

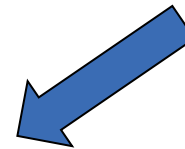
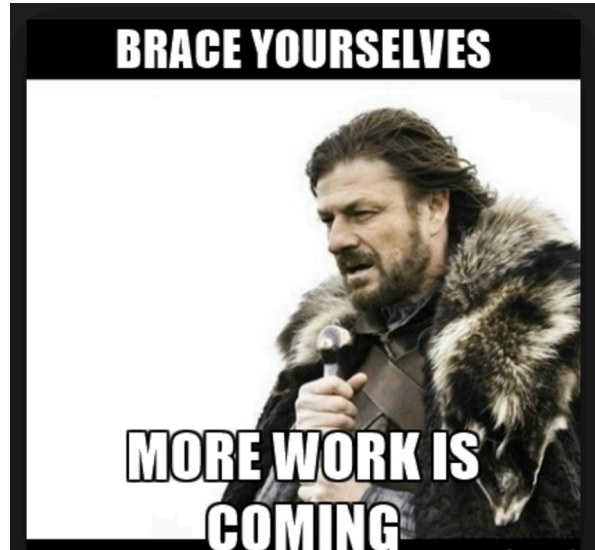


The art of proposal writing: from idea to submission

Claudia Paladini
VLT Operations Staff astronomer

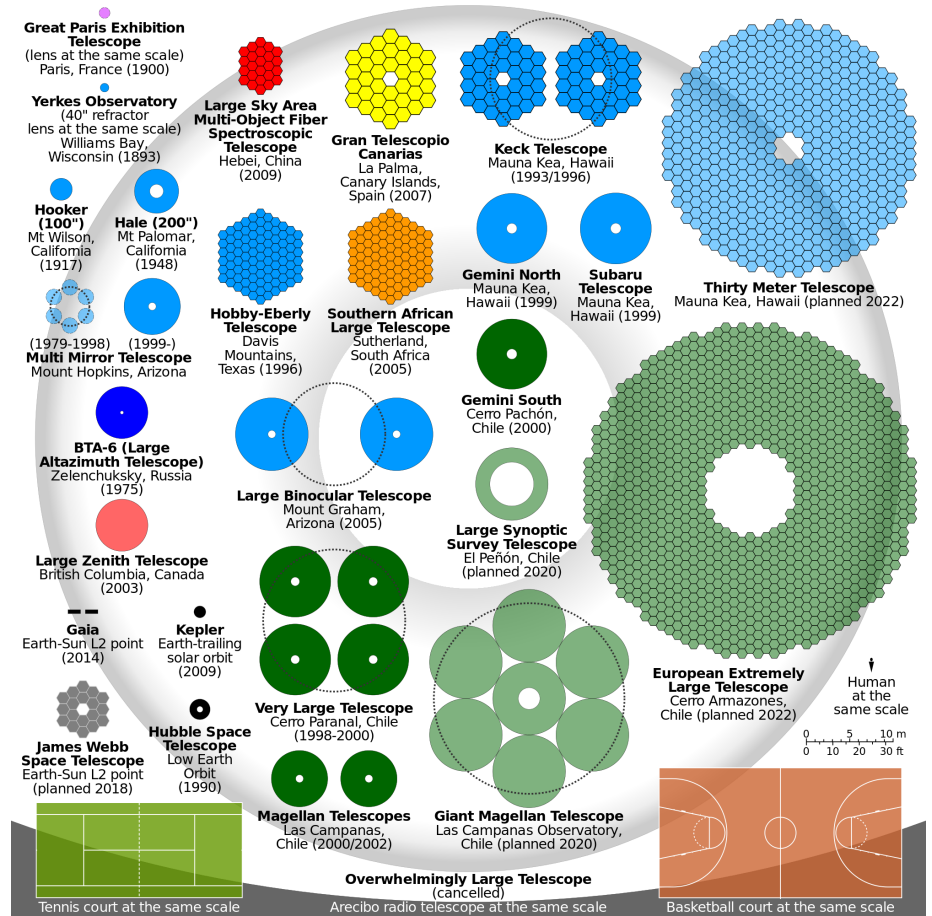
With material from P.Garcia, G.Duvert, O. Chesneau, F. Del Plancke, H. Boffin

A good start



The feasibility

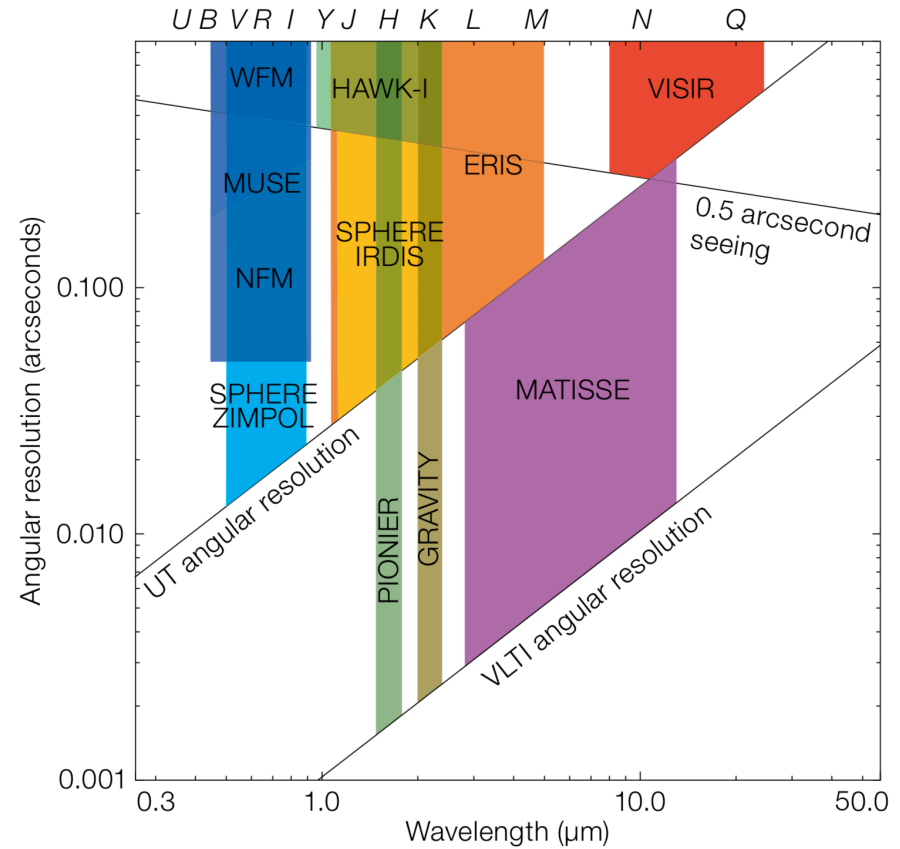
Which telescope?



