



PATRÍCIA F. SPINELLI (MAST/MCTIC)

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**WHAT DOES THE GENERAL PUBLIC EXPECT  
FROM A NIGHT-SKY OBSERVATION?**

# WHAT DOES THE GENERAL PUBLIC EXPECT FROM A NIGHT-SKY OBSERVATION?

- ▶ The Museum of Astronomy and Related Science (MAST)
- ▶ The Night-sky Observation Program (POC)
- ▶ POC's evaluation (according to its participants...)
  - ▶ Methodology
  - ▶ Results
  - ▶ Unfoldings
- ▶ Conclusions



# THE MUSEUM OF ASTRONOMY AND RELATED SCIENCES

**in Rio, Brazil**

# MUSEU DE ASTRONOMIA E CIÊNCIAS AFINS (MAST)

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- ▶ Originally the home for the National Observatory;
- ▶ Research institution under the Brazilian Ministry of Science and Technology;
- ▶ Research fields: History of Science; Museum Studies and Science Education in non-formal settings.









# THE NIGHT-SKY OBSERVATION PROGRAM (POC)



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### MAIN FACTS

- ▶ Goal: To offer the public the opportunity to observe astronomical objects;
- ▶ Most traditional and older MAST activity;
- ▶ Activity implemented without interruptions since the establishment of MAST (33 years ago);
- ▶ Number of participants per year: 2,400.



## THE NIGHT-SKY OBSERVATION PROGRAM (POC)

### FORMAT

- ▶ 30-min talk "The Sky of the Month" + Observation of the sky;
- ▶ Instruments: 21cm refractor (over a century-old) and other modern amateur models;
- ▶ Conducted by mediators/monitors (university students from various areas);
- ▶ Activity takes place every Wednesday and Saturdays along the year;



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# POC'S EVALUATION – METHODOLOGY

**...according to its  
participants**

**(T. Bassallo, P. F. Spinelli, S. Mano and A. Ribeiro)**

# METHODOLOGY

Discourse of the collective subject (Lefèvre, 2003)

## QUESTIONNAIRE

## INTERVIEWS

WHEN?

prior to "The Sky of the Month" talk

after the observations

WHERE?

auditorium

campus (open air)

GOAL

to understand the visitors' expectations and familiarity with the sky observation

