1st Advanced Scientific Programming in Python – Latin America

an instance of the ASPP Summer School for the Latin American public

June 26–July 1, 2023. Mexico City, Mexico

Evaluation Survey Results

Method

The survey has been administered with a web interface created with the LimeSurvey software available at: http://www.limesurvey.org
All answers have been submitted by 7 August, 2023.
No answer was mandatory.
The free-text answers have not been edited and are presented in their original form, including typos.

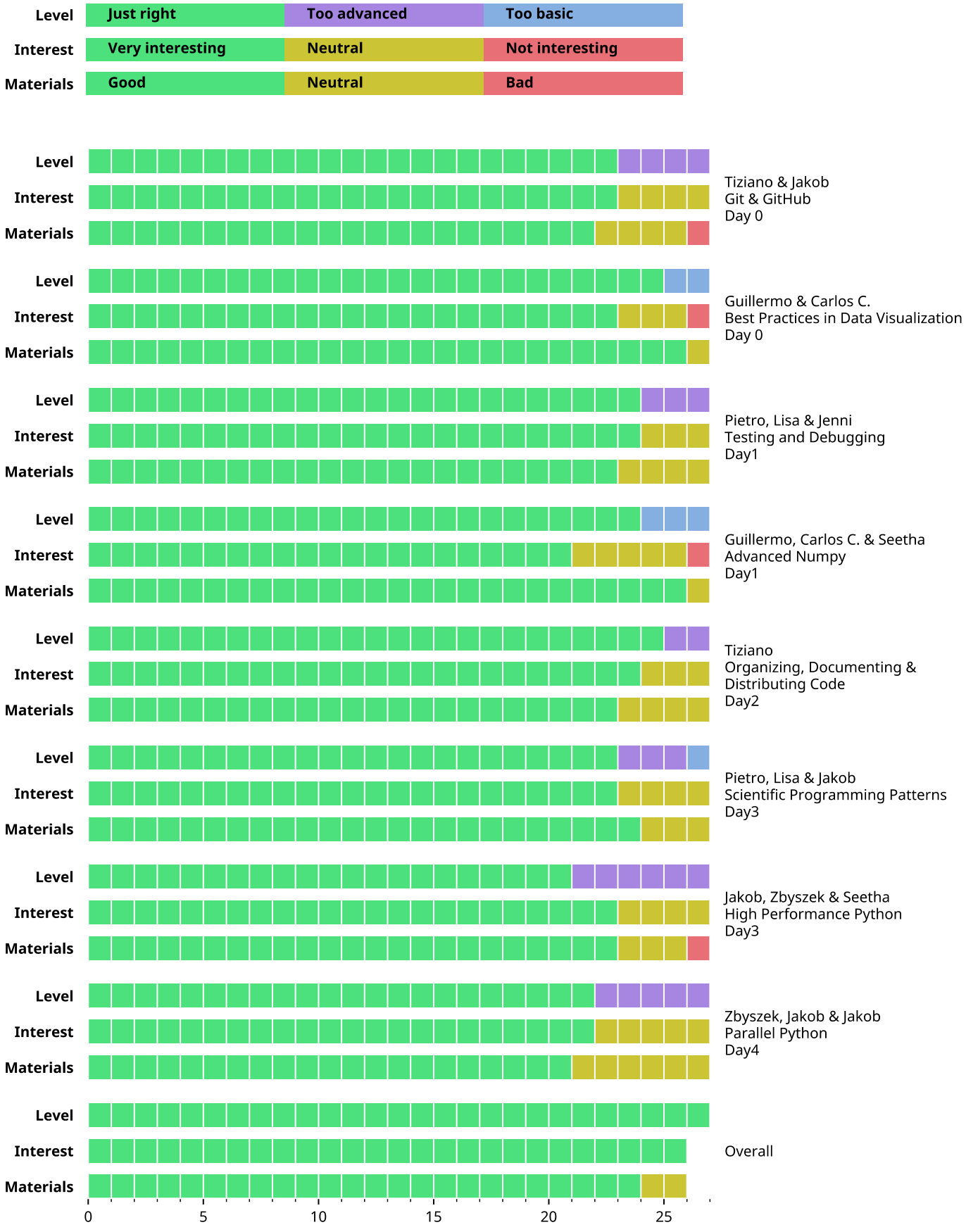
Attendants and Applicants Statistics

Participants	29	
Different nationalities	4	
Countries of affiliation	2	
Gender: other	0	0%
Gender: female	11	38%
Gender: male	18	62%
PhD Students	13	45%
Post-Docs	3	10%
Professor	5	17%
Technician	3	10%
Employee	3	10%
Others	2	7%
Completed surveys	27	93%

More stats about attendants are available at: https://latam.aspp.school/wiki/students

Lectures & Exercises

Q: *Grade the* ***level*** *of the lectures*
Q: *Grade how* ***interesting*** *were the lectures*
Q: *Grade the quality of the presentation style and/or of the teaching* ***material,*** *e.g. the clarity of the slides/code, the exercises and the solutions, etc.*



Q: Are some of the topics presented in the lectures not relevant for a programming scientist?

1. All topics are relevant but the topic 'good practices in data visualization' feels out of context. It is important for a programming scientist but I think is something you learn as part of statistics not programing.
2. Every topic presented in the lectures is relevant but to a different extent. For example, Git and GitHub are very useful in collaborative workflows, but it might be difficult to find a real environment where it is used, so it would turn out that it is only useful for keeping track of our own work. Git is a powerful and fundamental tool though.

Q: Are there further topics relevant to the programming scientist that could have been presented, given that the total time is limited. Please also mention which topics should be replaced by the new ones.

1. I think the main ones were covered.
2. All topics were awesome despite the limited time, so I haven’t nothing to replace
3. The topics presented are necessary and sufficient for this course. I would not replace any topic with another.
4. Due to time constraints, I think "best practices on data visualization" should not include the basics on plt. The same goes for "advanced numpy," which I think could actually include more advanced topics. However, numpy is necessary to understand the latter topics as parallel python.