Credits: Wikipedia

The feasibility

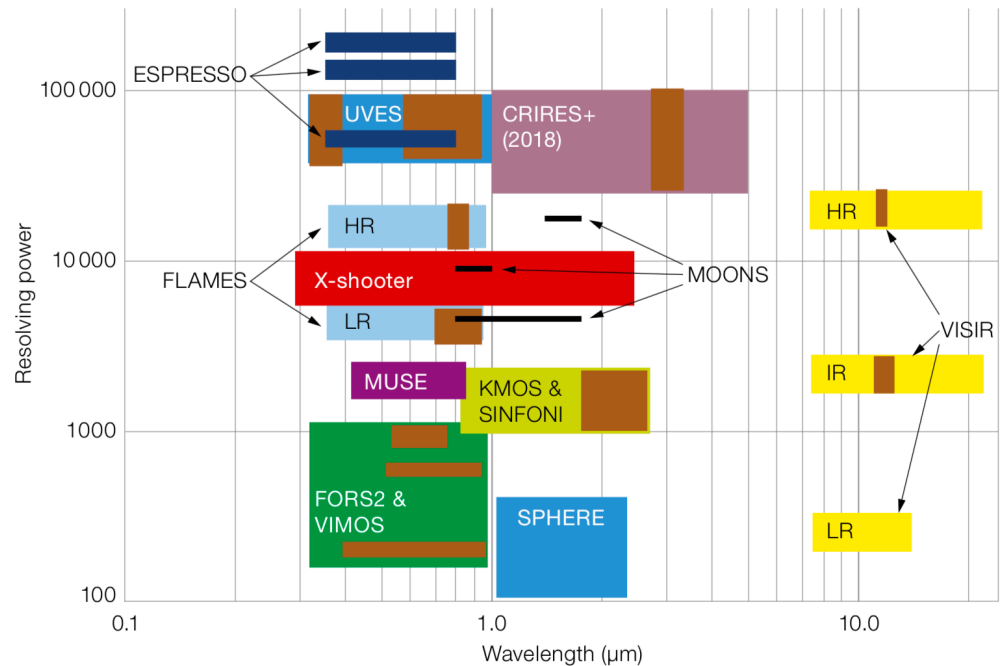
- Which telescope?
- Which technique or instrument?



Credits: ESO Messenger

The feasibility

- Which telescope?
- Which technique or instrument?



Credits: ESO Messenger



European Organisation for Astronomical Research in the Southern Hemisphere

Observing Programmes Office • Karl-Schwarzschild-Strasse 2 • D-85748 Garching bei München • email: opo@eso.org • Tel: +49 89 3200 6473



Cycle: Cycle P105

Type: GTO

Status: Valid

Internal ID:

Printed: 26 Sep 2019

APPLICATION FOR OBSERVING TIME


IMPORTANT NOTICE

By submitting this proposal, the PI takes full responsibility for the content of the proposal, in particular with regard to the names of CoIs and the agreement to act according to the ESO policy and regulations, should observing time be granted.

Calls ~1st March and ~1st September

Deadlines are ~31st March and ~1st October

(check on the ESO webpage)



Mon	Tue	Wed	Thr	Fri	Sat	Sun
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	🍷🍷🍷	



The OPC*

Observing Proposal Committee

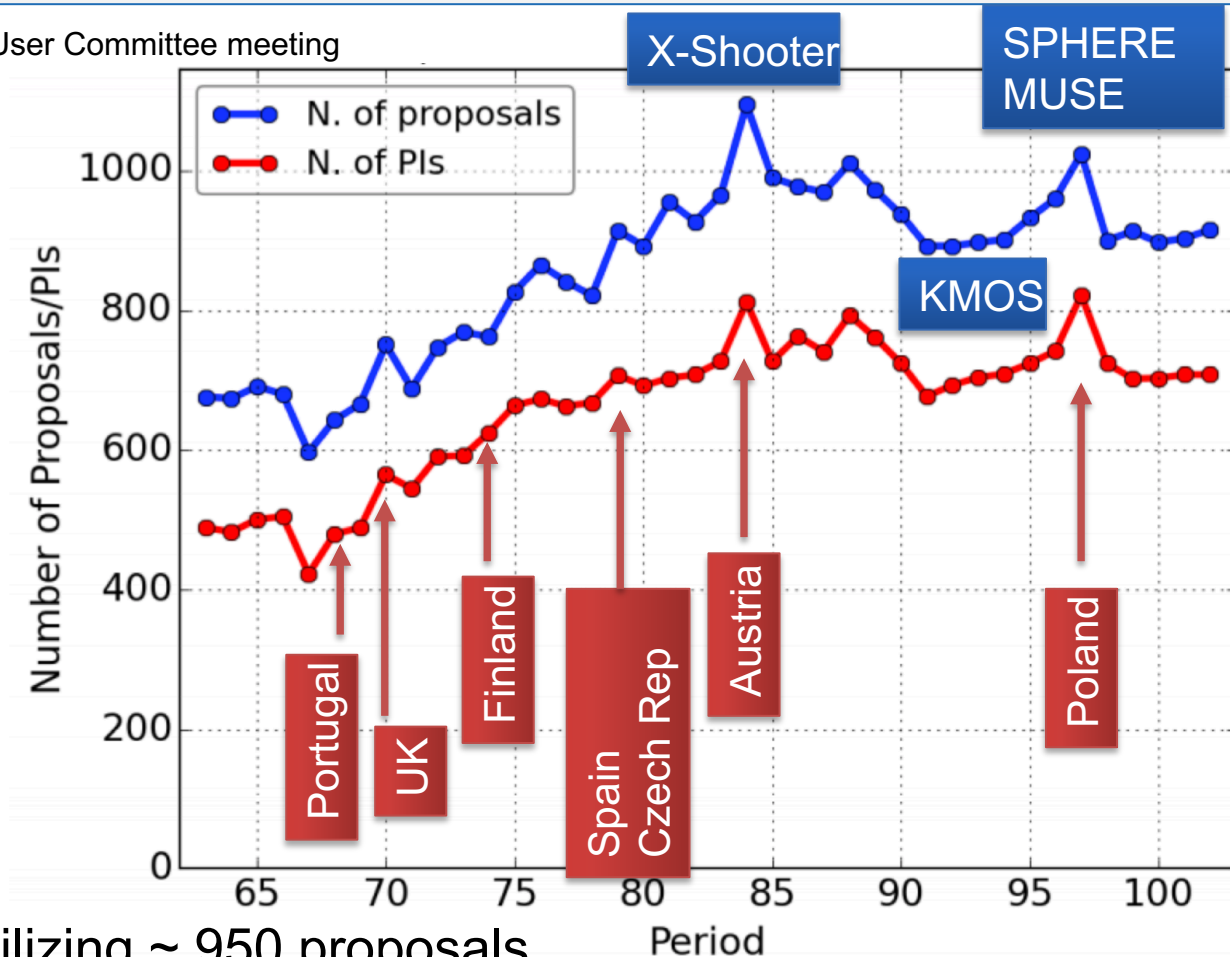
Standing between you and your dream observations



