Subaru International Partnership Workshop

Instrumentation Parallel Session Summary

Science to instruments

- Different communities have very defined science goals?
  - Hopefully not!

Setting priorities

- How would an international partnership decide on large systems such ULTIMATE?
- Science & Technology Advisory Committee
  - Makes recommendations
  - Must be given all of the relevant information upon request well in advance
- Instrument selection:
  - Subaru so far has been PI-driven (“bottom up”) – no call for proposals
  - Continue to be PI-”motivated”

Some concepts

- ULTIMATE as an “instrument platform”
  - GLAO + “smart focal plane mechanism” are infrastructure
  - Different instruments can then plugged into this upgraded telescope system
  - Phased implementation possible and even desired
- Post TMT:
  - Focus on large facility instruments
  - Still do rapid prototyping @ Subaru

Technologies

- Astro-photonics
- Fiber technology:
  - Micro-fabrication of arrays
  - …
- Detectors: MKIDs, eAPDs (this is a big item for any given observatory)
- Wavefront sensors:
  - Pyramid
  - Image plane sensors

“Procurement”/team model

- In-kind contributions (labour and non-labour) should be accepted
  - Easier to secure funding at national level
- Should have an annual budget for instrument development
  - Pay cost of small instruments in full
  - Early dev phases of more ambitious instruments
- Continue SSP time as a reward
- Foster instrument teams that are passionate about the instrument they are building – not a vendor/contractor relationship

Specific Collaborations

- Faster telescope beam switching
- Nasmyth beam switching
- Vibration control
- ULTIMATE:
  - Lasers
  - GLAO concept (this one already under way)
  - Focal plane fiber pick-off/positioner
  - Spectrographs
    - Modifying MOIRCS to be 1st light instrument
    - Others
  - “Modular” wide-field imager
- SCExAO:
  - Vibration control
  - Coronographs
  - Software and science

Communications

- We will be “Slackers”
- Email me at Luc.Simard@nrc-cnrc.gc.ca