

June, 2016

# NEWSLETTER

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## Summer news

Holiday season is starting and most of our Nordic colleagues are either on a holiday or going to a holiday. I do hope that during those rare warm summer days you will find some time to visit our centres and museums. It is nice to gather new ideas by seeing what others do.

NSCF as a network is a member of ECSITE — European network of science centres and museums. Many of our members are part of this organisation as well. For those of you who were not present at the last conference — there are some good news: ECSITE re-opened its` platform for travelling exhibitions. It is called EXTRA and you can find travelling exhibitions or upload information about your exhibitions there easily. Another good news for ECSITE Full members is the ECSITE Move platform, which enables your employees to visit other full member centres/museums admission free.

And last but not least — Nordic science centres won the Mariano Gago Ecsite Award for the second time! Last year, the winner was Teknisk Museum in Oslo and this year's prize went to Tekniska Museet in Stockholm. Congratulations!

For those who are not yet resting — have a nice reading !

Pilvi Kolk

Chairman of NSCF,  
Science Centre AHHA, Estonia



*AHHA is rushing towards the fun-filled summer while keeping up the team spirit (one of the AHHA teams on RatRace Tartu)*

### NSCF Board 2015-2017:

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### Let's play! – NSCF Conference 12.-14.10.2016 in Tietomaa Science Centre, Oulu Finland

Conference theme: Let's play! Games and playing in science centres and as social phenomena.

#### Preliminary program includes:

- LeaForum — a new research community and infrastructure for R&D, multi-disciplinary interaction research and common equipment resources for recording and observation in the University of Oulu
- Game Lab — Oulu Game Lab is a unique training and development program tailored to meet the needs of the gaming industry. Oulu University of Applied Sciences.
- Game exhibitions — past, present and future in Tietomaa Science Centre
- 6Aika-project: Learning game development in Start Ups and testing them with science centre visitors. Heureka and Tietomaa
- Future Game Campus in Oulu city centre. Fingersoft.
- From science centre coding to successful game developer: Fingersoft
- What's new in your science centre? 5 minute presentations from attendees.

Registration open:

<https://player.myzef.com/oulu/ajax/?q=4516-f5860a22>

Attendance fee 200 €/person (until 31.8). From 01.9: 280 €.

More information: Sampo Puoskari,  
sampo.puoskari@ouka.fi, +358 44 7031 342

Welcome!





## ECSITE

By Liina Vaher

Ecsite, the European network of science centres and museums, welcomed more than 1,000 science communicators from over 45 countries at its Annual Conference, which was held in Graz, Austria this year.

The conference, titled „Colours of cooperation“ concentrated on networking, future and perspective of the science centres and museums as well as new concepts in research and science education. The more person-related approach to the visitors and in the exhibitions in one hand and interdisciplinarity on the other hand were the keywords for future challenges.

The pre-conference programme brought into spotlight several developing directions, for example the role of games in life-long learning and workshops with open solutions. Open solutions in learning process enable to vary the difficulty of activities, as in education it always comes down to the question: how to include those who are not interested in science and at the same time challenge the talents?

Several workshops that took place during all conference days touched on the topic of responsible research and innovation (RRI). The question still stands: how do we turn the current process upside down and start meeting the needs of the society by including citizens in the research? Horizon 2020 should help to reach this goal. So many ongoing RRI projects were presented in poster sessions. You will find out how the concept of RRI is related to science centres and museums from the RRI Quick Guide for Science Engagement Organizations, whose first draft was presented in the pre-conference programme by Ecsite team and the final version will be available in September, including the set of practices collected by AHHA, Experimentarium and others.