*Also called TAC: Telescope Allocation Committee

You are not the only one with an idea

Patat 2018, ESO User Committee meeting



Stabilizing ~ 950 proposals

~700 Principal Investigators

~3170 nights asked in the last 4 years (1070 scheduled)

~800 Proposal submitted in the last 24H!

Different types of proposal @ESO

- Director Discretionary Time (~ 5%) - DDT
- Target of Opportunity – ToO (events predictable in a generic sense)
- Large Program – LP (only even periods from P104)
- Guarantee Time Obs. (you build telescope/instrument, payment in Observing Time)
- Normal Programs (typically this is your proposal)
- Monitoring programs

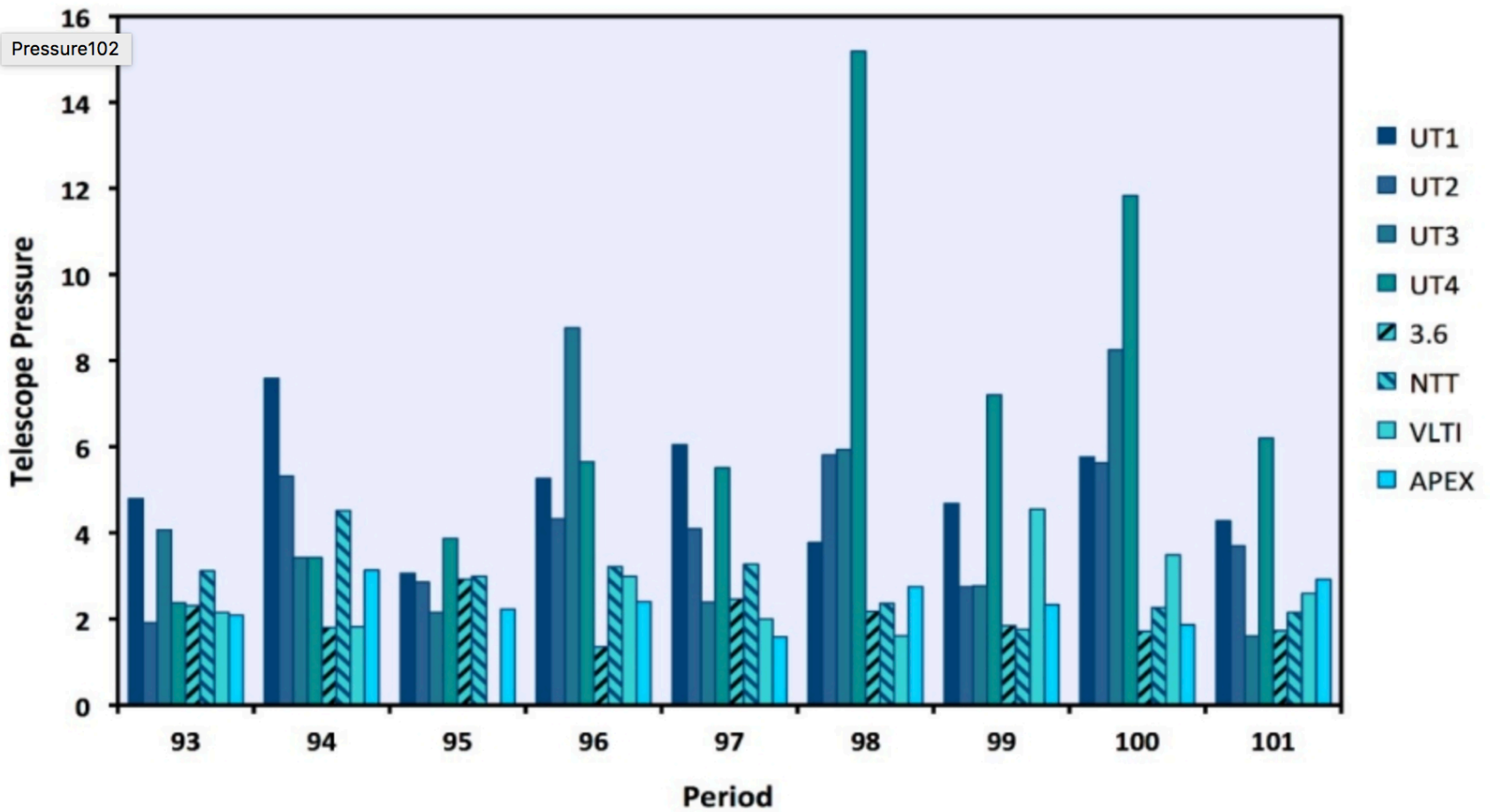
When do you ask for DDT?

- Unpredictable ToO
- Proposal requesting observations on a hot scientific topic
- When your previous observations miss one data point for a breakthrough result

Can be asked at any time.

