

# N E W S L E T T E R

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## Christmas card from the chairman

Already more than two months since the conference in Vantaa, and we are on the step stone to Christmas. Time flies and we try to be clever pilots in the turbulent science center winds.

First, I have to repeat our gratitude to the organizing committee and all their helpers at Heureka and the Finnish Museum of Technology. They gave us memorable days in Vantaa and Helsinki, both filling the professional and the social needs for a record number of participants. Participants contributing by their mere presence as well as enthusiastic comments, informative lectures and more “free style” performances.

Fjölskyldu- and húsdýragardurinn in Reykjavik, Iceland, will host next year’s conference September 22-23 2011. We all look forward to learn more about Iceland, its nature and culture. However, already January 12 – 14 2011 there is an important meeting place in Copenhagen. Experimentarium is the venue for the NSCF explainers’ seminar, an opportunity to learn about experiences from our fellow Nordic science centers.

In the meantime we can concentrate on our financial worries at the end of a fiscal year, working fiercely on balancing our budgets for the coming year. However, I have an understanding there is a general growth in science center attendance in the Nordic region. The more visitors, the stronger our position towards the educational authorities and other sources for funding grows. And if we want to stand abreast with the industrial revolution taking place in China and India we really have to invest in the coming generation.

I want to draw your attention to the scholarship NSCF program, see separate column. We do particularly encourage the smaller institutions to apply for grants.

My conclusive remark is: keep up the good work, push our business ahead and enjoy the simple pleasure of observing glowing children’s’ eyes when they discover some secrets of science.

*Best wishes for the Holydays and the New Year from*



Svein Anders Dahl

**Record number of delegates  
at the NSCF conference in Finland  
16 – 17 September 2010**

(by Asger Høeg, CEO Experimentarium)

**A record number of 106 delegates joined the NSCF Conference in Heureka, Vantaa. There were 52 delegates from Finland, 25 from Norway, 13 from Sweden, 9 from Denmark, 1 from Iceland, 5 from Estonia and 1 from the USA.**

**Opening Ceremony**

The Conference were opened by the Mayor of Vantaa, Mr. Juhani Paajanen, who stated that Vantaa was a Heureka City and an Airport City. The Mayor expressed his great pride of having Heureka as the jewel cultural institution in Vantaa.

Pelle Persson, Director of Heureka and Marjo Mikkola, Director of The Technical Museum then greeted the delegates. Pelle Persson stated that science centres are learning institutions. That means also that we shall learn from each other and become better institutions. Marjo Mikkola told us that the Technical Institution is a classic technical museum but she plans to develop a more interactive museum.

NSCF President, Svein Anders Dahl thanked to two institutions for hosting this Annual Conference. Dahl stated that he liked numbers. He invited the delegates to exchange information about best practise. Dahl comes from the private business. He has been happy to learn the openness and willingness to share in the science centre family. In Norway new science centres has emerged in a remarkable short time. Science centres meet their missions. 20% of the younger generation refer to a visit to science centre as a part of the foundation of the decision to have a career in science or technology. Dahl informed that the board of NSCF would send out newsletters before Christmas. He promoted the NSCF Scholarship that supports staff exchange among NSCF members. Applications shall be sent in before 15 April 2011.

Harri "Hekki" Montonen and Nina Rinkinen made a speechless science show on fire and hot stuff. They are working with the new concept where the music and the activities on stage take care of all the communication. Great show!

**Keynote Speech**

The keynote speaker was Dr. John Falk from Oregon State University. Falk focus on the visitor experience. And he has found out that the visitor experience depends very much on what purpose you visit a science centre. When you evaluate your science centre, you must look at the whole experience. Before the visit. During the visit. And after the visit. And visitors can be very different identities depending on the situation in which this person finds himself. Falk talked about a capital "I" and small letter "i". If you want to define the identity of a person, you must observe this person; his needs, his decisions and his activities. Falk had done this on a large number of visitors to the California Science Centre and had found out that the visitors could fit into five categories of visitor identities.

(Interview with Dr. Falk on next page)



Opening speech by Mr. Juhani Paajanen, Major of Vantaa



Harri "Hekki" Montonen and Nina Rinkinen doing their "Cool Fire" performance



Dr. John Falk at the podium sharing his research and thoughts with a dedicated audience







Dr. John Falk – an enthusiastic science center promotor

### John H. Falk a man on a quest for answers

Interviewed by Nils Petter Hauan, head of development at VilVite

As science centre developers we ask ourselves: Who are our visitors? How will they react to this exhibit? Will they have the engaging learning experience that we tried to design this exhibit for? Is the exhibition layout functioning as we intended? It was therefore with excitement that I started to read the book by John H. Falk called 'Identity and the Museum Visitor Experience'. The book was an educational and fascinating experience so I was indeed looking forward to the lecture that John was going to deliver as the keynote speaker at the NSCF conference this year. When he entered Heureka Mr. Falk, with his walking stick, had the looks of a distinguished professor. During the interview I experienced him as a very down to earth man with a humble approach to his work and the complexity of the world of museums and corresponding institutions. The walking stick was needed just for a short period due to an accident. In the entrance hall of Heureka we found some tall furniture which gave a perfect frame for the interview.

