NOT operations
Present and future

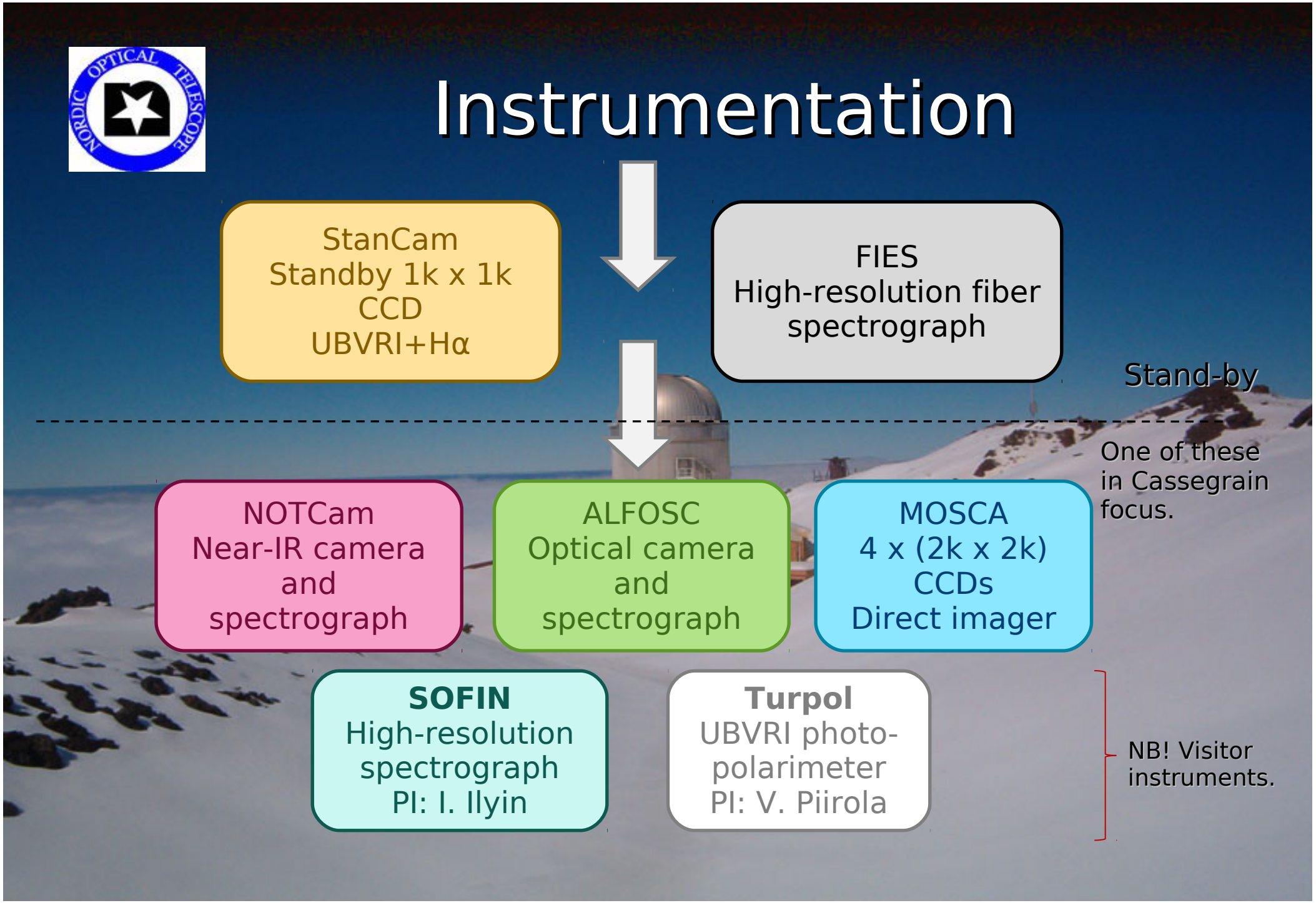
Thomas Augusteijn, Head of Operations
NOT, Santa Cruz de La Palma

Photo: Jacob Clasen, NOT

Staff

- **Director**
- **Astronomy support**
  - **4 staff (50% duty)**
  - **~5 students (25% duty)**
- **Software**
  - **4 staff: telescope control system, observing system, data-base specialist, system manager**
- **Electromechanical support**
  - **1 engineer, 1 technician, 1 mechanic**
- **Administration**
  - **2 staff (half time)**