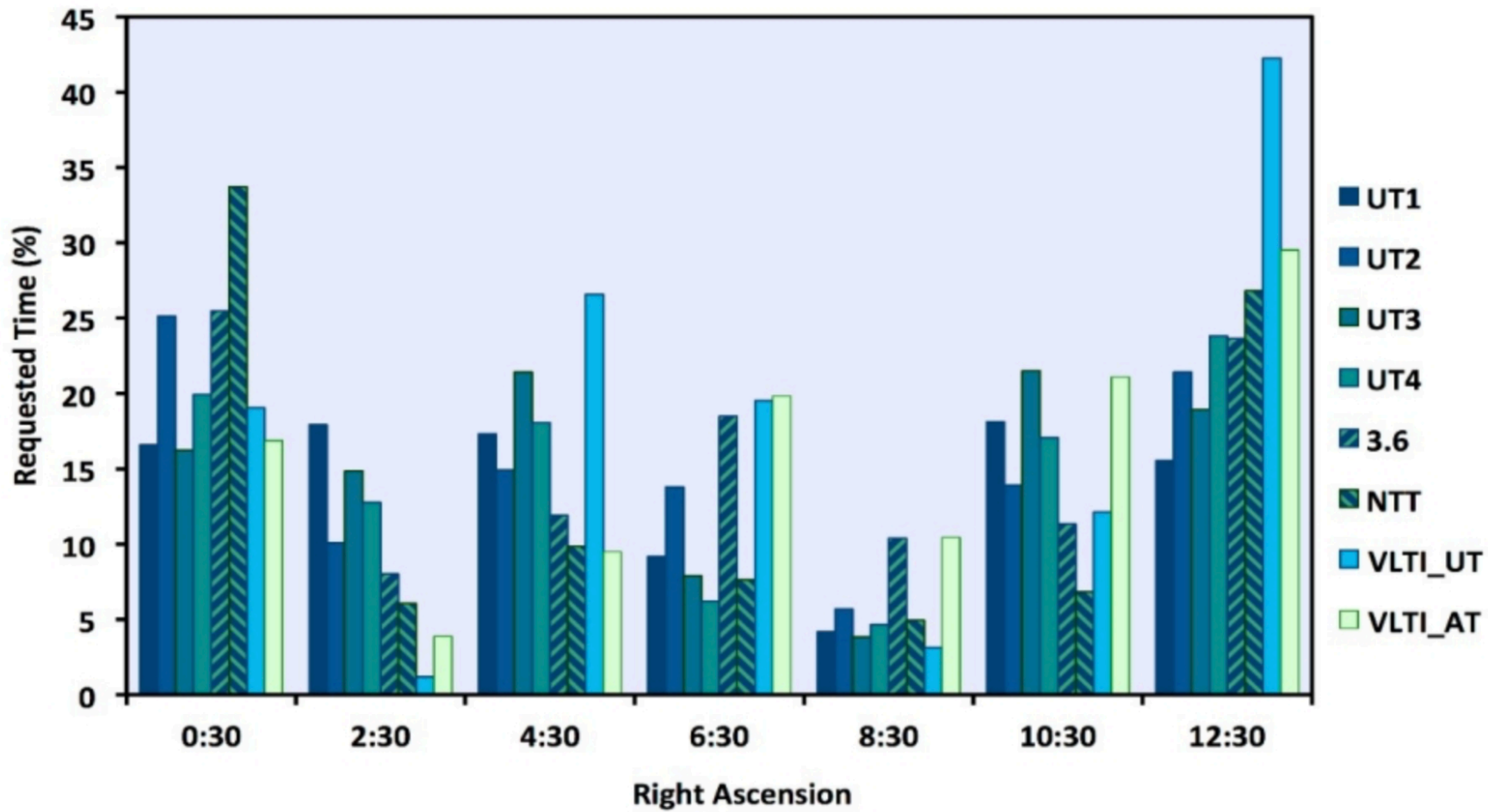


Be aware of telescope pressure





Be aware of the area of the sky you want to observe



Before the OPC meeting

- Panel members receive detailed instructions on the process and their role
- All panel members grade all proposals and submit grades and comments to ESO



~ 70 proposal
on a subject different from your
to read during your free time
(work for free)

How the referee grades

- Sufficient background/context for the non-expert?
- Are previous results clearly presented?
- Are the proposed observations and the Immediate Objectives pertinent to the background description?
- Is the sample selection clearly described, or, if a single target, is its choice justified?
- Are the instrument modes, and target location(s) specified clearly?
- Will the proposed observations add significantly to the knowledge of this particular field?

Conflict of interest

- Should be declared by the referee one week after receiving the proposals
- If detected only at the meeting – member does not vote (leaves the room)
- People normally follow this rule



Conflict of interest

- Should be declared by the referee one week after receiving the proposals
- If detected only at the meeting – member does not vote (leaves the room)
- People normally follow this rule



The OPC meeting

- Each proposal has 1 principal referee + full sub-panel
- Previously to the meeting the referees send their marks and comments to the panel
- Meeting lasts for one week
 - 2 days for panels meetings
 - 3 days for OPC member final ranking
- Time spent with each proposal
 - Before panel typical time is ~ 20 min
 - During panel discussions typical time is ~ 5-7 min



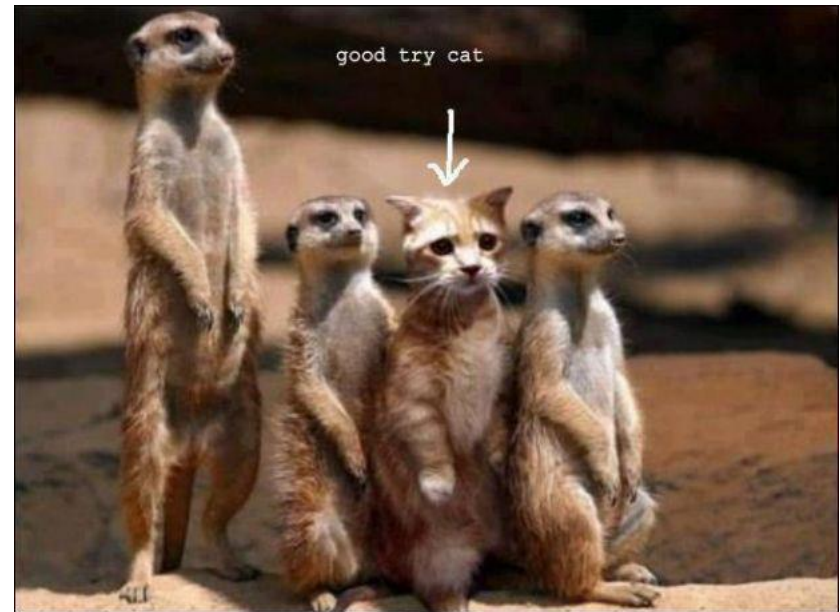
ESO OPC categories

A – Cosmology

B – Galaxies and galactic nuclei

C – ISM, star formation & planetary system

D – Stellar evolution



Choose the right panel!
And sub-panel!

