



Universiteit  
Leiden  
The Netherlands

# Astronomy & Society

LEIDEN OBSERVATORY

**The aim of Leiden Observatory,  
and specifically of the Astronomy  
& Society Group, is to engage the  
public with the wonders of the  
Universe and share the scientific,  
technological, cultural and  
educational aspects of  
astronomy with society.**





Earthball activity at Balud Elementary School in Samar, Philippines, February 2014. Credit: S. Tumamos/UNAWA Philippines.

# Oude Sterrewacht Old Leiden Observatory

The Old Leiden Observatory is the oldest university observatory in the world. The Old Observatory has been home to many world famous astronomers like Oort, Hertzsprung and De Sitter, who made discoveries and laid down theoretical frameworks that are still being used today.



A view of the Old Leiden Observatory from across the canal. Credit: Gilles Otten.

The Old Observatory aims to share the beauty of the universe alongside the rich history of Leiden astronomy. The Visitors Centre features a number of exhibitions about astronomy. The observatory offers tours of the building and telescopes by Leiden University astronomy students, and hosts open days, public talks and stargazing events throughout the year.

[www.oudesterrewacht.nl](http://www.oudesterrewacht.nl)

 [@SterrewachtNL](https://twitter.com/SterrewachtNL)

 [/ostrw](https://www.facebook.com/oudesterrewacht)





Young visitors participate in a tour of the Visitors Centre exhibitions. Credit: Old Observatory, Leiden University.

# Universe Awareness

**Universe Awareness (UNAWE) uses the beauty and grandeur of the Universe to inspire young children and encourage them to develop an interest in science and technology.**




UNAWE activities with small children in San Cristobal El Alto, Sacatepéquez, Guatemala, September 2015.  
Credit: Alan Garcia/UNAWE Guatemala.

The programme aims to introduce children to the idea of global citizenship at a crucial stage of their development – to show them that they are part of an international community.

Until the advent of UNAWE, there were no large-scale attempts to use astronomy as a tool for inspiring and educating young children. Therefore, while our resources are open to all, the programme is aimed at children aged 4 to 10 years, especially those from underprivileged communities. UNAWE is active in 61 countries and Leiden University Observatory is the founder and coordinator of the programme.

[www.unawe.org](http://www.unawe.org)

 @unawe

 /unawe

 @unawe



Universe in a Box activity in the Ladakh region of the Himalayas, India, July 2015. Credit: J. Polednikova.



# Space Awareness

Space Awareness uses the excitement of space missions and discoveries to engage children and teenagers with science and technology and stimulate their sense of European and global citizenship.



UNAWE at Mission X with ESA astronaut Andre Kuipers, the Netherlands, 2013. Credit: UNAWE.

Space Awareness inspires primary school children when their curiosity is high and their value systems are being formed. Space Awareness shows children and teenagers the relevance of space science in their lives and the opportunities offered by space sciences for their future. Space Awareness is an EU-funded project involving 10 partner organisations and 22 national nodes in Europe and Africa.

[www.space-awareness.org](http://www.space-awareness.org)

 @space\_awe

 / Space Awareness

 space\_awe





Teacher training session at the Space Education International Workshop organized by the European Space Agency (ESA), the Galileo Teacher Training Program (GTTP), and the Space Awareness project, Leiden, the Netherlands, in October 2016. Credit: W. Schrier.

# Citizen Science Lab

The Citizen Science Lab will be an incubator and central hub for citizen science efforts with a particular focus on astronomy, environmental science and Earth observations.



With the LIGHT2015 Dark Sky Meter app, citizen scientists measure the quality of the night sky in their regions and thus contribute to understanding of night-sky quality around the world. Credit: DDQ/Leiden Univ/IAU.

The Citizen Science Lab will focus on societally relevant problems that can be addressed only by involving a substantial fraction of society.

The Citizen Science Lab will organise workshops for groups of scientists and members of civic organisations, to develop new citizen science projects. CSLab builds on the leading citizen science, outreach and education expertise at Leiden University, which spearheaded the citizen science initiatives iSPEX and the LIGHT2015 Dark Sky Meter app.

