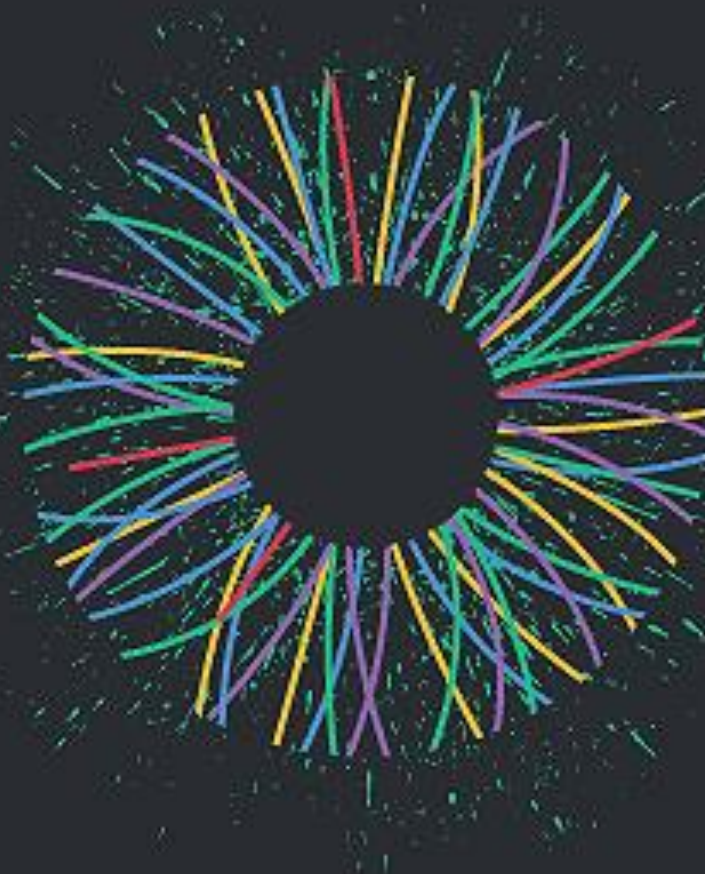


# art@CMS



Projects 2012/ 2013 / 2014 / 2015 / 2016 / 2017



Contact:

Email : [Art-cms@cern.ch](mailto:Art-cms@cern.ch)

Web Page : <http://artcms.web.cern.ch/artcms/>

Dossier : <http://mhoch.web.cern.ch/mhoch/Art@CMS/Art@CMSprojects.pdf>

Michael.Hoch@cern.ch

phone: +41 75 411 5720

# Introduction

**Art@CMS:** is a collaboration between the CMS scientific community, artists and art communities, art teachers and science teachers. It is not an artist in residence programme. It's aim is to reach out to as wide a range of people as possible in order to interest them in and inspire them to want to discover more about science, and in particular particle physics. In this sense it is first and foremost an outreach and educational tool. At the same time it highlights the beauty of nature and stimulates discussion and exploration of the connections between science and art.

It is comprised of 2 complementary modules :



**Art@CMS exhibition:** aims to create a dialogue between the CMS science community and art communities. It's objective is to present art works of collaborating artists and facilitate group and individual exhibitions world wide. Each collaborating artist is associated with a scientific partner who acts as a science mentor.

It can be used to support and enhance other events, e.g. scientific conferences, and as a platform from which to organise presentations and discussions.



**Science&Art@School:** is an interdisciplinary workshop designed to introduce art and science school/ college / university students to the scientific world of particle physics and fundamental research through artistic enquiry.

It incorporates an introduction to particle physics, CERN and CMS, a hands-on masterclass exercise illustrating how particle physics data is analysed, followed by a philosophical reflection and discussion session designed to inspire the students to create their own, science related artworks. The students then have the opportunity to mount an exhibition of their work.

Both projects have their root in this high resolution photograph of a slice of the CMS detector taken in 2008 just before it was closed for the startup of the Large Hadron Collider. It is a composite made up of 200+ images stitched together. It has been reproduced in many formats including full 18 \* 18 metre life size. It embodies both the complexity and beauty of the experiment and has an artistic value in its own right.

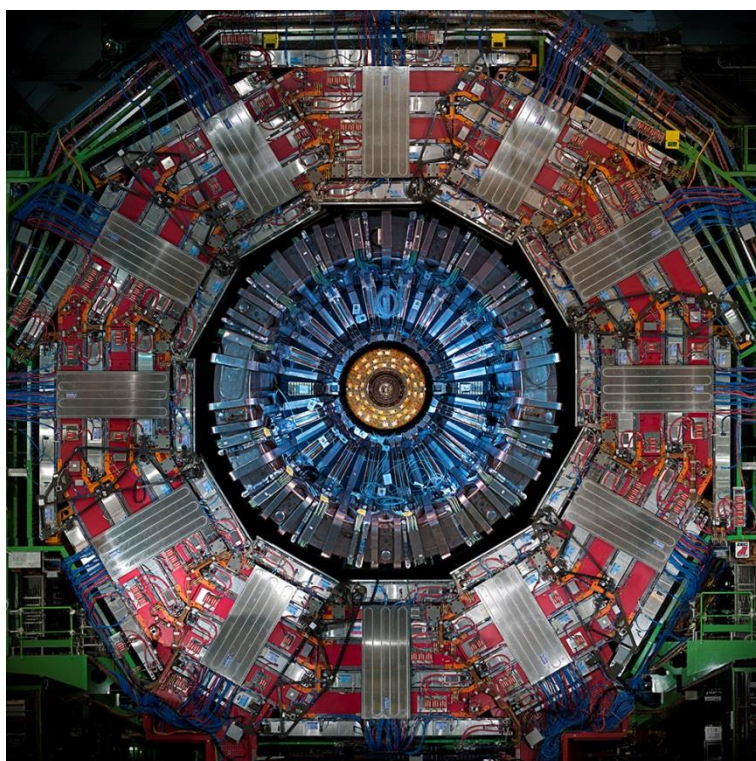
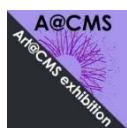


Photo by Maximillian Brice and Michael Hoch, CERN



# Art@CMS events to date



## **Art@CMS Exhibitions 2016:**

*Jan 5<sup>th</sup> – 21<sup>st</sup> - Ettore Fico Museum, Turin/ Italy*  
*Feb 28<sup>th</sup> – Apr 10<sup>th</sup> - Cite du Temps, Geneva / Switzerland*  
*Mar 24<sup>th</sup> – Oct 30<sup>th</sup> JINR Library Dubna / Russia*  
*Apr 4<sup>th</sup> – 10<sup>th</sup> Athens Science Festival*  
*Apr 14<sup>th</sup> – 21<sup>st</sup> Triangle Space Chelsea Coll. Arts, London / UK*  
*Apr 27<sup>th</sup> – Jul 31<sup>st</sup> CERN, Preveessin Site, Bld. 774 – Preveessin / France*  
*May 1<sup>st</sup> – 6<sup>th</sup> Arte & Scienza – Castello Giusso, Vico Equense / Italy*  
*May 6<sup>th</sup> Physics Conclave, New Delhi/ India*  
*Jun 22<sup>nd</sup> – Aug 5<sup>th</sup> art@CMS vernissage & exhibition, CERN, CMS site, Cessy / France*  
*Jul 3<sup>rd</sup> – 6<sup>th</sup> SUSY conf. – Melbourne / Australia*  
*Aug 22<sup>nd</sup> - 30<sup>th</sup> Global Hands on Universe, HSN, Stord / Norway*  
*Sept 2<sup>nd</sup> – Oct 3<sup>rd</sup> IMPACT, SBCAST, Santa Barbara / US*  
*Sept 11<sup>th</sup> – Oct 3<sup>rd</sup>, IMAGE2016, Ferrary Gallery, Vevey / Switzerland*  
*Sept 19<sup>th</sup> – 24<sup>th</sup>, LHCdays Split, Palazzo Milesi, Split / Croatia*  
*Oct 3<sup>rd</sup> – 9<sup>th</sup>, SCCTWG – TeacherHouse & University Tbilisi / Georgia*  
*Oct 18<sup>th</sup> – Aug 2017 Natural History Museum Vienna / Austria*  
*Oct 25<sup>th</sup> – Nov 2<sup>nd</sup>, IEEE, Palais de Congres, Strasbourg / France*  
*Oct 24<sup>th</sup> 2016 – Jun 2017 Landesmuseum fuer Vorgeschichte, Halle (Saale) / Germany*  
*Nov 10 Nehru Planetarium- Cosmic Soup- INDIAN tour Mumbai / India*  
*Dec 10<sup>th</sup> Sambhavana Sci. Festival - INDIAN tour Gurgaon / India*  
*Dec 10<sup>th</sup> - 11<sup>th</sup> TeacherDays Conference - TeacherHouse Tbilisi / Georgia*

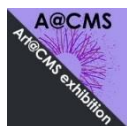
## **Scheduled Exhibitions Art@CMS :**

24 <sup>th</sup> February	2017	Cultural Collisions, CERN Meyrin, Geneva / Switzerland
16 <sup>th</sup> March	2017	IntianTour / India
8 <sup>th</sup> April	2017	IntianTour / India
10 <sup>th</sup> – 24 <sup>th</sup> April	2017	ItalianTour / Leonardo d'Avinci Museum Milano/ Italy
3 <sup>rd</sup> – 10 <sup>th</sup> May	2017	RE: Logia – Art/Science / Technology Conference Sofia/ Bulgaria
9 <sup>th</sup> – 13 <sup>th</sup> June	2017	NHM school competition show, Vienna / Austria
June	2017	University Applied Arts final show / Vienna / Austria
21 <sup>st</sup> – 30 <sup>th</sup> June	2017	art@CMS vernissage CERN P5, Cessy / France
1 <sup>st</sup> July	2017	Mairie de Thoiry , Thoiry / France
22 <sup>nd</sup> – 30 <sup>th</sup> July	2017	ItalianTour/ EPS2017 Venice / Italy
21 <sup>st</sup> July	2017	IndianTour / India
1 <sup>st</sup> – 9 <sup>th</sup> August	2017	IndianTour / India
September	2017	UAL final show / London / UK
October	2017	ItalianTour / Padoa / Italy
October	2017	IndianTour / India
November	2017	ItalianTour / Florence / Italy
November	2017	IndianTour / India
November	2017	Austrian Cultural Forum / Rom

### **Dates and venues under discussion:**

April 6 <sup>th</sup>	2017	IMACT HUB Santa Barbara / US
June	2017	Malta
	2018 - 2019	MIT, Boston / US and others in the US for

# Art@CMS events to date



## **Art@CMS Exhibitions 2015:**

Jan 22<sup>th</sup> – Mar 3<sup>rd</sup> -WELIOS- Galerie Wimmer, Wels / Austria  
Feb 2<sup>nd</sup>– Apr 23<sup>rd</sup> Wilson Hall, FERMILAB / USA  
Mar 17<sup>th</sup> – 22<sup>nd</sup> , Athens Science Festival, Technopolis Museum, Athens / Greece  
May 2<sup>nd</sup> – 31<sup>st</sup> Art Center South Florida, Miami Beach / US  
May 14<sup>th</sup> – 17<sup>th</sup> TIF –Helexpo, Thessaloniki's Science Festival / Thessaloniki/ Greece  
Jun 24<sup>th</sup> – Jul 17<sup>th</sup> – art@CMS vernissage, CERN, CMS site, Cessy / France  
Jun 26<sup>th</sup> – Jul 14<sup>th</sup> KIT – Karlsruhe / Germany  
Jul 19<sup>th</sup> – 31<sup>st</sup> EPS2015 conference Vienna / Austria  
Aug 31<sup>st</sup> - Sept 5<sup>th</sup> LHCP2015 - St. Petersburg / Russia  
Sept 15<sup>th</sup> – 20<sup>th</sup>, Castel dell Ovo, Naples / Italy  
Sept 19<sup>th</sup> – Oct 1<sup>st</sup>, l'Origine, C. Cultures Jean Monet, St.Genis / France  
Dec 2<sup>nd</sup> – 5<sup>th</sup> , Mediterranean Science Festival / Cyprus

## **Art@CMS Exhibitions 2014:**

Feb 20<sup>th</sup> – Apr 8<sup>th</sup> Colegium Hungaricum, Vienna / Austria  
Mar 21<sup>st</sup> – Apr 4<sup>th</sup> WienerWunderKammer, Vienna / Austria  
Apr 4<sup>th</sup> Science Night Vienna CERN 60<sup>th</sup> Celebration Vienna / Austria  
Jun 6<sup>th</sup> QualysmART Science – Technology – Art, Vienna / Austria  
Jun 25<sup>th</sup> Art@CMS vernissage at CERN P5, Cessy / France  
Jul 2<sup>nd</sup> – 9<sup>th</sup>, ICHEP2014 Conference Science & Art –Congress Palace, Valencia / Spain  
Jul 10<sup>th</sup> – 30<sup>th</sup> , S. Francis College, New York / USA  
Sept 29<sup>th</sup> – Oct 5<sup>th</sup> EPI , Split / Croatia  
Oct 13<sup>th</sup> -30<sup>th</sup> , CERN 60<sup>th</sup> Earth&Man Museum, Sofia / Bulgaria  
Nov 15<sup>th</sup> – 21<sup>st</sup> , Earth&Man Museum, Sofia / Bulgaria  
Nov 28<sup>th</sup> – 31<sup>st</sup> December, Shoreditch / London / UK  
Dec 16<sup>th</sup> – Jan 8<sup>th</sup> 2015 Academy Palace, Brussels / Belgium

## **Art@CMS Exhibitions 2013:**

Feb 11<sup>th</sup> – 15<sup>th</sup>, VCI Conference, Palais Ferstel, Vienna / Austria  
Apr 4<sup>th</sup> – Jul 10<sup>th</sup> , Art@CMS opening & exhibition, CERN P5, Cessy / France  
Jun 12<sup>th</sup> – 14<sup>th</sup>, CMSart Workshop, Joanneum Museum, Graz / Austria  
Sept 23<sup>rd</sup> – 30<sup>th</sup>, 'Quantum', CERN P5, Cessy / France  
Sept 27<sup>th</sup> – 30<sup>th</sup>, Art@CMS show, CERN OpenDay, CERN P5, Cessy / France  
Oct 28<sup>th</sup> – Dec 9<sup>th</sup>, 'Unseen Dimension', CLS, London / UK  
Nov 11<sup>th</sup> – Dec 13<sup>th</sup>, 'Art of Science- Beauty in Creation', RWTH, Aachen / Germany  
Nov 28<sup>th</sup>, US Higgs Discovery Event, Washington / USA  
Nov 15<sup>th</sup> – Jan 15<sup>th</sup> 2014, 'Faszination Ursprung', Bonn / Germany  
Dec 12<sup>th</sup> – March 30<sup>th</sup> 2014 'To See a World', Art@CMS exhibition, CERN P5, Cessy / France

## **Art@CMS Exhibitions 2012:**

Jul 1<sup>st</sup> – 31<sup>st</sup>, Science Coffee, Aula der Wissenschaften, Vienna / Austria  
Dec 10<sup>th</sup> – 21<sup>st</sup>, 'Art of Science- Beauty in Creation', CERN Meyrin, Geneva / Switzerland



