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Video games: addictive learning?

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PIERRE DUONSEILLE

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Video games: addictive learning?

Spokes: Are video games becoming more accepted in the cultural and e-learning fields?

Video games are now 50 years old. Like all new forms of culture, novels, cinema and comic books in their time, video games have been heavily criticised in mainstream society. This is no longer the case. They are gaining public recognition and cultural legitimacy. Let us not forget that most forms of culture are first and foremost a matter of technology. We pick up a technical object, such as a book or a film, to reach a specific mental state. In the same way, we take pleasure in our relationship with a machine (the computer), as it immerses us in a simulated universe, allowing us to create avatars and interact with programmed imaginary worlds – the video game.

When exploring video games' potential as learning tools, we must remember what makes them so successful: they appeal to players' conviction and intuition. Educational video games development is in an experimental phase and research is in progress, particularly as far as formal education is concerned; although some arguments have been put forward using this research, we still do not have products that are perfectly aligned with the requirements of teachers and pupils.

What makes a video game a useful learning tool? A serious game?

The pleasure of playing is a powerful motivation: games stimulate the mind and improve concentration. This is why learning specialists are so interested in games. In my view, there are three types of useful games: a game with a message, a game which helps you practice a skill, and a game that provides information. A game is a type of media: it conveys information, ideas, representations and models. Furthermore, the more we play, the more we practice and the better we become at playing. Once acquired skills can be transferred to the real world, the game becomes "useful" and a serious game. Its aim becomes more than simply to entertain.



INTERVIEW
PIERRE DUONSEILLE
CURATOR
OF THE VIDEO GAMES
EXHIBITION
JEU VIDEO, L'EXPO
AT THE CITÉ DES SCIENCES
IN PARIS (FRANCE)



When exploring video games' potential as learning tools, we must remember what makes them so successful: they appeal to players' conviction and intuition.

Is there tangible evidence that video games improve certain human abilities?

Research laboratories specialising in cognitive science take great interest in the skills developed by players, especially their dexterity, concentration, anticipating skills and performances.

All video games develop certain skills, e.g. finding your way around a three-dimensional environment, helping other people and communicating using graphic representations. On this basis, commercial games offer a treasure trove of tools for learning professionals. Acquired skills can be physical or kinaesthetic: very often games recreate movements or processes in a realistic way, and players can memorise combinations of movements and sequences that they are then able to reproduce outside of the game. These simulation games are inspired by professional training tools, such as flight or surgical simulators.

Some games challenge players to deal with complex situations and develop a thought and experimentation process close to a "real" scientific approach. Video games are a great incentive to get involved in sharing and exchanging knowledge. They generate networks that turn them into mass media with a large number of participants.

Could video games be a type of therapeutic agent? Or the opposite, do they generate damaging addiction?

Throughout human history, games in general have been offering a form of “compensation” for reality. Video games are no exception. Often, the more frustrating reality is the more we need games and make-believe to cope with it. Most video games are by essence egalitarian and fair, two core values of contemporary Western political imagination. In a video game, everyone has a chance to succeed and can escape their social position over the course of the game. The gaming principle of progression reconnects players with the fantasy of social mobility and success. The machine supports and helps players, judging and rewarding their actions fairly.

Experts who sat on our Science advisory panel argue that problem of over-reliance on or addiction to video games is not caused by videos games themselves, but by current social difficulties and their negative impact on citizens.

It seems that companies and other powerful stakeholders have fully understood the potential of games and are now using them to spread their own messages. Is there still room for the creativity of grassroots player communities?

A well-designed, engaging game can encourage players to commit to an activity, a school of thought or a strategy. In certain business sectors, companies use games as a way to stimulate productivity or as a marketing tool. The gamification trend, which turns all sorts of activities into entertainment, raises a number of questions. For instance, can individuals learn if they are ‘forced’ to play?

The history of computing is littered with contradictory movements. A tradition of free exchange between hobbyists coexists with a profitable industry, and players often divert or subvert games – diversions or subversions that are in turn re-used by the games production industry. The creativity of players extends beyond video games themselves in several ways. A *mod*, for example, is a game created by modifying an existing game, and a *machinima* is a film made using a game engine.

There is a genuine, thriving video games culture, driven by numerous creative communities. ¶



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GO FURTHER

Gold mine

A database of 150 serious games rated by players:
www.cite-sciences.fr/inmediats/seriousgame/index.php (in French)

Thinkers

Three academics sat on the *Jeu video, l'expo*, Scientific Panel:

- **Mathieu Triclot**, philosopher, specialized in the epistemology of science and technology. Wrote *Philosophie des jeux videos*, available on line (in French): www.editions-zones.fr.
- **Thomas Gaon**, psychologist. Studies pathologies associated with online gaming and video games addiction. Argues that violent video games do not make players violent and can be a tool to sublimate one’s violent urges (which other forms of fiction have done in the past). See www.omnsh.org/thomas.gaon.
- **Olivier Mauco**, politologist specialized in serious games. Writes on serious games as tools of political communication. www.univ-paris1.academia.edu/OlivierMauco (papers in English).



THE JEU VIDEO EXHIBITION

Summative evaluation carried out one month after opening established a typology of visitors and their reactions to the exhibition:

- **Delighted children** – enjoyed playing the games
- **Worried parents** – took their children because they wanted to raise awareness about the “dangers” of video gaming - went away disappointed
- **Satisfied parents** – attended because they wanted their children to have fun, consider video games an important part of popular culture
- **Passionate teenagers** – often attended in groups of peers, satisfied to see an exhibition showcasing the gaming culture in a ‘mainstream’ institution
- **Mixed feelings couples** – one partner a gamer, the other one a non-gamer who had a go at playing in the ‘beginners workshop’ but wanted to know more about “dangers”.

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 Coordinator: Edwina Saint Narcisse, Publishing & Innovative Media Content Division





For *OSCILLATOR* exhibition, the Science Gallery opened the floor to a group of artists and researchers from outside Trinity College. “The Body is a Big Place” is the resulting artwork – here a heart is being reanimated at the gallery opening in 2012.

© sciencegallery.com

Visions for universities and science centres: going back to the roots

“We want to give young people a place in the story of science.” That is how Bart Van de Laar, Head of Science LinX, describes the mission his university-based science center has developed over the past eight years. “We don’t just want them to learn some theory thought up by very clever scientists”, he explains, “But rather to participate in science, interacting with real scientists and real questions. And take up that challenge in education and work.” This is not only the essence of Science LinX, a department of the University of Groningen (Netherlands), but also of the Science Gallery, linked to Trinity College Dublin (Ireland). For its part, Universum Bremen (Germany) is aware of having drifted away from its founding university but wants to reinstate those links.

It’s a bit like football; there is only one Lionel Messi, but there are millions of amateurs who enjoy kicking a ball around. In the view of Van de Laar, the role of a science centre is to coach people to start kicking the ball. “And we’re the junior league, trying to inspire kids in school to choose a science career. This way we could contribute to a massive increase of science students in Groningen.” Science LinX organizes training programmes for science teachers, runs science trucks, welcomes school classes at the university and sets up serious encounters with science through exhibitions and events. But Science LinX also reaches out to the city and beyond, by participating in the local science café, the annual Night of Arts and Science and national events.

According to Van de Laar, this capacity to bring the public inside a working research organization but also to take science out to the public is the biggest asset of university-based science centres. A strategic position at a time when policy makers, in particular at EU level, are urging universities, science centres and local science stakeholders at large to forge stronger ties. Science LinX participated in the Ecsite coordinated PLACES project on scientific culture and currently coordinates a € 2.5 million EU project called ‘IRRESISTIBLE’, aiming to link formal (at school) with informal (at a science museum or festival) teaching to familiarize pupils with science.