evaluate the whole experience

FORMAT

open and closed questions

open questions

RESPONDENTS

119

31



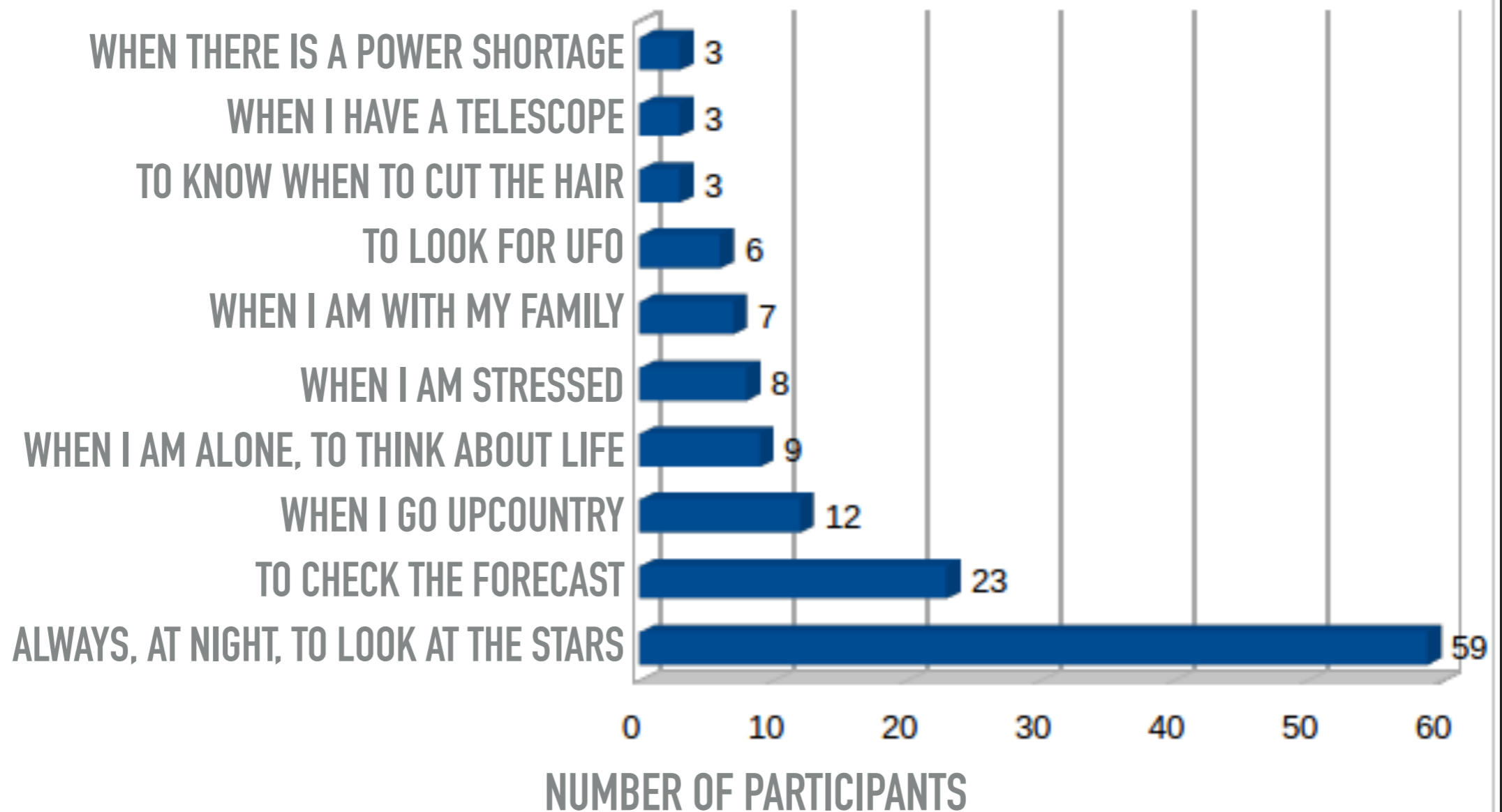
# POC'S EVALUATION – RESULTS

**...according to its  
participants**

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## RESULTS - THE VISITORS AND THE SKY

Do you observe the sky? When?



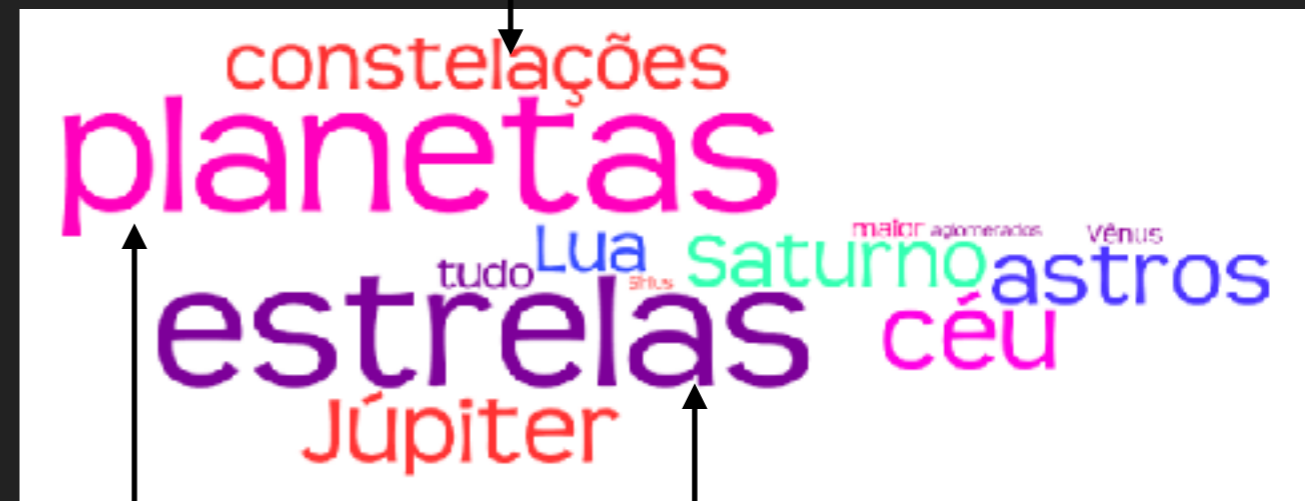
## RESULTS - THE VISITORS AND THE SKY

Have ever observed the sky through a telescope? How did you like it?

What do you expect to observe today?

a lot

constellations



touching

good

cool

interesting

planets

stars



## RESULTS - THE EXPERIENCE

Was the talk "The Sky of the Month" helpful?