# Art@CMS events to date



## Science&Art@School workshops:

<i>Jun 2<sup>th</sup> -5<sup>th</sup></i>	<i>2013</i>	<i>'GIBS, BORG, HEPHY, Joanneum Museum' – Graz / Austria</i>
<i>Jan – Jun</i>	<i>2014</i>	<i>IPAC design, CMS/ CERN – Geneva / Switzerland</i>
<i>Mar – Jun</i>	<i>2014</i>	<i>ECOLINT LGB, CMS/CERN – Geneva / Switzerland</i>
<i>Apr 7<sup>th</sup> -9<sup>th</sup></i>	<i>2014</i>	<i>GIBS, BORG, HEPHY, Joanneum Museum' – Graz / Austria</i>
<i>Apr 10<sup>th</sup> -13<sup>th</sup></i>	<i>2014</i>	<i>Lycée Fragonard, Fragonard / France</i>
<i>Aug - Nov</i>	<i>2014</i>	<i>UAL Chelsea College of Arts &amp; Shoreditch – London / UK</i>
<i>Dec 1<sup>st</sup> -3<sup>rd</sup></i>	<i>2014</i>	<i>WELIOS Science Center – Wels / Austria</i>
<i>Feb – Apr</i>	<i>2015</i>	<i>WaterStreetStudios - Fermilab – Chicago / USA</i>
<i>Feb – Jun</i>	<i>2015</i>	<i>ECOLINT LGB, CMS/CERN – Geneva / Switzerland</i>
<i>Oct 2014 - Jun</i>	<i>2015</i>	<i>Deutsche Schule Genf – Geneva / Switzerland</i>
<i>Nov 2014 -Apr</i>	<i>2015</i>	<i>Green Hills Academy – Kigali / Rwanda</i>
<i>Oct 2014 – Jan</i>	<i>2016</i>	<i>UAL Chelsea College of Arts – London / UK</i>
<i>Jan – Jun</i>	<i>2016</i>	<i>ECOLINT LGB, CMS/CERN – Geneva / Switzerland</i>
<i>Oct 2016 - Jun</i>	<i>2017</i>	<i>UAL Saint Martins College of Art / UK</i>
<i>Oct 2016 -Jun</i>	<i>2017</i>	<i>Applied Arts University Vienna / AUT</i>
<i>Jan – Jun</i>	<i>2017</i>	<i>ECOLINT LGB, CMS/CERN – Geneva / Switzerland</i>
<i>Feb – Jun</i>	<i>2017</i>	<i>Divers Schools in Vienna in collaboration with the NHM &amp; HEPHY</i>
<i>Mar 2016 - Jul</i>	<i>2017</i>	<i>INFN Italy SciArt tour – EPS conference Venice / Italy</i>

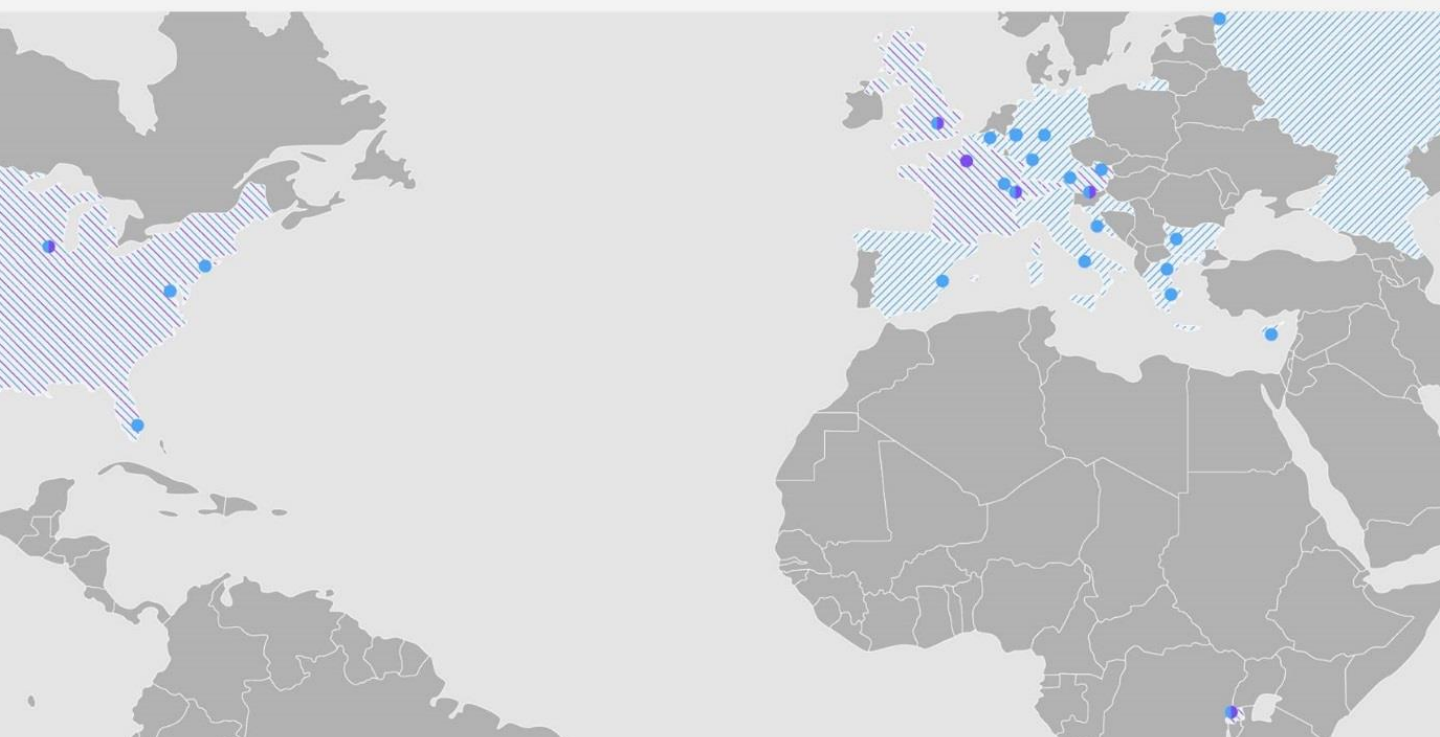
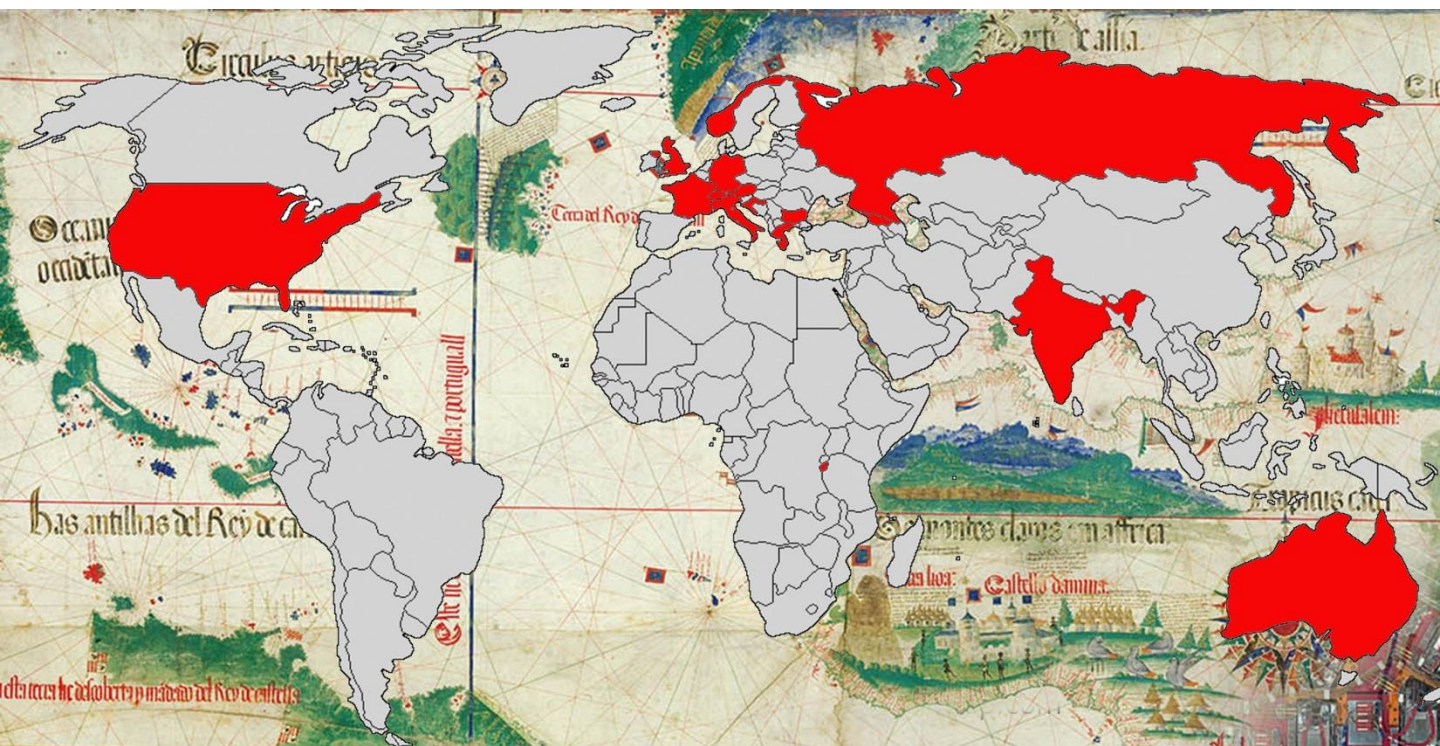
## Ongoing and Scheduled Art@CMS workshops:

<i>Oct 2016 - Jun</i>	<i>2017</i>	<i>UAL Saint Martins College of Art / UK</i>
<i>Oct 2016 - Jun</i>	<i>2017</i>	<i>Applied Arts University Vienna / AUT</i>
<i>Jan – Jun</i>	<i>2017</i>	<i>ECOLINT LGB, CMS/CERN – Geneva / Switzerland</i>
<i>Feb - Jun</i>	<i>2017</i>	<i>Divers Schools in Vienna in collaboration with the NHM &amp; HEPHY</i>
<i>Mar 2016 - Jul</i>	<i>2017</i>	<i>INFN Italy SciArt tour – EPS conference Venice / Italy</i>
<i>Jan – Jun</i>	<i>2017</i>	<i>ECOLINT Geneva / Swiss</i>
<i>Apr - Jul</i>	<i>2017</i>	<i>CREATIONS sciARTworkshops / Greece</i>
<i>Oct 2016 - Jun</i>	<i>2017</i>	<i>Herz Jesu Gym. Salzburg; CERN- Salzburg - Vienna / AUT</i>
<i>Oct 2016 - Jun</i>	<i>2017</i>	<i>Haydn Gym. Wien V; CERN – Vienna / AUT</i>
<i>Mar – Jul - Nov</i>	<i>2017</i>	<i>INFN art@CMS Italy tour (Milano / Venetia / Rome)</i>

### *Under discussion :*

<i>2017, 2018</i>	<i>Queensland Academy Australia</i>
<i>2019</i>	<i>MIT, Boston / US</i>

# Geographical Impact





# University of Applied Arts Vienna

## 2 semester sciART course

October 2016 – June 2017

Official 2 semester course

Coordinated by art@CMS

In collaboration with the HEPHY Institute & University of Technology Vienna

22 applied arts students of 2 classes & 11 university staff participating





# University of the Arts London Saint Martins College of Art

## 2 semester sciART course

October 2016 – June 2017

Official 2 semester course

Coordinated by art@CMS

In collaboration with the Imperial College London

22 applied arts students of the sciART classe & 2 university staff participating





# LifeLAB - Indian HEptour

## Sambhavana Science Festival

### Shri Ram School Gurgaon / India

10<sup>th</sup> December 2016

#### DATE

10<sup>th</sup> December, 2016

#### VENUE

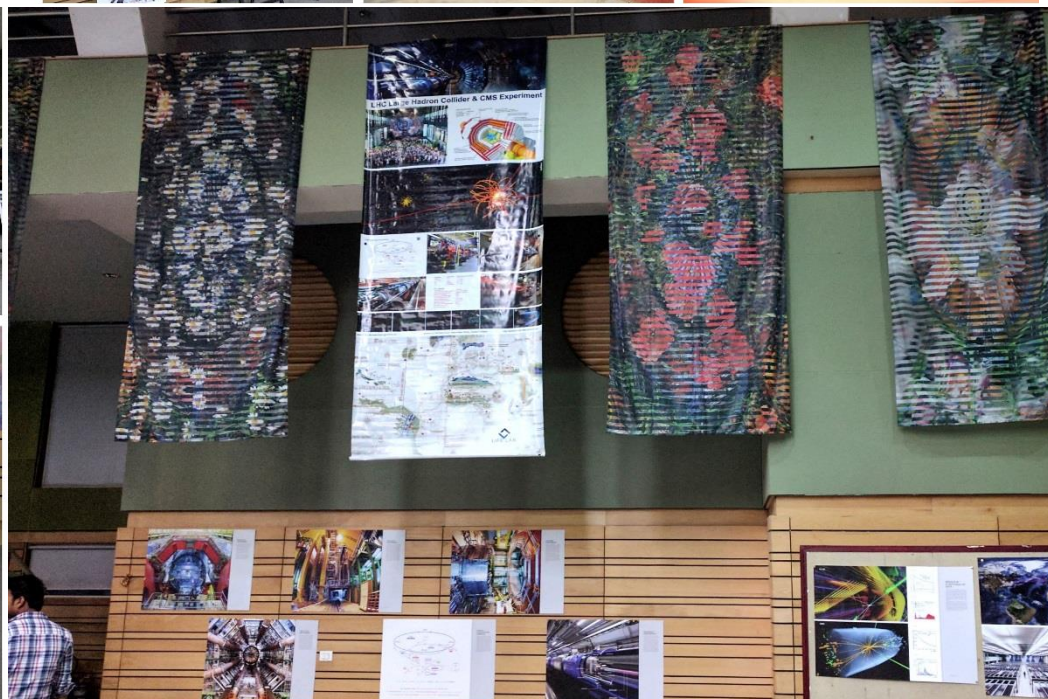
The Shri Ram School (Gurgaon)

#### PARTICIPANTS

Total number of walk ins: 5000+  
for the exhibition: 2000+  
for live talk and Virtual visit: 400+

#### HIGHLIGHTS

Virtual visit of CMS  
Live talk by Dr. Archana Sharma  
art@CMS exhibition  
Exhibition of CERN experiments



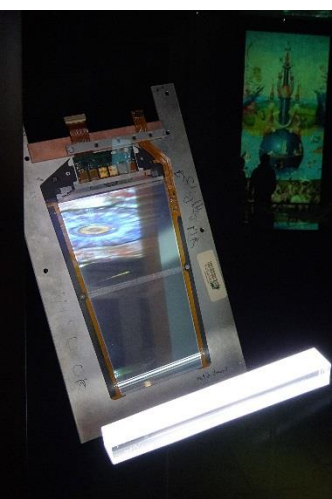
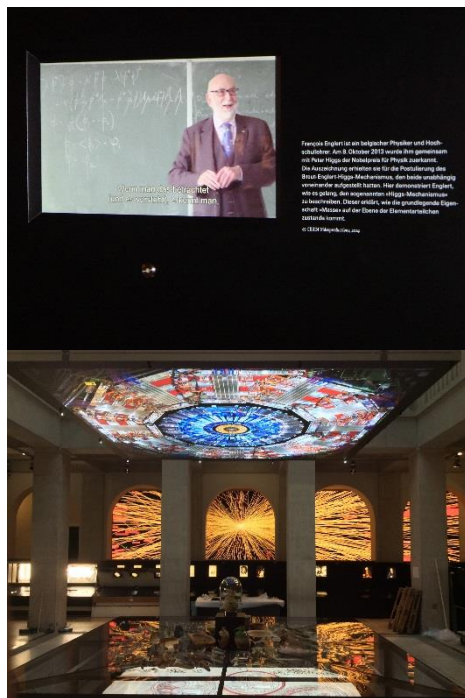


# Alchemie

## Die Suche nach dem Weltgeheimnis

Landesmuseum fuer Vorgeschichte / Halle (Saale)

24<sup>th</sup> October 2016 - June 2017





# Tbilisi Georgia

## Teacher Conference / Tbilisi Georgia

10<sup>th</sup> – 11<sup>th</sup> December 2016





# LifeLAB - Indian HEptour

## Nehru Planetarium, Mumbai

### 10<sup>th</sup> November 2016

**DATE**10<sup>th</sup> November 2016**NO. OF PARTICIPANTS**

250+

**VENUE**

Nehru Planetarium, Mumbai

**PARTICIPANTS**

Colleges, Schools, General public and NGOs

**HIGHLIGHTS**

Virtual Visit to CMS  
 Launch of Si-art booklet  
 art@CMS exhibition  
 Talk by Dr. Archana Sharma



*"What a fantastic event for teachers and students! My students and I learnt so much from the talk and I'm very excited to take the learnings back to my school. The art@CMS exhibition created a beautiful ambience and definitely piqued the curiosity of the students. I'm also very excited about the Sci Art booklets and am looking forward to introducing them to our Science Department"*

**Priti Suresh**  
 Head of Faculty-Science, Aditya Birla  
 World Academy



*"My classmates and I really enjoyed today's event! Right from the exhibition to the talk and the virtual visit, this was a very inspiring and informative experience for anybody who is curious about the world around them."*



# L'art et la science pour la société

Palais de la Musique & Congres, Strasbourg / France  
25<sup>th</sup> October – 2<sup>nd</sup> November 2016

Exposition Publique

## L'art et la science pour la société

25 October - 2 November, 14h - 19h,

Strasbourg, Palais de la musique et des congrès, Erasmis Gallery

Discoveries in nuclear and particle physics over the last century have changed our lives forever. From medical imaging and genetic engineering to space and the internet, the modern world has been fundamentally changed by physics. It is scientific and technological innovation, money primarily dependent on science and technology, in which fairly serious work, anything about science and technology.