RENÉ FRANSEN
SCIENCE WRITER
SCIENCE LINX
GRONINGEN (NETHERLANDS)

Science centres and museums come in all shapes and sizes. Some target the very young, aiming to instill a sense of wonder, with colorful and spectacular exhibits. Others focus on history, showing collections sometimes built over centuries. Still others invite the public to be part of science itself, which science centres based at, run by or born from universities like Science LinX, the Science Gallery and Universum seem particularly well placed to do. Are they shaping the future of science centres at large?

“I feel that science centres should be very closely connected to universities. Like a publisher who needs his authors, science centres need real scientists to involve visitors in science, which after all is a human endeavor”, says Van de Laar. “But universities also need the networks and expertise of science centres, like authors need a publisher. When it is about reaching out to teenagers and young adults a press release is not enough. Not even when you’re on the front page of *Nature*.”

Science LinX invites scientists to explain and discuss research with teachers and pupils. “We can only do that because we know who’s who in the science faculty. That is one big advantage of being part of a University.” But is it possible to both promote science and represent just one university? “A very good question. Being part of a science faculty, as we are, we have lots of resources available, like lab space and over a thousand researchers on call. But there is the danger of just promoting local interests.” Van de Laar argues that being at the university brings so many regional and international contacts that it keeps the balance. “So far, the



The *Teilchenzoo* exhibition was developed by Universum Bremen in collaboration with the DESY particle physics organization in Hamburg – an example of successful collaboration outside of Universum’s original founding university.



The *HAPPY?* exhibition at the Science Gallery explored the theme of happiness through real research experiments, designed ‘inhouse’ by the School of Psychology at Trinity College Dublin. Results collected in the exhibition were published in a book called *Happy Nation?* written by Malcolm MacLachlan and Karen Hand.



The Science LinX live project takes scientists and visitors out of campus, onto surprising locations such as canal boats or private kitchens.

university has never interfered in our projects. On the contrary, they’ve asked us to represent the university on several occasions.”

Interestingly, Universum Bremen feels like it lost some of its soul by growing too independent from its founding university. When it opened in 2000, it set the standards for a generation of German science centres. “But after a while the science centre and the university sort of drifted apart”, regrets current Director Herbert Munder.

With around half its visitors under 18, the centre is an ideal spot to introduce potential students to science and technology. “That is necessary, as the number of students taking scientific subjects is predicted to go down over the next few years.” Munder and his staff are working on a new vision for Universum Bremen: “The science centre of the future should be a communication platform for science with an exhibition attached, not the other way round. To achieve this, we need to bring back scientists.” He points to the EU research agenda Horizon 2020 and its strong public engagement with science component. So scientists will be asked to sit on Universum’s Advisory Board, and ties with the university are intensifying. Scientists will be involved in designing and building exhibits. “However, we are not part of the public relations department, we want to stay neutral in the debates we will facilitate”, cautions Munder. This new vision will be implemented in the new permanent exhibition opening next year.

For its part, the Science Gallery Dublin is firmly rooted in Trinity College – a strong, but non-exclusive relationship. “We’ve collaborated with all universities in Ireland, and many more beyond”, explains Programme Manager Ian Brunswick. “Collaboration is crucial, with scientists, artists and policy makers.” The Science Gallery is for many visitors a first venture into Trinity College, but also into the world of science.

Participation of scientists is crucial to the concept of the Science Gallery. “People don’t get engaged by demos or artefacts. They should join in the science with the scientists. That empowers our visitors, they feel they are making a

difference.” Each exhibition is combined with a research project in which visitors are invited to participate.

“There have been several peer-reviewed papers featuring data collected during exhibitions.”

Brunswick’s vision for the future is to deepen the visitor engagement: “We currently run four exhibitions each year, which takes a lot of time to plan and build. So we’re building a network of Science Galleries across the world, which means we can swap exhibitions. That will free some time to work on the depth of engagement.” And it will not loosen ties with research, he assures: “Each Gallery will be linked to a local science institute. Exhibits need to be relevant to each local community.”

University-based science centers are in a privileged position to contribute to the evolution of science centres at large argues Van de Laar: “To get people involved in education, research and innovation we need to explore which models work and which don’t. This is vital to the mission of science centres.” ¶

“The science centre of the future should be a communication platform for science with an exhibition attached, not the other way round. To achieve this, we need to bring back scientists.”

— From gallery floor to scientific publication Hand, Karen & MacLachlan, Malcolm (2013). *Happy Nation?: Prospects for Psychological Prosperity in Ireland*. Dublin: The Liffey Press.

Science LinX
www.rug.nl/sciencelinx

Universum
www.universum-bremen.de

Science Gallery
www.dublin.sciencegallery.com

European project IRRESISTIBLE
www.irresistible-project.eu

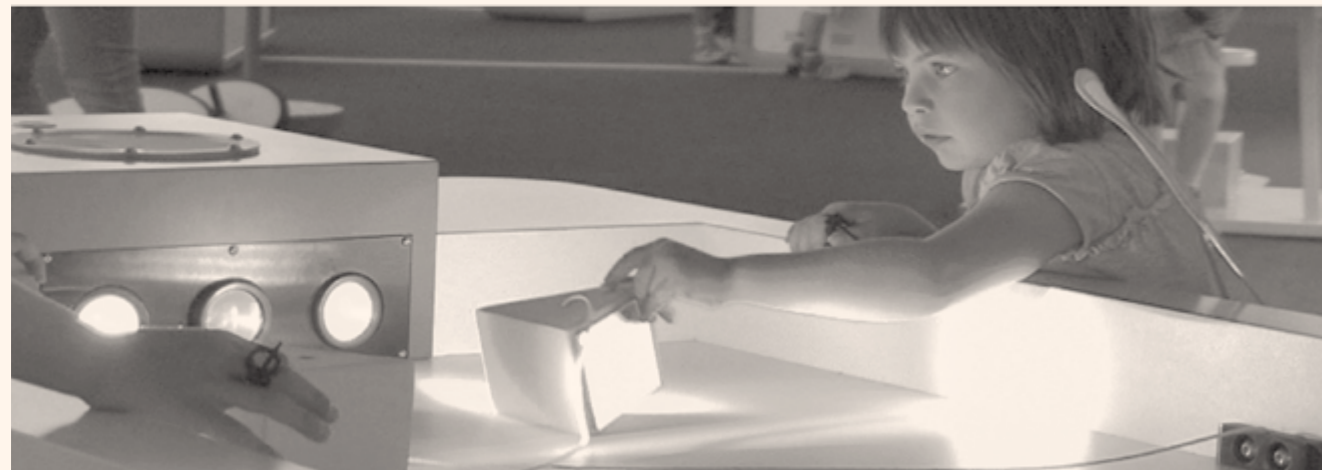
European project PLACES
www.openplaces.eu



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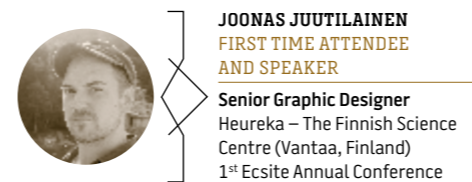


LOOKOUTS

THE 2014 ECSITE ANNUAL CONFERENCE

INTERVIEWS
JULIE BECKER
 ECSITE COMMUNICATIONS MANAGER

This year's Ecsite Annual Conference, hosted by Museon, took place on 23 – 25 May in The Hague (Netherlands). *Spokes* asked five very different attendees to share their experiences and thoughts with our readers.