John started his lecture by asking the questions: Why do people visit science centres? What do they do there and why? What meanings do visitors take away? If we knew the answers to these questions, how could we use them to make our institutions better? In his book, of which the lecture is an extract, he tries to answer these questions. First he pointed out that to find the answer one also needs to look outside of the institutional box, which means to talk to both people who do and do not visit the museum or science centre. The method of dialog and not only question forms, are also important in order to understand the complexity of the background for the visit. The two first questions, regarding why visitors come and what they do during their visit, is answered with a statistical classification of visitors' Identity-related visit motivations: Facilitators are individuals that come to help others to learn, Explorers come to learn from the topics that are presented at the exhibition, Professionals/Hobbyists are individuals who have an Interest in a specific subject that they want to explore, Rechargers comes to relax and be inspired, and finally in most smaller science centres the smallest group would be Experience Seekers who come primarily as tourists. These results are similar for all kinds of museums and, as I learned during my time with John, they have also

been confirmed to be true at Heureka. The research has had its main focus on the leisure time visit, but the results are also valid for pupils of a school visit. They are also valid for the people that don't visit your science centre. Nearly everybody has these same kind of identity-related needs; though not everyone appreciates that a visit to a science centre might be a way to satisfy that need; our challenge is to communicate that to them.

The third question, regarding what meanings the visitor takes away, is dealing with the different Identity needs as they relate to learning, and different experiences of the visits. This is a dynamic process. It depends on visitors' pre-existing knowledge of the exhibition, what identity they adopt that day, the social context and many other elements that are not always intended parts of the exhibition. And the long-term memory of the visit depends on not just what people see and do while in the science centre but experiences they have after their visit as well. In his book he discusses two other important factors of leisure time learning. One is the powerful emotional experience you might remember for the rest of your life. Freedom, actualized as choice and control, is another factor; in their leisure time people appreciate to construct their own learning experiences.

In the interview John told me that he did not feel too comfortable when writing the section on 'Practice' because it could not be based on accurate research. I commented that I very much appreciated that he stepped out of the scientist frame and dared to give some advice based on his research and huge amount of experience from working with a large number of institutions with different approaches to the task of communicating with visitors. In his book one can find advice for how to get the visitor in through your door, to make your exhibition fit the needs of the different Identities and how to make sure that the visit will be remembered as a fruitful experience for a long time.

My final question was if he had done any research on, or could recommend some literature on schools' use of exhibitions in learning processes. After some thinking he politely admitted that he could not come up with any recommendations, so clearly this is a subject for further work. I thanked him for his time and we stepped down from the supersized furniture in the entrance hall.



Dr. Pelle Persson, Dr. John Falk and Svein Anders Dahl

## "A taste of the conference"

(By Asger Høeg)

### AHHAA Science Centre in Tartu

**Tiiu Sild**, for many years the Director of AHHAA Science Centre in Tartu, Estonia told about the development of the city of Tartu (Dorpal in German) from 1632 when Gustav 2 Adolph founded the University of Tartu. AHHAA was founded as an institution of the University on 1 September 1997. The AHHAA Science Centre has had several temporary exhibitions and has for two years had a small science centre in the middle of a retail centre. There has been plans for the permanent great new science centre. Because of lack of money the plans had been postponed. But suddenly the prices for the building were reduced thanks to the economical crise. The budget for the new building was reduced to 300 Million Estonian Kroner. The money were granted from the Government, The City of Tartu and EU. In a time laps film, Tiiu Sild showed us how the building of the new science centre was raised. It is a large building of 11.000 m<sup>2</sup> of which 2.500 m<sup>2</sup> are exhibitions.

### Matti Rossi about Heureka's Science Circus

In 2009, The Heureka Science Circus reach out to the exceptional large number of 29.000 school children in 40 communities in Finland. The bus had been driving 7.000 kilometres!

The Science Circus consists of 8 exhibits and a show. The exhibition is erected in the Gym Hall of the school.