Yes  
I=21

Yes. The talk was super cool, it made a lot of difference. It was essential. I had no idea what I was going to observe and she (mediator) gave us an orientation of what we would observe, what was visible, what planets we would see... that gives security. She gave me information, things that I did not know and made me understand the stars better. Before (coming here) I gazed the sky, but I had no idea what I was looking at, I couldn't identify anything, only the Moon. With the talk, I gained a new perspective, I was given basic notions and better preparation to observe. I left (the auditorium) and went looking for the constellations... I managed to find Antares and the Scorpion. I even found Saturn! Without the talk I would get here and see a lot of "white dots" in the sky and I wouldn't have known what it was. I learned a lot with the talk ...

No  
I=3

No, attending the talk was indifferent to me. I actually came to observe. I was so focused to observe that I could have gone upstairs immediately, without stopping by the auditorium.

Maybe  
I=7

In general yes, but I say "no" because of the moment when he (the mediator) began to answer the questions. There were some questions off topic. I think this indeed makes the experience more informative and positive. But for the children there.... I think it got a bit boring, since they will only be familiar with this if they have a more tactile experience.

## RESULTS - THE EXPERIENCE

intensity = the number of sentences of various individuals that correspond to the same central idea

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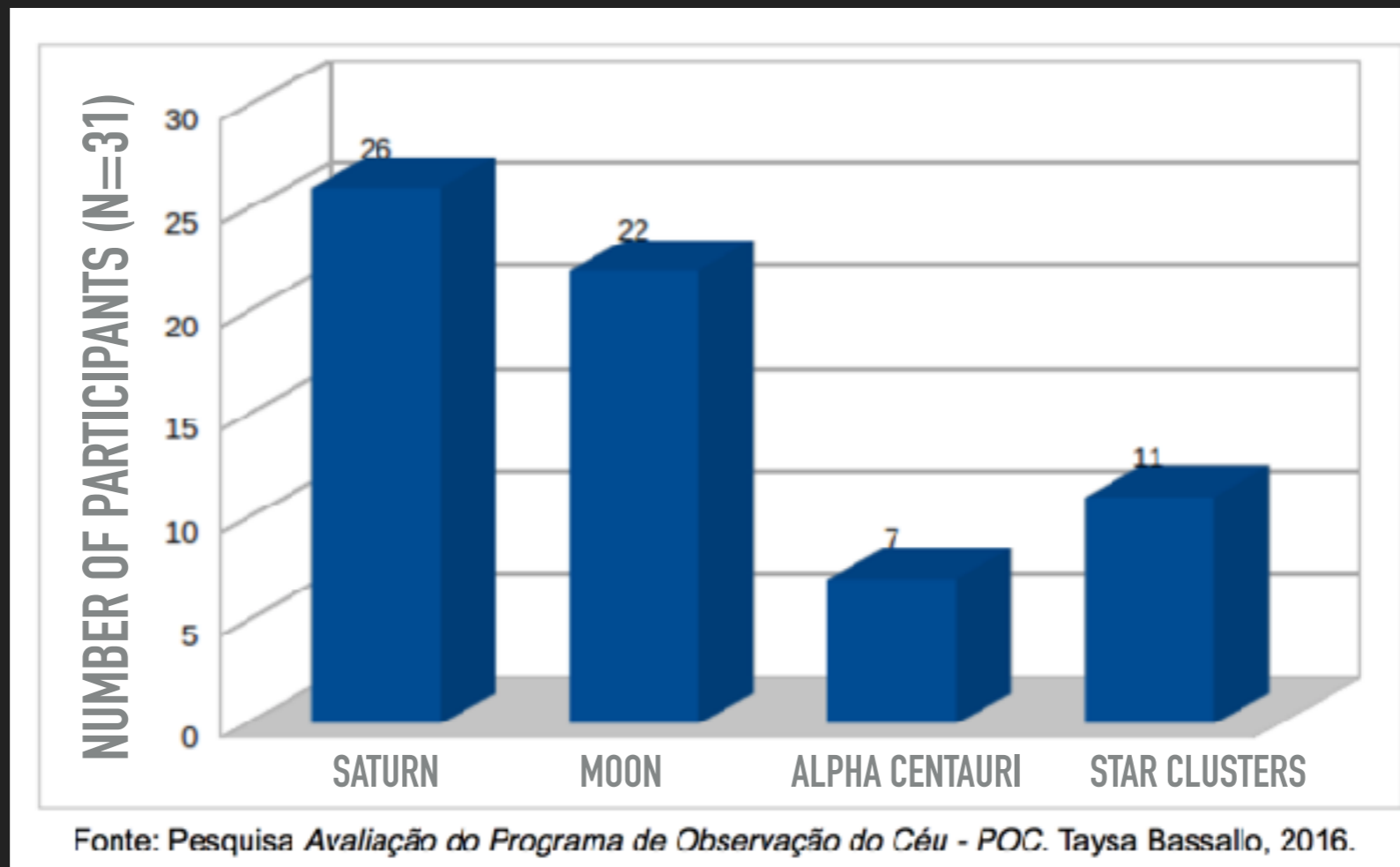
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## RESULTS - THE EXPERIENCE