About the evaluation

- Scientific merit
- Strategy + Time + Team
 - evidence of sufficient time, resources & strategy
- Scientific output from previous observations
 - Reports/papers published or in preparation
- Good prospects of success
 - Not taking into account technical feasibility (done afterwards)
- Requests of time for completion of programs already accepted

Affiliation and nationality of the applicants **does not** influence the evaluation process

Proposal ranking categories

■ **A:** Programs highly ranked

- All possible effort will be made to execute all the OBs in the requested observing period
- If not totally executed
 - can be declared “substantially complete”
 - carry it over to at most the next useful period (only Large Programs)



■ **B:** Programs well ranked

- Best effort will be made to execute all the OBs in the requested observing period

■ **C:** Filler programs selected from below the cut-off line

- OBs will only be executed if the observing conditions do not permit to conduct programs A and B
- If you have no weather constraints you will very likely get data!

AFTER THE OPC MEETING

- 
 The fact that a proposal was triaged out, hence that it was not discussed at the panel meeting, should *not* be mentioned in the feedback text.
- 
 Feedback comments should be written as soon as possible after the end of the panel/OPC meeting, so as to ensure that they accurately and closely reflect the evaluation of the referees. **Written at the END of the OPC meeting**

As a general practice, in each panel, draft feedback comments are circulated among the panel members for review and comments, and they are updated on the basis of the latter by the primary referee prior to their submission to the ESO database.





WHAT TO DO?

Tips & Tricks

Rule 1 RTFM

**Read This
Fantastic
Manual**



ESO Call for Proposals – P105

Proposal Deadline: 26 September 2019, 12:00 noon CEST

**Rule 2
RTFM
and
follow the
links to the
other fantastic
manuals and
instrument
webpages**



ESO Call for Proposals – P105
Proposal Deadline: 26 September 2019, 12:00 noon CEST

- Instrument webpages
- VLT/I manual
- User Manual
- Template manual
- Calibration manual

Rule 3

Do not start writing the proposal the evening before the deadline.



This is BAD.

Rule 4

Understand how the system works

- Call for proposal
- VLT/VLTI Science Operation policy
- User group minutes
- Discuss with ESO national representative
- Don't be afraid of writing @eso.org



Rule 5

Ask a
colleague from
another field to
read your
proposal

Strictly
connected with
Rule 3



The ESOFORM



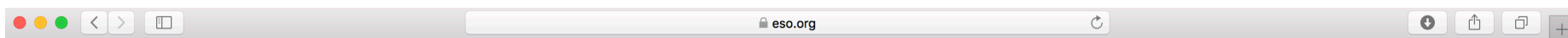
ESO Call for Proposals – P105


Proposal Deadline: 26 September 2019, 12:00 noon CEST

- Based on the esoform-105A
- Be aware of changes from one call to another!



The new Phase 1 (P1)



**Login - Phase 1 Proposal Submission**

Username

Password

Login

Remember to register and use with the tool well before the deadline!

www.eso.org/pi1demo





The new P1

Phase 1 1.0.0beta62 Proposal Submission ? Help DEMO ENVIRONMENT Phase 1/2 Tutorial Account

Your Proposals [New Proposal](#)

Sort by: [cycle](#) [pi](#)

- + Ma demande
- + test
- + vitor
- + Test of DDT P104
- + 001 Proposal to play
- + 000 Example for beginners DDT1
- + 003 VLTI example

Proposals

Programme ID	Cycle	Title	Abstract	Status	PI	Actions
<i>to be assigned</i>	P105 · Cycle P105 ProposalSubmission	Ma demande		Draft	Phase 1/2 Tutorial Account	Delete PDF
<i>to be assigned</i>	P105 · Cycle P105 ProposalSubmission	test		Draft	Phase 1/2 Tutorial Account	Delete PDF
<i>to be assigned</i>	P105 · Cycle P105 ProposalSubmission	vitor		Draft	Phase 1/2 Tutorial Account	Delete PDF
<i>to be assigned</i>	P104 · DDT P104 ProposalSubmission	Test of DDT P104		Draft	Phase 1/2 Tutorial Account	Delete PDF
<i>to be assigned</i>	P103 · DDT103p1 Inactive	001 Proposal to play		Invalid	Dr. Johannes Bach	PDF
<i>to be assigned</i>	P103 · DDT103p1 Inactive	000 Example for beginners DDT104		Invalid	Dr. Olivier R. Hainaut - OPERATIONS	PDF
<i>to be assigned</i>	P105 · Eng P105 ProposalSubmission	003 VLTI example		Draft	Dr. Olivier R. Hainaut - OPERATIONS	PDF





The new P1

Add Proposal

Proposal Title

My MATISSE proposal

Cycle

Cycle P105

Programme Type

- select programme type -

- ✓ Normal
- GTO
- Monitoring
- Calibration

✕ Cancel

✓ Create Proposal





The new P1

Phase 1 1.0.Obeta62 | Proposal Submission | ? Help | DEMO ENVIRONMENT | Phase 1/2 Tutorial Account

Your Proposals

New Proposal

Sort by: cycle x pi x

- Ma demande
- My MATISSE proposal
 - Summary
 - Title & Abstract
 - Category
 - Investigators
 - Rationale
 - Targets
 - Runs
 - Targets Runs
 - Observations
 - Remarks & Justifications
 - Awarded & Future Time Requests
 - Previous Usage
 - Applicants' Publications
- test
- vitor
- Test of DDT P104
- 001 Proposal to play
- 000 Example for beginners DDT1..
- 003 VLTl example

APPLICATION FOR OBSERVING TIME

Programme ID: *to be assigned* · Programme Type: Normal · Cycle: Cycle P105 · Status: Draft

By submitting this proposal, the PI takes full responsibility for the content of the proposal, in particular with regard to the names of Cols and the agreement to act according to the ESO policy and regulations, should observing time be granted.

