



Scheduling and Staffing during CSV

Alison Peck



One Month Outline of Commissioning Staff Needed in Chile

Location	Week 1	Week 2	Week 3	Week 4	Total
OSF	2-3 x 3 shifts per day	2-3 x 3 shifts per day	2-3 x 3 shifts per day	2-3 x 3 shifts per day	24-32 people
SCO	8-10	8-10	8-10	8-10	
Off duty	6-8	6-8	6-8	6-8	
Research, travel or leave	4-6	4-6	4-6	4-6	
Total	24-32 people				

Modified turno system (8/28)



Actual staff in Place (2009)

Source	2009 Q1	2009 Q2	2009 Q3	2009 Q4
JAO	12	13	15	18
Sci IPT Chile	2	2	1	1
ARC Chile	0	0	1	2
Total Chile	14	15	17	21
Required Chile	14	18	18	22



Expected Staff in Place (2010)

Source	2010 Q1	2010 Q2	2010 Q3	2010 Q4
JAO	21	21	21	21
Sci IPT Chile	0	0	0	0
ARC Chile	2	3	3	3
Total Chile	23	24	24	24
Required Chile	24	24	24	24



Scheduling

- Staff scheduling is done for a full month, six weeks in advance
- Each Science Team member spends one 8-day shift at the OSF per month
- Scheduling based on availability, monthly to accommodate travel for conferences, vacations or other observing
- Goal to have 6-8 people up at any time during CSV, can currently manage 4-5

- Shift scheduling is done weekly, with refinements daily as circumstances change



October Schedule

Today October 2009 Refresh Print Day Week Month 4 Days Agenda

Sun	Mon	Tue	Wed	Thu	Fri	Sat
27	28	29	30	Oct 1	2	3
• SCI: Tony • SCI: Paulo • SCI: Tsuyoshi	• SCI: Antonio • SCI: Diego	• SCI: Rainer	• SCI: Lewis		• SCI: Pamela	
4	5	6	7	8	9	10
• SCI: Antonio • SCI: Diego • SCI: Lewis • SCI: Rainer • SCI: Pamela	• SCI: Alison	• SCI: Pere		• SCI: Stuart		
	• SCI: Baltasar • SCI: Mark					
11	12	13	14	15	16	17
• SCI: Baltasar • SCI: Mark • SCI: Pere • SCI: Stuart		• SCI: Lewis • SCI: Shin'ichiro				
	• SCI: Juan • SCI: Tom • SCI: Tony					
18	19	20	21	22	23	24
• SCI: Juan • SCI: Tom • SCI: Tony • SCI: Lewis • SCI: Shin'ichiro			• SCI: Paulo • SCI: Ruediger			
	• SCI: Antonio • SCI: Bill • SCI: Robert					
25	26	27	28	29	30	31
• SCI: Antonio • SCI: Bill • SCI: Robert • SCI: Paulo • SCI: Ruediger	• SCI: Alison	• SCI: Lewis				
	• SCI: Andrew • SCI: Tsuyoshi					

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Oct 13 2009

ASAC Meeting, Garching



Average numbers of people supporting AIVC

Scientists in daytime: 2

Scientists at night: 3-4

Computing support in daytime: 6

Computing support at night: 2

Engineering support in daytime: 18

Engineering support at night: (currently) on-call only

OSF: Handover of 3 antennas currently being tested from engineering to scientists normally 12:00-13:00