Instrumentation



Proposal system

Regular proposals

- **Call for proposals every semester (deadline Nov 2!)**
- **Integrated proposal system**
  - **Instrument setup**
  - **Contact and instruction emails**
  - **End-of-night reports**

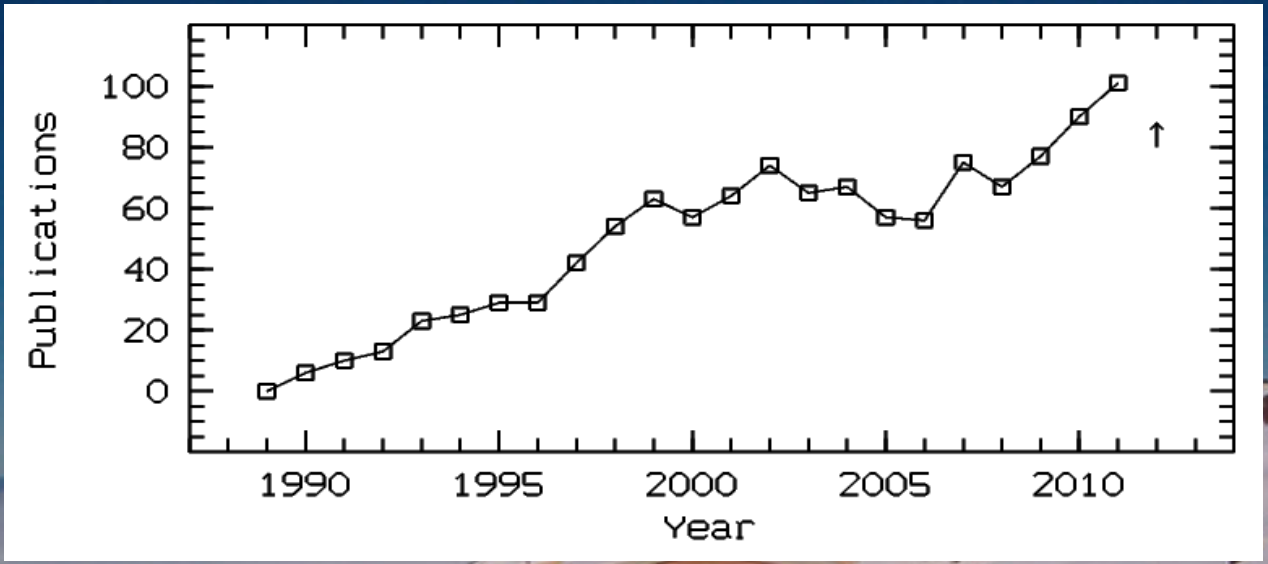
Fast-track proposals

- **Short programs (4hr max)**
  - **Data-base proposal processing**
  - **Rudimentary observing block system**

Operations

- **Instrument usage (last 6 semesters)**
  - **35% ALFOSC**
  - **34% FIES**
  - **13% NOTCam**
  - **18% Others**
- **Support**
  - **Service and technical time: 80+45 nights**
  - **Visitor mode: 240 nights (~3 nights/run)**
- **Downtime (data-base since 10-2006)**
  - **Technical 0.76%/year (min/max 0.43/1.28%)**
  - **Weather 25.1%/year (min/max 18.7/28.9%)**

Publications



- **NOT contributed to more than 1200 articles**
  - **30 Nature and Science articles**
- **Recent production**
  - **73 articles/year over last 10 years**
  - **82 articles/year over last 5 years**

Observing system

Current upgrades...

- **Detectors**
  - **New controllers**
- **ALFOSC**
  - **New CCD (less fringes)**
- **FIES**
  - **Polarimeter (~370-630nm)**
  - **New CCD:**
    - **Less fringes**
    - **~370-830nm**
    - **High resolution slightly affected (60,000)**

Observing system

...current upgrades

- **Observing Block system**
  - **Full target information**
  - **Wrapper of sequencer commands/scripts**
  - **Setting of keywords**
- **Automated data processing**
  - **Quick-look reduction**
  - **Data archiving**
  - **Calibration archive**