**Kai Haakon Sunde** demonstrated **VilVite's** Bridge Workshop.

**Steen Ljungström** demonstrated **Universeum's** workshop on radioactive energy. A very expensive measure instrument can show when cell phones receive sms or calls. This is a very popular workshop for the teenagers.

**Johanna Vähäpesola** told us about the **Technical Museum's** new exhibition, "Did you say radiation?" where art and science is brought together.

**Asger Høeg**, director of **Experimentarium**, gave a lecture on Transformation Economy. The customer is the product. Because the science centres want to transform and change the visitor into amore learned person in science and technology.



Ms. Marjo Mikkola, director of Tekniikan Museo



**Hannu Salmi** presented his EU-project on Augmented Reality. The device would be accessible in 2 weeks. The AR shows how the atoms in the hot air balloon moves more and more quickly and wipes out atoms and create the low pressure. AR can also be used to see Acropolis as it was 400 years B. C.

### Kattegatcentret in Grenå

Jørgen Møller, Director of the center, told us that Kattegatcentret originally partly had been a hands-on science centre. But for some reasons the hands-on element had been removed. But now, Jørgen Møller wanted to reinstate the hands-on element in Kattegatcentret. He presented a Starfish formed exhibition on water and other elements. He hoped to be able to open the exhibition in Spring 2011.

**Sampo Puoskari** presented the first science centre to Finland: **Tietomaa**. The science centre will renovate its third floor. The future of Tietomaa is still not yet decided. Shall Tietomaa stay in the building and renovate the building? Shall Tietomaa move to another new or old building? Or shall Tietomaa merge with two other museums and create a museum cluster?

**Anna Iso-Ahola** presented a EU-supported workshop in the **Technology Museum** named "pen Museum". It was a developing learning environment for adults.

**Nils Petter Hauan** from **VilVite** introduced the magnificent communication device where the VilVite exhibition can communicate with the visitors. Visit [www.vilvite.no](http://www.vilvite.no), username: vilmer@vilvite.no and password: test1234. Then you can see what the exhibition send to the visitor after the visit.

**Mikko Myllekoski** presented **Heureka's** next dinosaur exhibition: Dinosaurs lived outdoors! Myllekoski revealed his thesis: A science centre must wait 5 years before it presents its next dinosaur exhibition, bacuse it take 5 years to grew up the target group): Children between 5 and 10 years.

(Many of the presentations are found under the "news" tab on NSCF's web site.)



## **NSCF scholarship program**

### **NSCF offers study grants!**

If you would like to send a member of your staff on a practical training at another NSCF member science centre, you can apply for an up to DKK 10.000 grant from NSCF. You can also apply for "part-payment" of a more costly study tour.

Please send an application by e-mail to our chairman Svein Anders Dahl, [sad@vilvite.no](mailto:sad@vilvite.no). Applications to be submitted before **April 15<sup>th</sup> 2011**.

The application shall contain:

1. Name of applicant and applying science centre
2. Name of science centre to be visited
3. A brief project plan containing:
  - Dates of the practical training
  - Description of what you are particularly interested in studying during the training
  - Contact person at the center you plan to visit

After the practical training period, a short report must be written to the NSCF Newsletter. When the report has been submitted, NSCF will pay the grant to the applying science centre.

This is a unique opportunity to fund staff development for the NSCF centers, weak finances is no excuse.

Report from one of our first scholars, Linda Christensen from Experimentarium:

#### **One week exchange job from 13<sup>th</sup> September to 17<sup>th</sup> September 2010**

I gained an insight in VilVites budget, payroll system, invoicing, creditor, statistics, booking, ticket and shop and pilot work.

It was extremely exciting to see how their accounting worked, considering that VilVite is a somewhat smaller science center than Experimentarium. We do things differently, even though in many ways we have to deal with the same situations on a day to day basis.

One of the situations that we both could relate to was the problem of getting creditor enclosures back for approval. VilVite is better equipped as they use electronic enclosures whilst Experimentarium still use paper, which has the risk of the invoices getting lost during approval. The same problem is relevant for approval of Visa card (VilVite) /MasterCard (Experimentarium).

The weather has a great influence for the visitor statistics for both centers. At the Experimentarium we call bad weather for Experimentarium weather, as we don't get nearly as many visitors on a sunny day. Although it rains nearly all the time in Bergen, VilVite can see the same pattern in their statistics – More visitors when the weather is bad than when the weather is better.

VilVites shop VilFinne has the same assortment of goods as Experimentariums. Their best sellers are also more or less the same as Experimentariums. The swapping of this sort of information can be used in connection with special exhibits/passing exhibits as we can tell each other what sells best at the time of the exhibit. Another thing the shops have in common is that they both sell well at Christmas. At the Experimentarium we have had super results selling calendar gifts in December. VilFinne are now considering doing something similar.