TITLE: My MATISSE proposal

Checklist

The following issues must be resolved prior to submission of the proposal.

- Define at least one observing run.
- Attach a Scientific Rationale in PDF format.
- The input field 'Abstract' must be filled. If not relevant, please type in n/a.
- The input field 'Special Remarks' must be filled. If not relevant, please type in n/a.
- The input field 'Lunar Phase and Constraints Justification' must be filled. If not relevant, please type in n/a.
- The input field 'Time Justification' must be filled. If not relevant, please type in n/a.
- The input field 'Telescope Justification' must be filled. If not relevant, please type in n/a.
- The input field 'Observing Mode Justification' must be filled. If not relevant, please type in n/a.
- The input field 'Calibration Request' must be filled. If not relevant, please type in n/a.
- The input field 'Duplication with ESO Science Archive' must be filled. If not relevant, please type in n/a.
- The input field 'GTO & Survey Target Duplication Justification' must be filled. If not relevant, please type in n/a.
- Select one Category.
- Total telescope time 0.0h must be at least 0.1h.

ABSTRACT

Edit

SCIENTIFIC CATEGORY

Edit



Your Proposals [New Proposal](#)

Sort by: [cycle](#) [pi](#) ▾

+ [Ma demande](#)

- [My MATISSE proposal](#)

- Summary
- [Title & Abstract](#)
- Category
- Investigators
- Rationale
- Targets
- Runs
- Targets Runs
- Observations
- Re
- Av
- Pr
- Ar

Proposal: My MATISSE proposal [Help](#)

Proposal Title 19 of 120 char

My MATISSE proposal

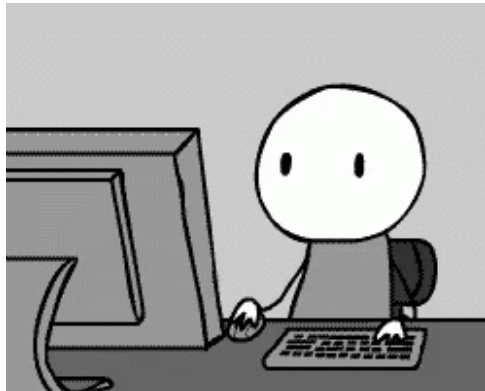
Abstract 26 of 1000 char [wta](#) [>](#)

This is the proposal title

Title and abstract obey to the normal considerations

- *Do not be too generic*
- *No previous knowledge needed*
- *Do not use fancy words*
- *Not too long*
- *Do not overrate your project*
- *Be catchy!*





ADVANCING
EARTH AND
SPACE SCIENCE

Read the full text > | About

 |

Journal of Geophysical Research: Space Physics /
Volume 123, Issue 12

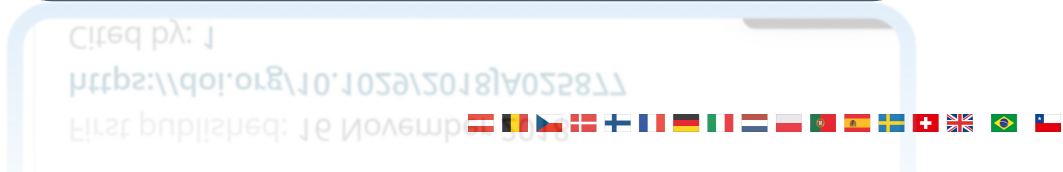
Technical Reports: Methods

Snakes on a Spaceship—An Overview of Python in Heliophysics

A. G. Burrell , A. Halford, J. Klenzing,
R. A. Stoneback, S. K. Morley ... [See all authors >](#)

First published: 16 November 2018
<https://doi.org/10.1029/2018JA025877>

Cited by: 1



Your Proposals [New Proposal](#)

Sort by: [cycle x](#) [pi x](#) ▾

+ [Ma demande](#)

- [My MATISSE proposal](#)

- Summary
- Title & Abstract**
- Category
- Investigators
- Rationale
- Targets
- Runs
- Targets [Runs](#)

Proposal: My MATISSE proposal

[Help](#)

Proposal Title

19 of 120 char

My MATISSE proposal

Abstract

26 of 1000 char

[wta](#) >

This is the proposal title|

- 1. The big picture**
- 2. Why?**
- 3. What we would like to do and its connection to the big picture (central problem)**
- 4. The (breakthrough) expected outcome of the observations**

A companion interacting with the circumstellar environment (CSE) is the most accepted explanation for the presence of asymmetric planetary nebulae (PN). In the previous phase of stellar evolution, on the asymptotic giant branch (AGB), evidence for this interaction was observed only in the CSEs of a handful of objects. To close the gap between the AGB and the PN phase we propose to image with VLT/PIONIER the environment of $\pi 1$ Gru which is close to the tip of the AGB. Herschel far infra-red images reveal an asymmetric wind morphology, while an analysis of the Hipparcos Intermediate Astrometric Data (IAD) supports the presence of a close companion. The proposed observations will allow to determine the position of the companion and the precise separation from the AGB star, which is needed to model the binary interaction.

The new P1

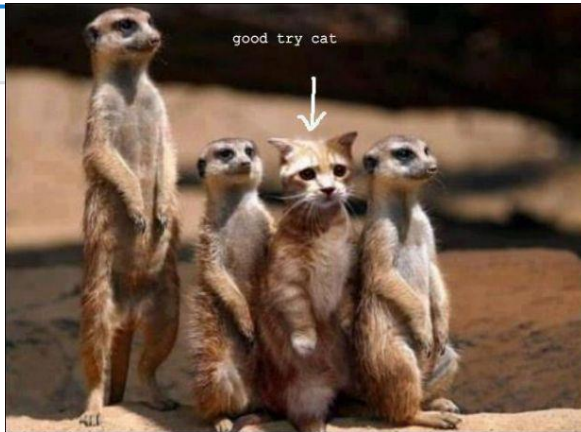
⚠ Please select 1 category.