[www.ispex.nl/en/](http://www.ispex.nl/en/)  
[www.citizenscience-lab.org](http://www.citizenscience-lab.org)



iSPEX, an add-on with complementary app, instantly turns a smartphone into a scientific instrument to measure dust in our atmosphere. Credit: iSPEX/Leiden Univ.



# Open Science Centre

Open Science Centre is a learning space for Science, Technology, Engineering, Arts and Mathematics (STEAM) education that fosters sustainable development of local communities.



Artist's impression of Open Science Centre. Credit: de NAMEN.

This engaging learning space is based on open standards: open architecture, open education, open technology and open science. The Open Science Centre is designed for low-income and/or remote communities, but it is open to everyone and can be established anywhere. The first Open Science Centre is planned to open in 2017 at the core of LOFAR radio telescope in Exloo, the Netherlands.

[www.opensciencecentre.org](http://www.opensciencecentre.org)



UNAWE and Space Club activity at American School in the Hague, the Netherlands, June 2014. The Open Science Centre will support this type of activity. Credit: UNAWE.

# IAU astroEDU

IAU astroEDU is an open-access platform for peer-reviewed astronomy education activities.



astroEDU Assistant Editor Thilina Heenatigala presents astroEDU at the Experts Meeting in Education Networking (EMINENT) annual event organised by European Schoolnet (EUN), Barcelona, Spain, 19 November 2015. Credit: P. Russo/astroEDU.

IAU astroEDU allows educators to discover, review, distribute, improve and remix astronomy education activities. It offers a free peer-review service by a professional educator and an astronomer to ensure a high scientific and educational standard. astroEDU targets activity guides, tutorials and other activities in the area of astronomy education, prepared by teachers, educators and education specialists.

[www.iau.org/astroEDU](http://www.iau.org/astroEDU)

