

Peer instruction and beyond

The role of high-school students in public outreach



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Abstract and conclusions

We report on synergies between education and public outreach, using the example of IYA 2009 activities of two major German astronomical institutes: the Max-Planck-Institute for Astronomy (MPIA) in Heidelberg and the German SOFIA Institute (DSI) in Stuttgart. In particular, we describe our experiences with high-school students (ages 15 to 18), which we prepared to become active participants in our public outreach activities, proving spectacularly effective especially in reaching children, younger students and adults. In all cases we got a win-win situation. On the one hand our outreach power was multiplied and the contact to the people became more intensive. On the other hand the students got a lot of mostly positive feedback for their work and got a new motivation for learning.



Astro-activities for kids

During the annual scientific adventure days in Mannheim (called Explore Science) high-school students supervise stations where the visitors (mostly children and younger students) can be mobilised and excited for natural and technical sciences by hands-on activities. We get engaged supervisors from our student summer school courses and from surrounding schools. During some months before they prepare themselves and become experts for their station topic and how to present it. Our experience is that high-school students come in contact with children and other students much faster than adults.



Going to the tourists

Every year highly gifted students (ages 16 to 18) from all over Germany can attend summer school courses. During the astronomical courses they learn fundamental astronomy and get insights into actual research topics. To give them the chance to test their knowledge and to find self-affirmation we organize at the end of the course an „Astronomy for the public“ event at a place where many tourists are (people which have plenty of time!).



Night hikes – Guidings in the sky

The night sky is fascinating for nearly everyone. However, only some people know the objects in the sky and how to find them. Therefore, we enable student mentors to guide small groups of other students through the sky. Via the student mentors we are able to introduce during a single night more than hundred students into the orientation in the night sky.



Presentations for the parents

A new experience for middle aged students (15) is to present their knowledge to the parents in a public performance. This audience gives them a newly-made awareness about the sense of presentations. On the other side, the parents can learn by this way from their children.



Teaching materials which are
used can be found at:
www.wissenschaft-schulen.de



Contacts with scientists

A modern and authentic way to become informed about the most recent and fascinating results in the field of astronomical research is a skype conference with a scientist organized and managed by a student.