   Maybe the time spent on "data visualization", which is actually a set of tips, can be used for more or advanced exercises on high performance and parallel python. The lectures on these topics were great, but the examples were too basic.
5. Maybe the virtual environments topic should have more time given that scientists often have trouble running things in different kinds of operating systems. A topic that can be of interest is related to documenting workflows that have different steps using different programming languajes.
6. I would have loved to have more time on some topics, e.g., how to create a package, documentation, proper use of docstrings and maybe an introduction to modules, classes, functions and methods.
7. I think some database management lessons could be included.
8. Actually, I feel that all topics covered at the school were important. I don't think of any other important topic
9. As a scientist who works mainly with texts, I think that it complements the course very well, including exercises with text handling and the use of the Natural Language Toolkit... show how to carry out the reading of a text file line by line, its storage, the reading and entry of data, the encoding and its subsequent visualization in networks, for example.
10. There might be some other relevant tiopics, but in my opinion they would have to be more specialized and maybe not much relevant to most of the class. The topics presented are relevant and in a much wider idea of "scientific software development" that most of us do not think about or are aware of.
11. It would be great to include a bit about how to use docker to contain an application, since more and more people are asking to share code in a docker container, but it's a big topic so I don't know which topic should be removed, maybe the museum visit :P
12. All topics presented were relevant. Indeed, there may be topics to be considered to add, but then other topics should be taken out from the program.
13. I think the program is just perfect for programming scientist.
14. Yes, a lecture focused on manipulation and preprocessing of data sets would be very useful. Scientists usually work with large amounts of data that could be noisy, with missing or inconsistent values, so it has to be analyzed first to ensure that it portrays the nature of the phenomenon better.