JOONAS JUUTILAINEN
 FIRST TIME ATTENDEE AND SPEAKER
 Senior Graphic Designer
 Heureka – The Finnish Science Centre (Vantaa, Finland)
 1st Ecsite Annual Conference

As a first timer, what are your impressions of the Ecsite Annual Conference?

That of a perfectly organised event that nevertheless allows for fun and spontaneity.

There is a real egalitarian spirit. You can really walk up to anyone and start a conversation.

I liked the fact that the whole Museon team were wearing the same 'People, Planet, Peace' T-shirts at the Nocturne, front-of-house staff and heads of departments alike.

As a graphic designer, how do you rate the range of sessions in the programme?

The Ecsite conference was an opportunity to widen my horizons: I wasn't particularly looking for sessions on graphic design. I got what I wanted: get a feel for the 'big issues' in the field these days and pick and choose from a diversity of topics. I came with several

colleagues and we spread ourselves between sessions to get a good general overview.

What was your best moment?

The end of the Nocturne at Museon was magical. The music stopped and the lights came back on but the crowd wanted more... Before we knew it, someone was sitting behind the drums, maracas and tambourines appeared, some of us were drumming on the counter... and there was one more hour of dancing to the sound of this spontaneous jam session!

... And your worst?

Realising a few hours before my session that some of my presentation had gone missing in a Mac-PC conversion gone wrong. I had to redo all my slides! On the upside, it allowed me to adapt them a little after having watched others' sessions.

What messages or ideas do you take home with you?

I was very interested by the session on indoor visitor tracking. Many institutions have been trying it but so far everyone is still experimenting. I appreciated everyone's openness in sharing mistakes and lessons learnt. We hope to meet again next year in

Trento to share developments. In another session on websites, someone mentioned that they could see a clear correlation between one day's onsite attendance and the previous day's amount of traffic on their website. If we witness the same phenomenon at Heureka this could be turned into a great planning tool!

What would be your advice to next year's first timers?

Don't hesitate to approach people. Do attend social events. These are the best times to meet your peers. And... bring at least three backups of your slides in all possible formats!

What do you hope for the next 25 years of Ecsite conferences?

A new generation of professionals is emerging. Knowledge transmission between newcomers and old-timers is crucial for the future.

One thing could make this handover easier: we often know names but not faces! It would be great to set up a "wall of fame" to help newcomers identify 'stars' and 'experts'.

LOOKOUTS



REEM SABRY
BUSINESS BISTRO FIRST TIMER

Head of Design and
Fabrication Section
Bibliotheca Alexandrina
(Alexandria, Egypt)
1st Ecsite Annual Conference

he revised his vision of work: it surprised him that we could be holding very serious business talks with people and then informally socialize with the same colleagues a few hours later. He was also rather impressed with the Queen's appearance at the Opening ceremony.

What would be your advice to next year's Business Bistro first timers?

Come prepared! I was impressed by the general quality of booths. If you're coming from far away, give serious thought to what you want to present physically (e.g. interactives, publications etc.) versus what you can show digitally.

What do you hope for the next 25 years of Ecsite conferences?

I hope for the conference to stay open to participants from outside Europe. Network connections are important to all of us: collectively we carry the banner of science centres worldwide.

Why did Bibliotheca Alexandrina decide to have a booth at the Business Bistro for the first time?

Colleagues have been attending for many years but this year we felt that we needed a physical space to present some of our projects (our new Family park in Cairo, our first self-produced planetarium movie) and to act as a contact point for Ecsite's sister organization NAMES (North Africa and Middle East Science Centres Network).

How do you rate the success of your presence at the Business Bistro?

It was definitely good for our image. We certainly have made many new contacts and have seen a lot of interest for our projects. Let's see if this translates into business opportunities! I'm coming back with an open-source downloadable exhibition, an invitation to participate in a Spanish think tank and a proposition to join a Horizon 2020 proposal in my suitcase...

We hear your 14-year-old son came along and volunteered at the conference...

He's one of Bibliotheca Alexandrina's 50 volunteers. I was keen for him to see that we have peers everywhere on the planet, to come in contact with other cultures – and to realize that we have a lot in common! He told me that



COLIN JOHNSON
CONFERENCE REGULAR

Honorary Member of Ecsite,
formerly CEO of Techniquest,
(Cardiff, Wales) and
former Ecsite Board member
15th Ecsite Annual Conference

What are your take-home ideas or messages from this conference?

The Conference has many functions for its attendees, but mainly it offers professional development – not only for beginners but right through to established leaders. This year, at my roundtable session for people planning to start a new science centre, a very senior member of the expert panel fed back that he had "learned quite a bit from the questions that people asked him".

So the take-home message is that we never stop learning.

What changes have you seen in the past 20-25 years?

In recent years we are (rightly) more concerned than ever with the business aspects of running a science centre. There is also a greater awareness among science centres of the large number of stakeholders with whom we work, so the palette of sessions has widened accordingly. Twenty-five years ago we were more looking inwards, focussed on the offer (e.g. interactive exhibits) and justifying that we had a role as educational agents and visitor attractions. Now we look more outwards, at the demand side of the business (e.g. 'hard to reach' audiences) and more broadly at the whole

LOOKOUTS



MALVINA ARTHEAU
GAMING SPACE CO-ORGANIZER

Head of Digital department
Science Animation Midi-Pyrénées
(Toulouse, France)
3rd Ecsite Annual Conference

question of our impact. Perhaps we sometimes worry too much about trying to demonstrate our impact among the outcomes of a visit, while not taking enough notice of the impact of the process that visitors undergo while enjoying their time at a science centre.

What was your best moment in 25 years of Ecsite conferences?

I suppose that my best moment personally (and perhaps my worst, because I was so taken by surprise) was at the Munich Ecsite Conference in 2003 when I suddenly learned that I was to become an Honorary Member of Ecsite.

What do you wish Ecsite for the next 25 years?

The key thing is financial stability, so that Ecsite can continue to build its range of services to members. Then I wish that Ecsite, which has been so good at building bridges, will work more fully with academics from the 'science communication and engagement' field. I would like to see one day of the conference devoted to peer-reviewed presentations, available in advance, where researchers and practitioners would bring their separate perspectives to one of the challenges we face.

I'd like Ecsite to bring more 'academic nourishment' to its members, as well as the usual fare of 'professional refreshment'!

How did the idea of having a Gaming space arise?

Sessions relating to gaming attracted a lot of interest in the last annual conference editions, including from colleagues who don't know the gaming culture very well but were considering serious games projects. There is only so much you can say about games to non-gamers – they need to play!

The spirit of the Gaming space was to give busy people the time they never take in their normal lives to sit down and give it a go.

This would have been very useful to me a couple of years ago when I agreed to develop a first person shooter termite game, not having spent enough serious time engrossed in a video game for many years!

How did you make it happen?

Getting the Gaming space organised was a great collaborative experience: a bunch of people who had never met before managed to get everything going, gathering equipment and software, recruiting volunteers... in true Ecsite spirit. The same collaborative spirit prevailed in the surgery-type session that took place in the space. Colleagues could bring a "real" challenge from a current gaming project and ask a group of

peers to help solve it. That session surely saved participants hours of consulting!

What kind of gamers are the Ecsite crowd?