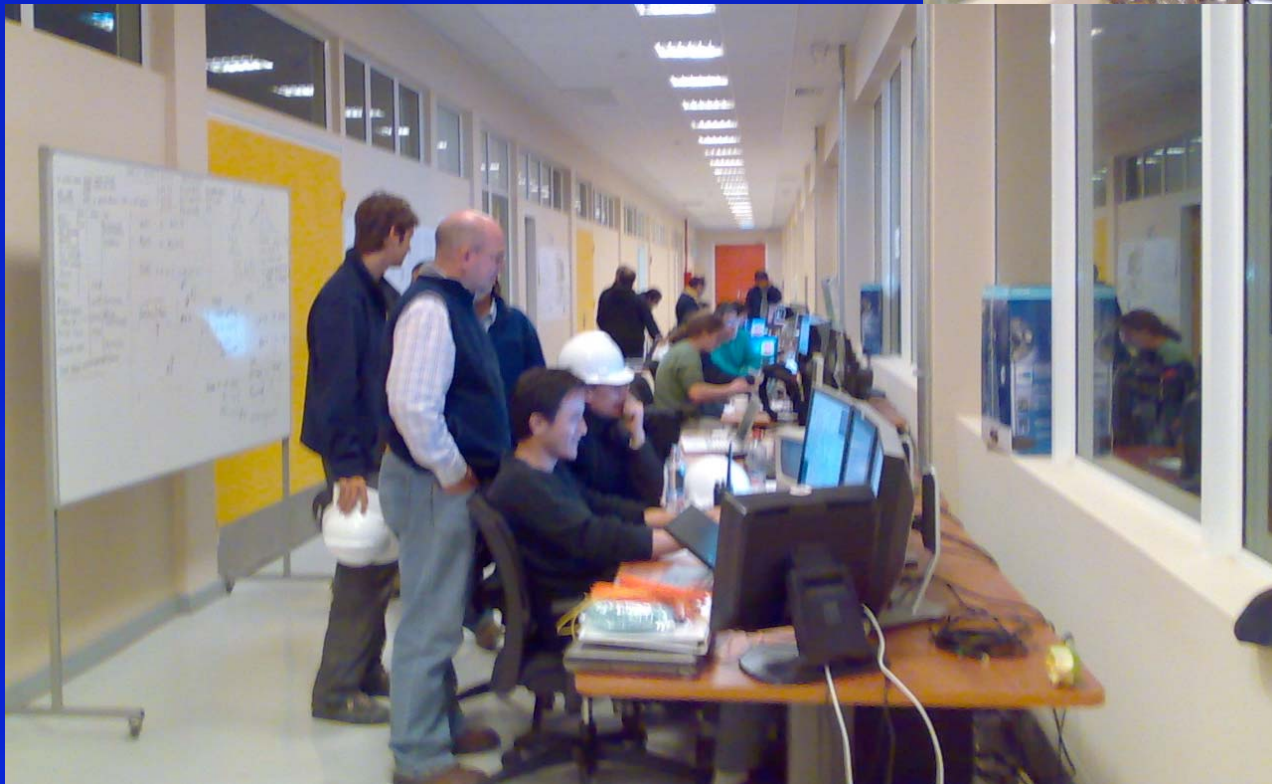
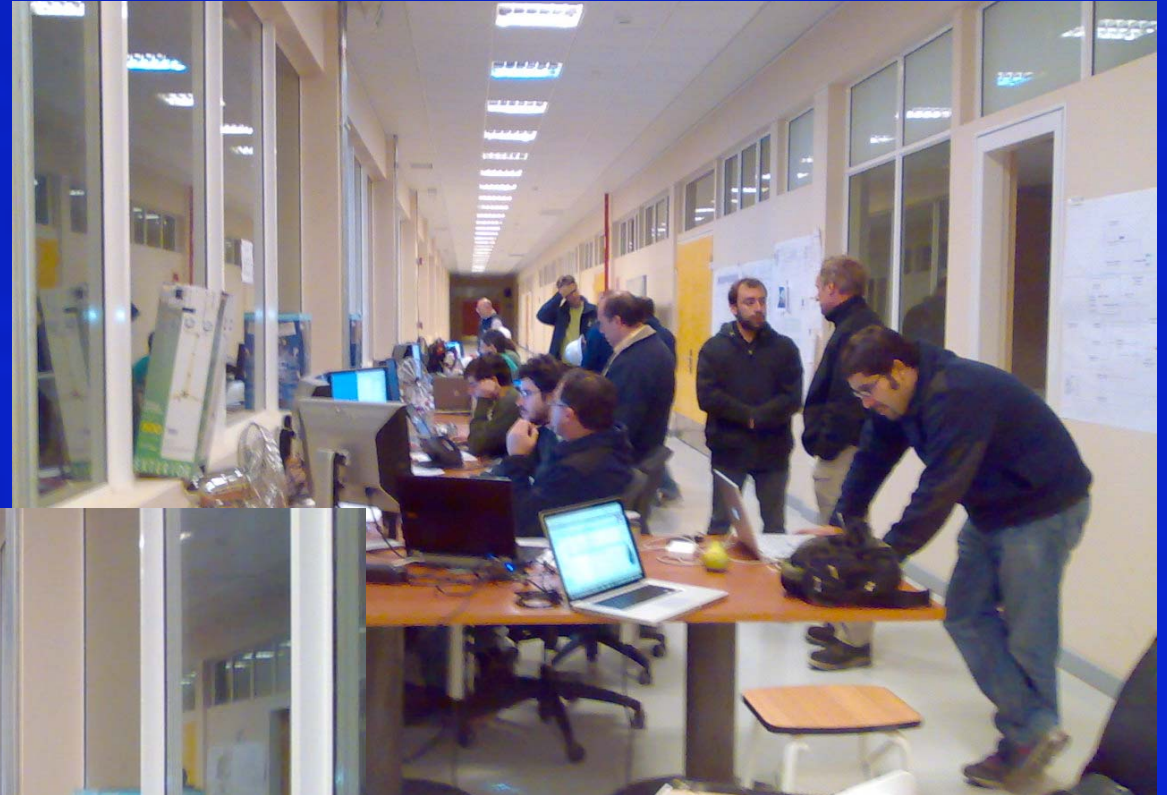
Except Wednesdays (Computing time from 10:00-22:00)

