

The return of Programa de Visitação Pública ao Observatório do Valongo/UFRJ

R. Ferreira¹, D. R. C. Mello¹, A. B. Mello¹, R. V. Nader¹, E. Abreu¹, M. Laversveiler¹, J. Arcas¹, P. F. Salcides², S. Fonseca¹, & L. Marinho, M. Pacífico³

¹ Universidade Federal do Rio de Janeiro, Observatório do Valongo e-mail: extensao@ov.ufrj.br

² Universidade Federal do Rio de Janeiro, Instituto de Física

³ Colaborador externo

Abstract. O Observatório do Valongo de Portas Abertas is one of the pilot extension projects of the Valongo Observatory (OV) for the popularization and dissemination of Astronomy, having started its activities in 2015. In addition to inserting the OV in the historical-cultural circuit of the Port Zone of the city of Rio de Janeiro, this public visitation program intends to act as a disseminating element of science and culture. By opening its doors more systematically for public visitation, the OV contributes to increasing social responsibility and the exchange of experiences and learning, favoring practices intrinsically transmitted to education, science, culture, and the environment. Since its inception, the public visitation program has offered two core activities that include daytime museum sessions with visits to the Valongo Observatory's Scientific Instruments Collection and night sessions of astronomical observation using watches and other tools. As of 2017, the program began to offer other university extension activities such as courses, events, and activities outside the OV campus, reaching attendance records since its creation. With the COVID-19 pandemic, activities were carried out online and from May of this year we resume face-to-face activities. In this work, we will present an overview of the history of the project, its activities, the methodology of reception and interaction with the public, the importance for student training, the impact of the project on its surrounding community, the difficulties, and perspectives for the years to come.

Resumo. O Observatório do Valongo de portas abertas é um dos projetos de extensão piloto do Observatório do Valongo (OV) para popularização e divulgação da Astronomia, tendo iniciado suas atividades em 2015. Além de inserir o OV no circuito histórico cultural da Zona Portuária da cidade do Rio de Janeiro, este programa de visitação pública pretende atuar como elemento divulgador da ciência e cultura. Ao abrir suas portas de forma mais sistemática para a visitação pública, o OV contribui para o aumento da responsabilidade social e a troca de experiências e de aprendizado, favorecendo práticas intrinsecamente ligadas à educação, ciência, cultura e meio ambiente. Desde sua criação, o programa de visitação pública oferece duas atividades centrais que compreendem sessões museológicas diurnas com visitas à Coleção de Instrumentos Científicos do Observatório do Valongo e sessões noturnas de observação astronômica com uso de telescópios e outras ferramentas. A partir de 2017 o programa começou a oferecer outras atividades em extensão universitária como cursos, eventos e atividades externas ao campus do OV, atingindo recordes de público desde sua criação. Com a pandemia da COVID-19, as atividades foram desenvolvidas na modalidade online e a partir do mês de maio do presente ano retomamos as atividades presenciais. Neste trabalho, iremos apresentar um panorama da história do projeto, suas atividades desenvolvidas, a metodologia de recepção e interação com o público, a importância para a formação discente, o impacto do projeto em sua comunidade de entorno, as dificuldades e perspectivas para os anos vindouros.

Keywords. Teaching of Astronomy - History and philosophy of astronomy - Telescopes - Sociology of Astronomy

1. Introduction

The Observatório do Valongo (OV) is undoubtedly one of the pillars of astronomy in Brazil, not only because it has been training astronomers for 50 years, but also because it keeps in its important museum collection of science and technology the trajectory of the development of this science in the territory Brazilian Oliveira (2021). In this vision, in 2015, the OV reopened its doors to the public, aiming to perpetuate the scientific knowledge intertwined with the pieces of the collection, strengthening the connection between society and the university (founding one of the pillars of the modern university, the university extension) through star observation activities, playful moments of teaching fundamental astronomy, explanation of the main constellations in the sky, museum sessions, and as a novelty of the post-pandemic return, astrophotography is also present as a tool for dynamic interaction with the public Nader (2021).

2. How do we develop the project?

The activities are based on using the collection in favor of knowledge, with the aim of perpetuating as much knowledge as possi-

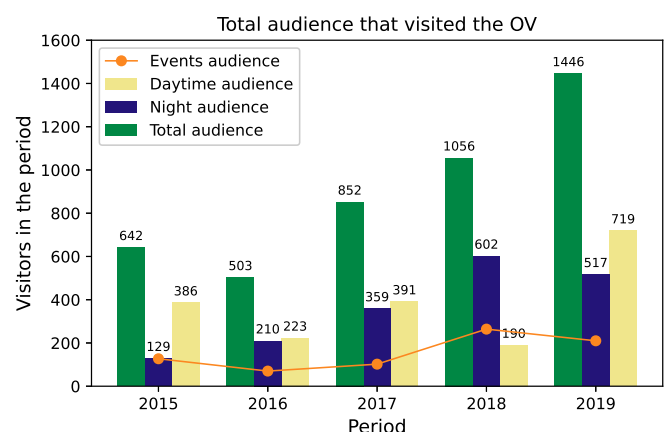


FIGURE 1. This graph illustrates the number of visitors the observatory received at each shift (and at events) each year in the period 2015-2019