We have welcomed a very diverse audience to the Gaming space: total beginners, rusty players – and some serious experts too! It looked like many participants really appreciated the opportunity to escape the conference's hectic pace for a few minutes and enjoy some peace and silence – as silent and peaceful as raising dodos on an island subjected to severe selective pressure or sneakily making your way through a dark crowded termite nest can be.

What do you think Ecsite conferences will look like in 25 years?

I'm not a fortune teller! I hope for audiences to get broader with people from more diverse professional backgrounds. I would personally like to meet more colleagues from academia: in the same way very few of us have time to sit down and play, very few of us have time to sit down and think about the big picture!

It's invigorating to be taken away from daily emergencies and question one's practice in the light of 'big ideas'!

LOOKOUTS



ANTONIA CAOLA
2015 CONFERENCE HOST
Head of International Collaborations & PR, Museo delle Scienze - MUSE (Trento, Italy) 13th Ecsite Annual Conference

What was your best moment?

Pr. Ian Goldin's keynote speech. He's a great speaker, able to deliver inspirational top-level content with carefully chosen illustrations. The phrase "the past is a very poor guide to the future" stays with me.

My team were also amazed at the energy coming from the Maker space – we've come back energized and inspired.

What messages or ideas did you take home with you?

The idea that we are not alone! There is a community of peers dealing with the same questions as us. We're particularly interested in FabLabs and their operational challenges. My colleagues now have tighter links with peers all around the world who are committed to putting their heads together and solving common issues.

As next year's Ecsite Annual Conference Host, you must have been attentively listening to conversations...

I asked numerous participants about their future expectations and co-organized a session entitled "What if? Visions for the next 25 years of Ecsite conferences" that generated a wealth of ideas. I heard a lot of voices calling for more

participation and openness: a broader audience with more attendees from other fields and continents, more young professionals and face-to-face staff, an even bolder approach to sharing experiences (including failures), a more participatory process in the making of the programme...

Unsurprisingly, this echoes current trends in our sector at large. It seems that the field's commitment to social relevance and imperatives born from the current economic crisis have converged to firmly root social inclusion at the top of this year's agenda.

What do you hope for the next 25 years of Ecsite conferences?

I personally think that we shouldn't be afraid of bridging the gap between profit and non-profit.

Interestingly, our colleagues from academia have embarked on such a trend, with more frequent public-private research projects. In practice, a share of our community comes from the business world but I don't feel that their voice is loud enough at the conference. I'm convinced that we have a lot to learn from companies and that business-oriented colleagues can question our practice in constructive ways – while of course retaining the conference's integrity.

2015 Ecsite Annual Conference

Five good reasons to be in Trento (Italy) on 11 - 13 June 2015 and taste "Food for curious minds":

- attend the largest science engagement event in Europe, its platform for exchange, training and discussion and unrivaled networking scene
- pay a visit to our host MUSE, the brand new science museum designed by Renzo Piano
- visit EXPO 2015 in Milan and its "Feeding the Planet, Energy for life" theme
- quench your thirst for nature and science, modern arts and ancient history by visiting the UNESCO heritage Dolomite mountains, MART, Buonconsiglio Castle, mountain trails and lake shores
- taste simplicity and authenticity: good wine and traditional food accompany our thinking on food, understood both literally and metaphorically.



LOOKOUTS

LINKS TO ALL 2014 ANNUAL CONFERENCE PICTURES, PRESENTATIONS, SUMMARIES ETC. ON THE ECSITE WEBSITE

WWW.ECSITE.EU



MIKKO MYLLYKOSKI
Experience Director
Heureka (Vantaa, Finland)

As the new chair of the ACPC, what are the general directions in which you would like to see the conference evolve?

The conference is the most visible and for many the most important activity of Ecsite. It should, on one hand, mirror membership. What are our ideas, problems and visions? At the conference, people from pretty different professional and institutional backgrounds can share and advocate their views on the same platform, on an equal footing. On the other hand, the conference can be an open window. It is an opportunity for fresh winds to blow – to hear voices from outside our field, insights about societal change and the challenges of science literacy and science communication in general.

All in all, the conference should be more participatory. I would like to invite fresh ideas on how to create more dialogue in the programme, both officially and informally.

That's where all learning happens.

A final word from the new chair of the Annual Conference Programme Committee

Practically, how will ideas generated in the "BeyondEcsite25" session for the future of the Ecsite Annual Conference be used?

The "BeyondEcsite25" ideas are an important source for our future work. Along with the overall evaluation of the conference, these ideas will be on our agenda in September when the Annual Conference Programme Committee meets. We must create ways for the entire community to be inspired by these ideas when they design and submit new and exciting programme proposals for the next conferences.

Every year we should try out something new.

Some of the ideas can be introduced as they are; for some other ideas – e.g. how to increase participation of young staff – we have to think of ways to make this possible. We have to balance the need to take economic and human resources imperatives into account with the commitment to becoming more welcoming and inclusive.

Can you help? Looking for grants for explainers

Many members of staff involved in face-to-face interaction with the public used to attend the Ecsite Annual Conference thanks to the EU Grundtvig grant. Unfortunately, its merge with the Erasmus+ programme makes it harder to use for that purpose – but many professionals remain convinced that the conference needs to welcome as many people as possible who are in direct contact with the audiences we work so hard to reach.

The Ecsite team would like to build a list of alternative grants, be they regional, national or international. Send any suggestion to Members Services Manager Lucy Schweingruber at lschweingruber@ecsite.eu.



Strange Weather



Mind Caught in the Act



Sink or Sail?



BeDemocracy



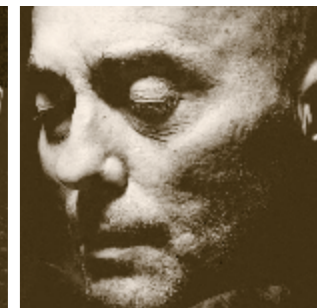
Brain Twisters



War and Technology



Life before death



Want to see your news here?

Send the contact details of the person(s) in charge of communications, press or international relations to Ecsite Communications Manager Julie Becker (communications@ecsite.eu). You will be prompted to submit items before each *Spokes* issue.

EXHIBITIONS

BeDemocracy

This dynamic exhibition developed by Expology debates democracy and the influence of social media on democratic participation. Contents are generated by visitors on site, via the exhibition website or on Twitter. Visitors can express their views and 'like' those of others on a series of topics related to democracy. In the exhibition, they do so by raising their thumb in front of a mosaic of projected sentences (a movement tracked by Kinect). The input is displayed in a giant sphere, whose final look will have been entirely shaped by visitors. 15 May - 23 November 2014, Nobel Peace Center (Oslo, Norway). www.expology.com

Physics in Everyday Life / A Física no dia-a-dia

In this exhibition there are no elaborate laboratory machines or complex electronic gadgets, only household appliances and common materials. Experimentation is the key to knowledge and magic black boxes are not allowed - everything is on show. 16 June - 14 September 2014, Pavilion of Knowledge - Ciência Viva (Lisbon, Portugal). www.pavconhecimento.pt

Mind Caught in the Act / Umysł Przylapany

Mind Caught in the Act, produced by Copernicus Science Centre, started a Polish tour in May 2014. This travelling exhibition questions visitors: "Is reality in fact really as we perceive it?". The most important 'exhibit' are visitors themselves, as they observe their own minds at work. The exhibition consists of 20 interactive exhibits. It has two levels of engagement, a playful one and another providing deeper understanding. The design engages visitors using a diversity of textures. www.kopernik.org.pl

EXHIBITIONS

War and technology / Krieg und Technik

Shortly before the Vienna Technical Museum opened its doors in the summer of 1914, Austria-Hungary declared war on Serbia - effectively triggering World War I. To fulfill a patriotic mission and boost the population's enthusiasm for the war, then Director Ludwig Erhard declared that the thematic focus of the museum's exhibitions should be on "war and technology." Today a special exhibition gives a succinct overview on the Austrian war effort, based on 100 objects that directly or indirectly relate to World War I. This year-long exhibition can be seen until May 2015. www.technischesmuseum.at

Picture: Technology for mutilated human bodies. © Technisches Museum Wien

Sink or Sail? / Ujub vői upub?