🔍 Scientific Category

🔍 Collapse all

🔍 Expand all

Selected Category



Available Scientific Categories

- ▶ A. Cosmology and the intergalactic medium
- ▶ B. Galaxies
- ▶ C. ISM, Star Formation and Planetary Systems
- ▶ D. Stellar evolution
- ▶ L. Calibration

■ Categories

- *Will define who is going to read/judge your paper*



The new P1

Your Proposals [New Proposal](#)

Sort by: cycle x pi x

+ Ma demande

- My MATISSE proposal

- Summary
- Title & Abstract
- Category
- Investigators**
- Rationale
- Targets
- Runs
- Targets & Runs
- Observations
- Remarks & Justifications
- Awarded & Future Time Requests

Proposal: My MATISSE proposal

[Help](#)

i You are **Principal Investigator** of this proposal. You can add Investigators by entering their complete email address. All Investigators must be registered in the [ESO User Portal](#). Please note that for the testing purposes of the p1demo environment we have created two "test-users" and these are the only ones you can add: esouserp101@gmail.com and esouserp102@gmail.com

Investigators

Role	Name	Email	Institute	Country	Actions
PI	Phase 1/2 Tutorial Account	52052@nodomain.net	ESO Headquarters Garching	ESO	

- Investigators: remind them to register to the ESO portal!
- BUILD YOUR TEAM: choose your Cols thinking about the science that you want to do!



7. Description of the proposed programme

A – Scientific Rationale: Scientific rationale: scientific background of the project, pertinent references; previous work plus justification for present proposal.

“Sell” your story!

- Similar form to a paper introduction but simpler (panel composition!)
- The importance of the work in the field at large (sometimes very large, like for LP) should be made clear

1. Why do we care?
2. What are the important open questions?
3. What are you going to address?
4. What is the important missing piece?
=> **Answer: your observations**



B – Immediate Objective: Immediate objective of the proposal: state what is actually going to be observed and what shall be extracted from the observations, so that the feasibility becomes clear. In the case of VLT-XMM programmes please also specify the immediate objectives of the XMM observations.

- Present the observations you are proposing to address the previous question(s)
- The results and discussion of the paper should be anticipated
- If you get a negative result – discuss the implications
- Feasibility must be clear – don't try to trick the OPC
- Always identify objectively the risks and outcomes
- Present your strategy for data reduction and interpretation
- Point out the expertise of your team

Description + Immediative Objective
2 pages including figures!



PANIC!

- You do not need to tell the OPC everything you want to do with the data.
- Keep it simple!
- Choose the most interesting-catchy-cool result you expect
- Choose 1-2 nice, representative, simple figures

FOCUS!

Be consistent!

Run Summary

[Edit](#)

Run	Period	Instrument	Tel. Time	Constraints	Mode	Type	Tel. Setup	Propr. Time	Time Constraints
1. Run 1	105	MATISSE	1.0h	Turbulence: 70% (Seeing < 1.15 arcsec, t0 > 2.2 ms) pwv: 30mm Sky: PHO	SM	Normal	VLT-AT	12m	

Special Remarks

0 of 1000 char

[ωτλ >](#)

i Take advantage of this box to provide any special remark.

Special remarks

- tell the OPC that this is a re-submission of a previous well rated proposal not executed
- mention coordinated works
- stress out you are requesting just a small amount of time for outstanding outcome
- Your proposal can be a filler
- Data important for a PhD



The new P1

Lunar Phase and Constraints Justification

0 of 1000 char

ωτλ >

i Justification of the requested conditions in terms of lunar phase and constraints. Please reference all runs having different constraints.

Lunar Phase: important for AO!

Time Justification

0 of 3000 char

ωτλ >

i Justification of the telescope time, including technical and seeing overheads. Please discuss each run.

- Use the Exposure Time Calculator
- identify the amount of time CRUCIAL to achieve your goals
- The numbers on the manual and overhead table rules!

The new P1

Telescope Justification

0 of 1000 char

ωτλ >

i Justification of the choice of telescope (eg. VLT, NTT, etc...) with respect to other available alternatives. For non-Member State Proposals, indicate whether alternatives are available to the proposers.

- Not really an issue as long as the instrument is unique – e.g. VLTI
- Beware of asking UT time when it can be done with ATs
- Do justify the telescope, not just the instrument!

The new P1

Observing Mode Justification

0 of 1000 char

[ωτλ >](#)

i Explain if a particular observing mode (Service/Visitor) is specifically needed for this programme. If either is suitable, then please enter N/A.

Visitor Mode (VM) can be relevant if

- Observing difficult targets (magnitude/zenithal distance)
- Be aware of the new “designated VM”
- Service is more efficient

Calibration Request

0 of 1000 char

[ωτλ >](#)

i If calibrations are required in addition to the standard calibration plan, justify why, and describe them. If the calibration plan is sufficient, please enter N/A.

Check on the instrument manual!

The new P1

Duplication with ESO Science Archive

0 of 1000 char

ωτλ >

i Are the data requested by this proposal in the ESO Science Archive? If so, explain the need for new data. Otherwise, please enter N/A.

GTO & Survey Target Duplication Justification

0 of 1000 char

ωτλ >

i Are some of your targets part of the GTO-protected target lists? If yes, please explain why there is no conflict with the GTO programme. Otherwise, please enter N/A.

- Check the GTO list online before starting to write. You cannot ask for the same target + configuration + instrument.

The new P1

Proposal: My MATISSE proposal

[Help](#)

i Input previous uses of ESO facilities with the + button: for any/all investigators select the runs, and add a short comment on the status of the data. You can change their order by drag'n drop.

Previous Usage

[+ Edit Previous Usage](#)

no previous usage defined

- Are you really doing science or increasing the archive volume?
- Show you are an active and efficient ESO user!
- Are you an experienced ESO user?
 - If yes, the probability of getting time is higher
 - Be aware PhD and young Post-Doc reduce data faster

Do not be afraid of applying as Principal Investigator if this is your idea!

