



Future Instrumentation at Gemini
Nancy A. Levenson
9 March 2010

Gemini South

T-ReCS

NICI

Phoenix

GMOS-S

FLAMINGOS-2

Gemini MCAO System

GSAOI

GPI

Gemini North

MICHELLE

NIRI

NIFS

GMOS-N

ALTAIR

GNIRS

Gemini South

T-ReCS

NICI

Phoenix

GMOS-S

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Gemini MCAO System

GSAOI

GPI

future capabilities

Gemini North

MICHELLE

NIRI

NIFS

GMOS-N*

ALTAIR

GNIRS

Developing a plan - capabilities

- focus on capabilities needed for science
 - consider total suite of instrumentation
 - present and future
 - include facility systems
for example: AO, guiding systems

Developing a plan - partner views

- Gemini values (requires) input from partner communities
- Brazilian community must define your needs
 - meetings like this and continuing discussions
 - surveys
(but avoid mere “popularity contests” of current scientific approaches)
- identify your top priorities
- other partners should do the same

Developing a plan - funding

- clarity on funding is essential
- funding must be committed for the full program
(or at least for a full instrument at a time)
- realistic funding expectations should provide a constraint
on science and design discussions in advance
 - scientists should decide on the tradeoffs within the budget

A plan for 2010

2010 Gemini Observatory Plan

capabilities

partner views

funding

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- gather partner views over the first half of 2010
→ international meeting in second half of 2010
- Board had identified specific instrumentation budget
- ready to begin real work 1 January 2011
(new budget)

Not a plan for 2010

2010 Gemini Observatory Plan

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respond to these immediate issues

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respond to these immediate issues
- retain some elements of original planning process
 - science determines capabilities required
 - partner views are an essential element

New plan for 2010

- surveys to identify main community interests
 - US had conducted survey in 2009
 - these questions repeated for entire partnership
- Gemini Science Committee to distill these results including further discussions and input from meetings like this
- GSC will meet in April 2010, report to Board for May

Survey

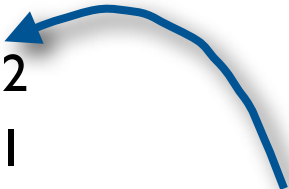
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Survey

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• Optical/	Wide-field imaging	201
• Optical/	Single-object spec. ($R > 15,000$)	170
• Optical/	Multi-object spec. ($R > 15,000$)	125
• Optical/	Single-object spec. ($R < 15,000$)	122
• NIR/	Single-object spec. ($R > 15,000$)	119
• NIR/	Multi-object spec. ($R < 15,000$)	111
• NIR/	Diffraction-limited imaging	106
• NIR/	Single-object spec. ($R < 15,000$)	85
• Optical/	IFU imaging and spec.	77
• NIR/	High-contrast diffraction-limited imaging	63
• NIR/	Multi-object spec. ($R > 15,000$)	62
• NIR/	IFU imaging and spec. ($R > 15,000$)	60
• NIR/	Seeing-limited imaging	59
• MIR/	Single-object spec. ($R < 15,000$)	40
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Borda rank



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New plan for 2010

- now through May is a critical time to identify Brazil's needs
 - immediate needs for “quick start”
 - longer-term needs for complete capabilities
- fill in missing information from surveys
 - capabilities that were not considered
e.g., facility improvements
 - novel possibilities
e.g., multi-wavelength

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- could exchange time or count as in-kind contribution
- complete suite of instrumentation for the long-term must be defined