



Center for Adaptive Optics  
An NSF Science & Technology Center



## CfAO Workshop on Laser Technology and Systems for Astronomy November 2, 2007

### 8:45-9:00 Introduction and Overview

Donald Gavel, CfAO

### 9:00-10:45 Laser Guidestar Programs and Status Updates

Starfire Optical Range Experiments and Modeling – Craig Denman, Paul Hillman  
Gemini Observatory update –Celene D’Orgeville (by video)  
Subaru Observatory update and plans – Hideki Tekami, Shin Oya  
Laser Development at Lockheed Martin/CTI – Allen Tracy  
LGS at Palomar Observatory, Status and Plans – Rich Dekany

### 10:45-11:05 Break

### 11:05-Noon

Laser Development at Lawrence Livermore – Jay Dawson  
Objectives of the Villages Phase 2 Experiments – Donald Gavel  
Requirements for ELTs – Brent Ellerbroek (discussion lead, with additional input from Jason Chin, Rich Dekany, Donald Gavel)

### Noon-2:00 Lunch

### 2:00-3:50 Lasers for ELT AO

Talking points for discussion:

- Sodium return signal measurements. Quantitative methods for characterizing the outgoing beam quality, spot size, and return signal, Laser to sodium coupling physics.
- Key component technologies status and availability (mixing crystals, fibers).

### 3:30-3:50 Break

### 3:50-5:30

- Methods of beam transport, projection, and uplink correction.
- Lessons learned in field hardening for mountaintop operation.
- Strategies for making the laser technology available to the astronomical community.

### 5:30-6:00 Open discussion