As the part of the 2014-188 nuclear Science Symposium and Medical Imaging Conference, hosted by the University of Strasbourg, including several thousand scientists, engineers, artists, and the elements of physics and ask what is going on in this, how it relates to our social world, and how it affects us culturally and physically. And, in this context, how do the perspectives of physical scientists and artists from fields of art and visual communication who use physics-based technologies.

Panel discussion - October 30, 15:00

Images by: Chris Henschel & Michael Henschel

An exhibition about particle physics and future accelerator technologies for Strasbourg general public, IEEE2016 conference participants as well as international delegation of scientific and political opinion leaders like: Vice president of Strasbourg Eurometropole, former French Cultural minister, Deputy Major Strasbourg, President of UNI Strasbourg, House of Representatives Japan Advisor for Research with EU Commissioner, ESFRI Executive Member, Directors of NIKEF, DESY, INFN Bari, KEK and others.





# Natural History Museum

NHM Vienna, Vienna / Austria

18<sup>th</sup> October 2016 – August 2017

Exhibition at the NHM in collaboration with the HEPHY institute OeAW and the Institute of Astrophysics/University of Vienna. Duration October 2016 until August 2017, expected visitors 400 000. The exhibition 'Wie Alles Begann' was inaugurated October 18 2016 in the presence of Bundesminister Thomas Drozda, President of the Academy of Science, Anton Zeilinger, Director HEPHY, Jochen Schieck, Natural History Museum Director, Christian Koeberl, and honourable guests, Nobel Prize winners, Peter Higgs and George Smoot. CERN Director General, Fabiola Gianotti, sent a video message, and CERN EP Department Head, Manfred Krammer, and CMS Deputy Spokesperson, Guenther Dissertori





# SCCTWG - TeacherHouse

University Tbilisi / TPDC, Tbilisi, Georgia

3<sup>rd</sup> – 9<sup>th</sup> October 2016

art@CMS exhibition in the University of Tbilisi

Preparation for sciART workshops at the TeacherHouse for teacher and school students during 2016/ 2017





# LHC Day in Split

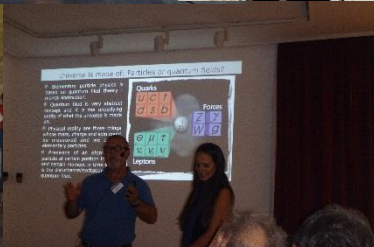
## Palazzo Milesi, Split Croatia

### 19<sup>th</sup> – 24<sup>th</sup> September 2016

CMS The Art of Science book presentation

Big public art banner presentation at the façade of Palazzo Milesi – Towards New Frontiers

art@CMS collaborative artist / scientist couple presentation : Alemka Divoje / Nikola Godinovic



**Towards New Frontiers**  
Installation on Palazzo Milesi  
by Michael Hoch

The installation shows a large-scale map of the LHC and the CMS detector, with the text 'Towards New Frontiers' and 'art@CMS'.

CMS - The Particle Detector - Our Story Towards New Frontiers  
The CMS detector is a large-scale map of the LHC and the CMS detector, with the text 'Towards New Frontiers' and 'art@CMS'.

CMS  
The CMS detector is a large-scale map of the LHC and the CMS detector, with the text 'Towards New Frontiers' and 'art@CMS'.

LHC  
The LHC is a large-scale map of the LHC and the CMS detector, with the text 'Towards New Frontiers' and 'art@CMS'.

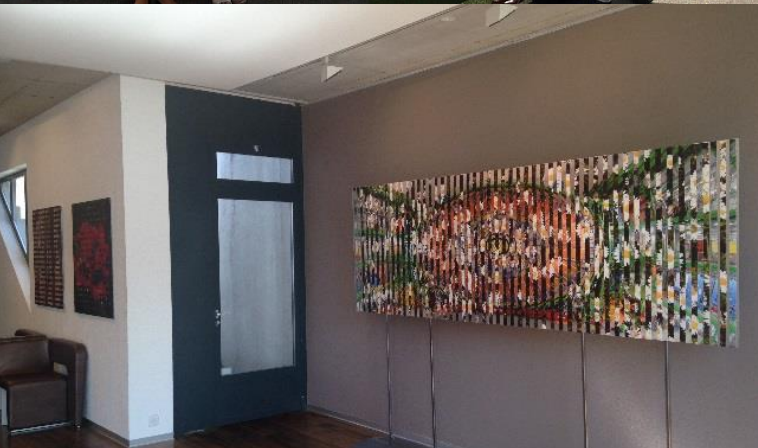
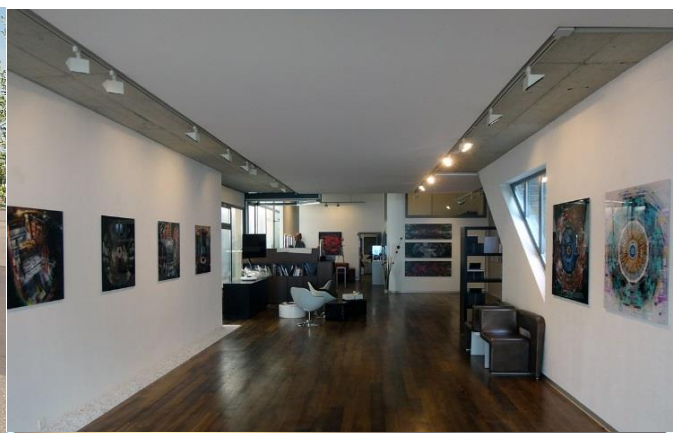
LHC days in Split  
LHC days in Split 2016 is a large-scale map of the LHC and the CMS detector, with the text 'Towards New Frontiers' and 'art@CMS'.



# IMAGE2016

Ferrari Art Gallery, Vevey, Switzerland

11<sup>th</sup> September – 3<sup>rd</sup> October 2016





by Joanne A. Calitri

Joanne is a professional international photographer and journalist.  
Contact her at: [JoanneA@A@CMS](mailto:JoanneA@A@CMS)

## Art Meets Science: Kathy Kissik

What happens when one visits a photography exhibit of the *Large Hadron Collider (LHC)* and serendipitously meets the physicist who created it, launching a collaboration of art and science? American born artist **Kathy Kissik** has done just that, and is visiting our town by way of the Morris B. Squire Foundation Artist in Residence program to talk about her work with scientist and photographer **Michael Hoch**, PhD, and present her latest works in a show titled **IMPACT** at Santa Barbara Center for Art, Science, and Technology (SBCAST) from Thursday, September 1, through October 1.

Kissik met Hoch in May 2015 at the Art Center of South Florida [ACSF], he was there exhibiting his images of the LHC and talking about his CMS Experiment project. She missed the presentation, but stopped by the following day to view his show. The gallery was closed, though she was allowed entrance since she had been a resident artist and board member there for many years. When she went into the gallery, Hoch happened to be there.

Kathy said, "I mentioned to him that the first thing I was struck by was the mandala appearance of the particle collider that figured so predominantly in many of the works, and the coloring of the collider was in the tradition of the Tibetan mandalas." Hoch was impressed. The fortuitous meeting led Kissik to be invited to tour and photograph at the CERN in August 2015. They then received a Paul Fleck Fellowship at the Banff Center to use Hoch's original images of the collider and create limited edition of silk-screens. The "imperfect" silk-screens from the project were reproduced into mixed-media collages by Kissik titled *mandalas* and *antimandala*.

Hoch, a physicist at CERN since 1998, worked in the development and the launch of a camera the size of a four-story building that detects particle tracks with accuracy equivalent to a fraction of the width of a human hair. Photographing the LHC spawned his interest to be founder of the "art@CMS" program and was available to interview for this report via email:

**Q. Michael, tell us about working with Kathy at the Banff Center.**

**Hoch:** My photograph of the CMS detector at CERN in Geneva is an

ultra-high resolution collage out of 220 single photos taken during the construction phase in 2008, which became an icon for particle physics. Since I wanted to experiment using this image with different techniques, getting in dialogue with Kissik, an artist who amazingly feels intuitively that structures and symmetries, was a bonanza. Our Fleck Fellowship at the Banff Center was very inspiring and creative. We profited from Banff Center's interdisciplinary spirit and well-equipped infrastructure. We experimented with the silk-screen technique using the image of this beautiful science instrument to create a pop art figure and link it to spiritual and cultural symbols.

**And your art@CMS referral of Ms Kissik to UCSB physicists Joe Incandela and Jeffrey D. Richman?**

**Hoch:** "The art@CMS program promotes dialogue between science and art by bringing artists and scientists into direct contact. The aim is to connect the artists with local scientists to create a personal link and allow a deep dialogue between both. The CMS collaboration is a worldwide operating structure active in 45 countries and almost 200 universities. During Kathy's residency in SB, she has the chance to be at one of our leading U.S. science institutes within the CMS collaboration, and as such gets in contact with top physicists of our community. Joe Incandela, former CMS spokesperson who announced the discovery of the Higgs Boson 2012, and Jeffrey D. Richman are top scientists and opinion leaders in our field, supervising local teams of young scientists with whom Kathy will get in dialogue as well."

When Kissik arrived in SB, **Ashley Woods Hollister**, executive director of the Morris Squire Foundation, and her staff hosted a private welcome luncheon for her, with guests Sarah York Rubin, executive director SB County Arts Commission, and curator-artist **Nancy Gifford**. I was invited to stop by, take a photo, and interview the group:

**Ashley, tell us about the Squire Foundation's interest in Ms Kissik as an artist in residence, and what outcomes you are both looking forward to?**

**Ashley:** Kathy represents to me and to the Squire Foundation a unique opportunity to bridge sci-

tion to the SBA arts community, especially her exploration of architecture, its physical, historical, and cultural implications."

**Kathy, you are connecting with the UCSB Physics Department that works with CERN...**

**Kathy:** UCSB Department of Physics professors **Joe Incandela** and **Jeffrey D. Richman** both currently work on the CMS experiment in Geneva. We will be in dialogue about what they are currently working on... bouncing ideas and hopefully generating inspiration for future artwork. To facilitate our work, Jeff has offered me a shared desk at UCSB with a post-doctoral student, **Indira Suarez**.

**At this time in your career, where do you want to go in your art?**

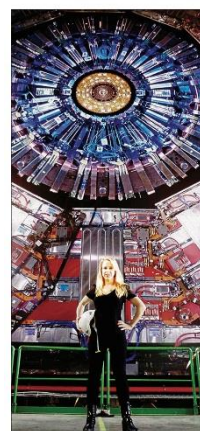
**Kathy:** My art practice is moving in the direction I was hoping, which is to engage with the education and science communities. I would like to teach a workshop at the university level. I have been offered a semester teaching in Bordeaux, France. I am also feeling a move coming up in my living arrangements and have been considering Santa Barbara, London, or Spain.

**And your speaking engagements in Santa Barbara...**

**Kathy:** It's been busy but most welcome to be out in the community and talking about art with various groups and the Morris Squire Foundation sponsors. Two upcoming engagements are: "Bridging Art and Science" on Wednesday, August 31, from 6:30 to 7:30 pm at Allan Hancock College Forum Building C; and "The Artist's Place in Society" on Thursday, September 8, from 4:30 to 5:30 pm at Santa Barbara City College Physical Science Building room 101.

**I trained primarily as a photographer with a minor in welding. Kissik creates mixed-media photo based paintings. She is a graduate of The Museum School Boston and Tufts University, where she was a fifth-year Traveling Scholar recipient. Kissik was awarded two Pollock-Krasner grants and three Paul Fleck Fellowships to attend residencies at the renowned Banff Center. Exhibiting in the U.S., Canada, and Europe, she is exclusively shown through the Alpha Gallery, Boston, Elaine Fleck Gallery, Toronto, The Lawrence Gallery, East Hampton, and The Robert Fontaine Gallery, Miami, with her works in both private and public collections.**

**411: IMPACT exhibition at the G-Space SBCAST 513 Garden Street Santa Barbara**  
Meet the artist reception Thursday, September 1, 5 to 9 pm.  
[art@CMS](mailto:art@CMS); [artcms.web.cern.ch](http://artcms.web.cern.ch)  
[CMS.cms.web.cern.ch](http://CMS.cms.web.cern.ch)



American artist Kathy Kissik at the Large Hadron Collider (LHC) at CERN during her visit there in 2015 to photograph the LHC and collaborate with physicist Michael Hoch (photograph courtesy of Kathy Kissik; digital corrections Joanne A. Calitri)

eral aspects of our wonderful culture here in Santa Barbara - art, science, technology, education, and global awareness. Mr. Squire was always interested in the intersection between science, technology, and art, and what can happen when these collide (pun intended). I would like to think that Kathy's Residency is an extension of that interest, an interest that has proven to be very prescient given current art trends. The Squire Foundation, through its residency partnerships and community support, has been a harbinger in the emergence of the importance of pushing art forward into new territories. Kathy is the current expression of that push, especially given her partnership, during the residency, with the Physics Department at UCSB. I see her work here as a kind of artistic debriefing from her time at CERN and her subsequent Banff Residency, reflecting on our modern times through the lens of the largest machine ever made by human beings and made for the specific purpose of figuring out everything about our universe and where we came from. I can tell you that she has some incredibly exciting things in the works!

**Ms. Rubin added:** "The Squire Foundation occupies an absolutely essential and unique space in Santa Barbara County, acting as a resource and advocate not only for artists and creators of all ilk, but for arts education. Kathy Kissik is a fantastic addition to the SBA arts community, especially her exploration of architecture, its physical, historical, and cultural implications."

# Impact

## SBCAST, Santa Barbara / US

### 2<sup>nd</sup> September – 3<sup>rd</sup> October 2016

For Release

From: Nancy Gifford, G-Space at SBCAST

Artist: Kathy Kissik - IMPACT

Artist Reception: September 1, 2016 Show ends October 1



Kathy Kissik's exhibition, **IMPACT**, at the Gifford Art Space at SBCAST is sure to do that... make an Impact. Kathy is one of only a few select photographers to enter inside the Large Hadron Collider at CERN where physicists from around the world are discovering the origins of the universe through high speed particle collision experiments. She is now in conversations with Michael Hoch from CERN within the art@CMS program and two UCSB physicists, **Joe Incandela** and **Jeffrey Richman** about the overlap of science and art. Kathy is studying the relationship of the structure of the collider to ancient Tibetan Mandala patterns and uncovering delightful mysteries along the way.

Kathy is a graduate of The Museum School Boston and Tufts University. She has received two Pollock-Krasner grants and three Paul Fleck Fellowships to attend residencies at the renowned Banff Centre. That is where she and Michael Hoch were able to deepen their collaboration and create the stunning silk-screen prints and mixed media collages that she will be presenting at G-Space in September. Kathy is attending a 6 week residency at the Squire Foundation in Santa Barbara and giving lectures.

Please contact Nancy Gifford for more information or to schedule an interview with Kathy.

ge 32)



Thaniel Lee, artist of mixed media; Kathy Kissik, silk screen and mixed media artist; Dan Hamper, artist of oil paintings; Lindsey Ross, photographer; and R. Nelson Parrish, color theorist artist (photo by Priscilla)



Curators Lynn Holley, Maiza Hixon, and Nancy Gifford, curator and sponsor (photo by Priscilla)

"G" Whiz

Arts Fund curator **Nancy Gifford** has now set up her own gallery, the G-Space in the Santa Barbara Center for Arts, Science and Technology on Garden Street, with her latest exhibition, **Impact**, showcasing the colorful work of photographer **Kathy Kissik**, one of the few shutterbugs to be given access to the Large Hadron Collider at the European Organization for Nuclear Research in Switzerland, collaborating with physicist **Michael Hoch**.

Kissik, a graduate of The Museum School in Boston and Tufts University, who is attending a six-week residency at the Squire Foundation in Santa Barbara, has also worked with two local physicists **Joe Incandela** and **Jeffrey Richman**, about the overlap of science and art, particularly studying the relationship of the structure of the collider to ancient Tibetan mandala patterns, uncovering delightful mysteries on the way.

Montecito-based Nancy, who is also a supporter of the SB Museum of Contemporary Art, says her new space enables her to do more one-man shows, giving valuable exhibition wall space to local artists.