Future Instrumentation

StanCam
Standby 1k x 1k
CCD
UBVRI+Hα

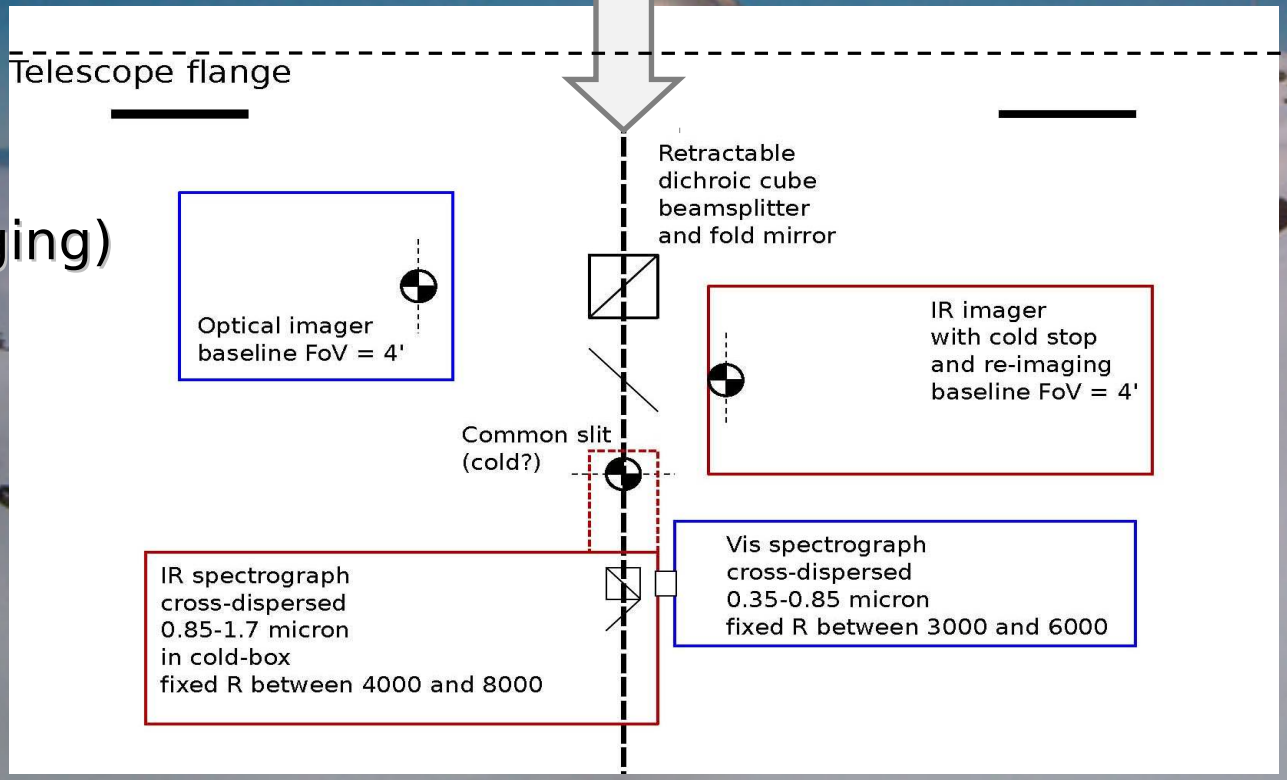
FIES
High-resolution fiber
spectrograph

Stand-by

This Instrument
In Cassegrain
focus.