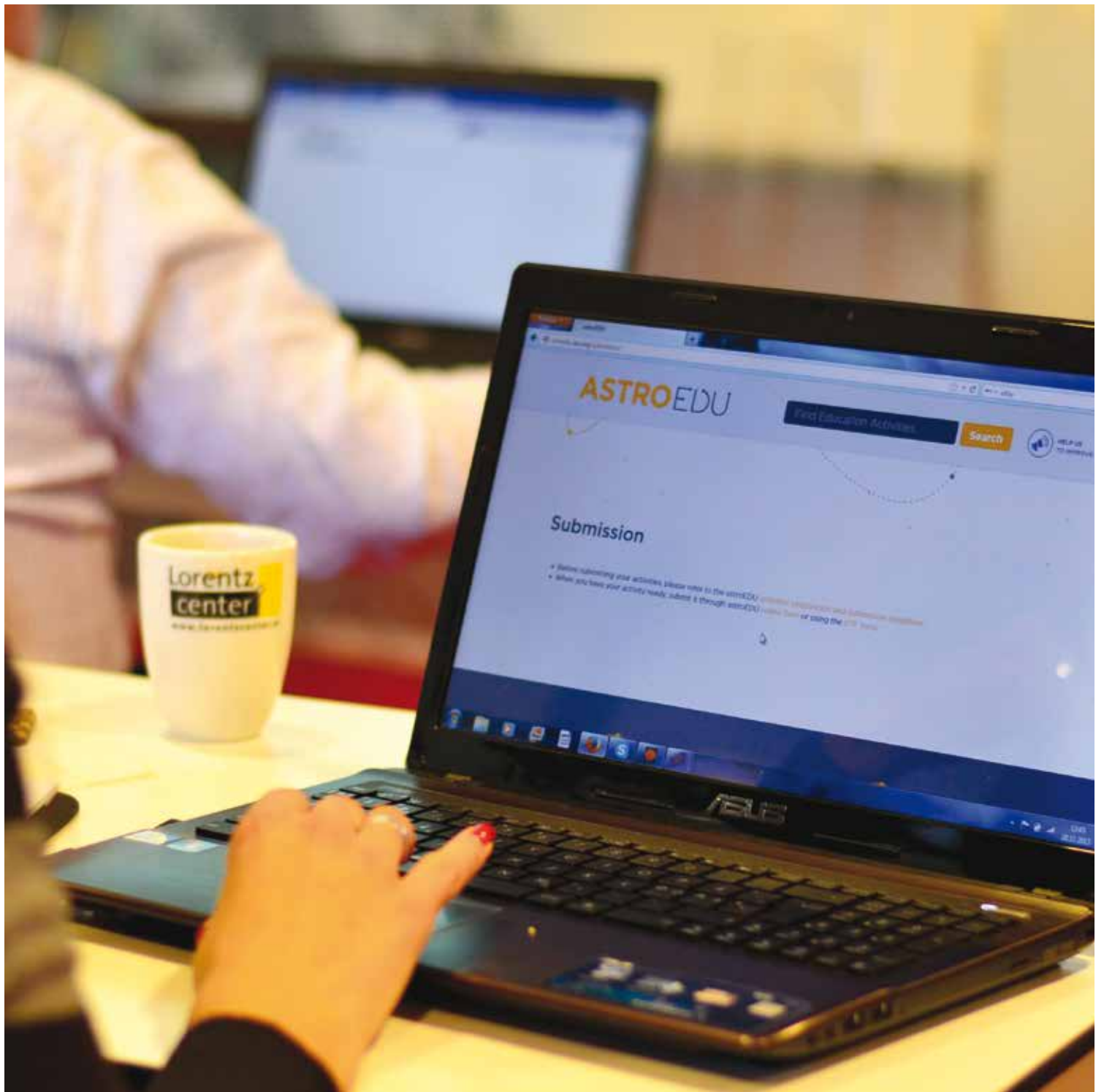


@IAUastroEDU



/iauastroedu





Teachers using astroEDU platform during ESA/GTTP Teacher Training Workshop, Leiden, the Netherlands, November 2014. Credit: C. Provot/UNAW/astroEDU/IAU.

# Europlanet

**Europlanet links research institutions and companies active in planetary research in Europe and around the world.**



Educational activity with children, Iceland, February 2013. Credit: UNAWA Iceland.

Planetary science covers the study of our solar system and those around other stars. It is an interdisciplinary field of research that covers astronomy and geophysics, robotic and human exploration of other planets and the search for extraterrestrial life. Leiden Observatory leads the Outreach Services part of Europlanet 2020 RI, which includes science communication training workshops to equip planetary scientists with the skills to convey their work effectively to different audiences, including educators and the public, and creating and curating high-quality teaching resources and activities for use in classrooms and informal learning settings.

[www.europlanet-eu.org](http://www.europlanet-eu.org)

 [@europlanetmedia](https://twitter.com/europlanetmedia)

 [/europlanetmedia/](https://www.facebook.com/europlanetmedia/)

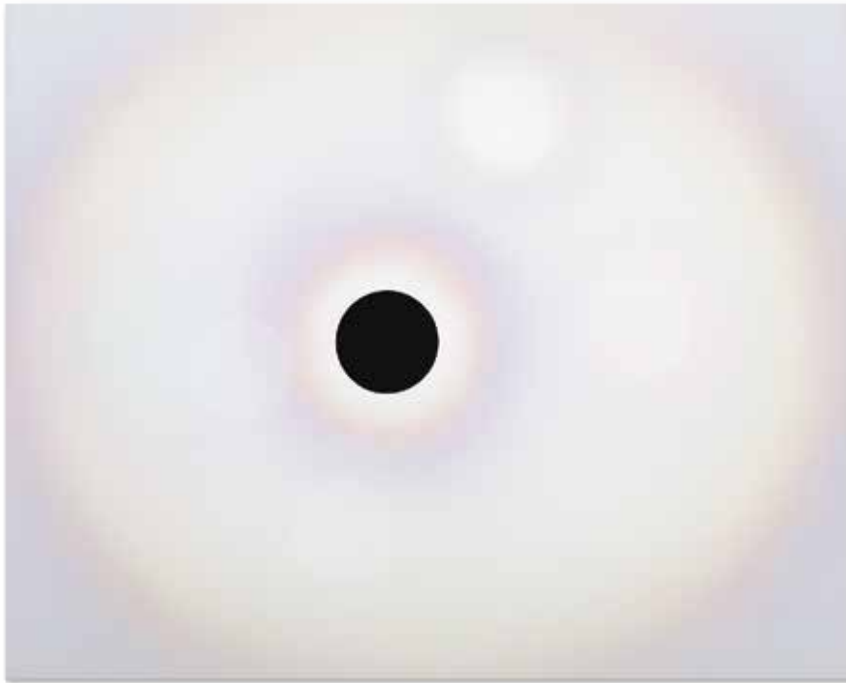


Working with teachers, Science Academy, Leiden, the Netherlands, September 2015. Credit: UNAWE.