Checking out the colorful show were **Julian Nott**, **Lars and Ellen Bildsten**, **Greg Huber**, **Julie Joyce**, **Allison Armour**, **Gwen Stauffer**, and **Mark Taylor**, **Bruce McFadden**, **Robyn Geddes**, **Robert Adams**, **Andy and Penelope Gottlieb**, **Cassandra Blackmore**, and **Ashley Hollister**.

Sightings: Microsoft magnate **Bill Gates** noshing at Los Arroyos on Coast Village Road... Portland Trailblazer basketball ace **Evan Turner** at CSRV sneaker store on State Street... Actor **McCarrie McCausland** at SB Polo Club

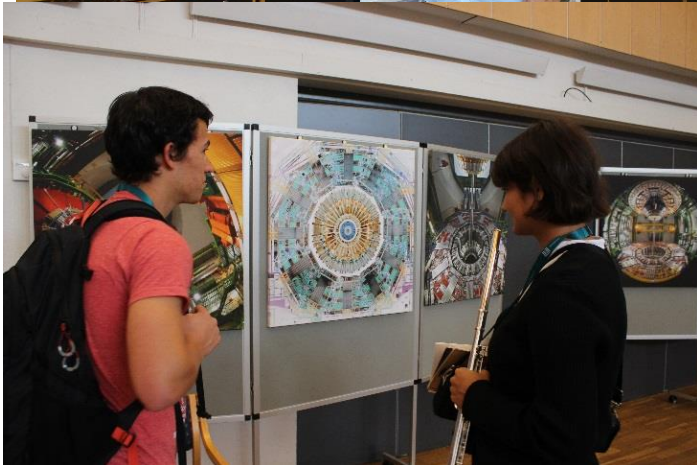
Pip! Pip!



# Global Hands On Universe

HSH, Stord / Norway

22<sup>nd</sup> – 30<sup>th</sup> August 2016



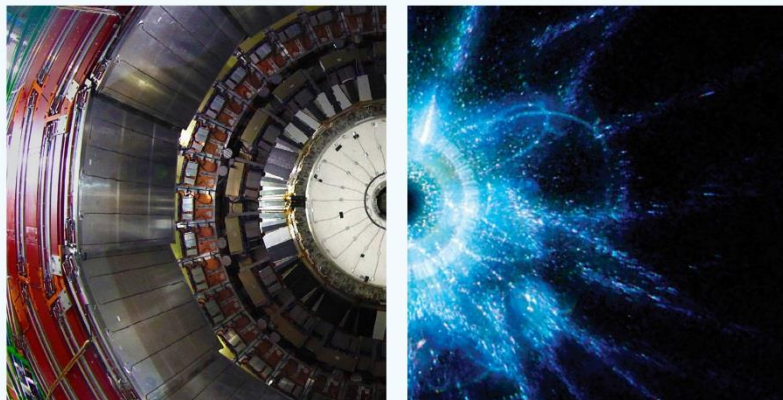


# Symmetries

SUSY Conference, Univ. Melbourne / Australia  
3<sup>rd</sup> – 6<sup>th</sup> July 2016

## Symmetries

*Physics - inspired artworks from the art@CMS collaboration*



3-6 July 2016, Sidney Myer Asia Centre / University of Melbourne



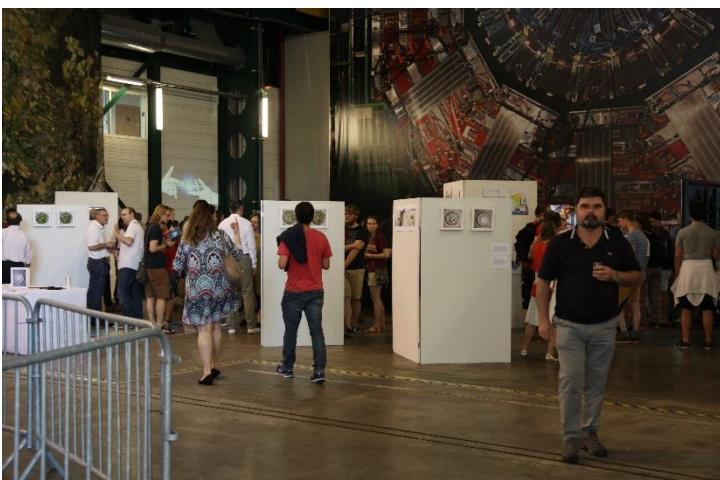
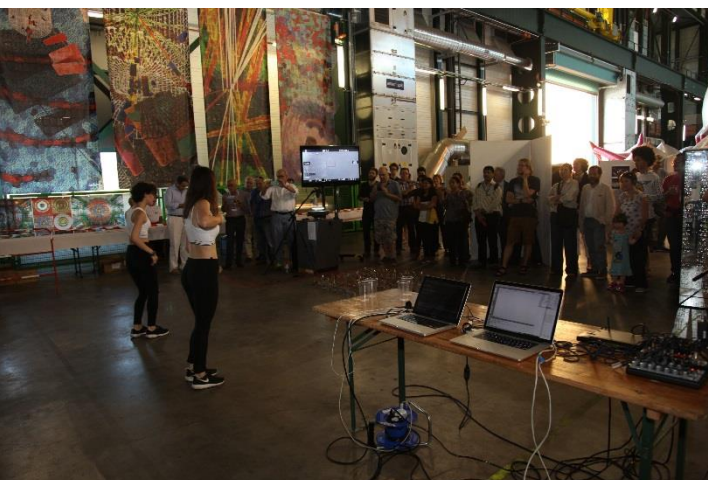
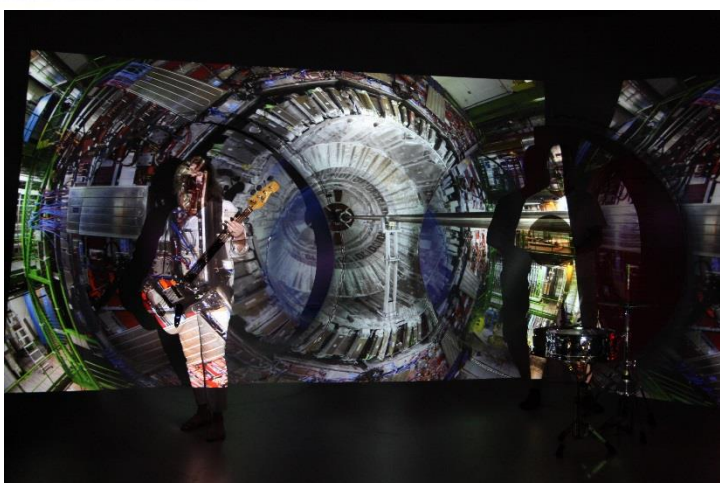
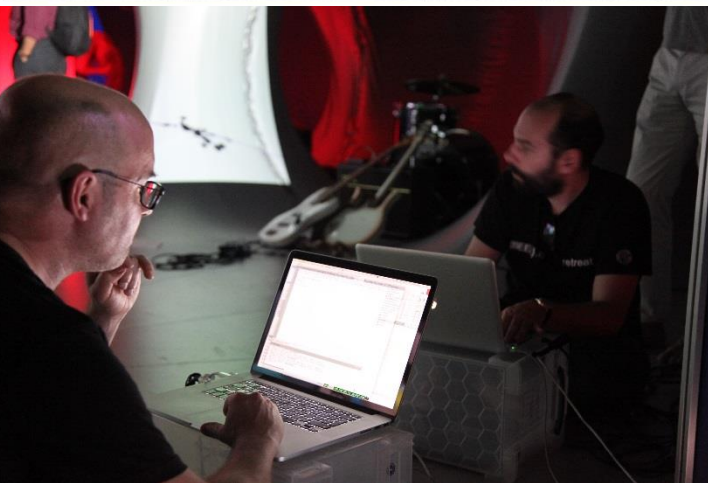


# art@CMS Vernissage

CERN - CMS Site, Cessy / France  
22<sup>nd</sup> June – 30<sup>th</sup> July 2016



**Art@CMS & Architects of Air**





# Physics Coniclave #1

## Shri Ram School, New Delhi / India

### 6<sup>th</sup> May 2016

Participants : 25 Schools, 5 Colleges, 3NGOs, 30 Teacher ~ 400 students



Students pose with the art@CMS banner outside the main entrance

*"I was thoroughly impressed by the activities planned for the day. Learning about new research being done at world-class facilities through such innovative and engaging methods is truly inspiring."*

**Pratibha Jolly, Research Scientist & Principal,  
Miranda House College**

*"I sincerely believe that the Physics Conclave will generate a conducive atmosphere to help our young students and teachers channel their innovative energies in the right direction."*

**Patrick Das Gupta, Professor of Theoretical  
Physics, University of Delhi**



Panel discussion by senior scientists and Physics professors



art@CMS banners on the main stage



# Arte & Scienza

Castello Giusso, Vico Equense / Italy

1<sup>st</sup> – 6<sup>th</sup> May 2016





# CMS The Art of Science

N, Preveessin Site, Bld. 774, Preveessin / France

26<sup>th</sup> April – 31<sup>st</sup> July 2016

*"CMS- The Art of Science" Book presentation & Exhibition*





# Shifting Territories

Triangle Space – Chelsea College of Arts, London / UK  
14<sup>th</sup> – 17<sup>th</sup> May 2015



Collaboration with the UAL – Chelsea College of Arts  
Time scale : Oct 2015 – April 2016  
Final exhibition : "Shifting Territories" April 14<sup>th</sup> – 21<sup>st</sup>





# Athens Science Festival

Technopolis Athens / Greece

April 4<sup>th</sup> – 10<sup>th</sup> 2016

Dates: April 5<sup>th</sup> till 10<sup>th</sup> 2016

<http://www.athens-science-festival.gr/en>

Second year art@CMS participation

Number of visitors 31 000 total / 7300 school students

\* The Gift of Mass: An interactive multimedia installation April 5<sup>th</sup> – 10<sup>th</sup>

<http://www.athens-science-festival.gr/en/exhibitions/to-doro-tis-mazas/>

\* "CERN: "Accelerator" of life?" April 6<sup>th</sup>

<http://www.athens-science-festival.gr/en/event/cern-epitachyntis-zois/>

\* 10<sup>-22</sup> sec: An interactive dance performance April 8<sup>th</sup> – 10<sup>th</sup> (6 shows in total)

<http://www.athens-science-festival.gr/en/event/10-22-sec-mia-diadastiki-chorografiki-performance/>

\* CREATIONS "Learning Science through Arts" workshop

<http://www.athens-science-festival.gr/en/event/mathenontas-tin-epistimi-mesa-apo-tis-techne/>

\* John Ellis closing keynote April 10<sup>th</sup>

<http://www.athens-science-festival.gr/en/event/ti-imaste-apo-pou-proerchomaste-pou-pame/>





# CMS The Art of Science BOOK / Press

Dates : presentation April 3<sup>rd</sup>

Available at the CERN library / viewing CMS secretariat

Further information:

SPIEGEL online: <http://www.spiegel.de/fotostrecke/the-art-of-science-fotos-fotostrecke-135522.html>

GOSSEE creative news services German & English : <http://www.gosee.de/news/shop/-the-art-of-science-der-physiker-als-kuenstler-michael-hoch-fotografiert-einzigartige-wunderkammer-der-wissenschaft-cms-bildband-in-der-edition-lammerhuber-und-ausstellung-in-genf-33508/cat>

WhiteWall Magazin: <http://magazin.whitewall.com/cern-zwischen-wissenschaft-und-kunst-im-interview-michael-hoch/>

PROFIFoto.de: <http://www.profoto.de/szene/buecher/2016/03/22/cms-the-art-of-science/>

CERN Bulletin: <http://cds.cern.ch/record/2134683?ln=en>

CMS web page: <http://cms.web.cern.ch/news/move-over-mr-einstein-scientific-experiment-ignites-creativity-and-dialogue>

Magazin ESCAPADA.CH [http://www.escapada.ch/agenda/Exposition-CMS-L-art-de-la-Science-du-physicien-Michael-Hoch\\_ae386096.html](http://www.escapada.ch/agenda/Exposition-CMS-L-art-de-la-Science-du-physicien-Michael-Hoch_ae386096.html)

## SPIEGEL ONLINE FOTOSTRECKE

Nachrichten > Fotostrecken > The Art of Science (Fotos)

Compact Muon Solenoid Experiment: Nobelschuppen

20.03.2016

◀ Zur Homepage

◀ 1 von 13 ▶

Alle Fotostrecken ▶



# Natur und Wissenschaft

FRANKFURTER ALLGEMEINE ZEITUNG

NR. 74 · SEITE 1  
MITTWOCH, 30. MÄRZ 2016

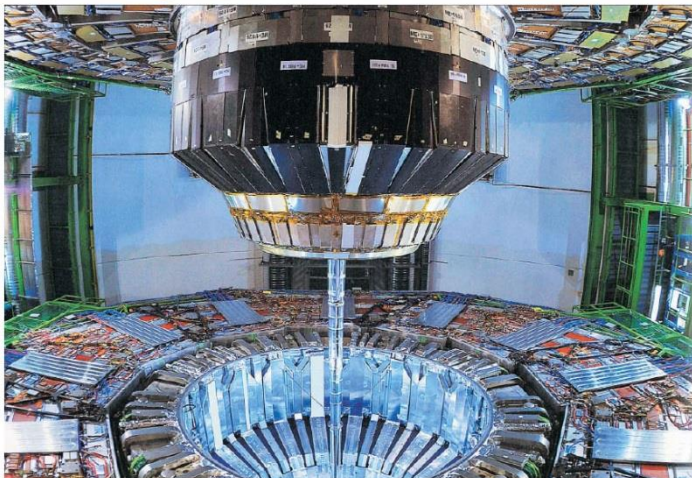
## Die Sonne lässt es heftig krachen

Asteroiden verglühn früher und funkeln am Himmel

Die im Sonnensystem vagabundierenden Asteroiden, die von Zeit zu Zeit die Erdbahn kreuzen, ereilt alle das gleiche Schicksal: Irgendwann stürzen sie in die Sonne. Das war zumindest die jahrzehntlang vorherrschende Meinung der Astronomen. Eine Studie einer internationalen Forschergruppe kommt nun zu einem ganz anderen Ergebnis: Danach endet das Dasein der meisten dieser irdischen Asteroiden bereits in einer viel größeren Entfernung von unserem Zentralgestirn als gedacht.

Das Ergebnis ist eine Zufallsentdeckung. Eigentlich wollten die Astronomen um Mikael Granvik von der Universität Helsinki ein neues, auf aktuellen Beobachtungen basierendes Modell zur Abschätzung der Häufigkeiten von Asteroiden unterschiedlicher Größe entwickeln, die sich im erdnahen Bereich des Sonnensystems aufhalten. Anhand solcher Modelle lassen sich Risiken einer Kollision bei zukünftigen Raumsonden-Missionen, aber auch Wahrscheinlichkeiten eines Zusammenpralls mit der Erde besser ableiten.

## Gigantisch groß oder schön klein: Moderne Labore als Kunstwerke



Der „Compact Muon Solenoid“, kurz CMS, ist das Sinnbild von „Big Science“ schlechthin. Der Apparat am „Cern“ in Genf ist fünf Stockwerke hoch, 25 Meter lang und reich bestückt mit Sensoren und unzähligen Kilometern von Kabeln. Großforschung ist heute en vogue, auch in den Lebenswissenschaften. Es geht um viel Geld und großen, wenn auch geteilten Ruhm. Drohen dahinter kleine Projekte in kleinen Laboren zu verschwinden? Keineswegs, wie die Bilder des deutsch-englischen Kunstfotografen Daniel Sier zeigen, von denen einige die zweite Seite unserer heutigen Bellschmücken. Der CMS in Genf verfolgt das Ziel, die Myriaden von subatomaren Bruchstücken präzise zu vermessen, die bei der Kollision von Protonen in seinem Inneren entstehen, und ihnen Informationen über die Bausteine der Materie zu entlocken. 2012 hat man Wissenschaftsgeschichte geschrieben, als man mit dem CMS das Higgs-Boson nachwies, das allen bekannten Elementarteilchen Masse verleiht. Der unterirdische Koloss, der rund 12 500 Tonnen auf die Waage bringt, wirkt wie aus einer anderen Welt. Besucher erinnert die Maschine an ein Raumschiff, einen überdimensionalen Schrein, mancher glaubt gar ein technisches Kunstwerk vor sich zu haben.