Science Centre AHHA's new exhibition is an exciting introduction to water physics as well as an adventure in the history of marine travel and maritime disasters. This collaboration between AHHA and Seaplane Harbour is said to be "the largest and technically most complex exhibition that has ever been made in Estonia". Visitors can expect to solve the great mystery of the Bermuda Triangle, try to escape from a sinking ship, find out what happens if you try to sail the sea in a rectangular boat... The exhibition opened in May and will be presented in AHHA until 2 November 2014. In 2015, it will be at the Seaplane Harbour Museum in Tallin. www.ahha.ee

Picture: Sinking directors of AHHA and Seaplane Harbour. © Silver Gutmann

EXHIBITIONS

What are you playing at? / A quoi tu joues ?

This unusual interactive exhibition on the digital side of our society makes use of vintage, innovative and diverted games. Visitors can play on wide screen, rediscover the icons of the history of video games, experiment new ways of playing "Pong", command a robot to play "Simon", pedal to power their game console, use Twitter on an old "minitel" terminal, test their gaming profile... The exhibition is open until the end of 2014. Several events are organized alongside, such as a retro-gaming week-end, video game production workshops, and opportunities to reflect on and discuss a range of issues related to our digital society. www.lacamate.fr

Strange Weather

This exhibition brings together meteorologists, artists, climate scientists, cloud enthusiasts and designers to explore how we model, predict, and even create weather at the Science Gallery in Dublin from 18 July to 5 October 2014. How has the human experience of weather changed over millennia, and how will it change in the next 50 years? What consequences and opportunities will arise from the changing weather of our planet? Curated by CoClimate, *Strange Weather* will challenge visitors with novel visions of a global culture adapting to extreme weather, and zooms in to explore how strange weather will affect daily commutes, the governance of our cities, and even our fashion choices. www.dublin.sciencegallery.com

EXHIBITIONS

Life before death / Livet før døden

Few experiences are likely to affect us as profoundly as an encounter with death. Yet death and dying are arguably our last taboos. A photographer and a journalist asked 26 terminally ill people if they could accompany them during their last weeks and days. This exhibition explores the experiences, hopes and fears of the dying. All of them agreed to be photographed shortly before and immediately after death. The exhibition is presented at the Norwegian Museum of Science and Technology until 1st September 2014, in collaboration with the Norwegian Cancer Society. The Norwegian museum has also developed a programme for students of all ages to engage in discussions about death and dying. Almost 1,000 of them have already participated in discussions. www.tekniskmuseum.no

Picture: Heiner Schmitz taken Nov 19th and Dec 14th. © Walter Schels

Brain Twisters / A vos cerveaux !

A striking scenography takes visitors through darkness and light to unravel the mysteries of their brain, explore its anatomy in 3D, test its performance and subject it to optical illusions. Videos, games and interactive installations help them get the most out of this fascinating journey inside their skull. *Brain Twisters* also takes an unusual animal perspective to highlight that each animal perceives the world in a different way and that this subjective perception is directly linked to the organisation of its nervous system. This exhibition produced by Cap Sciences is presented at the Museum of Natural Sciences in Brussels, until 30 August 2015. www.naturalsciences.be

Picture: Visitors check out "their" brain in the 3D scanning booth © Th.Hubin@Muséum

EVENTS

European Maker Camp, 25 August - 5 October

The Maker Movement continues to grow without borders. The European Maker Camp invites participants to "learn how you can make almost anything AND discover 5 different European cultures and cities. 6 weeks / 5 countries / 5 FabLabs / 1 final event." www.europeanmakercamp.org

ICOM Triennial Conference, 25 August - 5 October

An opportunity to forge tighter relationships with the museum world. The International Council of Museum's conference offers technical sessions, twenty-one specialist Working Groups, keynote speeches, behind the scenes visits, cultural and social events. www.icom-cc2014.org

Association of Science - Technology Centers (ASTC) Annual Conference, 18-21 October, Raleigh (North Carolina, USA)

ASTC 2014 will include more than 100 concurrent educational sessions and 15 preconference workshops, as well as pre- and post-conference tours. www.conference.astc.org

Museomix 2014, 7-9 November

Museomix is hackathon/makathon, bringing several dozens of teams together in a museum: collections geeks, makers, hackers, storytellers, tweekers... Their mission? Innovate, experiment, re-invent and show visitors the fruits of their labour - in three days. The 2014 edition will be taking place simultaneously in 8 locations in France, Switzerland, the UK and Canada www.museomix.org

Ecsite Directors Forum, 12-14 November, Tartu (Estonia)

Held in Estonia - nicknamed "E-stonia" for being a pioneer of digital excellence - this year's Director Forum invites Directors and Senior Managers of Ecsite Full Member institutions to 'Download the future'. Technology and leadership, creativity and innovation, uploading and downloading... Hosted by AHHA Science Centre. www.ecsite.eu/activities_and_resources/directors_forum



DuVerden



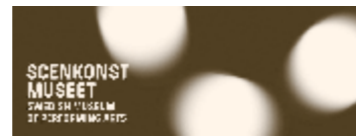
Instituto de Psychiatry



Centro Ciência Viva de Sintra



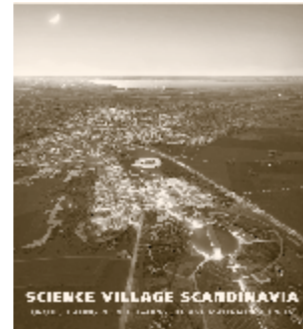
Centro Ciência Viva do Alviela



Swedish Museum of Performing Arts



Ontario Science Centre



Science Village Scandinavia AB



Tapio Koivu



First Ecsite meeting, 1989



Maurice Bitran



Lesley Lewis



Kim Gladstone Herlev

RESOURCES

EU research: making citizens' VOICES heard
The final report of pioneer EU-funded project VOICES, led by Ecsite, is now available. "Voices for Responsible Research and Innovation: Engaging Citizens to Shape EU Research Policy on Urban Waste" outlines the outcomes of the first in-depth consultation of people living in every country of the European Union on the topic of urban waste, focusing in particular on the concept of 'waste as a resource' and the transition to a 'zero waste society'. For the first time European citizens' views on issues affecting their daily lives have been formally taken into account for future research and scientific developments – an example of the current shift of paradigm in EU science policy: Responsible research and Innovation (RRI) in action.
www.voicesforinnovation.eu/phase_9_new.html

Downloadable space exhibition and kit of activities on ESA's Rosetta mission
The Rosetta mission brought Ecsite Space Group members together to develop collaborative events and resources related to key events and knowledge about Rosetta's journey, in partnership with ESA, the European Space Agency. An exhibition and educational activities are now available for free to Ecsite members and at a very affordable price to others. Join the campaign and make the most of these ready-made tools. You can also follow the next steps of Rosetta's journey and organize unique events in your own institution in relation with Space Group members and Space professionals. Find out more about resources available on Ecsite Space Group's webpage. www.ecsite.eu/activities_and_resources/thematic_groups/space-group



NEW BOARD AND EXECUTIVE COMMITTEE

The Annual General Assembly held on 23 May 2014 saw the election of new Board and Executive Committee members, as well as a change of internal regulations. (see www.ecsite.eu/about/governance).

