



Figure 6. NASE course distribution until 2014.

### Future plans

From an evaluative point of view, we can consider the project and the basic course implementation a great success in all the countries where our work has commenced. However, there has been a serious problem for us regarding our observation sessions. In a four-day course it looks as though we can organize, at least, one night observation, but up to the present we have to admit that the weather conditions have not been good enough on the majority of occasions. Of course this is a problem that is difficult to solve. We are considering using remote telescopes in the next edition to try to solve the bad weather problem.

Our courses have been organized in America mainly, with some in Africa and Europe (figure 6). We are planning to continue in these continents and to begin to work in Asia next year in cooperation with local institutions.

By means of this project we visit the country and teach a course in a local language, and we also create a group of teachers, in each country,

that repeat the educational courses every year with help from local universities and planetariums. In several countries the ministry of education recognizes the NASE course as an official course for training teachers in astronomy.

With only a few NASE visitors over a couple of years, we have been able to form local groups that can work in astronomy for many years to come.

NASE courses allow us to show a methodology to teach sciences (mathematics, physics and others) by means of astronomy that is much more attractive to students. Teachers also have the opportunity to improve their knowledge in these branches of science too.

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## Heureka moments

How do physics teachers spend their weekends? In the Czech Republic, on one Friday evening each autumn, dozens of them pack their sleeping bags and head for Nachod, a small town near the Czech–Polish border. The big attraction is the annual Heureka Workshop (<http://kdf.mff.cuni.cz/heureka/en/>), a CPD event that has been running since the early 2000s.

Since I reported on the 2004 workshop (E Swinbank 2005 Reporting from a mattress in Nachod... *Phys. Educ.* **40** 5), a few things have changed: it is now OK to sleep in a hotel and eat in restaurants, though many teachers choose the cheaper option of the mattress on a classroom floor and DIY catering. But many things are the same. The workshop still takes place in





A plenary session at the 2014 workshop (photo: Irena Dvorakova).



A hands-on session at the laboratory (photo: Irena Dvorakova).

the elegant Jiráskovo Gymnázium (high school), hosted by local physics teacher Zdeněk Polák. Participants present and take part in a programme of at least eight workshop sessions, chosen from a menu of about 15, and some plenaries. And the atmosphere throughout is friendly, collaborative and enthusiastic.

Participants from other countries are warmly welcomed (R Milbrandt 2010 Innovative physics teaching conferences in the Czech Republic *Phys. Teach.* **48** 395–6; G Planinšič 2006 Teachers

share experiment know-how *Phys. Educ.* **41** 7–8). Sessions led by non-Czech speakers are usually in English, and while most sessions are led by Czechs in their own language, many welcome the opportunity to exercise their English skills and there is usually someone else on hand to help translate for the foreign guests.

In 2014, workshop sessions included building op-amps, using toys to explore the idea of centre of gravity, investigations using hydrogel balls, peer instruction, ‘magic’ physics and maths,