    This was briefly reviewed in the Numpy lecture, so these new topics about data preprocessing could be part of that module.
15. I would like to see a little more of parallel python
16. I would have liked to see some interaction with a cluster in the parallel python lecture.
17. I thought the topics provided were interesting. A little more time could be included on the topic of data visualization. I also wish they could address some time series.

Q: Do you think that pair-programming during the exercises was useful?

Yes, I have learned from my partner / I have helped my partner	93% (25)
No, it was a waste of time for both me and my partner	0% (0)
Neutral. It was OK, but I could have worked by myself as well.	4% (1)
Other	4% (1)

Other:

1. Working in pairs was good, but I believe it whould have been better if each one of us have its own computer

Q: What do you think of the balance between lectures and exercises? When answering, please keep in mind that the overall time is limited ;-)

Lectures were too long, there should be more time for exercises	0% (0)
Lectures were too short, there should be more time for lectures	0% (0)
The time dedicated to lectures and exercises was well balanced	89% (24)
Other	11% (3)

Other:

1. Lectures were Ok, but for some reason I think we could had more time for excercises... I mean, it's kind of difficult given the time is limited
2. one possibility could be to do exercise as an example during the lessons, and then exercise alone or as a complement.
3. For some lectures, there should be more time for exercises but it's complicated due to the time

Q: Any further comments about the lectures and exercises?

1. I really liked the course's dynamic. The exercises were interesting and they were very useful to understand the main points of the lectures.
2. The time between lectures and exercises was equilibrated. I never felt bored, quite the opposite
3. I greatly enjoyed the course, and it was evident that the instructors put in tremendous effort and commitment to ensure we acquired sufficient knowledge to enhance our scientific work by leveraging the advanced computing tools offered by Python. Each class was a challenge and, at the same time, a source of satisfaction. I believe that the classes and exercises provided us with the necessary push to continue learning on our own. They offered us the information and practical experience needed to continue independently, with the added advantage of being able to access additional course materials in the repository.
4. The time for lectures and exercises was sufficient. The way Lisa prepared his lecture using "checkpoint exercises" was a great idea, since in some lectures the exercises depend on previous results, so if you don't complete them you can get lost. I'd suggest Lisa's method for this kind of exercises.
5. Overall, the balance between lectures and exercises is very appropriate.
6. It would ben amazing to have more time for the exercises, but with the same time for the lectures .-.
7. Time dedicated to lectures was ok, but for some excercises I would have had more time (e.g. testing and debugging, organizing documenting & distributing)... And I don't know exactly hotw to solve this issue, given the limited amount of time.
8. In general, the lectures and exercises are well complemented.

   The time constraint is an issue to consider.

   I think an option could be to start the exercise during the lecture as an example, and a complementary one
9. I believe that each one of us would have taken better advantage of the course if working with his own laptop, since all of has process information at different speeds.
10. The readings are very comprehensive and useful for the beginning scientific programmer. The readings were taught in a traditional way but with immediate practice the learning became more meaningful. Perhaps in future applications of the program, strategies that allow adaptive learning could be explored. For example, leaving a space within the course to work on data from a project known to the student or handling data with which they are familiar from their academic or professional training. I think that an approach of this type would be interesting for both teachers and students.
11. Some of the exercises were not enough clear with the instructions, that caused a lost of time trying to be figured out what we should do, that could be improved.

12. If you have an exercise you should try to always give an answer, in pair programming your partner might be obsessed trying to solve the previous exercise instead of moving on and working on the new one, specially if they already know the subject of the lecture.
13. Both lectures and excercises were relevant. The only comment I may have is that as there were many excercises in the notebooks and we didn't manage to cover all them up, there was a feeling on not doing enough or being short on some way... May be it would be nice to keep separated the excercises that can be done in a shorted period of time and the extra exercises.
14. Maybe a bit more of exercises for git, that was the most difficult topic
15. One of the main reasons I found the whole course experience amazing was the balance between practice and theory. Some exercises were challenging, but even if there wasn't enough time for everyone to complete them, it did not impede continuing with the next part of the course.
16. The balance on time between exercises and lectures is well achieved.
17. The lectures and exercises were just great, as well as the instructors, it was a well structured and designed course. The organization of the event was also excellent, a very pleasant environment to learn new tools for scientific programming, it was really revealing!
18. None
19. I loved each and every lecture, each exercise was well designed and proved. And you learn also from the teachers which have an amazing way to convey knowledge, and big experience with the lecture topic and programming language.
20. I liked the balance of the lectures and excercises. It made the day of lectures clearer.
21. In my learning path as a scientist, I have found many problems that led me to self-study in an attempt to solve them in the best way possible; lack of documentation on scientific Python libraries, poor performance of my own code, nested for loops, redundant file names, ...