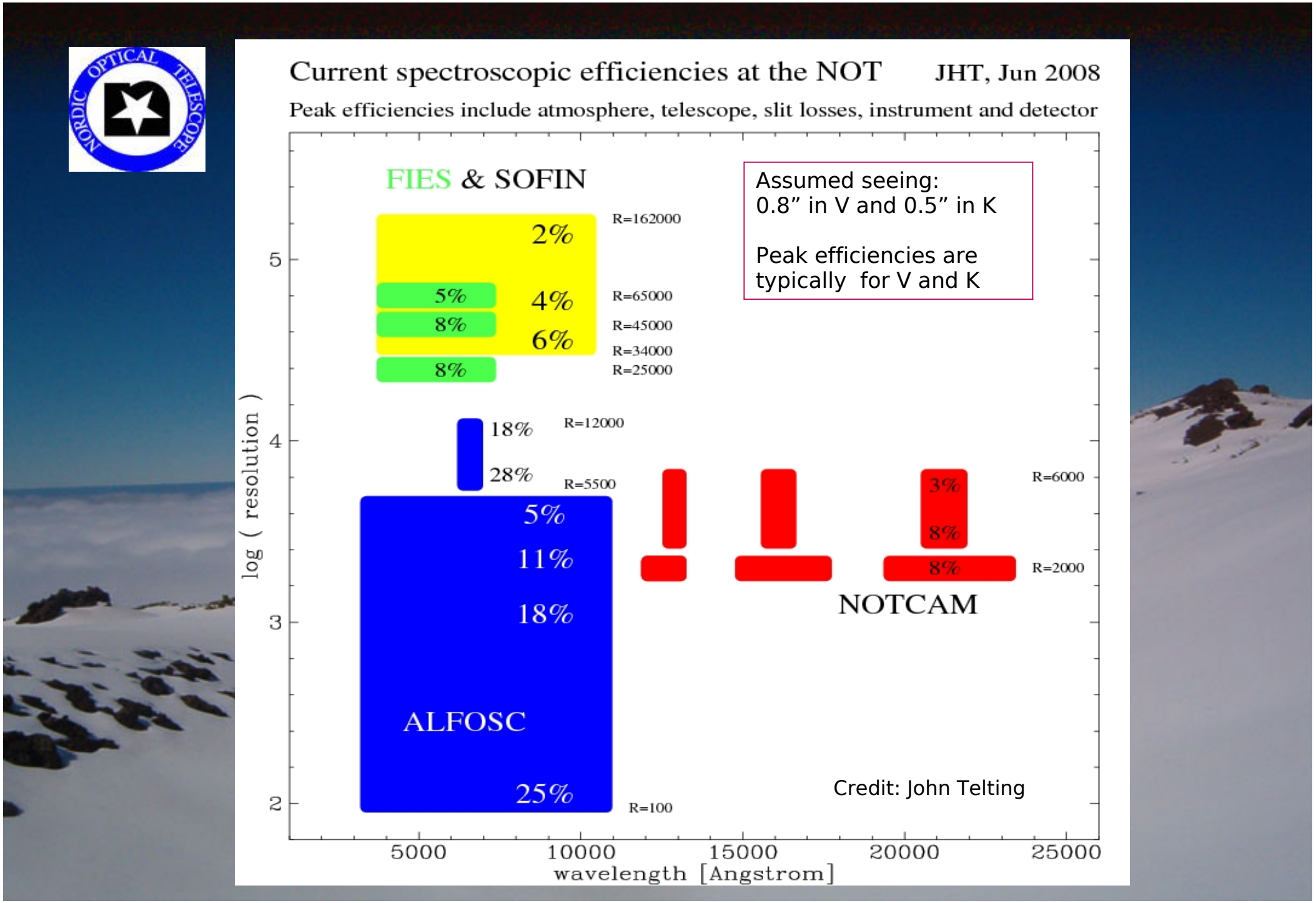
Mini (imaging)

X-shooter



Future system

- **NTE Imaging**
  - **UBVRIYJHK**
  - **Optical FOV 7´x7´ (minimum 4´x4´)**
  - **Infrared FOX 4´x4´**
  - **Simultaneous optical and IR**
- **NTE Spectroscopy**
  - **Spectral coverage 0.35-1.75μm**
  - **Resolution ≥4000 for a 1¨ slit (range 0.3¨-5¨)**
  - **Slit length ≥20¨**
- **Pipeline reduction for all data**


Current spectroscopic efficiencies at the NOT
JHT, Jun 2008
Peak efficiencies include atmosphere, telescope, slit losses, instrument and detector
FIES & SOFIN
2%
5%
4%
8%
6%
8%
R=162000
R=65000
R=45000
R=34000
R=25000
18%
28%
R=12000
R=5500
5%
11%
18%
ALFOSC
25%
R=100
3%
8%
8%
R=6000
R=2000
NOTCAM
Assumed seeing:
0.8” in V and 0.5” in K
Peak efficiencies are
typically for V and K
log (resolution)
5
4
3
2
5000
10000
15000
20000
25000
wavelength [Angstrom]
Credit: John Telting

Future system

- **FIES Radial-velocity stability**
  - **Octagonal fibers**
  - **Double scrambler**
  - **Extended instrument room atmosphere control**
- **FIES Efficiency**
  - **2 Collimators (1 double pass)**
  - **1 Flat mirror**
- **Observing system**
  - **Observing Block scheduler**
  - **Remote operations**