## Unberechenbar

Der Autopilot soll ja unser ständiger Begleiter durchs Leben werden. Nach dem Auto sind die Ärzte dran. Das kann nur gut sein. Denn wenn die Ärzte morgen ticken wie das Google-Auto, können wir uns bald gemütlich im Sprechzimmer zurücklehnen und Dr. Watson zuzucken, wie er uns einen Weg durch die therapeutischen Labyrintheweist und das Lebensglück zurückbringt. Was dann kommt, hat uns Craig Venter Ende vergangener Woche in einer Telekonferenz mitgeteilt. Der Autopilot wird der Menschheit alle anderen biogenen Wünsche auch noch erfüllen. Der Autopilot wird uns zum besseren Menschen machen. Vor allem müssen wir uns um Engpässe in der Energieversorgung künftig keine Sorgen mehr machen. Biosprint lässt sich in Mikroben digital programmieren, so wie sich die molekulare Software des Menschen künftig maßschneidern lässt. Ansatzweise hat Venter das in den vergangenen Jahren schon durchgespielt. Sein jüngstes Produkt ist ein Minimalgenom mit dem molekularen Design eines E-Fahrads. Motto: Hauptsache, es fährt. Zwei Räder und ein schmaler Antrieb, weniger geht kaum. 473 Gene hat der Bauplan der Mikrobe, Mycoplasma laboratorium, Version „Synthia3.0“. Allerdings sind das doppelt so viele Gene, wie man zu benötigen hoffte. Venter und seine Leute hatten alles genetische



# CMS The Art of Science

Cite du Temps, Geneva/ Switzerland

28<sup>th</sup> February – 10<sup>th</sup> April 2016



Dates : **February 28<sup>th</sup> – April 10<sup>th</sup> 2016**

Activities: exhibition, presentation, lectures to public and school groups, book presentation, guided tours

Further information:

[http://mhoch.web.cern.ch/mhoch/Art@CMS/CMS\\_TheArtofScienceGeneva2016.pdf](http://mhoch.web.cern.ch/mhoch/Art@CMS/CMS_TheArtofScienceGeneva2016.pdf)



# ECOLINT LGB Geneva sciART workshop final exhibition + TOK session

Collaboration with the ECOLINT Geneva LGB Campus Time scale : Oct 2015 – Feb 2016

Final exhibition : March 15<sup>th</sup> – 31<sup>st</sup>

TOK question & Answer session with John Ellis, Patrizia Azzi, Michael Hoch, Angelos Alexoploulos, Mick Storr, Stephen Preece



centre des arts  
Ecole Internationale de Genève

INVITATION

Exposition

## IB VISUAL ART EXHIBITION 2016

Louise Boulet-Alips  
Arvid Norquist  
Aurélia Veuillet  
Clélia Anchisi  
Isabelle Chaligne  
Jiayi Zhang  
Laura Sublet  
Layth Hert  
Lily McNally  
Lucia Davies-Milner  
Matthieu Mouthon  
Selin Karahan  
Sergey Abramov

**15 MARS 2016 DÈS 16H30**

Vernissage – Campus de la Grande Boissière

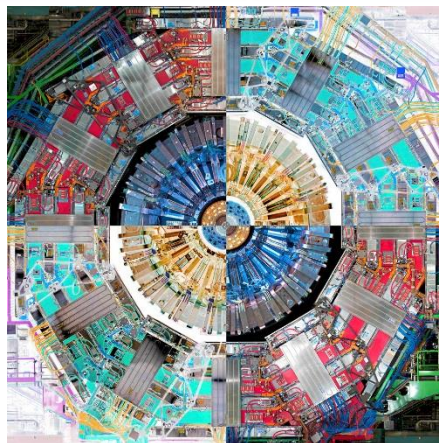
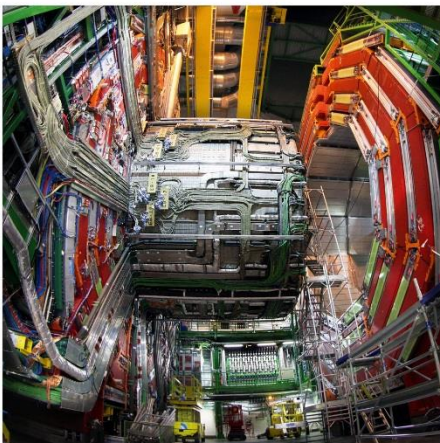
Centre des arts  
Ecole Internationale de Genève  
62, route de Chêne  
1208 Genève  
Tél: 022 712 25 61  
www.centre-des-arts.ch





# JINR student inspiration

Library JINR, Dubna / Russia - March 24<sup>th</sup> - October 2016





# Yuki / JohnEllis

La Ferme de la Chapelle, Geneva / Switzerland

February 27<sup>th</sup> – March 24<sup>th</sup> 2016





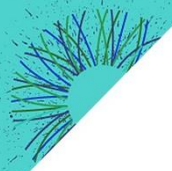
# Dialoge Scienza & Arte

Etorre Fico Museum EFM, Turin / Italy

5<sup>th</sup> – 21<sup>st</sup> January 2016







# Mediterranean Science Festival

Cyprus

2<sup>nd</sup> – 5<sup>th</sup> December 2015





# EU project KickOff meeting

University of Bayreuth / Germany

12<sup>th</sup> – 14<sup>th</sup> October 2015



Uni of Bayreuth GER  
CERN - CMS  
Uni of EXETER UK  
NKUA Gr  
EA Gr

HSH Norway  
STFC UK

## Creations

kick Off Meeting  
12th - 14th October 2015

UoH Finland  
HSRW GER  
Uni of Birmingham UK  
UoM Malta

CPN Serbia  
TBVT Spain  
KTH Sweden  
EPS FR



# l'Origine

## Centre Culturel Jean Monnet

### Saint Genis Puilly/ France

### September 19<sup>th</sup> – 30<sup>th</sup> 2015





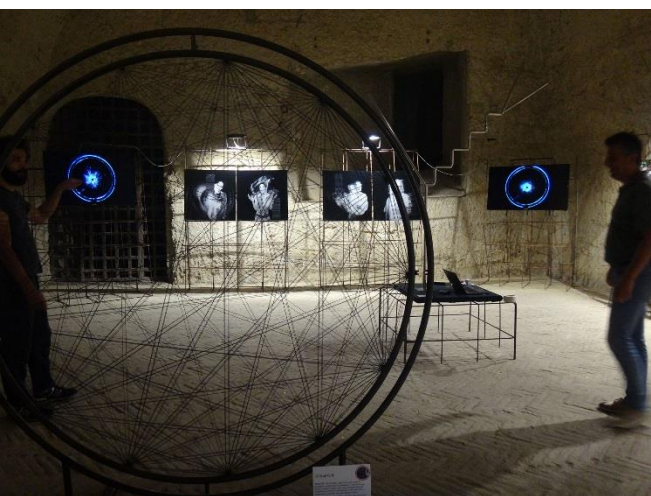
# Arte & Scienza, Castel dell'Ovo

Naples / Italy

September 15<sup>th</sup> – 20<sup>th</sup> 2015



Arte@Scienza  
Napoli, Italy - Castel Dell'Ovo  
15-20 Settembre 2015



## 4. Media Coverage

art@CMS in Naples

la Repubblica **NAPOLI.it**

**Arte & Scienza. La mostra al castel dell'Ovo sulle meraviglie del Cern**

**Le Scienze**  
EDIZIONE ITALIANA DI SCIENTIFIC AMERICAN

**CORRIERE DELLA SERA**

SCIENZE E TECNOLOGIE

**30 opere raccontano il bosone di Higgs**

La fisica delle particelle diventa arte a Napoli

◀ Precedente Foto 1 di 8 Successiva



**ANSA**  
**Scienza&Tecnica**  
NEWS DOSSIER GALLERIA FOTOGRAFICA VIDEO (e-gas)

Spazio & Astronomia | Biotech | Tecnologie | Fisica & Matematica | Energia | Terra & Poli | Ricerca e let

ANSA > Scienza&Tecnica > Ricerca nel Sud > Da sculture a dipinti, 30 opere raccontano il bosone di Higgs

**Da sculture a dipinti, 30 opere raccontano il bosone di Higgs**





# LHCP2015

St. Petersburg/ Russia

August 30<sup>th</sup> - September 5<sup>th</sup>

Новый художественно-технический взгляд на мегасайенс проект – детектор CMS – представили в СПбГУ

3 Сентября 2015 Наука и инновации 302

2-го сентября Санкт-Петербургский политехнический университет Петра Великого принимал в своих стенах участников III Международной конференции «Физика Большого адронного коллайдера» (LHCP2015). В рамках данной научной конференции в Выставочном зале СПбПУ состоялось открытие выставки, посвященной детектору CMS. Компактный мюонный соленоид (CMS, от англ. Compact Muon Solenoid) — один из двух больших универсальных детекторов элементарных частиц проекта класса мегасайенс – Большого адронного коллайдера – Европейской организации ядерных исследований (ЦЕРН, CERN) в городе Женева (Швейцария).



Для некоторых участников конгресса Политехнический университет является альма-матер. Алексей Алексеевич Воробьев, член-корреспондент РАН, руководитель Отделения физики высоких энергий Петербургского института ядерной физики имени Б.П.Константинова, в 1955 году окончил физико-механический факультет тогда ещё Ленинградского политехнического института. «Политех – это мой родной дом, где я провёл лучшие годы своей жизни и встретил много друзей. Университет продолжает вдохновлять нас своими талантливыми выпускниками, поскольку те, кто хотят заниматься экспериментальной деятельностью, приходят в институт ядерной физики именно из Политехнического», – отмечает А.А.Воробьев.

Многие другие участники конференции также отмечали роль Политехнического университета в формировании научных кадров страны. Виктор Анатольевич Матвеев, академик РАН, директор Объединённого института ядерных исследований, поделился мнением: «Политехнический университет Петра Великого – это то заведение, которое дало мощный толчок развитию фундаментальных и прикладных, физических и инженерных наук, оставив след в мировой науке в целом. Пройдя по знаменитому коридору главного учебного корпуса университета, я увидел, насколько велик вклад политехников в научно-технический прогресс нашей страны».



В Выставочном зале университета участники конференции ознакомились с выставкой, посвящённой детектору элементарных частиц CMS на Большом адронном коллайдере. Экспозиция состоит из двух частей, первая из которых представляет техническую сторону проекта CMS: на 16 красочных фотографиях гости увидели детали детектирующих систем с различных ракурсов и в различных проекциях. Вторая часть выставки показывает художественный взгляд на те же детекторные системы. Автором 18 представленных на холсте работ является Майкл Хок, который несколько лет сам работал в коллаборации CMS. Конструкция данного детектора, высотой с 6-этажный дом, делает 40 миллионов снимков столкновения частиц в секунду. Вдохновлённый мощью CMS, Майкл Хок представил его художественное видение с философским подтекстом. В его работах преломлённая на множество цветовых секторов геометрия CMS является символом анти-материи, а использование изображений растений говорит о том, что научная чёткость детектора позволяет раскрыть секреты природы. Выставка продлится до 6-го сентября.



Одним из главных организаторов конференции со стороны Политехнического университета Петра Великого является Ярослав Александрович Бердников, профессор, заведующий кафедрой «Экспериментальная ядерная физика». «Участие университета в конференции даст Политеху больше возможностей для включения в работу коллабораций не только в ЦЕРНе, но и в Дармштадте, где учёные Политехнического также занимаются теоретическими и практическими исследованиями. Проведение данного мероприятия в Политехническом университете послужит стимулом для привлечения талантливых студентов и аспирантов к работе на коллайдере, а также приведёт к модернизации и улучшению учебного процесса», – комментирует Ярослав Александрович.



# EPS Conference

University of Vienna, Vienna / Austria

22<sup>nd</sup> – 29<sup>th</sup> July 2015

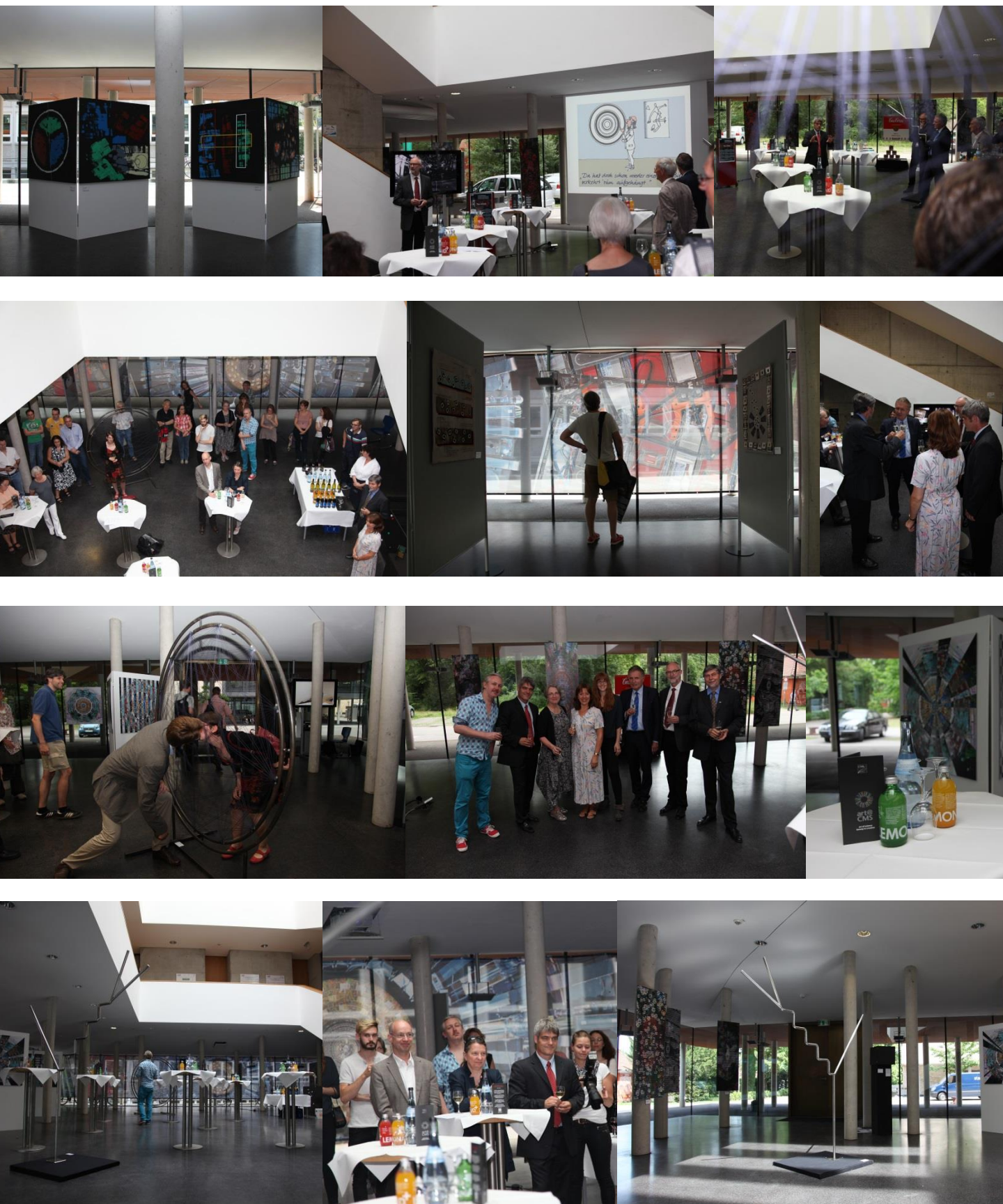




# 300 Years Karlsruhe- art@CMS

KIT - Karlsruhe/ Germany

26<sup>th</sup> June – 12<sup>th</sup> July 2015





S&A@S

# Art@CMS P5

CERN P5, Cessy / France

24<sup>th</sup> June – 17<sup>th</sup> July 2015

A@CMS



art@  
CMS





# Social Change Through Art-

Impact Club Geneva

16<sup>th</sup> June 2015





# Thessaloniki Science Festival

Sports & Culture Facility "WE" / Gr

14<sup>th</sup> – 17<sup>th</sup> May 2015

Gr En



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SCIENCE  
(f)ESTIVAL

"WE" Πολύχωρος Πολιτισμού & Αθλητισμού

"ΔΕΘ-Helexpo" Περίπτερο 8

14-17 ΜΑΪΟΥ 2015

Ανακαλύψτε την Επιστήμη  
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ΕΠΙΚΟΙΝΩΝΙΑ



Τι κοινό μπορεί να έχει ένας επιστήμονας του CERN με έναν καλλιτέχνη;