What objects have you observed?



Stellar  
clusters  
I=11

I saw a real clusters... something like little balls. They (the mediators) told us it was a cluster of stars, but I cannot remember the name. One was near the Southern Cross and I think it was a... "jewelry business" (Jewel Box). And the other was "M something". I remember it was an open stellar cluster, which is close to the Scorpion's tail and is very, very cuddly. Even not remembering the names correctly... it was exciting to look at! It was unique, it's so beautiful ... I always want to keep it in my memory.

## RESULTS - THE EXPERIENCE

Did the observation through the telescope meet your expectations?

Yes  
I=26

Yes, it was a unique, fantastic, unforgettable experience! Seeing the universe ... is a mystery, right? I could not have lived this life without doing it, it was very gratifying to participate in this observation. It's exciting because you can see very closely the things that without the telescope you can not see. We see the object as it is, it's different from seeing fake images on the internet, very cool! An incredible technology, I feel like buying a telescope!  
[...]

No  
I=5

I thought I would see more, like the entire sky or something like the *Sertão's* sky (backwoods)... well, it was a fantasy I myself have created. I was a bit disappointed, because I thought I would see things closer and bigger. But when I was able to focus on the image, it was very exciting, even though it was small. Of course, when they (mediators) told me that I would observe a cluster, I thought I would see more, like those spark dots inside my eye, you know what I mean, right? But the fact that I saw those little stars made it a good experience, it was worth coming. After all, when I look at the sky (with naked eye) I cannot see that!

## RESULTS - THE EXPERIENCE

Which instrument did you like better? The old 21cm or the modern amateur model?

21cm

I=19

I liked the old refractor better, because it's a different thing, that we do not get in contact apart from here! It has something so imposing that impressed me by size. And yet! It's a hundred years old! It's very exclusive and old, but at the same time, it's well preserved and has great quality. I even have the impression that the images appears bigger. I saw Saturn through the modern telescope, too but with the centenary telescope, (Saturn) seemed little bigger, giving the feeling that he was closer.

I do not know if it was the room, or the old refractor, but I know I liked it more. I think the 21cm's environment makes a difference. That thing of entering in a dark room, seeing almost nothing, climbing the ladder and reaching the refractor, where the only light is the one that is coming out of that little hole that you will look... it looks a bit magical! It seems like I'm a real observer, like a scientist! I felt like an astronomer. And further, it's more romantic, brings other kind of emotions! Creates that feeling of "wow"... I was delighted!

