

## XI International GEANT4 School

The XI International Geant4 School was held at the Physics Department of the University of Pavia and the INFN Section of Pavia from the 14th to the 19th of January 2024.

The activities were of two types: lectures on the basics of the Geant4 code and hands-on sessions where the students could apply the new acquired knowledge to practical cases in different contexts.

The students who attended the school were 36, 23 of which from Italy, 13 from foreign universities and institutions (coming from Bulgaria, Israel, Canada, Belgium, France, Greece, Austria, Hungary, Finland, United States, Germany, China and Canada), 18 PhD students, 5 MSc or graduated students, 10 researchers, 1 manager and 2 professors.

At the end of the school all the students could download, install and run the Geant4 code. They could also evaluate the simulation outputs both about its physical meaning and its statistical significance. Importantly, they acquired the knowledge to make simulations in the biophysical field, with a specific focus on the study of DNA damage with the Geant4-DNA module.

During the last day of the School, students could also test their level of learning through a written exam. All the students passed this test and obtained an official certificate.

The details of the 2024 school are available at this webpage: <https://agenda.infn.it/event/37741/>

### Photos of the classes and social events



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*This partnership has received funding from the European Union's "EURATOM" research and innovation program under the 101061037 grant agreement.*



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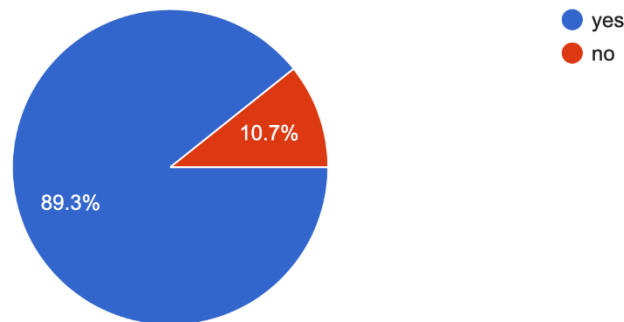
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## Feedbacks from the students

Were the lectures on Geant4 satisfactory ?

28 responses

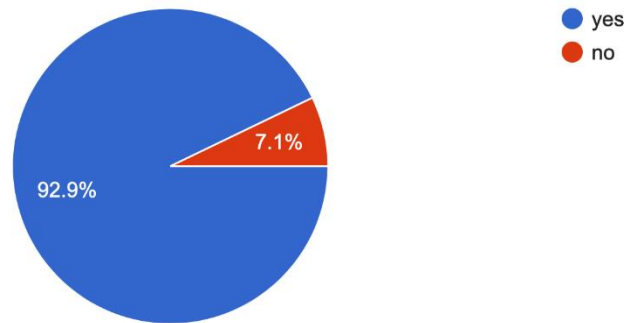


Do you have a feedback on how to improve ?

- More time for hands on
- Really nice explained, good length, nice examples and enough time and documentation :) So all really good already
- no
- I didn't have the correct basis of C++ and it was explicitly required. The aim of the course was too technical in my opinion, and my comprehension was limited to general information. However the guided exercises are a good tool to improve and study after the course.
- Provide some material to get a stronger knowledge of C++ programming as a pre-requisite
- I found the lectures and especially the hands-on sessions on Geant4 very interesting and useful.
- No, everything was perfect!
- great lectures and support, but more time needed to complete hands on and step by step solutions at the end could be useful

Were the lectures on Geant4DNA satisfactory ?

28 responses



Do you have a feedback on how to improve ?

- Maybe some more interactive examples, like Geant4 part, where one has to do the exercises by themselves. Upload exercises as well to the page, to access them in own speed and not rely on the presented slide.
- no
- Maybe focus on a reduced number of exercises to have more time to process and understand all the concepts.
- I found the lectures about Geant4dna a bit rushed, and I would have preferred to work on the hands on tasks using the same format of the first part of the week, i.e. by providing the slides and, separately, the guided tasks online (instead of explaining and then showing the tasks, I found this format more difficult to follow).
- Steep learning curve for people not already well versed in Medical Physics
- I found the lectures and the examples on Geant4DNA very interesting and useful. I would have preferred if the hands-on sessions about this part were held in the same format as the ones about Geant4 in general.
- Maybe more time devoted to hands on exercises would be useful.
- Great lectures, only improvement could be a bit less repetitions of some slides

What do you think about the organisation of the school ? Do you have a feedback on how to improve ?