AOS: Antennas always for testing except for repair/diagnostics



“Handover Shift” during testing with 3 antennas

2 antennas for interferometry,
one for SD



ng



Organizational meetings

Matrix management requires frequent updates

Daily:

- **Science Coordination** - All scientists, evaluate previous night's data, make plans for testing
- **AIV Coordination** - Engineering, antenna and s/w leads, some scientists, discuss plan for testing and status of equipment



Organizational meetings

Weekly:

- **Science Coordination** - All Scientists, evaluate status of testing, discuss ongoing problems or upcoming campaigns, followed by either meeting with SV staff to discuss technical issues, or with Science Only meeting, to discuss science projects within the group
- **AIV Coordination** - Summary of status of work at OSF, AOS, and deliveries from Executives
- **IPT Leads** - Summary of activities of all groups, status of deliveries to Chile, testing at other sites



September calendar - CSV Team

Today **Sep 13 - 19 2009** Refresh Print Day **Week** Month 4 Days Agenda

	Sun 9/13	Mon 9/14	Tue 9/15	Wed 9/16	Thu 9/17	Fri 9/18	Sat 9/19
	Rainer Off				IRAM deadline	Peck: Charlottesville	
	Robert: off				JCMT deadline	Robert: Observing Modes Workshop	
						Holiday-Chile (Independence Day)	
09:00							
10:00							
11:00			10:30 - 11:30 IPT meeting			11:00 - 12:00 AIV meeting	
12:00							
13:00							
14:00					14:00 - 15:00 AIV handover		
15:00		15:00 - daily Sci meetin	14:30 - 15:15 Sci coord meeting	15:00 - daily Sci meetin	15:00 - daily Sci meetin	15:00 - daily Sci meetin	
	15:30 - AIV daily	15:30 - AIV daily	15:15 - 16:00 Sci/SV coord mtg	15:30 - AIV daily	15:30 - AIV daily	15:30 - AIV daily	15:30 - AIV daily
16:00							
17:00							

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Observing Shift Assignment

Fridays, after the AIV Coordination meeting

Assessment of needs – what activities will go on this week that require a scientist (observing, PAS, s/w testing, data analysis, report writing), and what are the likely demands on time? What time will these activities take place?

Allocation of time - scientists are assigned to tasks based on experience and availability. Alison sends email and adds info to Google calendar

Reporting and Feedback - same as AIV, staff use Science Activity Journal and Shift Log Tool (when available), as well as filing JIRA tickets to track progress



AIV Antenna Station Schedule

Today **Tuesday, September 1** [Refresh](#)

[Print](#) [Day](#) [Week](#) [Month](#) [4 Days](#) [Agenda](#)