ΑΓΓΕΛΟΣ ΑΛΕΞΟΠΟΥΛΟΣ & ΧΡΙΣΤΙΑΝΑ ΚΑΖΑΚΟΥ\*



THESSALONIKI SCIENCE FESTIVAL

ΚΑΤΕΒΑΣΤΕ ΤΟ ΠΡΟΓΡΑΜΜΑ 2015 ΣΕ PDF

ΠΡΟΓΡΑΜΜΑ ROBOTICLAB ZONE

ΠΡΟΓΡΑΜΜΑ ΕΡΕΥΝΗΤΙΚΟΥ ΚΕΝΤΡΟΥ "ΑΘΗΝΑ"

ΕΛΑΤΕ ΣΤΗΝ ΔΙΑΔΡΑΣΤΙΚΗ ΕΚΘΕΣΗ

ΔΕΙΤΕ ΤΗΝ ΕΚΘΕΣΗ ΤΕΧΝΗΣ

ATHENS SCIENCE FESTIVAL 2015



μασκέ το ένα πεδίο στο άλλο και πώς αυτός ο διεπιστημονικός διάλογος

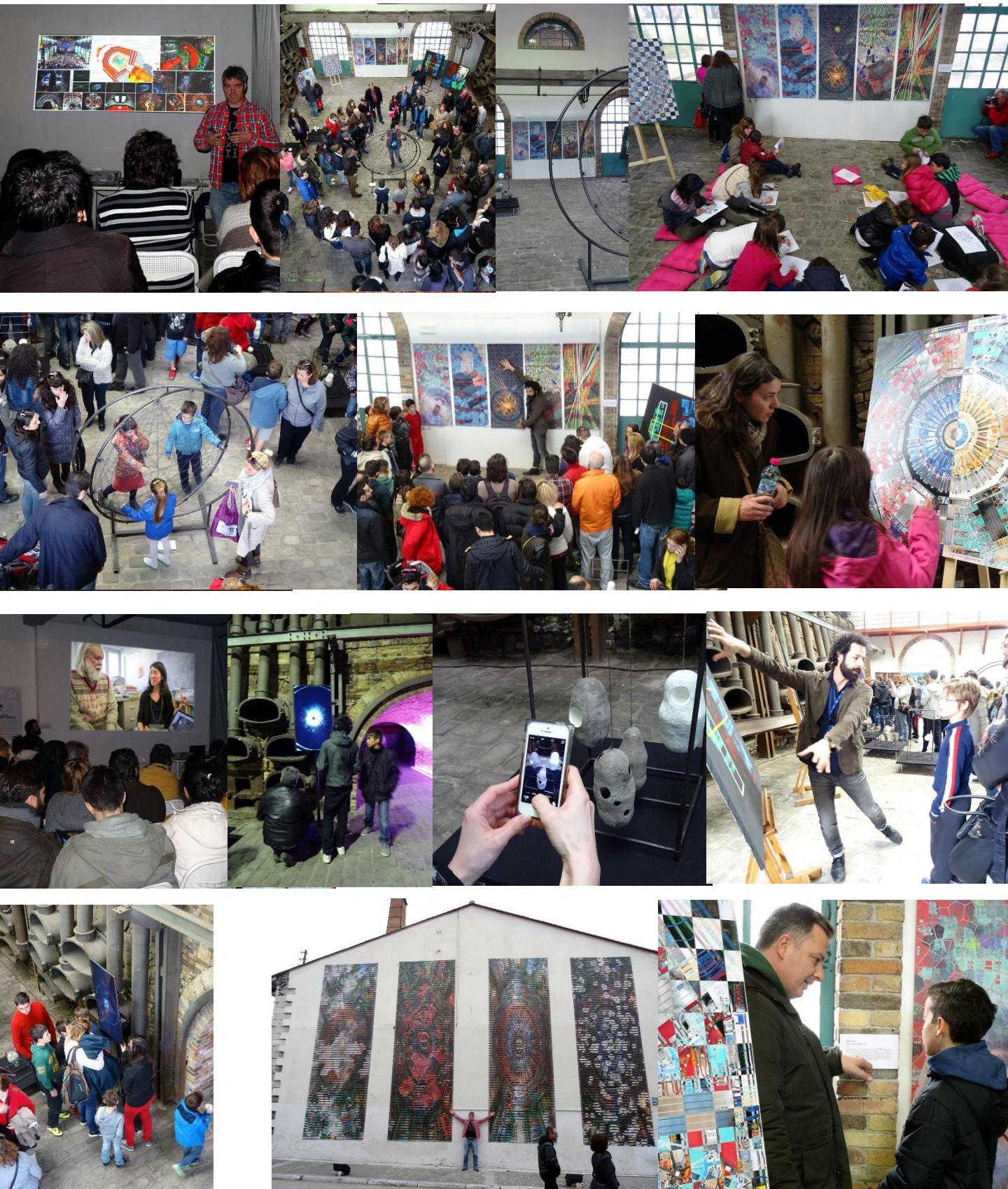


# Athens Science Festival

Technopolis Museum Athen / Gr

17<sup>th</sup> – 22<sup>nd</sup> March 2015

Exhibition – science&art talks – large scale CMSart installation



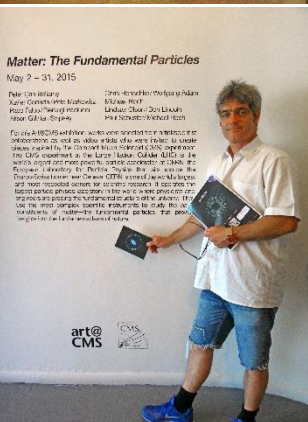
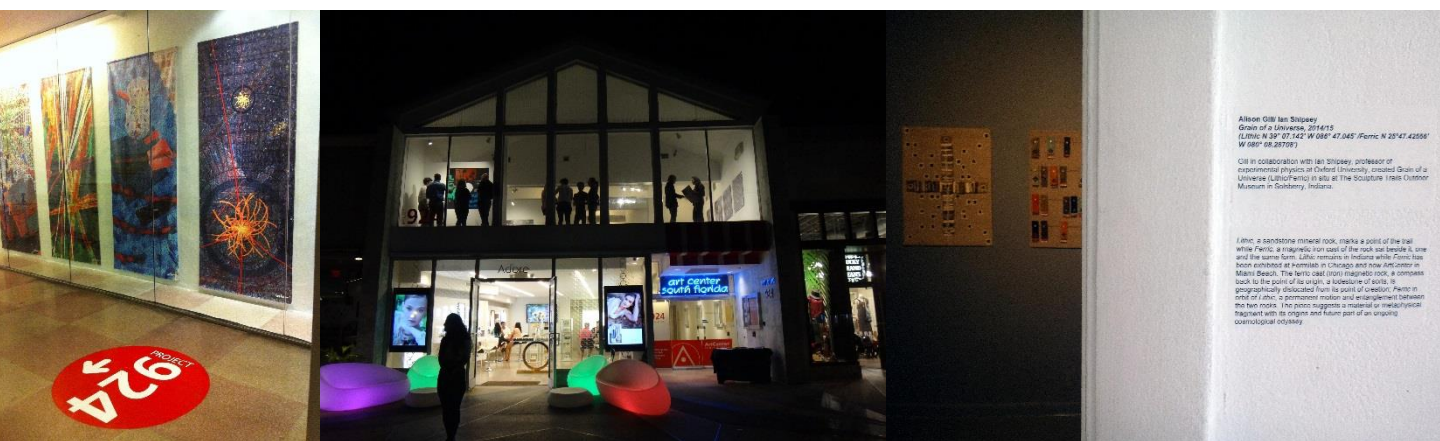


# Art Center South Florida

Miami Beach/ USA

2<sup>nd</sup> May 2015 – 31<sup>st</sup> May 2015

exhibition – public talks





# FERMILAB-WaterStreetStudios

Science & Art Workshop  
24<sup>th</sup> January – 23<sup>rd</sup> April 2015

Imagining Physics  
Science&Art@School





# FERMILAB - Wilson Hall

FERMILAB- Batavia / USA

2<sup>nd</sup> February 2015 – 23<sup>rd</sup> April 2015

Exhibition – colloquiums talk – CMS life size installation





# Galerie Wimmer - WELOS Science Centre KulturHaus Linz

Galerie Wimmer Wels / Austria

22<sup>nd</sup> January – 2<sup>nd</sup> March 2015

Exhibition in the Gallery – Presentation in WELOS – Symposium in KulturHaus Linz



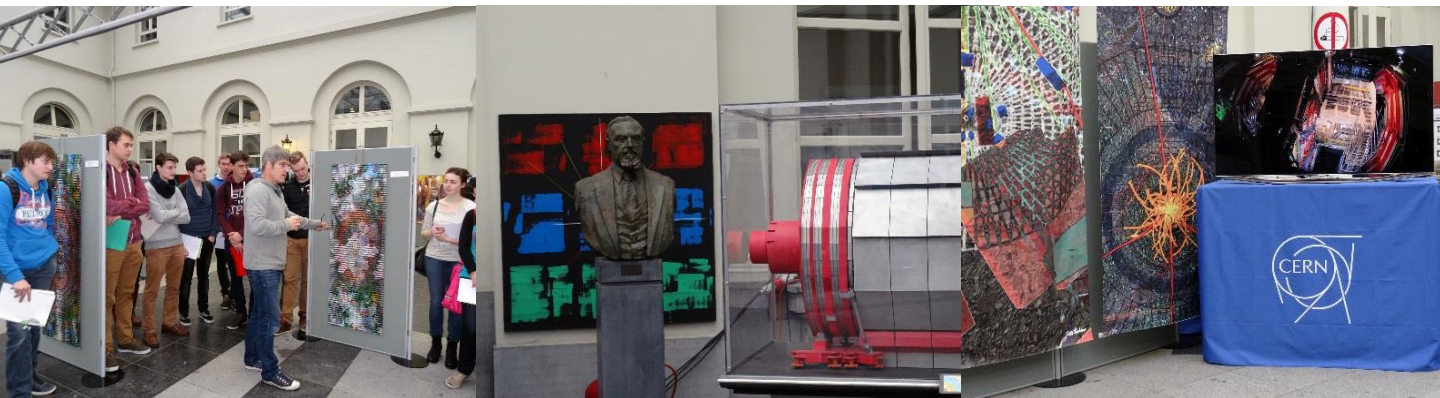


# CERN 60<sup>th</sup> - Science&Art@CMS

Academy Palace, Brussels/ Belgium

16<sup>th</sup> December 2014 – 8<sup>th</sup> January 2015

In the presence of Her Majesty Queen Mathilde of Belgium





Science&Art@School, CMS / Geneve-SUI /Kigali RW  
start November 10<sup>th</sup> 2014 – June 2015

**Exhibition planned in Kigali New Media Arts Biennale (KNMAB), ECOLINT Geneve, CMS**





# ECOLINT LGB– Geneva

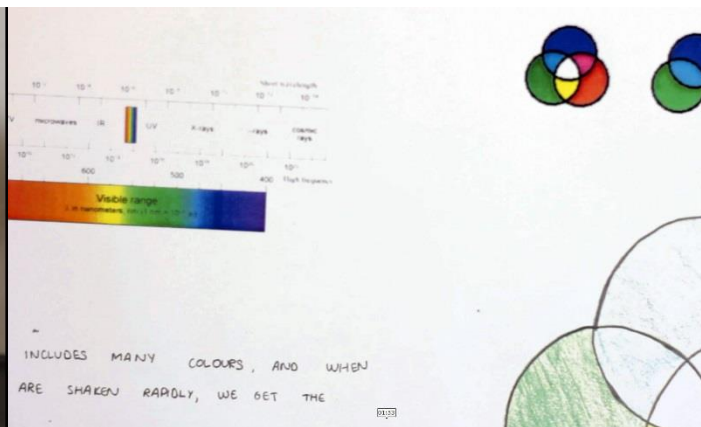
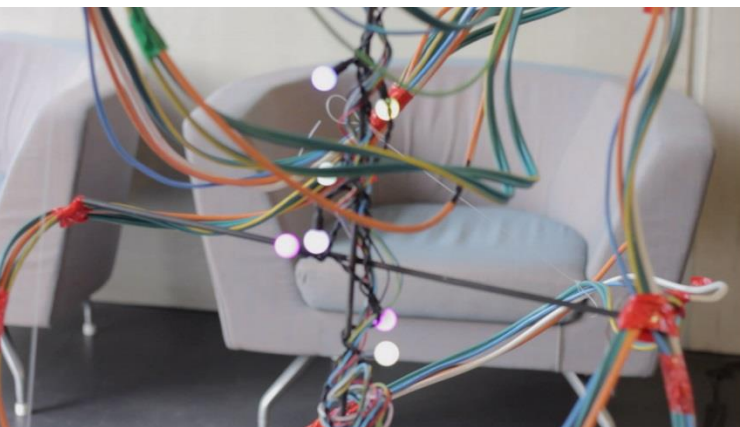
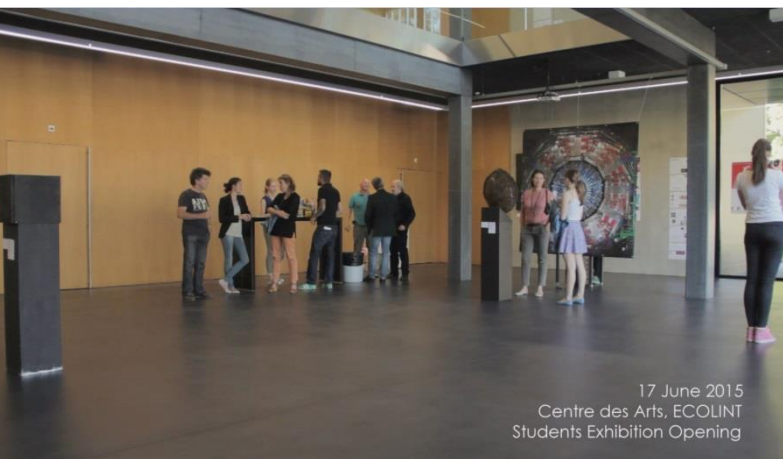
Science&Art@School, CMS / Geneve / Switzerland

February 12<sup>th</sup> - June 2015

format: workshop

number visitor : 13 students

visitors: public / school students





# Deutsche Schule Genf – Geneva

Science&Art@School, CMS / Geneve / Switzerland

start October 8<sup>th</sup> - June 2015

format: workshop

number visitor : 30 students

visitors: school students





# Earth & Man Museum Symposium “Sense of Universe”

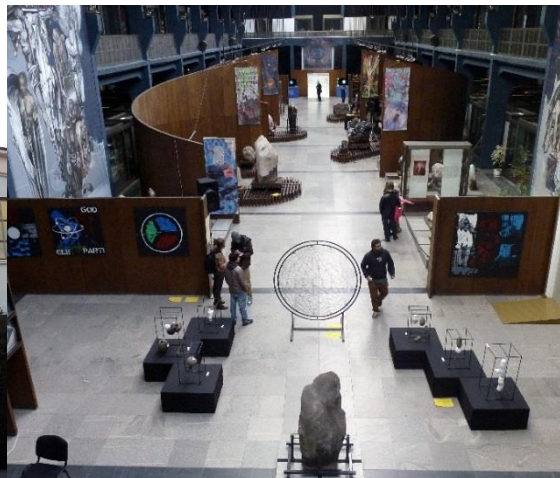
Sofia , Bulgaria

15<sup>th</sup> November – 21<sup>st</sup> November 2014

format: Art@CMS exhibition, Symposium, CERN / CMS / HEP & Art talks

number visitor : Sense of Universe ~2000; ~ 3500 CERN 60<sup>th</sup> [October 13<sup>th</sup> – 30<sup>th</sup>]

visitors: public, students, radio, press, TV





# Palazzo Milesi – Galerie Fotoklub Split

Split , Croatia

29<sup>th</sup> September – 6<sup>th</sup> October 2014

format: Art@CMS exhibition on façade and inside of Palazzo Milesi, and in the FotoClubGallerie  
number visitor : ~ 1300 in the gallery, several 1000 in front the palazzo  
visitors: public



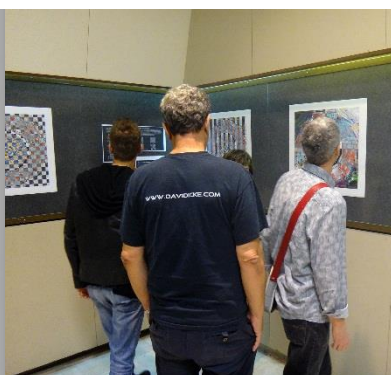
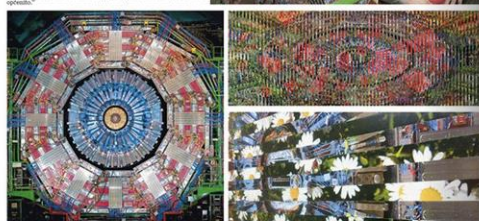
24. SPEKTAR Slobodna Dalmacija

**FOTOSINTEZA**

Fizičar iz CERN-a s umjetničkom žicom



Prvo skoči,  
pareći Hoch!



