, 1 deformable mirror
  - Narrow field mode (20"x20") with LTAO
  - Wide field mode (2' diameter) with GLAO
- First-light instrument: Gemini Infrared Multi-Object Spectrograph (GIRMOS)
  - Up to 4 deployable IFUs with LTAO or GLAO-MOAO
  - Wavelength range 0.95-2.4 microns
  - NIR imager (85"x85" field of view) with GLAO or LTAO
- First light: Early 2028

gemini.edu/about/gemini-era-multi-messenger-astronomy
Science Target

Natural Guide Stars

Laser Guide Stars (Wide Field)

High Altitude Layer

Ground Layer

Deformable Mirror

Real Time Controller

Wave Front Sensors

Laser Guide Stars (Narrow Field)