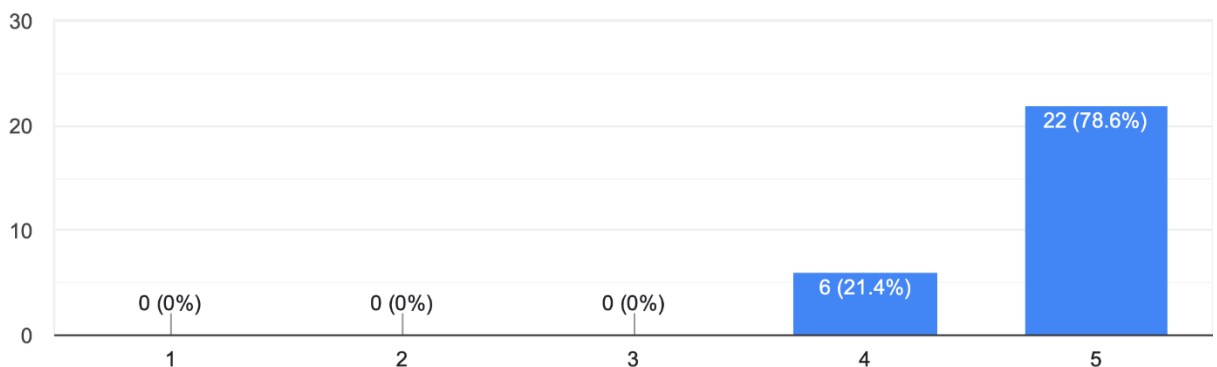
- Organised really well
- Social events were really nice, especially to get to know each other before the course started on Sunday. More simpler lunches, with less meat would be also

fine like pasta, risotto. More vegetables. ;) Or fruits for the coffee breaks ;) Everybody was really helpful and motivation. Great learning atmosphere.

- very good !
- No suggestion, very nice school
- Very good organization. +++ for the preparation of the tutorials (hands on session) that gives us all the tool to build our own application later.
- The school is pretty well organised in my opinion. I appreciated the coffee breaks, the lunches, the welcome toast, the visit to the Kosmos museum and the social dinner very much.
- The school organization was really good!
- Great

Would you recommend this school to a peer interested about Geant4 ?

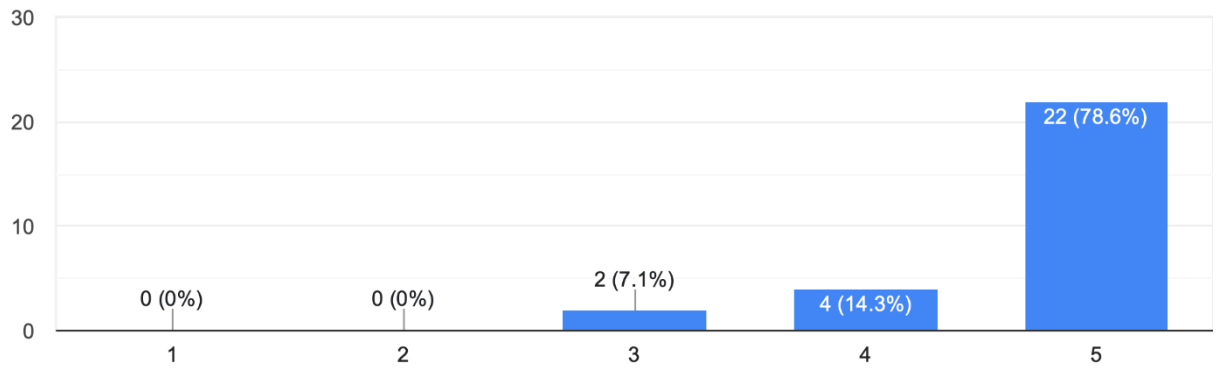
28 responses



1 I would not recommend 5 I strongly recommend this school.

**Would you recommend this school to a peer interested about Geant4 applied to medicine ?**

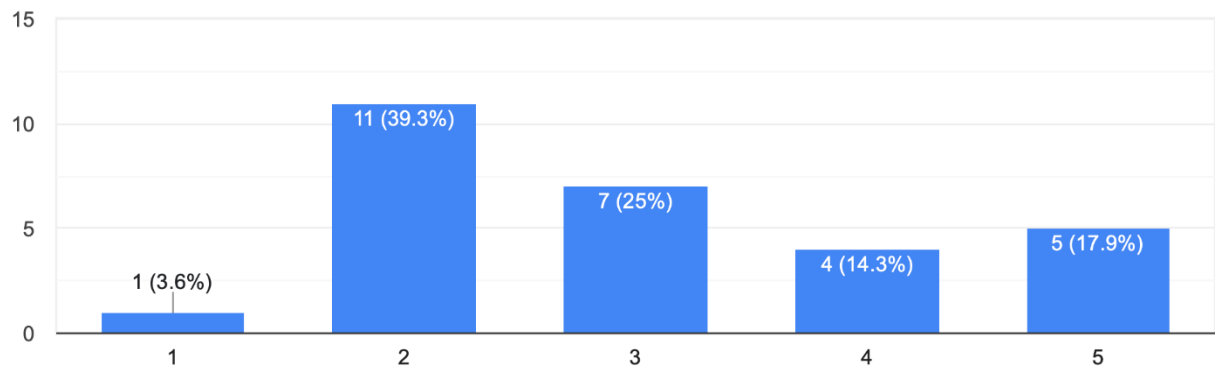
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1 I would not recommend 5 I strongly recommend this school.

**To whom would you recommend this school ?**

28 responses



1 novice and 5 is expert.