Izložba: / Exhibition:  
Art@CMS: Umjetnost u znanosti - Ljepo

Autor: / Author:  
Michael Hoch, CMS kolaboracija, CERN

Trajanje: / Duration:  
29.09.2014.  
04.10.2014.

galerija fotografije  
fotokluba split





# UAL (University of the Arts London) - UK Shoreditch Trust - UK, ALLMINDS-CH

Science&Art@School & Art@CMS  
start August 2014 – January 2015

**format:** workshop, exhibition

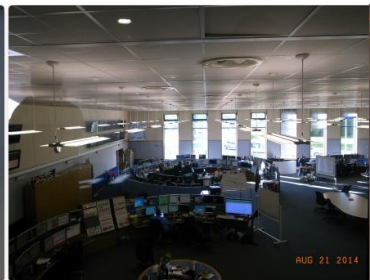
**number participants :** 8 students

**Exhibition planned :** Shoreditch, Wimbledon, CMS

**Program:**

- Visit CERN / introduction
- Visit CMS LHC P5 cavern
- Creative project presentations
- Weekly meetings in London

• Exhibitions 28. Nov 2014 - April 2015



## our CONCERN

A collaborative project between the CMS collaboration at CERN, Camberwell, Chelsea and Wimbledon Colleges of Arts (part of UAL), the Shoreditch Trust and Allminds which involved recent Fine Art graduates from Wimbledon College of Arts and young people from the Shoreditch Trust Active Citizens programme visiting the CERN laboratory.

**Friday 28th Nov 2014**  
Private view : 8 - 8pm  
Restaurant Exhibition:  
• Performances  
• Food and drinks (canapés)

**\*Saturday 29th Nov to 9th Jan 2015**  
Restaurant Exhibition

Waterhouse, 10 Orsmann Rd  
London N1 5QJ

\*Please note Waterhouse will be closed for the holidays from Dec 25th - Jan 6th





# Callahan Art Centre – Brooklyn-New York

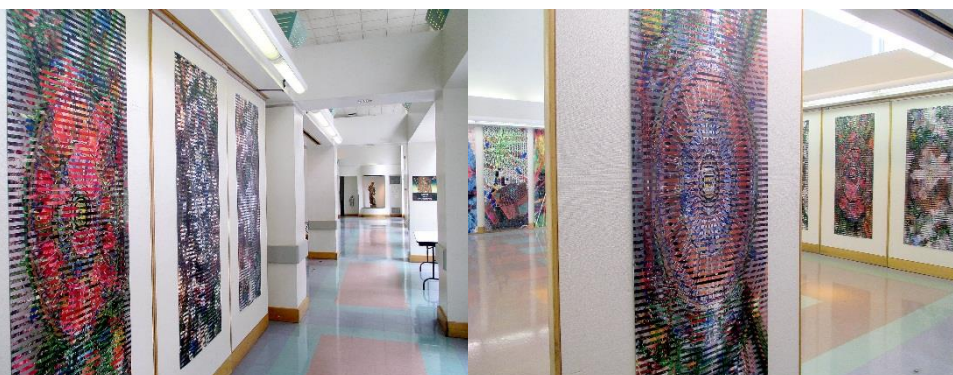
San Francis College, New York USA

13<sup>th</sup> -31<sup>th</sup> July 2014

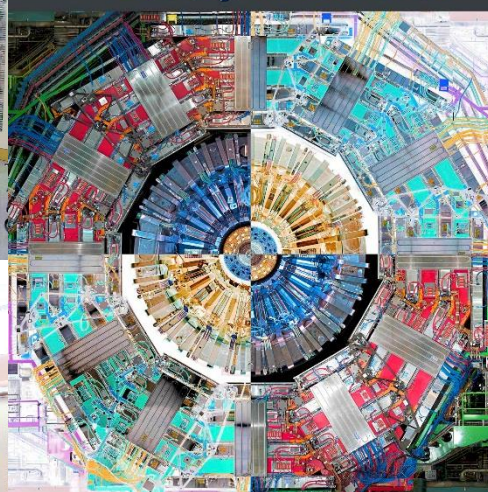
format: Art@CMS exhibition & CMS outreach presentation

number visitor : ~ 950

visitors: students, public



## Art in Science - Beauty in Creation



Art @ CMS presents : Art in Science – Beauty in Creation

by Michael Hoch, Xavier Cortada, Chris Henshke

Art Reception: Sunday 13th - Opening Time : 3pm

On Display: July 13 th – 30th

Callahan Art Center - St. Francis College  
180 Remsen Street, Brooklyn, NY 11201





# ICHEP2014 - Valencia

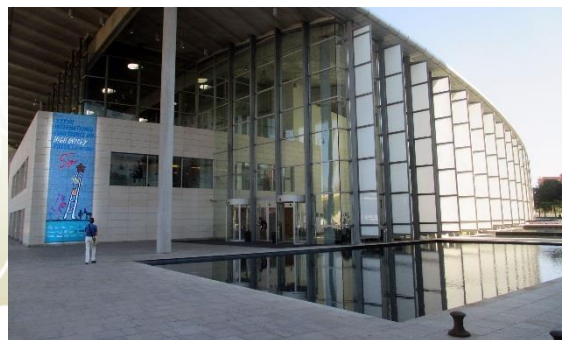
Congress Palace, Valencia Spain

July 3<sup>rd</sup> till 9<sup>th</sup> 2014

format: Art@CMS group exhibition, presentation number

visitor : ~ 1200

visitors: conference participants, press, politics, public





Science&Art@School, Art@CMS, LHC P5, Cessy France  
25<sup>th</sup> June 2014

visitors: CMS members

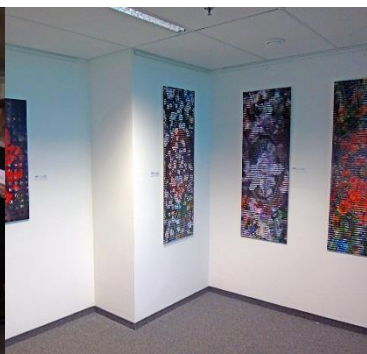
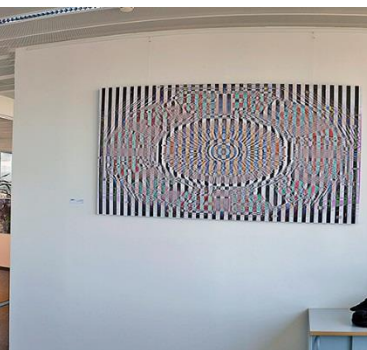
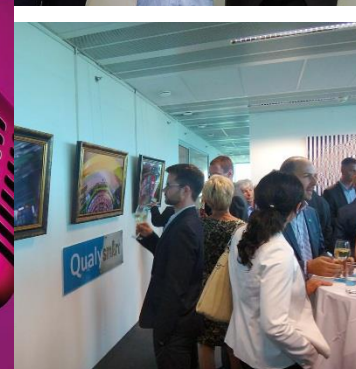
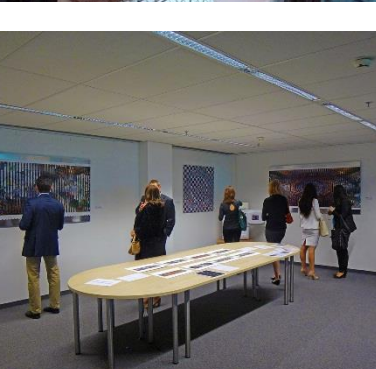




# ScienceTechnologyArt

CMSart at qualysmART / Vienna / Austria  
Vernissage 5<sup>th</sup> June 2014

format: presentation  
number visitor : 330 @ vernissage  
visitors: public, politicians, press





# Art@CMS show during OpenDay2014

Science&Art@School, Art@CMS, LHC P5, Cessy France

25<sup>th</sup> 26<sup>th</sup> 27<sup>th</sup> May 2014

format: presentation

number visitor : ~ 4000

visitors: students, public





# Lycée Fragonard – l'Isle - Adam

Science&Art@School, CMS / l'Isle-Adam / France

April 10<sup>th</sup> - 12<sup>th</sup> 2014

format: workshop

number visitor : 18 students

visitors: students, CERN member

School Web links:

[artfragonard@gmail.com](mailto:artfragonard@gmail.com)

passwd : L'artc'estencadrer





# ECOLINT school – Geneva

Science&Art@School, CMS / l'Isle-Adam / France  
start March - July 2014

format: workshop in Geneva / CERN / CMS  
number visitor : 18 students  
visitors: student

## Program:

- Visit CERN / introduction
  - Visit CMS LHC P5 cavern
  - CMS masterclass
  - Weekly creative sessions at school
- 
- Vernissage during CMS OD 2014 at P5





# IPAC design - Geneva

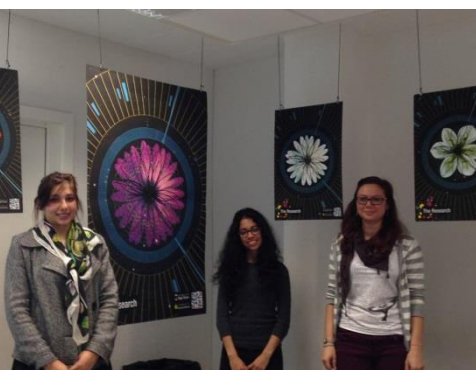
Science&Art@School, CMS / Geneve / Switzerland  
start February - July 2014

format: workshop

number visitor : 18 students

Program:

- Visit CERN / introduction
- Visit CMS LHC P5 cavern
- CMS masterclass
- Creative project presentations
- Weekly production sessions at IPAC
- Vernissage during CMS OD 2014 at P5





# BORG / GIBS schools - Graz

Science&Art@School, Joanneum Museum, Graz / Austria

April 7<sup>th</sup> - 9<sup>th</sup> 2014

format: workshop

number visitor : 55 students from 2 schools

visitors: politicians, students, public





# Aula der Wissenschaft

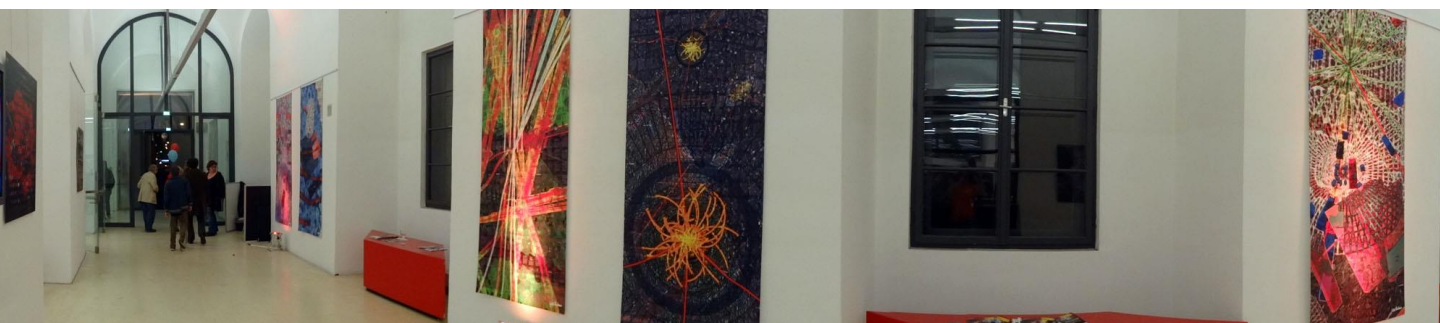
Science Night – Academy of Science, Vienna / Austria

April 4<sup>th</sup> 2014

format: exhibition , talks

number visitor : 3200

visitors: politicians, public





# Wiener Wunderkammer

CMSart – University of Technology, Vienna / Austria

March 31<sup>th</sup> – April 4<sup>th</sup> 2014

**format:** exhibition , symposium

**number visitor :** 1200

**visitors:** politicians, university staff, public





# Nature - Science - Innovation

CMSart – Collegium Hungaricum, Vienna / Austria

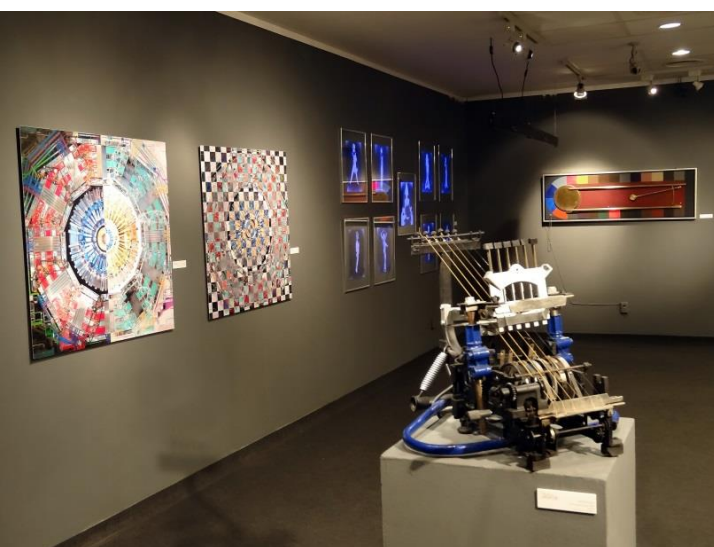
February 20<sup>th</sup> – April 4<sup>th</sup> 2014

**Format:** exhibition, workshop

**Number of visitors** 1600

**10 art and science workshops**, age 6-10 years, organized by the Collegium Hungaricum

**visitors:** ambassador, politicians, public





# To See a World

Alison Gill – CERN P5 CMS, Cessy / France  
December 2013 – March 2014

A@CMS

Format: Art@CMS exhibition, presentation ,  
number of visitors : ~ 2500





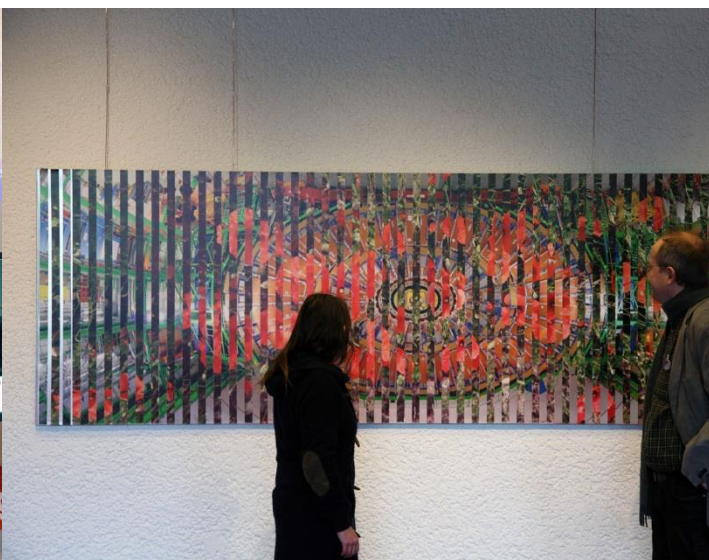
# Faszination Ursprung

Deutsches Museum Bonn- Wissenschaftszentrum

Nov.2013 – Jan.2014

science talk/ vernissage

Format: exhibition, presentation , number of visitors : talk 100 , expo 2500



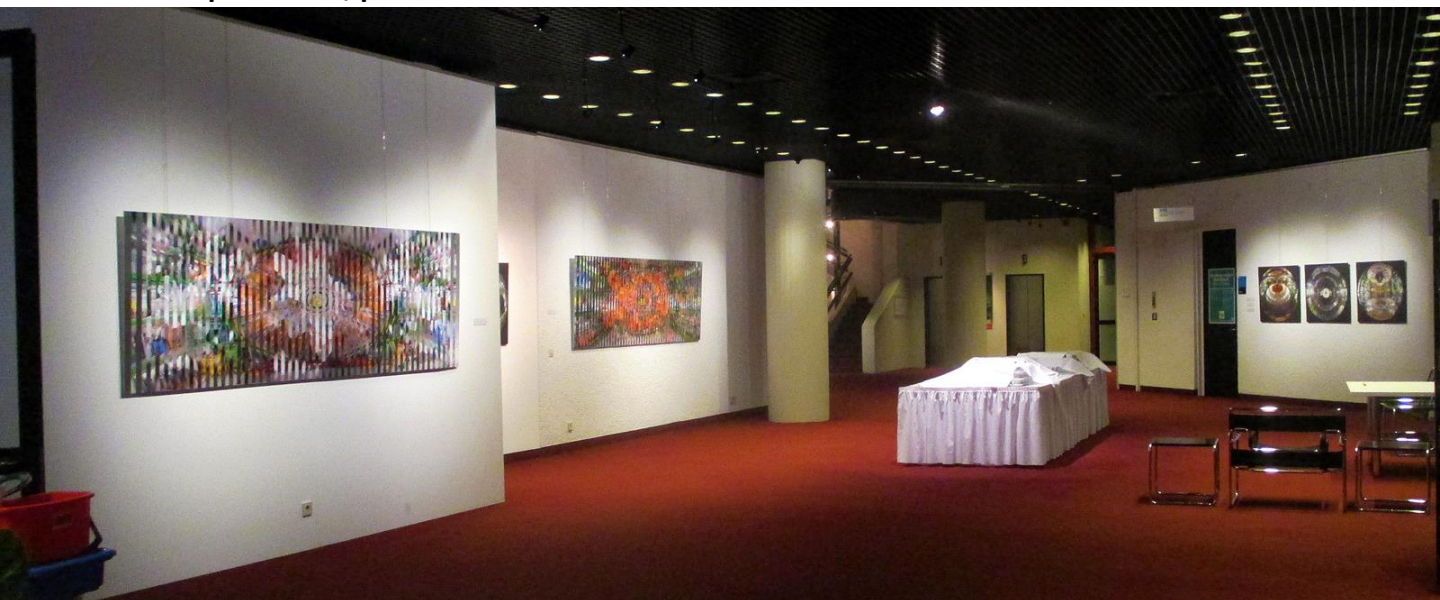


# Faszination Ursprung

Deutsches Museum Bonn- Wissenschaftszentrum

Nov.2013 – Jan.2014

Format : Art@CMS exhibition , number of visitors : vernissage 200/ expo2500  
visitors: politicians, public