Even though during my visit we had the disadvantage of two different languages, we managed to understand each other pretty well. I felt very welcome at VilVite and the people working there were really kind and friendly. Swapping experiences and information concerning the centers went well and it was very interesting to see how ones day to day work was done either the same way or differently.

My trip to Bergen was educational and inspirational and definitely not a waste of time. I have got a lot of really good ideas that we can use at the Experimentarium to improve our daily routines.

Thank you to VilVite for having the time to show me how they do things and thank you to NSCF for the economical support.

### **Next big NSCF event coming up**

Check our web site for more information:

<http://www.nordicscience.org/>

## **NSCF Explainers Conference January 12 - 14th 2011**



**Experimentarium**®

Center for science and technology communication

## Inspiria – new science center under construction in Norway



INSPIRIA science center opens Summer 2011 in Sarpsborg, about 90 km south of Oslo. The 6400 m<sup>2</sup> building, situated by the E6 motorway, consist of 5300 m<sup>2</sup> designated for the science center and 1100 m<sup>2</sup> office space. Designed by the Danish architects "aart", INSPIRIA has achieved top grades for its energy efficiency. INSPIRIA science center will include near 2000 m<sup>2</sup> exhibit space, school labs, a 60 seat planetarium and a 170 seat science theater. The main topics are: Energy, Environment and Health. INSPIRIA science center expects annual visit numbers of app. 100000 including school organized visits. Contact person: director Bjørn Winther Johansen, e-mail: [bjorn.w.johansen@inspiria.no](mailto:bjorn.w.johansen@inspiria.no)

## NCSF scholarship program - another report from a "scholar"

### Report from the visit to Heureka

(by Kai Håkon Sunde, science communicator at VilVite)

Nils Petter Hauan and Kai Håkon Sunde visited Heureka 2010 September the 14<sup>th</sup> to 17<sup>th</sup>

### Plan for the visit

- To see how the school classes use the exhibition. Study how the pupils interact with the exhibits and how their interaction is influenced by the design of the exhibits and the exhibition room.
- To experience how the exhibition is used as an arena for informal and formal learning.
- To learn how Heureka interacts with the schools and their teachers.
- To get an insight of how Heureka carry out the developing process from a topic they want to present, to an exhibit in the exhibition.
- Participate in the NCSF annual conference.

Matti Rossi and his staff welcomed us and gave us a memorable stay.

We learned about Heureka's "the incredible race", a game where the pupils learn through a game. The game is controlled with handheld units, and is not very different from two programs we are running on VilVite, Antilantis and BT-medielaab. We looked into the possibilities to share experiences to solve respective problems.

We studied a program called "smart mechanics", where students could make a mechanical unit with a programmable control system. VilVite have a Lego workshop where students program a robot to follow a line. We consider a "fusion" between the two approaches, taking the best from each.

Heureka has a special contact with the schools through a system where teachers can teach at Heureka for a year, and then go back to their school. For quality control, they have cooperation with researchers who work on their method of teaching.

Heureka is helping the teachers in doing research with their pupils. 36 schools are involved, and the results are analyzed at local, professional labs. By using a web map and social media, the results from the schools are available for other schools.

Young teachers work at Heureka to get work practice. They are not paid, but get their work on the CV and use Heureka as a step stone. Heureka also have a large group of senior people who volunteer at Heureka.

The exhibition area is big and divided into four areas. The classic area was the most special one. The room was dark, and the exhibits were exposed with spotlight. The visitors could access them from two sides with two different altitudes, which made them suitable for both children and grownups. It was almost a sacred atmosphere in the room, and the children were far more concentrated and silent in this room compared to other rooms.

The Science changing the world exhibition was frequented but far less than the main exhibition. The approach was maybe too theoretical, and the motivation had to be an interest for the topic from the beginning. Some of the exhibits were really good, though I was not pulled into the room like I were in the circular room or the classic room.

Heureka has an interesting concept similar to our "tracks" in the exhibit area. The children program a bug to drive on a table with pictures of exhibits. As soon as they have landed the bug on the exhibit, they run to this place and explore it.

When this is done, they may program it to go to the next. This was a motivation factor for some of the children. The teacher is in the room, and sends her groups out to the exhibits, and won't leave them with a piece of paper as we do. This star organization of the activity is something we have been planning to try for some time, but we are considering use of Smart-Board instead of robots.

We had a look on the reception of school classes at Heureka, and how the logistics were handled, but this depends more on how the building is made than anything else, so we did not see anything we could adapt to VilVite.