

## SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)

## Ignition - Primary Space Education (1)

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## SPACESHIP EARTH - TAKE YOUR CLASSROOM INTO SPACE

**Abstract**

Schools in Europe actively participated in the educational project “Spaceship Earth”, part of ESA astronaut André Kuipers’ PromISSE mission. The initiative, conceptualized by the European Space Agency (ESA) and the Netherlands Space Office (NSO) also involved a unique collaboration of a team including Nemo Science Centre (Amsterdam, NL), Space Expo (Noordwijk, NL) and the World Wildlife Fund (WWF). André Kuipers launched from Baikonur to the ISS on 21 December 2011. By asking students aged 10-14 to ‘Join my mission’, he invited them to participate in “Spaceship Earth” or “Ruimteschip Aarde” (the Dutch version of “Spaceship Earth” specially targeting Dutch primary schools). Pupils were directly involved in this mission by following lessons developed by ESA and Nemo Science Center for the three Spaceship Earth themes: ‘Life’, ‘Biodiversity’ and ‘Weather and Climate’. Additionally Spaceship Earth programme was represented in a long-standing exhibition in Space Expo, ESA’s Teacher Summer Workshop and the ESA Space Camp. A major part of Spaceship Earth project allowed students to compare results of experiments in the classroom with the results carried out by André in microgravity. To fulfill this objective, space hardware and ground demonstration kits were developed and delivered free of charge to schools that signed up to participate in the experiment. These kits enabled students to appreciate the role of gravity in the phenomena of convection and foam formation/stability. In addition, a direct interaction between the astronaut and the children during an inflight call allowed for a more direct contact to discuss the results both sets of experiments achieved – truly bringing the classroom into space. The NSO further tailored their Ruimteschip Aarde national programme by involving Dutch Schooltv and by maintaining a dedicated project website, where André challenged Dutch children with three specific problem solving tasks. The children submitted their solutions to via short video clip or photo-shoot after which André selected the winners whilst in space. The teams with the best solution won a radio contact (ARISS) with the astronaut. The goals of the project were to make pupils, teachers and those in their social environment, aware of the conditions necessary for life and the systems that support these, both on Earth and the ISS. Furthermore the project was a tool to enhance interest in science and technology,

bring attention to the importance of space exploration as well as highlight the beauty and vulnerability of planet Earth.