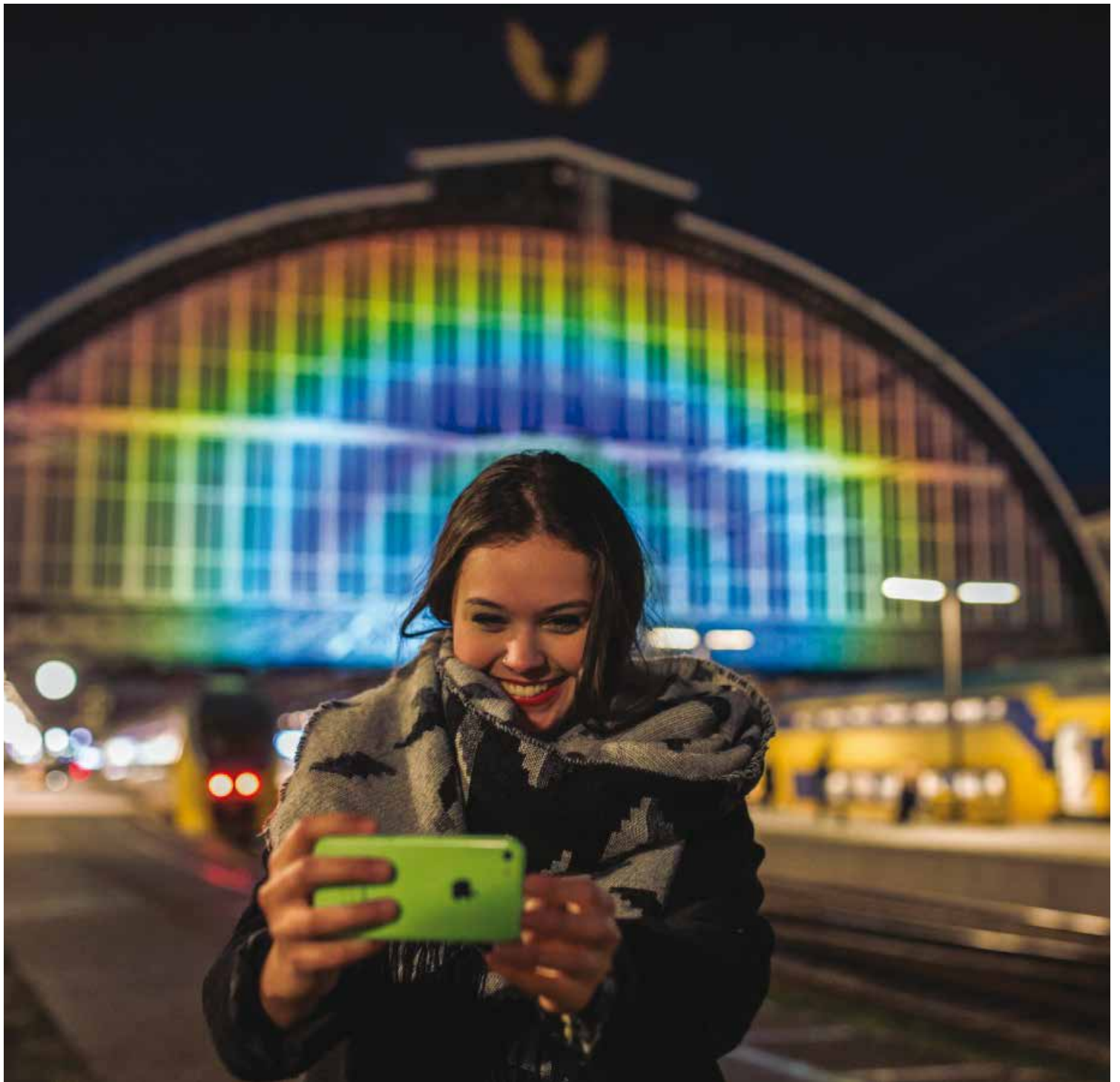
# Astronomy & Art

Leiden Observatory supports and encourages the exploration of intersections between astronomy and art, through the Academy Prize for Astronomy & Art, as well as other astronomy and art collaborations, ranging from science and art festivals to film making.