The main conference offered many choices for every interested party. Many hands-on activities were in the list and it was hard to choose. One of the most emotional spots was definitely the Maker Space – a lot of weird parts and tools expected to be used for artistic purposes. Participants, who had never built any electronic equipment were guided very gently by the Exploratorium team and encouraged to use their imagination. Adding playfulness, art and design to the serious engineering helps to overcome the initial fear and makes the process of creating pleasant even for those who lack the knowledge and technical skills. Tinkering – both as a format and as a learning environment offers open



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solutions and variety of ways to create something on your own, using the materials and tools which are familiar, but also learning from the others to use those which are not known well. The team work is one of the crucial skills needed in today's world, but expected to have an even bigger role in the future. Tinkering offers a challenge to everyone, tasks could be set up individually or with team-mates. So, the AHHA team enjoyed this journey fully, individually and together with mates. Nothing can be more joyful than jamming together with your peers and compare the invented designs.



To sum up the whole conference, it was an interesting, educational and inspirational event. A lot of ideas, solutions, styles and methods were presented, with a nod to the new generations. Many old and new friends were met, ideas exchanged and information obtained. The message for science centres and museums came out to be that the formal education needs our support more than ever, we need to understand better the science education and “new people” in the science, be inspired to work together and accept the differences, use more playfulness and cooperation to make science attractive and enter together into new era.

Liina Vaher

Science Centre AHHA Foundation

One of the star events – the chain reaction - started already before pre-conference programme. Students were invited to join the experiment with their own chain reaction. The public event of common chain reaction was carried out in the main conference where hundreds of participants could enjoy those creative constructions connected to the one big path in 80 pallets and lasting more than 8 minutes. It was amazing to look at those kids following the ball and hoping that their own reaction will work this time!



# University of Tartu is looking for partner organisations

By Katri Hellat

The University of Tartu is looking for project proposal partners, who are interested in promoting the experimental science excellence of students, as a part of the call Horizon 2020 Science with and for Society Call SwafS-15-2016: Open Schooling and collaboration on science education. (Deadline 31st August, 2016).

Short description of the proposal „Open Schooling for Excellence in Science“: the project will engage wide range of European secondary students in open schooling for Excellence in Science (SciExc schooling) to flatten their way to science and technology careers. The SciExc schooling is organised in all partner countries. Students will experience „real science“ by experimental solving of complex scientific problems. Each schooling will be actively mentored by scientists and experts joined to the Community. Students will embrace the atmosphere of R&D, participate in scientific discussions and better understand their career perspectives as scientists and engineers. The project will take benefit from the community, ideas, and scientific content of the European Union Science Olympiad (EUSO).

The core content of schooling is based on the high-quality experimental tasks created by scientists in 13 EU countries for previous EUSO competitions. The partnership will adapt the science tasks to make them usable for open schooling.

Coordinator: University of Tartu, Estonia

Partner institutions: from 10 countries

The aims of the project:

- \* challenge young people in Europe to develop their talents and skills in science;
- \* promote among students the pursuit of excellence in scientific and technological endeavour;
- \* flatten students' way to science and engineering careers via excellent schooling and direct communication with scientists and engineers.

The specific objectives of the project:

-Engage large number of secondary level students in open schooling for excellence in science (SciExc schooling).

-Actuate in all partner countries the SciExc schoolings,

challenging students to solve complex science problems beyond regular school curriculum;

-promote the Excellence in Science Education; convey to students, schools and public the importance of advanced study and progressive learning for sustainable development and growth in Europe;

-Revise the EUSO competition tasks and adapt them for open science learning in lower and higher secondary level;

-Establish an Editorial Board for educational commodification of the EUSO materials;

-Organise an EU competition of new practical tasks for advanced science education

-Provide training and permanent community consultation for educators running the SciExc schoolings;

-Purchase the basic equipment for one SciExc lab for each partner;

-Disseminate outside of Europe the experience of SciExc schooling and the EUSO concept of experimental team competitions, *inter alia* among the IJSO participating countries Georgia, Azerbaijan, Indonesia, Nigeria, et. al.