Expand All Collapse All

Tue Sep 1	<div style="background-color: #0056b3; width: 15px; height: 10px; margin-bottom: 5px;"></div> <div style="background-color: #666666; width: 15px; height: 10px; margin-bottom: 5px;"></div> <div style="background-color: #a52a2a; width: 15px; height: 10px;"></div>	TF5: PM03: AIV (STE: TFINT) TF1: DV01: AIV (STE TFINT) TF6: DV02: AIV (STE: TFSD)
	20:00 – 04:00	TF5: PM03: ENG/COMP Connectivity/Monitoring ↗
	20:00 – 04:00	TF1: DV01: SCI/COMP/ENG Interferometer testing ↗
	20:00 – 04:00	TF6: DV02: SCI/COMP/ENG Interferometer testing ↗
	04:00 – 12:00	TF5: PM03: Engineering Test Time ↗
	04:00 – 12:00	TF1: DV01: Engineering Test Time ↗
	04:00 – 12:00	TF6: DV02: Engineering Test Time ↗
	12:00 – 19:00	TF5: PM03: COMP BE Monitoring ↗
	12:00 – 20:00	TF1: DV01: SCI/COMP/ENG Interferometer Testing ↗
	12:00 – 20:00	TF6: DV02: SCI/COMP/ENG Interferometer Testing ↗
	12:00 – 20:00	TF5: PM03: ENG Transporter Bracket Bolt replacement ↗
	20:00 – 04:00	TF5: PM03: ENG/COMP Connectivity/Monitoring ↗
	20:00 – 04:00	TF1: DV01: SCI/COMP/ENG Interferometer testing ↗
	20:00 – 04:00	TF6: DV02: SCI/COMP/ENG Interferometer testing ↗
Wed Sep 2	<div style="background-color: #0056b3; width: 15px; height: 10px; margin-bottom: 5px;"></div> <div style="background-color: #666666; width: 15px; height: 10px; margin-bottom: 5px;"></div> <div style="background-color: #a52a2a; width: 15px; height: 10px;"></div>	TF5: PM03: AIV (STE: TFINT) TF1: DV01: AIV (STE TFINT) TF6: DV02: AIV (STE: TFSD)
	20:00 – 04:00	TF5: PM03: ENG/COMP Connectivity/Monitoring ↗
	20:00 – 04:00	TF1: DV01: SCI/COMP/ENG Interferometer testing ↗
	20:00 – 04:00	TF6: DV02: SCI/COMP/ENG Interferometer testing ↗
	04:00 – 12:00	TF5: PM03: Engineering Test Time ↗
	04:00 – 12:00	TF1: DV01: Engineering Test Time ↗
	04:00 – 12:00	TF6: DV02: Engineering Test Time ↗
	12:00 – 19:00	TF5: PM03: COMP BE Monitoring ↗
	12:00 – 20:00	TF5: PM03: COMP Regression tests ↗
	12:00 – 20:00	TF1: DV01: COMP Regression Testing ↗
	12:00 – 20:00	TF6: DV02: SCI/COMP/ENG Interferometer Testing ↗
	12:00 – 20:00	TF5: PM03: ENG Transporter Bracket Bolt replacement ↗

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Tip [<](#) [>](#)



OSF Shift Assignments by Day

Tues, Oct 13

Station (activity)	12:00-14:00	14:00-16:00	16:00-18:00	18:00-20:00	20:00-22:00	22:00-00:00	00:00-02:00	02:00-04:00
AOS	Pere				Juan (+Operator until 8AM)			
TFINT	Tom final interf tests (see mission page)				Tony			
DV03	All+operator Surface verification							

Wed, Oct 14

Station (activity)	12:00-14:00	14:00-16:00	16:00-18:00	18:00-20:00	20:00-22:00	22:00-00:00	00:00-02:00	02:00-04:00
AOS	Tom				Juan (Ruediger til 00:00) (+Operator until 8AM)			
TFINT	COMP Regression tests					Tony (no DV01 - move prep)		
DV03	All+operator Surface verification							

Thur, Oct 15

Station (activity)	12:00-14:00	14:00-16:00	16:00-18:00	18:00-20:00	20:00-22:00	22:00-00:00	00:00-02:00	02:00-04:00
AOS	Ruediger				Juan (+Operator until 8AM)			
TFINT	Tom (no DV01 - move prep) finish DV02 reports				Tony (no DV01 - move prep)			
DV03	All+operator Surface verification							

Fri, Oct 16

Station (activity)	12:00-14:00	14:00-16:00	16:00-18:00	18:00-20:00	20:00-22:00	22:00-00:00	00:00-02:00	02:00-04:00
AOS	Ruediger move preparations?				Juan (+Operator until 8AM)			
TFINT	Tom (no DV01 - move to AOS) finish DV02 reports				Tony (+Tom if no daytime shift)			
DV03	All+operator Surface verification							



Support from Santiago

- Needs for support from scientists in Santiago are assessed at each Daily Science meeting.
- Support can be for daytime data reduction, advice during setup, or active participation in new types of tests via a remote observing station. No antenna movements are executed remotely, but the Santiago scientist can view the commands being issued and any error messages in real time.
- The remote observing station can also be run independently in simulation mode, for prior testing of observing scripts.



Engineering and software support during CSV

CSV has no engineers, we are fully reliant on AIV, and later on the Department of Technical Services. Thus after the antennas are moved to the AOS, problems will be reported and support will be requested in the same manner, through the daily coordination meetings. It is likely these meetings will expand to include video participation from crews working at the AOS, in order to have up-to-date status reports in order to plan for that night.



Task list and progress tracking (JIRA)

Parent Tickets

Sub-tasks

Phase Calibration

Phase Referencing

Fast-switching

Water Vapour Radiometer Phase Correction

Phase Transfer between Receiver Bands

Polarization

Beacon Tests

Sky observing

LO Switching Methods

180-degree phase-switching

90-degree phase-switching

LO offsetting

Single Dish Modes

Position-switching

On-the-fly mapping

Frequency-switching