Modern

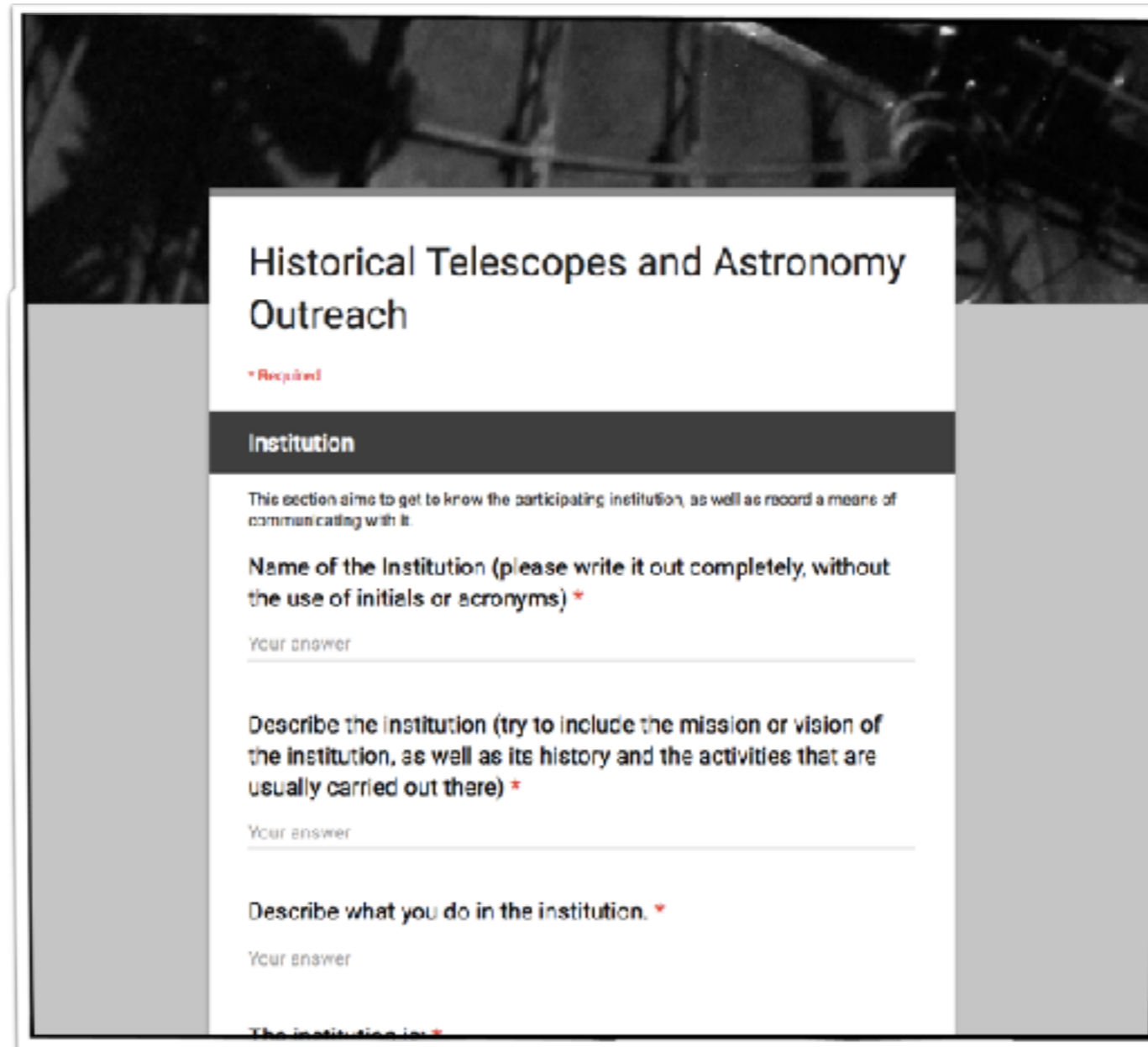
I=12

I liked more observing with the amateur model. With the refractor is a little difficult to observe, because you get a bit clumsy. The amateurs telescope is more modern, more handy, more direct. You arrive, you observe and you're done! It brings you closer to our day to day lives: you can make some research and buy one. And since it's newer, the quality must be higher, although I didn't noticed much of a difference between the two, but I think it's better. I really enjoyed it, if I could, I would come here to observe always or I would have one at home!



# POC'S EVALUATION – UNFOLDINGS

# UNFOLDINGS – HISTORICAL TELESCOPES & OUTREACH



**Historical Telescopes and Astronomy Outreach**

**\* Required**

**Institution**

This section aims to get to know the participating institution, as well as record a means of communicating with it.

**Name of the Institution (please write it out completely, without the use of initials or acronyms) \***

Your answer

**Describe the institution (try to include the mission or vision of the institution, as well as its history and the activities that are usually carried out there) \***

Your answer

**Describe what you do in the institution. \***

Your answer

**The institution is \***



# WHAT DOES THE GENERAL PUBLIC EXPECT FROM A NIGHT-SKY OBSERVATION?

- ▶ The Sky of the Month talk: it is indeed helpful, but the language should be precise, avoiding off-topic conversations especially when answering questions;
- ▶ Mediators: have been always praised, except when using their hands too much to explain models;
- ▶ Children: they are mentioned in the majority of the questions asked. It is important to draw specific strategies for kids (3-6 years old);
- ▶ Emotions and feelings: acknowledge that a night-sky observation is a cognitive but also an emotional experience.