1. IAU OAD Project Details

1. Project

Your Name: Rafael Martinez-Galarza  
Project Name: AstroTwin COLO  
Short code/abbreviation: Institute Twinning between the University of Antioquia (Colombia) and the Leiden Observatory  
Project Implementation Year: 2014

2. Final Summary of Project

The AstroTwinCOLO 2014 Meeting was the second event celebrated as part of the Astronomy Twinning Program between the University of Antioquia (Colombia) and Leiden Observatory (Leiden). The meeting was held in Medellin (Colombia) between August 19-29, 2014. The goal was to continue with a 5-year long collaboration effort between the two institutions that started in 2013. We had the specific goal of diversifying the courses offered by UofA to its undergrad astronomy students by having two visiting LO professors per year who teach specific topics and become part of the official astronomy program, and allowing for the visit of UofA students to carry on small research projects under the supervision of LO researchers (at least 1 per year).

The program in 2014, funded by OAD, was successful, and we had one course on gravitational lensing and one of interferometry. 38 students followed the courses and presented the exam. 20 of them obtained a passing grade. As part of our commitment with task force 3, two public lectures were held at the Medellin planetarium by the lecturers (Profs. Kuijken and LePoole), with high attendance by the general public. This followed the same scheme as the twinning activities in 2013 and 2014, which were funded by Colombian official institutions and NWO-OAD. We are starting preparations for a fourth year in 2016.

The undergrad program in Astronomy has recently started graduating its first students. At least four of them have been accepted to pursue a Master program in astronomy at the Leiden Observatory, partly due to their participation and commitment in our twinning program. The presence of Colombian graduate students in the Netherlands has significantly increased in recent years as a result of this collaboration. All lectures from all courses have been streamed live and have been recorded. They can be found in the link below.

3. Please provide relevant web links to your project

- website: https://sites.google.com/site/astrotwincolo/about
- social media: https://www.youtube.com/results?search_query=astrotwincolo

4. Project Team

<table>
<thead>
<tr>
<th></th>
<th>Total Number in the team</th>
<th>Number of hours (estimated total time spent on project in the year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professors</td>
<td>2</td>
<td>40 per professor</td>
</tr>
<tr>
<td>PhDs</td>
<td>5</td>
<td>30 per PhD</td>
</tr>
<tr>
<td>Students - Masters and PhD</td>
<td>40</td>
<td>40 per student</td>
</tr>
<tr>
<td>Teachers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education experts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amateur Astronomers</td>
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</table>
5. Please list any additional institutional collaborators or advisors and explain their role in the project

The University of Leiden agreed to continue with this collaboration and has been very active in providing excellent lectures for the past three years. The University of Antioquia has provided the venue, the facilities and the logistics to guarantee the success of the activities, and has of course provided most of the participant students. They have also provided some of the funding. The Colombian fund for the development of higher education, a public institution, as well as the Netherlands Organisation for Scientific Research have provided funding for the activities.

6. In which language(s) was your project delivered and/or written?

English

7. In which countries was your project delivered?

Colombia, Netherlands

2. Audiences & Deliverables

What age groups were your target audiences?

18-25 years old

8. Accessibility and Inclusion

Was your project targeted at one or more of the groups below?

socio-economically disadvantaged
Other (specify): General public

In what way did your project serve the above group(s)?

Public universities in Colombia, such as the Universidad de Antioquia, are the only accessible places of higher education for socio-economically disadvantaged students. Most private universities have tuition fees that make it impossible for most students to attend their programs, and admission to the University of Antioquia is based on merit only. We have brought to these students astronomy education at the highest level that they would have otherwise never had access to. By teaching the courses in English we have also prepared the students to pursue further astronomy education abroad, and the results are starting to show up. Additionally, with the public lectures translated into Spanish we targeted a general public that is eager to learn but that usually do not have the means to access to these type of lectures.

9. Project reach

Number of events organized : 4
Number of university students reached : over 40
Number of public members reached : ~200

3. Activities & Resources

10. Activities & Events
<table>
<thead>
<tr>
<th>Name</th>
<th>(short) Description</th>
<th>Number of attendees (if known, provide number of teachers, learners, public)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Course on Gravitational Lensing</td>
<td>40 undergrad students</td>
</tr>
<tr>
<td>2</td>
<td>Course of Interferometry</td>
<td>40 undergrad students</td>
</tr>
<tr>
<td>3</td>
<td>Public Lecture 1</td>
<td>200 general public attendees, probably more via live streaming</td>
</tr>
<tr>
<td>4</td>
<td>Public Lecture 2</td>
<td>200 general public attendees, probably more via live streaming</td>
</tr>
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<td>5</td>
<td></td>
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<td>6</td>
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<td>8</td>
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</table>

11. Which of the following categories apply to your project?

- summer/winter school  

12. Details for summer/winter schools and workshops

**Major Topics**

1 : Gravitationa Lensing  
2 : Interferometry  
3 : Instrumentation

**other info**

- Number of lecturers : 2  
- Lecturers from out of town : 2  
- Number of students : over 40  
- Students from out of town : ~5 in the room, more via streaming  
- Costs of accommodation : EUR 2000  
- Costs of travel : EUR 3000  
- Total number of lectures : 16  
- Total number of practical sessions : 5  
- Number of computers available : 25

13. Please upload resources or materials developed for your project that we can share with our network.

**14. File sharing link**

- Link 1 : https://sites.google.com/site/astrotwincolo/about  
- Link 2 : https://www.youtube.com/results?search_query=astrotwincolo

15. Target Outcome(s)

- Inspire audience  
- Improve science learning outcomes in education setting  
- Improve accessibility to science

4. Timeline & Budget

**16. Budget**

**Summary of Costs** - Please complete with amounts in **EURO**.

Total cost of project as described in the proposal
5000
**Actual cost of project**

4700

**Total amount received from IAU**

4000

**Total amount received from other funding sources**

1000

**Total Surplus or Deficit amount**

187

**If Surplus, how much and what have you used the surplus funds for?**

**If Deficit, how much and where did you find the funds to make up for the deficit?**

The astronomy group of the Universidad de Antioquia funded the deficit.

17. **Please upload your budget and necessary receipts**

   AstroTwinCoLO_2ndMeeting_Report(1).pdf

18. **Timeline**

<table>
<thead>
<tr>
<th></th>
<th>Delayed by less than 1 month</th>
<th>Delayed by 1 month or more</th>
<th>Ahead of schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project was</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

19. **Challenges and Recommendations**

20. **Is there any other information about your project that you would like to add, which has not been covered in any of the previous questions? (Optional)**

21. **Are there any other attachments/documents that you think are important for the OAD to consider? Please upload them here:**

   captcha answer

**5. Thank You!**

**Confirmation Email**

Mar 09, 2016 12:25:15 Success: Email Sent to: rv@astro4dev.org