ble for the public that enters Valongo in the most interactive way possible, in order to generate remarkable memories that only astronomy can provide. Thus, the OV performs a tour of the museum pieces during the day and a tour of the stars at night. These activities are essentially carried out by undergraduates, who, with the help of astronomers, carry out the most diverse activities. Daytime activities have a direct emphasis on the historical part, which does not exclude the use of telescopes for solar observations. The nocturnal activities, on the other hand, are more aimed at direct observation of the stars, but of course with a touch of the history of astronomy in Brazil and a tour of fundamental astronomy. Figure 1 contains statistics on the number of visitors at each shift and also at events, it is evident that even though events are ephemeral, they contribute significantly to the total public for the year, which in turn is marked by a predominance of daytime visits, revealing the importance that should be given to these modalities.

3. What are the benefits of then visitation program for science?

Speaking about the benefits of the project involves dividing the topic into two parts, the benefit for the institution, and for society. In the foreground, we discuss the positive impacts that visitation activities have on the OV, which is a scientific institution but also a museological one, and here is a key piece, the project consolidates Valongo in the historical and cultural circuit of the port area of Rio de Janeiro, which values the institution's collection Observatório do Valongo (2010). In addition, the program also directs the eyes of society to the institution, which helps to maintain the social visibility that is also required of a teaching and research institution. In the background, there are the benefits of the Observatory to society, initially we can report the direct impacts of the activities of the agency in the surroundings, as the OV is located in Morro da Conceição, it is also of great importance for the community. Another factor to highlight is the spread of quality scientific knowledge to society, which shapes critical thinking and encourages scientific production in the country, encouraging the population to enter the scientific environment. Finally, it is also pointed out that the activities being developed by the undergraduates have a significant impact on their training, who find their knowledge that is very different from that obtained in the classroom, solidifying their training, thus promoting the delivery of professionals best qualified to the Brazilian academic environment.

4. Impacts of the COVID-19 pandemic on activities

The COVID-19 pandemic directly affected practically all activities that require face-to-face contact with the public around the world, so with the interruption of face-to-face activities at UFRJ, the Public Visitation Program had to look for ways to continue its activities even at a distance. During the pandemic, Valongo's social networks became the channel for interaction with the public, this medium was used to disseminate museological information, such as a comic produced by drawing graduate Natan Vitor Cardoso, which tells the story of our telescope in a relaxed way "Cooke & Sons" and other activities that increased access to networks. The return of UFRJ activities also had an impact on activities, which received an accumulation of undergraduates, who entered between 2020 - 2022, which added to new practices, such as astrophotography, allowing to present the sky in a more playful way, revealing to the public celestial mysteries with the help of camera lenses, which facilitates the explanation of some

phenomena such as the apparent movement of the stars, through high exposure photographs, which draw the "path of the stars" in the sky (star trail). The public also had a considerable increase, despite very bad weather conditions in 2022 the project had a very high rate of visitors, which may be related to the engagement of the networks triggered by the activities carried out in the isolation period.



FIGURE 2. Image showing the dome of "Cooke & Sons" telescope during a public astronomical session on July 2022. Credits for Sofia Fonseca and OV/UFRJ.

5. Conclusion and future prospects

Finally, it is clear that with the advancement of social media, and its direct impact on public visitation activities, it is imperative that the extension program seeks to promote the improvement of social networks in an even more structured way, one idea is to develop a series of posts documenting some of the main objects of the museological collection. Another important factor that was noticeable with the return of observations are the benefits of including new techniques such as astrophotography, which proved to be very efficient in this regard, which stimulates research and the inclusion of new methods of connecting people with science. Another important factor is the events based on public visitation, such as the Cycle of Courses at the Valongo Observatory, the weeks of targeted observation (such as the Giant Planets Week and Mars Week) and summer camps, these "sub -projects" expand, diversify and consolidate the public that attends the observations, and therefore must be improved and fully developed. It is therefore concluded that the return of activities was important for the museological consolidation of the OV, which, in turn, must be linked to continuous maintenance and dedication to social networks, the pillar of the new museological era in which the world is immersed.

References

- Observatório do Valongo 2010, Coleção de Instrumentos Científicos, (Rio de Janeiro: UFRJ).
- Oliveira, M. A. C. 2021, "A Trajetória da formação da Coleção de Objetos de C&T do Observatório do Valongo", Dissertação de mestrado, Centro de Ciências Humanas e Sociais, UNIRIO.
- Nader, R. V 2021, 140 anos de Observatório do Valongo, Revista Brasileira de Astronomia, N.11, p. 23-29.