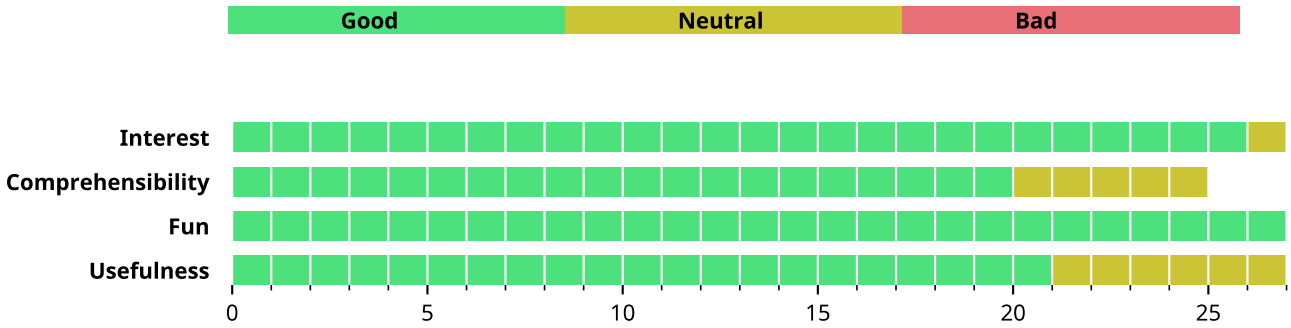
    This summer school was just on point for solving those problems as the lectures seemed carefully selected for people who have been dealing with scientific programming. The only drawback is that it only lasts 1 week! So I understand that it wasn't possible to finish every single exercise.

    This was an amazing growth experience where I was able to learn new tricks, ideas, and perspectives from the faculty members and my peers.
22. The school was really good, it was a really nice experience. I hope there will be more editions of this School in Latin America in the following years.
23. I thought the presentations were good and the exercises illustrative
24. Sometimes the classes were swift, especially the one on GitHub. However, it is because I needed to learn more about that platform. The same happened with my classmates who did not know another subject well. However, at other times, I liked how they gave the class and quickly understood what to do, and then the time seemed short for the excitement of continuing to practice more on the subject. Viva AlphaPerro!!!

Programming Project

Q: Evaluate the programming project.

Interest: How interesting was the programming project?
Comprehensibility: How clear and comprehensible was the code and the available documentation? Was it easy to work on the programming project
Fun: Was it fun to work on the programming project?
Usefulness: Was it useful to work on the programming project? Do you think you may re-use what you learned?



Q: Do you think the team-programming experience is relevant to your work as a programming scientist?

Yes: 100% (27)
No: 0% (0)

Q: Do you think that the project should be about a real-world scientific problem instead of a video game?

Yes: 15% (4)
No: 85% (22)

Q: Any further comments about the programming project?