Executive Committee

- Presidency:** Ciência Viva – Pavilion of Knowledge (Lisbon, Portugal) – Rosalia Vargas, President
- Vice-Presidency:** Vilvite (Bergen, Norway) – Svein Anders Dahl, Chief Executive Officer (newly elected)
- Treasury:** Cité de l'Espace (Toulouse, France) – Jean-Baptiste Desbois, Executive Director (newly elected)
- Past Presidency:** Copernicus Science Centre, (Warsaw, Poland) – Robert Firmhofer, Director
- Trustees**
- AHHAA Science Centre** (Tartu, Estonia) – Pilvi Kolk, Member of the Management Board
- Città della Scienza** (Naples, Italy) – Vincenzo Lipardi, Chief Executive Officer
- Experimentarium** (Hellerup, Denmark) – Kim Gladstone Herlev, CEO, standing for Asger Høeg, (newly re-elected)
- MUSE, Museo delle Scienze** (Trento, Italy) – Michele Lanzinger, Director
- Parque de las Ciencias** (Granada, Spain) – Ernesto Páramo Sureda, Director

LIFE OF ECSITE

- Science Museum** (London, United Kingdom) – Alexandra Burch, Director of Learning, Science Museum Group (newly elected)
- Teknikens Hus** (Luleå, Sweden) – Helena Lilja, Director of Programs and operations
- Universum@ Bremen** (Bremen, Germany) – Herbert Münder, Managing Director (newly elected)
- Ustanova Hiša eksperimentov** (Ljubljana, Slovenia) – Miha Kos, Director (newly elected)
- Vitensenteret, the Norwegian Museum of Science and Technology** (Oslo, Norway) – Jan Alfred Andersson, Manager

NEW ECSITE MEMBERS.

- Full Members**
- DuVerden** - Sjøfartsmuseum og vitensenter, Porsgrunn (Norway)
- Swedish Museum of Performing Arts**, Stockholm (Sweden)
- Upgraded to Full Member**
- Sissa Medialab**, Trieste (Italy)
- Sustaining Members**
- Callisto Exhibition Group**, Serris (France)
- Exhibits Development Group** – EDG, Saint Paul (United States)
- Associate Members**
- ANMS** – Associazione Nazionale Musei Scientifici, Firenze (Italy)
- Blue World Institute of Marine Research and Conservation**, Veli Losinj (Croatia)
- Center for Research and Analyses (CRA)**, Sofia (Bulgaria)
- Centro Ciência Viva de Sintra**, Sintra (Portugal)
- Centro Ciência Viva do Alviela**, Alcanena (Portugal)
- Institute of Psychiatry** - Engaging Mental Health, London (United Kingdom)
- Ontario Science Centre**, Toronto, Ontario (Canada)
- Science Village Scandinavia AB**, Lund (Sweden)
- Xké? IL laboratorio della curiosità**, Torino (Italy).

LIFE OF ECSITE

2013 ANNUAL REPORT OUT
Witness the collective power of Ecsite members. Together in 2013, we created the largest ever gathering of science engagement practitioners in Europe, collected 1,000 citizens' views on urban waste management, delivered 9 pan-European projects, drank 2,760 coffees in three days of Annual Conference... The report includes a detachable world map of Ecsite members – send pictures of it up your office wall to communications@ecsite.eu

NEW ECSITE PROJECT MANAGER

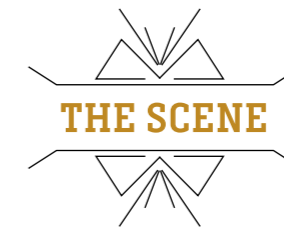
Audrey Korczynska joined the Ecsite Executive Office in May. She is leading the ENGINEER project, co-managing SYNENERGENE with Luisa Marino and is now the liaison person for the Space Group at the Ecsite office.

25 YEARS OF ECSITE GATHERINGS IN PICTURES

To celebrate the 25th anniversary of Ecsite's Annual Conference, the Ecsite team launched a call for pictures of past conferences and events. More than 70 photos of the old days can now be browsed through on the Ecsite Executive Office flickr account. Featured here: first Ecsite meeting at Cité des sciences in Paris in January 1989 (@B Baudin / EPPDCSI). Contributions still welcome, particularly for events before 2010. www.flickr.com/photos/79586792@N02/sets

SAVE THE DATES

- 2014 Directors Forum** (open to Full Members): 12-14 November 2014 in Tartu, Estonia. Host: AHHAA Science Centre.
- 2015 Ecsite Annual Conference:** 11-13 June 2015 in Trento, Italy. Pre-conference 9-10 June. Host: MUSE.
- 2015 Ecsite Annual General Meeting:** 10 June 2015 in Trento (note that this is a Wednesday and not a Friday as in previous years).



THE SCENE

The Board of **Experimentarium** (Hellerup, Denmark) expressed its full confidence in previously Deputy CEO **Kim Gladstone Herlev** by making him **CEO** from July on. Kim Gladstone Herlev: "Experimentarium is in the midst of an extremely exciting period in its history. We have moved our exhibition from Hellerup to Christiansholm island just opposite the Royal Danish Playhouse. We will be located here until early 2016, when an extended and refurbished Experimentarium will be completed. My goal is to get everyone who lives or stays in Copenhagen to pay us a visit on the island. This place is simply outstanding!" Previous CEO **Asger Høeg** will continue working at Experimentarium, managing the final stages of the science centre's extension project.

The board of the Finnish Science Centre Foundation chose D.Sc. (Tech.) **Tapio Koivu** (50) as the new **Director of the Finnish Science Centre Heureka**. Koivu is currently CEO of Makery, a company that combines business development and food sector expertise and will take his new post in August 2014. He has a long experience in leading research organizations both public and private and an international background. He is following in the footsteps of **Anneli Pauli**, who is starting as the Rector of the Lappeenranta University of Technology beginning of July 2014.

REMEMBERING ALAN FRIEDMAN

Alan Friedman, former Director of the New York Hall of Science, passed away on 4 May 2014. A physicist by training, he took on the challenge of turning the then badly shaped New York Hall of Science into an internationally recognized institution. He had then set up a consultancy after retiring. Countless voices in the science centre community praise his legacy: his constant advocacy for science centres' independence, his concern for staff development, his work for the Noyce Leadership... The New York Hall of Science created a page for friends and colleagues to share their thoughts at www.nysci.org/thinking-of-alan

MOVEMENTS

Mid June, **Maurice Bitran** took over from **Lesley Lewis** who served 16 years as **CEO of the Ontario Science Centre** (Canada) and "leaves an indelible impression on a generation of Canadians of the importance of science in today's society". Bitran has a background in physics and astronomy and solid experience in environmental, economic and science policy-making and international negotiations. He declared: "This is a unique opportunity to bring together my passion and experience in science, education, and public service to the furthering of science education and innovation. I look forward to working with the Board of Trustees and the Ontario Science Centre staff towards this goal."