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## The European Union Science Olympiad (EUSO)

EUSO is a multidisciplinary, integrated science, practical-based, team competition for science students of EU at high school (secondary school) level who are sixteen years of age or younger on December 31st prior to the competition. Young EU students get an opportunity to display their scientific capabilities, develop their talents and promote their career as scientists. <http://euso.eu/>. EUSO is a competition where science integration and teamwork meet. The Mentors of students teams get an opportunity to compare the syllabi and educational trends in science education within the EU member states with the view to improve science education at their national levels.

In total, 26 EU countries are members of the European Union Science Olympiad (EUSO). EUSO was initiated by Dr Michael Cotter in the Dublin City University, Ireland. Since 2003, the EUSO competitions were hosted by 13 EU countries. Having the Olympiad EUSO longer than for a decade demonstrates the sustainability and strength of this International organization and reflects the need for such a form of science education in Europe.

The EUSO competition tasks are complex science problems to be solved by teams of three students using experiments and methods of physics, chemistry, biology and mathematics. Each year, the scientists and educators of the

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host country of EUSO prepare two experimental tasks, both for 4 hours. Those high-quality science educational materials, which are translated into all national languages of participating countries, are used only once by 160 – 180 EUSO competitors. However, those tasks could serve as valuable material for advancing science skills of thousands of European students attracted in science and technology. Indeed, the competition tasks should be revised and completed for making them usable in regular educational process.

The project will value the work of European scientists accumulated during the EUSO history, and make the results beneficial for evolving the next generation of scientists.



### Principles for SciExc schooling

Afterschool educational activities for students that are aimed to improve their science skills and shape their attitudes towards science and technology careers; Schooling forms and venues can be varied from country to country; Conducted by trained educators/scientists/experts. Mentored by scientists. Two difficulty levels: lower and higher secondary level, ages 12 – 16 and 16 – 18, respectively;

Educational model: engage all students in the process from the very beginning, work in teams, go through the scientific exploratory process (explore the background, set research hypothesis and questions, choose appropriate methods for performing experiments, describe and analyse results, reveal conclusions, decide on the need to repeat the experiment), take time to learn experimental methods and guidelines for equipment; take time to ask questions and discuss problems, enable visits to academic and industrial institutions.

Provide permanent community support to students and mentors; impose conditions for assessment and graduation.

### Coordination and support actions (CSA)

Description: Actions consisting primarily of accompanying measures such as standardisation, dissemination, awareness-raising and communication, networking, coordination or support services, policy dialogues and mutual learning exercises and studies, including design studies for new infrastructure and may also include complementary activities of strategic planning, networking and coordination between programmes in different countries.

Funding rate: 100%

**If your institution/organisation is interested in participating in the project, please contact:**

**Karin Hellat, EUSO 2016 Director, University of Tartu, Estonia, [Karin.Hellat@ut.ee](mailto:Karin.Hellat@ut.ee)**

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## News from members

### Nils Hornstrup, A passionate and sharp science communicator and a Chairman of NSCF has passed away

*Experimentarium, Denmark*



Nils Hornstrup, Senior Science Consultant and former Deputy Director of Experimentarium passed away on May 17th 2016, following a very brief illness.

Music and science were the key elements in Nils Hornstrup's life. Nils was involved in the plans to create a Danish science centre in the 1980s and he participated in the preparation of the feasibility study, which led to the establishment of Experimentarium. Nils worked at Experimentarium for more than 30 years, where he was a key figure as an inspirator and motivator. With his curly brain and great ideas for new exhibits, he has contributed to the success of Experimentarium as the Vice Director and later as the Senior Consultant.

Nils had a fantastic ability to analyse and spot new opportunities for developing exciting, interactive exhibits, and he was always part of the process from the very first ideas to the final exhibit. Along with talented colleagues Nils was behind a series of exhibitions, all of which focused on the beauty and fascinating complexity that characterises the scientific universe.

Nils was known far beyond the borders of Denmark for his imagination and whimsical inventions, which were exported to science centres and museums worldwide. Nils received the great honour to be appointed the honorary member of the Nordic Science Centre Association (NSCF).