1. I think it is nice that the programming project is not scientific since all the members of the team have different expertise. It is a great exercise for communication and team work.
2. The programming project was an amazing experience, the video game project covered the most lectures that we saw. Answering the previous question, if a real-life project was more suitable, I should say that the video game is perfect, because we can apply many things from lectures. The real-life problem probably was too specific and … there is no funnyi, everyone loves games.
3. The final project allowed us to realize the successes and shortcomings we have as scientists when collaborating in a team to solve problems and translate our ideas into code. It was a great, enjoyable, and enlightening experience that allowed us to practice many things we learned throughout the course.
4. I prefer a real-world project to a video game. However, I understand that it is difficult to find a topic project that can be useful for the students of the profiles. A project that includes data manipulation, different test, visualization and parallel python could be great. Maybe based on the Pelita game, different simulations could be created by changing different "personalities" and then suggesting the best configuration. Something like a modular game instead that students create their own bot.
5. The programming project is the perfect experience to manage a scientific programming project.
6. We had fun with the video game, and the tournament was relaxing. During the project, what I kearned the most was the colaborative work: even we had enough programming tools, what was central to the success was talking to each other constantly, either in pairs or among teams. At the beggining of the project, I felt that we were spending too much time talking about the workflow, however, at the end it was relatively easy to merge the work (and we did our best with github)
7. Just a big thank you to all the faculty, it is truly one of the best experiences and courses I have ever taken.
8. The scientific project based on a video game is very fun and allows students to put into practice what they have learned in the course in a dynamic and competitive way among the groups. I loved. After living the whole experience, both inside and outside the classroom, I think that the school has enormous potential to work on a real-world scientific problem. The school is attended by students and teachers with valuable professional experience and various academic backgrounds. A project of this type would make what was learned more challenging and meaningful. I also like the idea that teachers can get more involved in the project, be part of the team, of the ideas or the analysis, and not just become technical support in the development of the project.

9. The programming project was fun and interesting, we had to remember and think about the content we covered on the lectures and excercises, there were even chunks of code from the lectures that we tried to implement in our code.

   The demo code provided (basic attacker, basic defender, etc...) is very useful when trying to think what and how to implement behaviors, nonetheless one can spend much time trying to understand it, and the results might not be that interesting... Anyway... I don't have a better idea on how to tackle it at the moment...

10. The documentation could be q bit better, explaining how to use some functions
11. We had a lot of fun during the programming project. It allow us to combine our strengths and to discuss different strategies as a bigger team. We had time to learn about the personalities of the different team members which was also very interesting.
12. The programming project was challenging and fun, I learned a lot from my teammates and reaffirmed that the key to success is attitude rather than computer skills.
13. In order to maintain interest for everybody, from different backgrounds, the project was right.
14. Was super fun!, and very stressful at the beginning. But I really enjoyed the challenge of communicate with your team mates and figure out what the heck we needed to do to be fastest and the best team. Was a great experience.

    The tournament over all.

15. The programming project was a really interesting excercise on collaborative programming. Many common issues that arise while working om a group arise. So I believe that it was a good, fun experience.
16. I believe that the programming project being a video game is a great idea. Since the schedule is tight and it would take a lot of time to get familiar with a real-world project. Besides, playing a game with your peers is really fun and encourages creativity to use what was learned in the lectures.
17. I learned a lot from my team. It was a really nice project and team.
18. I never really understood how the "state" dictionary actually worked.
19. Pelita was an unexpected discovery for me. It was very nice to program an attack and a defense routine. At times I was frustrated because it did not do what it "should do," at other times, it was exciting because it did unexpected but pleasant things. I learned a lot from the project and could apply the ideas I learned in school. AlphaPerro winner forever.

The School in General

Q: How do you overall evaluate the ASPP-LatAm?

Good: 100% (27)
Neutral: 0% (0)
Bad: 0% (0)

Q: How do you evaluate the general level of ASPP-LatAm? Was it too advanced/too basic with respect to your expectations*?*

Too advanced: 7% (2)
Just Right: 93% (25)
Too basic: 0% (0)

Q: How do you evaluate the general level of ASPP-LatAm? Was it too advanced/too basic with respect to what was advertised in the announcement*?*

Too advanced: 0% (0)
Just Right: 96% (26)
Too basic: 4% (1)

Q: Did you learn more from attending ASPP-LatAm than you would have learned from reading books and online tutorials alone?