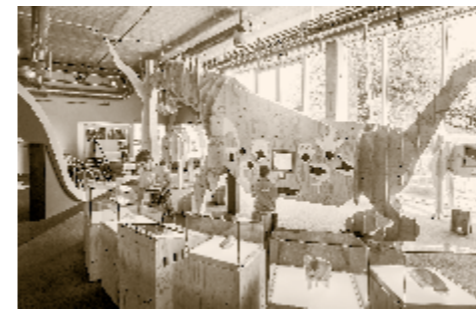
Museum of Science Boston



Obama at Miraikan



Techmania



Technopolis

THE SCENE

GRANTS AND SUBSCRIPTIONS

The Biogen Idec Foundation has awarded the **Museum of Science, Boston** a \$2.5 million grant to support its 'Hall of Human Life' permanent exhibition. Among other things, the grant will support the face-to-face multimedia lab located at the centre of space, named the Biogen Idec Foundation Exploration Hub. Re-opened in 2013, the 'Hall of Human Life' is an interactive 950 sqm gallery, in which visitors embark on a personalised exploration of the human body thanks to a barcoded wristband.

Picture © Michael Malyszko.

The "**Universe in a Box**" crowdfunding campaign launched by the Universe Awareness network (UNAWA) to distribute an astronomy and space sciences kit to developing countries exceeded its €15,000 initial target: 235 backers donated €17,037.

Museo Nazionale della Scienza e della Tecnologia - 'Leonardo da Vinci' raised €50,660 of public **donations** towards its future space gallery, opening later this year. The permanent exhibition's highlight will be the display of a lunar rock fragment donated by US President Nixon in 1973.

AWARDS

Museo Nacional de Ciencia y Tecnología, A Coruña (Spain) received a **special commendation** from the 2014 **European Museum of the Year Award**, announced mid-May. The jury chose it "for its ability to communicate scientific and technical concepts in an inspiring way and for its strong commitment to social responsibility in preserving the technical, industrial and scientific heritage of Spain and Galicia".

Centro Ciência Viva do Alviela (Alcanena, Portugal) was **finalist** in the 'Communication' category of the **Natura2000 award**, announced end of May. The award recognises excellence in the management of Natura2000 sites. The project "Knowing and preserving the 12 bat

THE SCENE

species of Alviela's cave" was ranked in the top four of 49 entries for that category.

Unified Field won a **New York Design Award** end of May in the environmental graphic design category for its digital signage project at Yale School of Management. The innovative success of this project was pushing a digital signage system into a narrow cast network. Three floors of interactive media now display real time information such as school-wide agendas, class and conference schedules, special announcements, insightful information and photography from students, staff and guest speakers as well as customized presentations, data visualizations and broadcast media.

SCIENCE DIPLOMACY

US President Obama paid a visit to Ecsite member **Miraikan** (National Museum of Emerging Science and Innovation, Tokyo) end of April. Addressing Japanese students, he identified "science, technology, maths and engineering" as crucial skills for the "global economy". He invited students to use their intelligence and energy to develop scientific and technological responses to future challenges like climate change: "Young people like you have at your fingertips more technology and power than even the greatest innovators in previous generations – there is no limit to what you can achieve." President Obama also enjoyed meeting a football-playing robot.

TECHMANIA KEEPS BOOMING

Science Centre **Techmania** (Pilsen, Czech Republic) just opened **new permanent spaces**, including a digital 3D Planetarium and interactive exhibitions focusing on the world of nature and technologies. Further developments are planned. "We hope to attract about 200,000 visitors this year" states CEO Vlasta Volak. When Techmania opened in 2008 on the brownfield area of the industrial city of Pilsen, hometown of the world renowned Pilsner beer and SKODA factory, barely anyone in the Czech Republic was

THE SCENE

familiar with the science centre concept. In just six years of existence, it has firmly rooted itself on the map of European science communication – a success Volak attributes to hands-on exhibits, close cooperation with schools and active participation in national and international projects (many of which were entered thanks to Ecsite membership).

NEW DEVELOPMENTS AT TECHNOPSIS – TOWARDS A MORE PERSONALISED VISIT

Technopolis, the Flemish Science Centre, (Mechelen, Belgium) recently opened **two new spaces**: Xplora for 8 to 14 year olds, and Inspirience for 14 years onwards. In Xplora, youngsters discover their skills and talents for jobs that 'tickle the imagination'. In Inspirience, visitors are challenged to be creative, to think and to share. At the start of their exploration of the new exhibitions, visitors log on with a personal bracelet that then allows them to access a 'My Technopolis' online space. New spaces also include a FabLab, a state-of-the-art science lab and a resource centre for STEM teachers. These developments were funded by a 2013 grant from the Flemish Government.

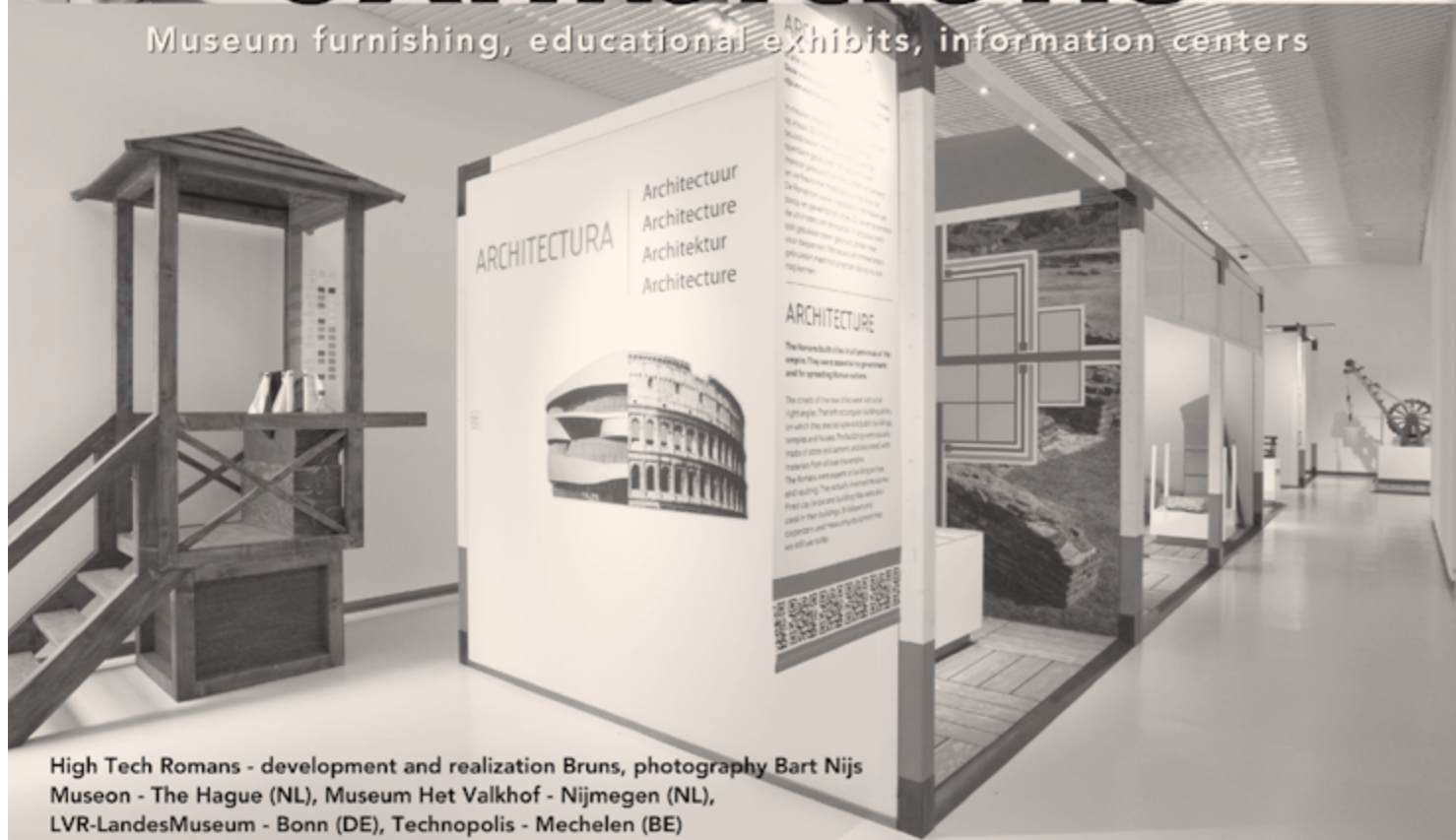
BRIDGING THE GAP BETWEEN ACADEMIA AND PRACTICE