Common mistakes

- **Bad use of telescope time**
 - Huge program with low return (probability)
 - Asking not enough time
- **Don't consider panel composition**
 - The proposal should very well introduce the domain
- **Errors that show that the proposal was done in a hurry**
 - after copy and paste read what you wrote..
 - after 2 days read again!
- **Asking for too stringent observing conditions**
- **Unstructured proposal**
 - Figures can be very useful, even if they are not mandatory
- **Submitting too many proposals**



Tips & Tricks

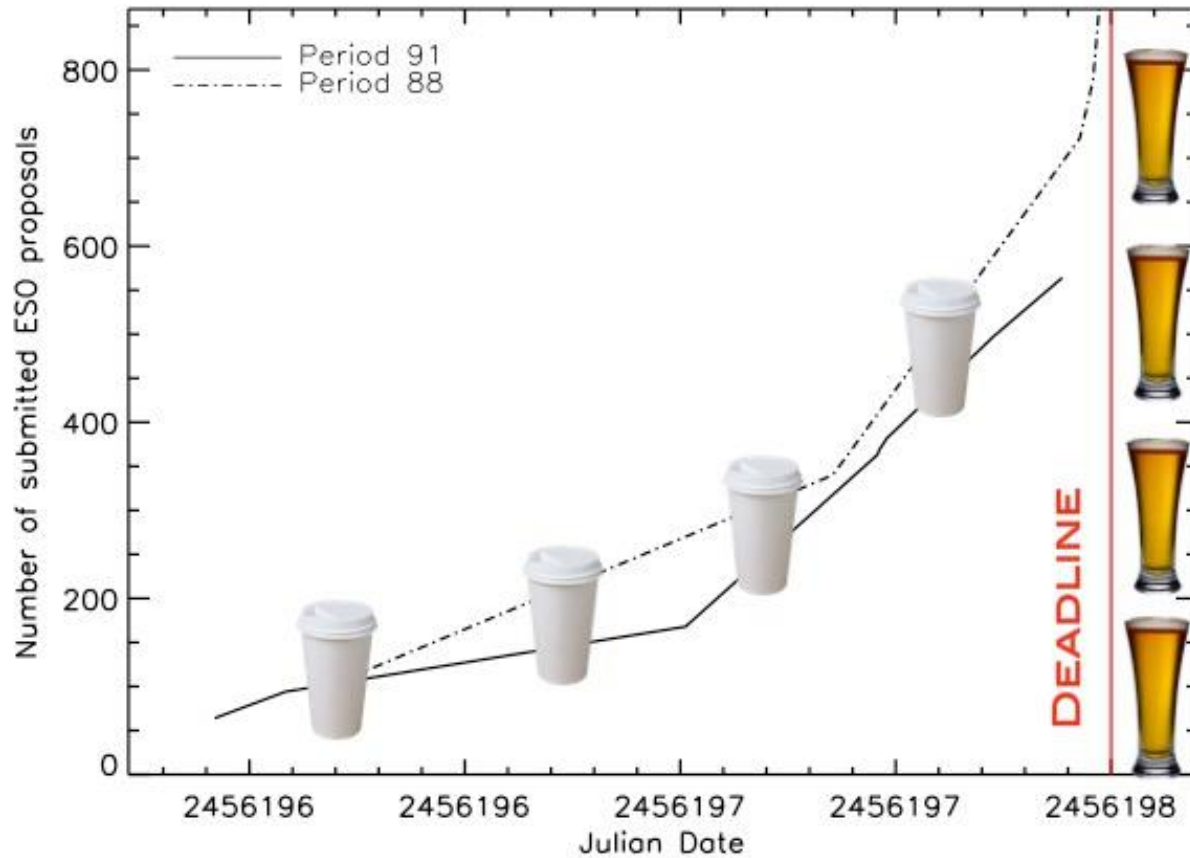
The panel likes:

- Innovative/ambitious FEASIBLE proposals
 - With high impact potential when compared with the average A&A paper
- Well structured proposals

Remember:

- When you apply for 1 target explain why exactly that star (relevance for the field of research)
- If you apply for a Large Program your proposal will be judged by all the panels: program relevant for every field of research!

Submit within the deadline



What to do when you get rejected

- Do not overemphasize the message you got
 - Messages are deliberately short, neutral and general to avoid polemic and useless critique
- Understand why you got rejected
 - Read the proposal again
 - Ask your colleagues to read the proposal and give you his feedback
 - Contact OPC member/chairman/VISAS
 - Always be positive and objective during communication
- **Avoid at all cost entering into conspiracy theory**





What to do when you get A/B but no data...

- Re-submitted with a special remark on non-execution and grade
- Relax observing constrains (seeing, ETC)
 - Scheduling is done by software...

More Tips & Tricks

=> learn to write proposal: exercise, exercise...

- To have ideas for a science case read a lot of papers and go to seminars! Even if they are not related to your PhD/scientific topic!
- When you have an idea try first to convince your collaborators.
- Do not wait the day before the deadline! At least try...
- Read the manuals, read the manuals, read the manuals...
- Check carefully your targets! (are they bright enough? are they in the right emisphere? are they observable in the period of the call?).
- Use the tools for preliminary modeling & feasibility! (ETC)
- Aim for a balance between humility+open-mindedness (80% perhaps) and arrogance+sheer-self-belief (20%).
- Having a really good Abstract and title are surprisingly helpful



Around Christmas



Beginning July

Dear Dr. ###,

Please be informed that the process of time allocation on ESO telescopes for Period ## has been completed, based on the recommendations of the Observing Programmes Committee....

Service Mode To Do list

- **Read p2 & instrument manuals**
 - Search for calibrators
 - Prepare phase 2 for science & calibrators
 - Attach Finding Charts
 - Write README
- => Submit material to ESO within the deadline**

Visitor Mode To Do list

- Submit mission form to ESO at least 2 month before your run
 - **Read p2 & instrument manuals**
 - **Prepare list of backup targets**
 - Submit for approval at least 2 weeks before your trip
 - Include targets more South than Paranal
 - Prepare phase 2 for science & calibrators
 - *Bring chocolate for the Gods of the mountain*
- => If you do the last two points before going to Paranal...



... you'll be allowed to bring your swimming suit ...



Good luck

Useful Links

Kervella & Garcia (2007)

<http://arxiv.org/pdf/0705.4065v1.pdf>

ESO VLTI webpage:

<http://www.eso.org/sci/facilities/paranal/telescopes/vlti/>

Call for Proposals of the period you are applying

User's manual for Phase 1 proposals (esoform package)

On the writing of observing proposals, Christoffel Waelkens

<http://www.eso.org/sci/observing/proposals/writing-op.html>

OPC minutes (not always available)

<http://www.eso.org/public/about-eso/committees/opc/>

Preparing an ESO proposal, by P. Kervella & P.J.V. Garcia

http://www.vlti.org/events/assets/2/documents/3a_2.6_Kervella.pdf

OPO documets:

http://venngeist.org/opsa2_patat.pdf

<http://www.eso.org/sci/publications/messenger/archive/no.150-dec12/messenger-no150-17-20.pdf>