The Astronomy and Art Prize was established by the Royal Netherlands Academy of Arts and Sciences and the Society of Arts. It is intended for an artist who has created a work that is clearly inspired by astronomy.

Artist Roland Schimmel's 2010 work *Black Sun* won the first Academy Prize for Astronomy and Art. (*Black Sun*, 2010, acrylic on canvas, 100 x 125 cm). Credit: Roland Schimmel.



To commemorate the 125th anniversary of the Amsterdam Central Station building, a rainbow could be observed every night in 2015 on the station building. The rainbow was created using the latest technology developed to detect exoplanets in a special collaboration between NOVA astronomers and Studio Roosegaarde. Credit: Studio Roosegaarde

# International Astronomical Union

**Astronomy for Development &  
Communicating Astronomy with the Public**



Communicating Astronomy with the Public conference in Warsaw, Poland, October 2013. Credit: CAP2013/  
M. Slonina/FI Projekt/New Space Foundation

The Astronomy & Society Group is involved with several committees, projects and programmes of the International Astronomical Union, namely the Office of Astronomy for Development, Office for Astronomy Outreach and the IAU Commission Communicating Astronomy with the Public.

[www.iau.org](http://www.iau.org)

[www.communicatingastronomy.org](http://www.communicatingastronomy.org)

[www.astro4dev.org](http://www.astro4dev.org)





Kevin Govender, Director of IAU Office of Astronomy for Development, during CAP2013 conference, Poland, October 2013. Credit: CAP2013/M. Slonina/FI Projekt/New Space Foundation.



IAU CAP2013 participants, Poland, October 2013. Credit: CAP2013/M. Slonina/FI Projekt/New Space Foundation.

# Research & Development

Research & Development activities aim to improve the understanding of astronomy and society's interactions and develop innovative programmes, projects and tools to improve and empower those interactions.



Development of new educational activities during TEMI congress in Leiden, the Netherlands, April 2016.  
Credit: W. Schrier.

The Astronomy & Society Group is particularly interested in the following topics:

- Public understanding of astronomy
- Global programmes in astronomy communication and education
- Astronomy and human capacity building
- Open standards in education and public outreach
- Astronomers' attitudes, views and motivations on public engagement initiatives
- Gender-issues in science education
- Citizen science
- Society and science policy
- Usercentric development of science communication projects and programmes



Educators trying educational app during TEMI congress in Leiden, the Netherlands, April 2016. Credit: W. Schrier.



# Public Engagement Activities

**Leiden Observatory strives to maximise its impact in bringing astronomy to society at large by encouraging all staff and students to participate in public engagement activities.**



Vincent Icke, Emeritus Professor at Leiden Observatory, live on the Dutch TV show De Wereld Draait Doort.  
Credit: [www.vara.nl](http://www.vara.nl).

The myriad of activities include media appearances (through newspapers, radio, tv and online interviews), activities at schools, exhibitions and public talks (e.g., Kaiser Spring lectures and talks at various societies). Due to the international nature of Observatory students and staff, these activities are carried out not only in the Netherlands but also in their home countries.



Leiden Observatory Open Day 2014. Credit: UNAWE/W. Schrier

# **How to get involved?**

**We love new ideas and  
working with creative people.**

**Contact us at any time if you  
want to bounce an idea or join  
one of our initiatives.**



# CONTACTS

Astronomy & Society Group

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SPACE  
awareness



ASTROEDU  
Peer-reviewed Astronomy Education Activities

eur PLANET 2020



Universiteit  
Leiden  
The Netherlands



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