Nils was a great person, a particularly inspiring and competent science communicator with a big heart, who will be dearly missed by all former and present colleagues at Experimentarium.





# Learning centres for STEM talents in Norway

Norway, Vilvite

By Svein Anders Dahl

Four science centres in Norway have been assigned by the Ministry of Education and Research to develop and run a pilot for 3,5 years as learning centres for STEM talents. This is part of the Government's strategy for stimulating talents and high performing students.

The centres will be launched at Nordnorsk Vitensenter (Tromsø), Trondheim Vitensenter (Trondheim), Oslo Vitensenter (Oslo) and VilVite (Bergen) the coming fall as one measure in the follow-up of the new Maths and Science strategy, named "Tett på Realfag". The Norwegian Science Centre Association will coordinate the project during the piloting.

- This is a new and exciting program for high performing pupils in lower and upper secondary school, says Torbjørn Røe Isaksen, the Norwegian Minister of Education and Research.

- One objective is to increase the number of high performers and at the same time reduce the number of low performers. Today, one out of five students graduates from secondary school with insufficient skills and knowledge in mathematics, this is a major challenge for the Norwegian schools. At the same time, we have to give the talents something to reach for. STEM subjects are crucial for solving many of the challenges we face. Thus, we have to support the talents in their learning process, says the Minister. He also underlines that the target groups are both pupils with a potential for high performance, as well as pupils already performing highly.

- The selection of pupils for the program will be made by the schools in cooperation with the participating science centres. Science camps, competitions and mentoring are the events mentioned by the Ministry as potential activities. One important goal is to establish well-functioning networks for the science talents. Down the road, we intend to set up similar centres at all the 10 regional science centres if the pilot is successful, he adds.





## Upcoming events

### Euro Science Open Forum (ESOF) 2016

23-27 July, Manchester, UK

ESOF – EuroScience Open Forum – is the biennial pan-European meeting dedicated to scientific research and innovation. Registration open.

**More information :**

<http://www.esof.eu/about/introduction-to-esof.html>



**EuroScience  
Open Forum  
Manchester 2016**

### NSCF Annual Conference „Let’s play!“

12.-14.10.2016 in Tietomaa Science Centre,  
Oulu Finland.

**Registration open:**

<https://player.myzef.com/oulu/ajax/?q=4516-f5860a22>

**Attendance fee 200 €/person (until 31.8.2016).  
After that: 280 €.**



### Summer School: Science Communication in Theory & Practice, 1-12 August, Copenhagen, Denmark

‘Science Communication in Theory & Practice’ is a highly interactive summer school that offers students the opportunity to gain skills in the understanding, analysis and production of science communication and in interdisciplinary, problem-oriented collaboration.

**More information:**

<http://www.steamsummerschool.eu/>



### ASTC annual conference, 24-27 September 2016, Tampa, Florida, USA

Hosted by the Museum of Science and Industry.

**More information:**

<http://www.astc.org/conference/future-conferences/>



### 10 November will be celebrated as the “World Science Centre and Science Museum Day”

(Questions to Asger Høeg,

cell: +45 40 79 47 45

mail: [asgerhoeg26@gmail.com](mailto:asgerhoeg26@gmail.com))

### Science museum and school: a cooperation to improve teaching, learning and discovery (SMEC course), 2-8 October, Milan, Italy

The SMEC course is a unique training experience bringing together educators from all over the world and a group of expert tutors in a joint highly interactive training experience using the exhibitions, labs and resources of the National Museum of Science and Technology Leonardo da Vinci. After 11 successful editions and having trained 250 professionals from 29 different countries, the SMEC course continues in 2016. Participation is also possible through Erasmus+ mobility grants.

**More information:**

[http://www.museoscienza.org/smec/courses\\_12\\_eng.htm](http://www.museoscienza.org/smec/courses_12_eng.htm)

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