Foundations seek best practice – a new grant is born. The US National Science Foundation, the Wellcome Trust, the UK Economic and Social Research Council, the Gordon and Betty Moore Foundation, the MacArthur Foundation and the Noyce Foundation are launching the '**Science Learning +**' grant. The aim is to "make a transformational step to improve the knowledge base and practice of informal science experiences, to better understand, strengthen and coordinate their vital role in science engagement and learning." Groups of organizations can apply until beginning of July for the first "short-term planning grants" phase of a two-stage process (one partner needs to be



exhibitions

Museum furnishing, educational exhibits, information centers



High Tech Romans - development and realization Bruns, photography Bart Nijs
 Museon - The Hague (NL), Museum Het Valkhof - Nijmegen (NL),
 LVR-LandesMuseum - Bonn (DE), Technopolis - Mechelen (BE)

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IT ALL STARTED ON AN AUTUMN AFTERNOON

Many people have already told this story: it all started in Boston at the Café of the Museum of Science, in the afternoon of 17 October 1989. Jöel de Rosnay, the Director of International Relations of La Cité de Sciences et de L'Industrie (Paris, France), met up with a handful of young Europeans to share their dreams about a European network of science centres – and what an afternoon it must have been!

Although we are no longer just a handful of Europeans, we are still young, and we still have dreams. Ecsite grew from the vision of “The Magnificent Seven”, as we affectionately call that group of founding fathers, to become a leading network of science centres and museums. Now, twenty five years later, we owe them to take their vision further. For that we have to understand how we got here and where we are heading to, with a clear perception of today’s challenges and the new tools that we have at our disposal.

These tools would have been unthinkable for the founding fathers for whom the fax was the acme of communication technology: now we have the Internet, the smartphone, low-cost distance communication, a world of new networking tools – and regarding these, we might have news for you soon.

Today’s challenges are not very different from those faced in the early days: what does Ecsite stand for? What does it mean to be a member? Where does Europe end, geographically? What do members expect and how do we deliver it? Using which financial means? How democratic is the Ecsite governance? Tough questions, indeed. We discussed some of these at the Ecsite Annual General Meeting in The Hague end of May. We intend to take this strategic thinking through the next year, leading up to the annual conference in Trento. The Directors Forum in Tartu in November will be an important step.

Formally, Ecsite was born on 28 November 1990. Informally, as usual, the story is not as clear, hence more exciting. I’ll get back to it over the next *Spokes* issues. Do not miss them, there is a lot to be shared.

Rosalia Vargas
 President of Ecsite,
 and Ciência Viva - Pavilion of Knowledge
 (Lisbon, Portugal)

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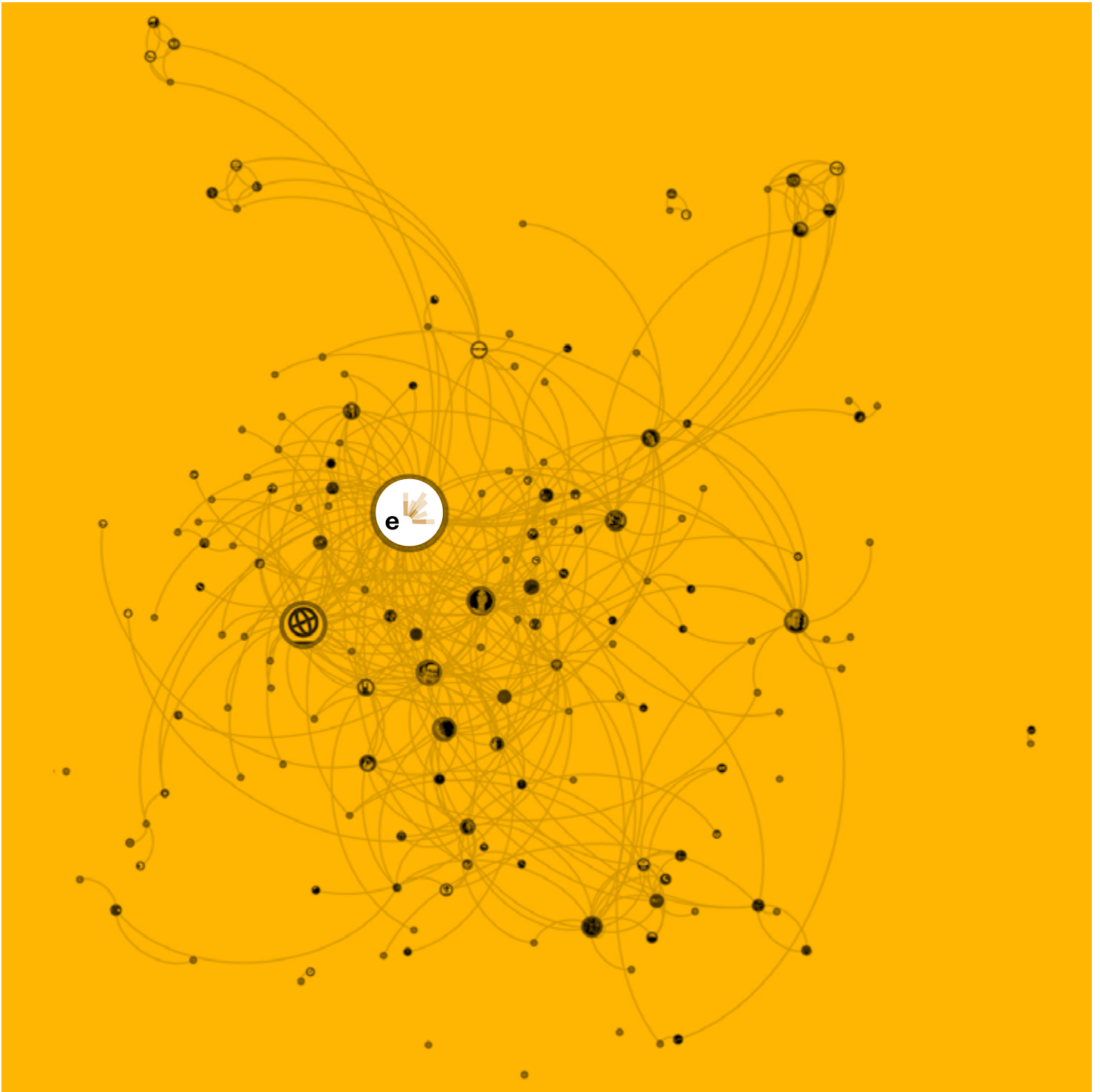
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TECHNIQUEST
 techniquet.org





Visual mapping of the #ecsite2014 Twitter feed top 100 contributors.
2,883 tweets were posted during the 2014 Ecsite Annual Conference.

Explore this map powered by the application Bluenod:

<http://bluenod.com/map/ecsite14>