# US Higgs Discovery Event 2013

artworks of Xavier Cortada & Michael Hoch presented





# US Higgs Discovery Event 2013

Capitol Washington / USA November 20<sup>th</sup> 2013  
event – Art@CMS exhibition - discussion

format: exhibition , lobbying event

number participants : 300

visitors: politicians, university staff



Higgs Discovery Celebration on Capitol Hill  
Washington D.C. USA  
November 20, 2013

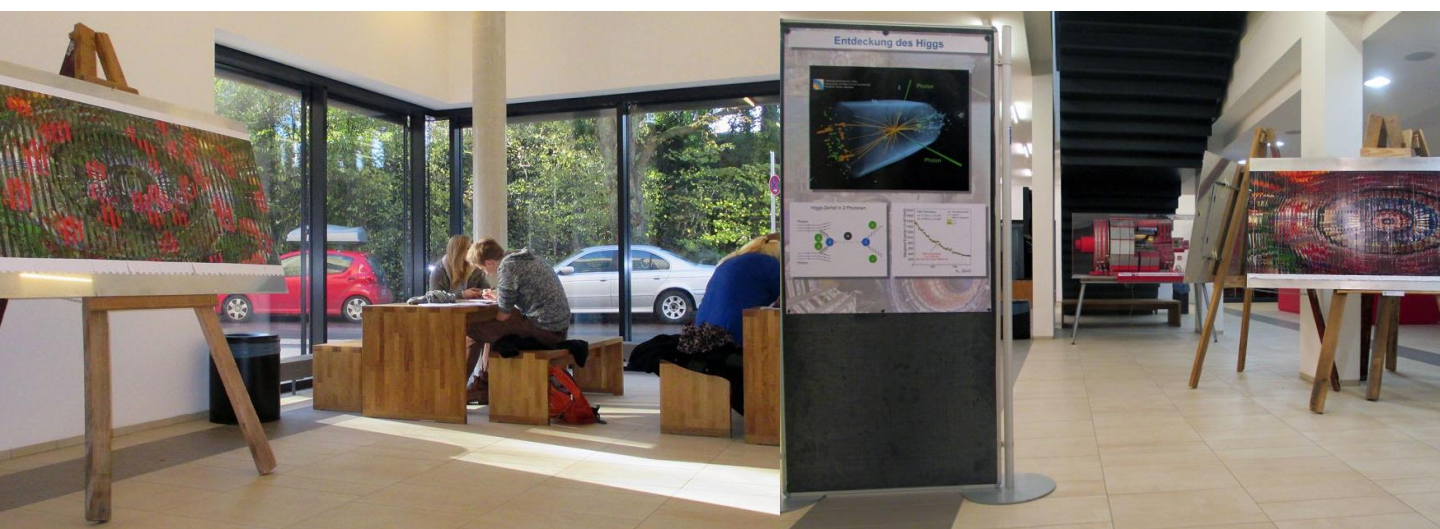




# Art in Science – Beauty in Creation

RWTH Aachen / Germany Nov.2013 – Jan.2014  
CMS outreach – Art@CMS exhibition

Art@CMS exhibition / Visitor : ~ 3500 RWTH students





# Art in Science – Beauty in Creation

RWTH Aachen / Germany Nov.2013 – Jan.2014

## Science Night Talk – exhibition

Art@CMS exhibition : visitor : talk 800 , exhibition: 600, Total : 1200





# Unseen Dimensions

City of London School / UK – October 2013  
Symposium & Group Exhibition

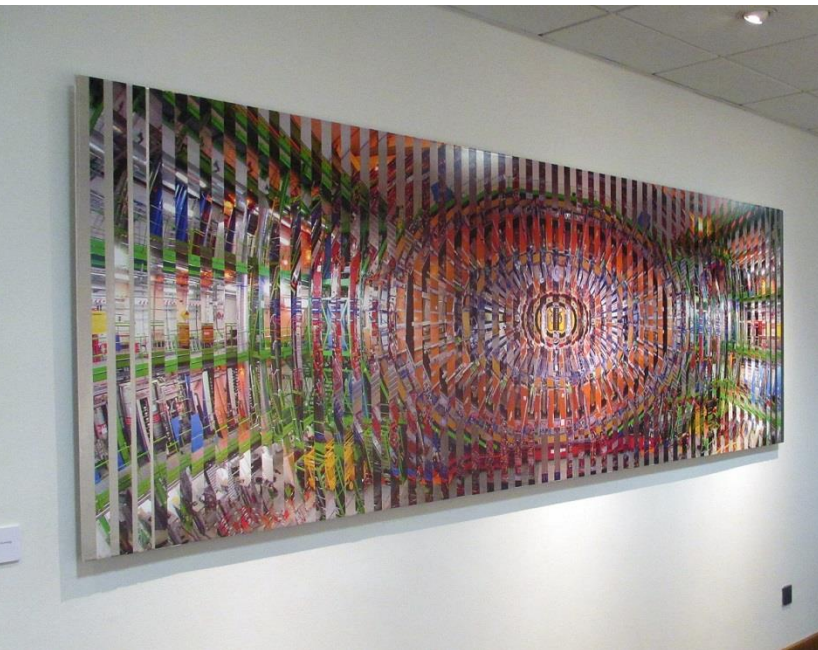




# Unseen Dimensions

City of London School / UK – October 2013  
Symposium & Group Exhibition

Science&Art@School / Visitors reception : 350 / 6 classes participating / 1500 students at CLS





# CERN Open Day 2013

CERN P5 CMS Cessy September 27<sup>th</sup> to 30<sup>th</sup>  
show/ group exhibition

Art@CMS exhibition : visitors : 6000





# Quantum

Collaboration **Art@CMS, Collide@CERN, Forum de Meyrin**

Gilles Jobin - dance performance — Sept 23<sup>rd</sup> till 30<sup>th</sup> 2013  
CERN P5 CMS, Cessy / France

each night 100 people visiting CMS underground cavern & dance performance => **500 people**  
During CERN open Day **600 people** watching the performance ; **TOTAL : 1100** visitors have seen the show



répétition pour "Quantum"  
Chorégraphie Gilles Jobin, Installation luminocinétique Julius von Bismarck  
CERN LHC P5 - CMS Septembre 2013  
Musique Carla Saletti, Photo Michael Hoch





# Art@CMS – Science&Art@School

presented at the 14<sup>th</sup> ICATPP conference 2013

**ART@CMS AND SCIENCE&ART@SCHOOL:  
NOVEL EDUCATION AND COMMUNICATION CHANNELS FOR PARTICLE PHYSICS**

*MICHAEL HOCH\_CMS / HEPHY, Austrian Academy of Science, Vienna, 1040, Austria*

*ANGELOS ALEXOPOULOS, Education Group, CERN, Geneva, 1211 Switzerland*

This document presents new outreach projects set up by the CMS Collaboration at the intersection of science and the arts to act as a creative springboard for the inspiration and engagement of public and students in particle physics research. Two programmes, Art@CMS and Science&Art@School, aim to reach and engage via multiple channels, different from those traditionally used for scientific outreach events. Art@CMS is a collaboration with professional artists to trigger a dialogue between the LHC scientific community and the art world. Science&Art@School brings high-school students from arts and sciences curricula together during extended learning periods by exploring how researchers and artists work and view each other's world. Results of events, workshops and collaborations are presented to demonstrate the concept in practice and to suggest avenues for strengthening further the educational and societal impact of particle physics research.

\* This work is supported by the CMS education and outreach group.

† Work on the Science&Art@School is partially supported by the PATHWAY project.



International Conference on Advanced  
Technology and Particle Physics



**14th ICATPP Conference on  
Astroparticle, Particle, Space Physics,  
Detectors for Physics Applications**  
Experimental particle physics, detection of astrophysical sources and  
cosmic rays as tools for probing the contents of the Universe  
Villa Olmo, Como 23-27 September 2013



# Science&Art@School

Joanneum / Graz Austria – June 2013  
workshop & exhibition : BORG, GIBS

Science&Art@School workshop: participants 60 visitors 100



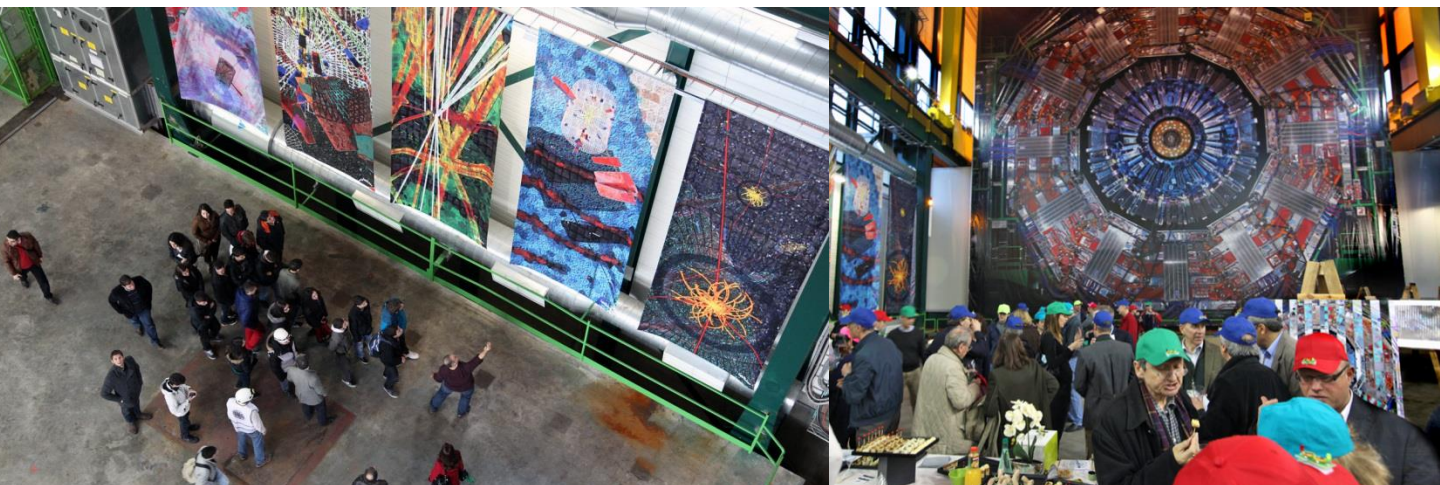


# Art@CMS

CERN LHC-P5, Cessy / France – April & July 2013

## vernissage: Xavier Cortada, Michael Hoch

Art@CMS exhibition / visitors: CMS collaboraiton + 1500 visitor at P5 2013

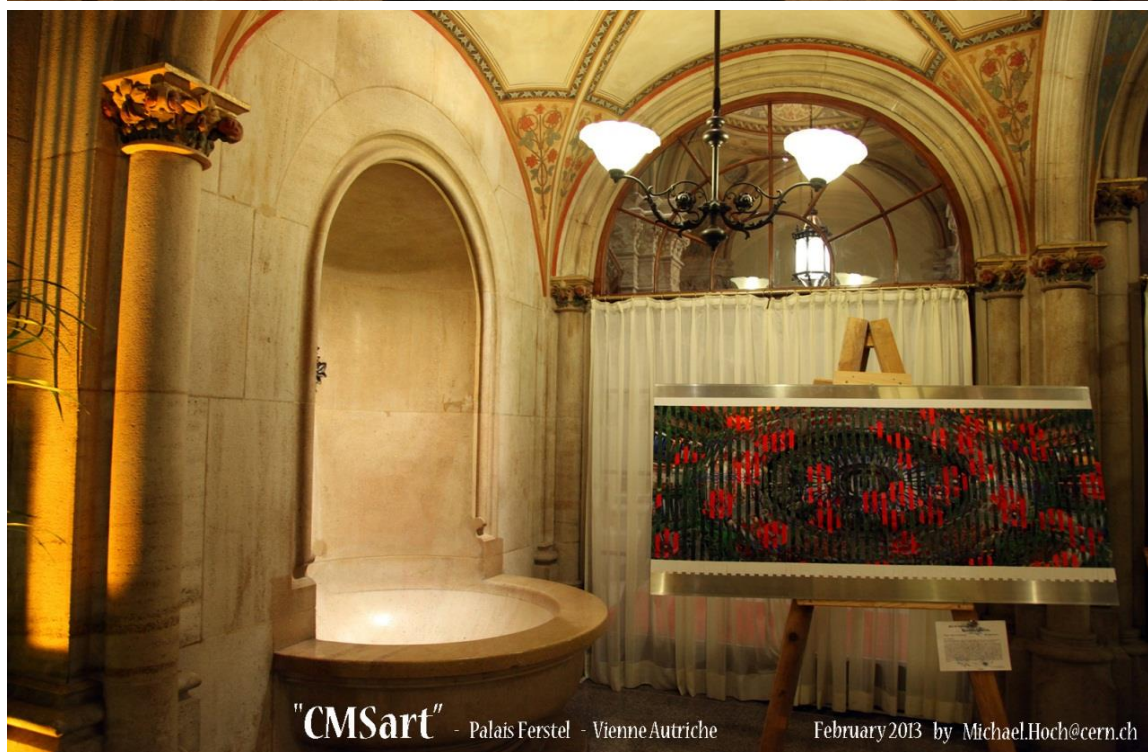




# VCI conference - Palais Ferstel

## Vienna / Austria - February 2013

Art@CMS exhibition / visitors : 450





# CERN Main Building

Geneva / Switzerland – December 2012

## exhibition Art in Science – Beauty in Creation

Art@CMS exhibition / visitors: ~600 CMS collaboration + CERN council week





# Aula der Wissenschaften

Academy of Science, Vienna/ Austria - July 2012  
exhibition Art in Science – Beauty in Creation

Art@CMS exhibition / visitors: 1200





## **Art@CMS artists and CMS physicists:**

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Artist: Michael Hoch                      photographic collage  
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Artist : Alison Gill -                      sculpture  
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Artist: Chris Henschke -                      digital video art  
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Artist: Lindsay Olson                      textile art  
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Artist: Cvetana Ivanova                      art installations  
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Artist: Maurizio di Palo                      collage  
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Artist: Embrio Net & Palolo Scoppola      digital art  
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Artist: PEER - Konstantinos Vasilakos      music  
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CMS communications coordinator Achille Petrilli and team  
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Landesmuseum Halle (Saale) – Harald Meller, Jens Brauer  
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UAL- Saint Martin's College of Arts – Nathan Cohen, Andrew Charambous  
University of Applied Arts Vienna – Gerald Bast, Virgil Widrich, Paul Petrisch, Anja Seipenbusch, Katrin Hornek

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# Art@CMS Web Page



<http://cms.web.cern.ch/content/artcms>