Yes: 96% (26)
No: 4% (1)

Q: How do you evaluate social interactions and social activities at ASPP-LatAm?

Good: 100% (27)
Neutral: 0% (0)
Bad: 0% (0)

Q: Would you recommend ASPP-LatAm to other students and colleagues?

Yes: 100% (27)
No: 0% (0)

Q: How did you hear about ASPP-LatAm?

Google Search: 1
Professor/Tutor/Supervisor: 3
Colleague/Friend: 6
Mailing list: 8
Other: 10

1. Facebook post
2. Facebook Gorup "Mexicanas en las Ciencias"
3. Social media of goverment of CDMX
4. I saw it on Twitter, maybe from a UNAM account
5. I found it online
6. Via a facebook publication of a mathematical society
7. DGTIC mailing list
8. Facebook
9. Facebook
10. twitter

Q: Any further comments or suggestions?

1. AI really enjoyed this summer school. Honestly, it has been the best course I have attended.
2. I must say that the reality exceeded expectations. I would take the school again 100%. Thank you guys for the very nice job. Thank you guys for your hard work and commitment to the school.
3. This course is the result of the work of many generations of students and instructors. The quality of the classes and the supportive and friendly atmosphere that is created is something to be enjoyed and promotes a pleasant learning environment. This is how all scientific summer schools should be. Thanks to all the instructors, organizers, and fellow participants for making this a unique experience.
4. The school was amazing, not only because of the classes and the faculty, but also because of the social interactions between all the people. I think it needs more diffusion to get more people to try to apply.
5. There should be a continuation (part II) with more topics related to the school
6. I would have liked a feedbak from tutors to the group, just to know general differences between other schools and this one (given that was the first in latam)
7. Thanks to all instructors and organizers for this wonderful experience. The school helped me to become a more proficient python coder, and sincerely will help my professional development.
8. Congratulations to all the people who made the ASPP LATAM school possible, it was a very enriching and pleasant experience, which will be very useful in my scientific training. I highly recommend this experience to anyone interested in scientific programming and data science. You can learn good practices that will be very useful for your work team in real life.
9. It was a great experience, the faculty is a bunch of beautiful and generous people. It didn't feel as going to school but spending a week with friends sharing knowledge and experiences. Also the rest of the students were amazing, I had a great time sharing and getting to know them during the week.

   I really hope this experience can be shared with more people in further editions of the school.
10. It was a really good course. Thanks a lot
11. I came back to work motivated and with several ideas to implement a better coding workflow strategy. The course taught me what was missing to improve the organization and quality of code produced in my laboratory. The course materials were well organized and easy to understand, providing a great quality and flow. I am genuinely thankful for the opportunity to participate in this course and eagerly hope for another edition in Latin America in the near future.
12. Thank you guys for this amazing experiece. A real pleasure meet you.
13. The course in general was a great experience and the topics covered usually are not covered at courses at universities, hence very useful.
14. Keep doing this kind of school, is amazing, you allow the people to have the opportunity to acquire new knowledge so easily and to practice some soft skills so needed in real world.
15. ASPP LatAm was not just about scientific programming but the people. It was a great experience with a lot of kind people from different backgrounds willing to share their knowledge. The peer approach was very useful as it allowed you to adapt to the way of working of your peers. The atmosphere was always nice thanks to the enthusiasm of the faculty members and organizers.

    Regarding the content in general, the lectures were useful for the day-to-day life of a programming scientist and focused on the important topics of each area. My only observation is on the exercise instructions since some of them were not very specific for the short time we had, but that's just it.

    The school was exactly what I was expecting and more. ASPP is a great project and a valuable effort that more people should know about.
16. It was great in all senses: I learned new stuff as well as how to correctly do stuff I use to do; met very interesting people and projects, had a great time overall.
17. Although I would like the school to have more time to give more depth to the topics, not everyone has that time. The duration is correct both in days and hours. One proposal might be to remove one or two topics and expand on the ones that already remain. I would love a location to be found that looks like a camp.