



South East Europe initiative
cross-disciplinary
science education engagement & networking
by ORIGIN

Meeting with UNESCO Head of Office / Sarajevo

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“South East European cross disciplinary science education, engagement and networking Initiative”

- Time scale to initiate 3-4 years: 2018 – 2022 (once program disseminated -> self-sustained by local community)
- Midterm or long-term aim: Create sustainable network who may run interdisciplinary activities on science with art.

http://mhoch.web.cern.ch/mhoch/Art@CMS/Science4Peace_interdisciplinaryScienceEducationEngagementNetworkingTour_art@CMS.pdf

Kick off or example event already 2018:

Split/ Croatia (17th – 23th September)
Cetinje/ Montenegro (October 9th – 11th)
Tirana/ Albania (October 10th -12th)
Sarajevo/ Bosnia (October 15th – 19th)
Imotski/ Croatia (October 27th)

Possible scenario and cities 2019, 2020 and 2021:

Ljubljana (*Slovenia*), Zagreb [Osijek#, Rijeka#] (*Croatia*),
Belgrade [Novi Sad#, Niš#] (*Serbia*), Sarajevo [Banja
Luka#, Mostar#] (*Bosnia and Herzegovina*), Podgorica
(*Montenegro*), Tirana (*Albania*), Pristina (Kosovo *),
Skopje (*FTR Macedonia*)

This project will mutually Create dialogue, cross boarder networking and exchange, as well as engagement on common topics based on scientific methodology and culture. The nature of this program supports to work with mixed teams of different regions for mutual presentations and common engagement.

Cultural Collisions – Split /Croatia by ORIGIN

Old City Hall – Sept. 17th -22nd 2018

Exhibition, lectures, round table discussion, workshops;

Workshops: Physics and Music (Arduino Explora), Gravitational waves (Torino interferometer), Playing with data (CMS tool developed for Canada)

Next years event :



Izložba

POSTANAK I EVOLUCIJA SVEMIRA KROZ UMJETNOST I ZNANOST

Stara gradska vijećnica, Narodni trg, Split
17. do 21. rujna 2018.
u vremenu od 10h - 20h

Ulaz slobodan

PROGRAM

Ponedjeljak, 17. rujna 2018.
19h Otvaranje izložbe

Utorak, 18. rujna 2018.
18h30 Javno predavanje
Michael Hoch, CERN - Geneva: "Art and Science"

Četvrtak, 20. rujna 2018.
18h30 Javno predavanje
Martin Hendry, University of Glasgow:
"Listening to Einstein's Universe: the Discovery of Gravitational Waves"
20h Okrugli stol
"Razumijevarije svijeta kroz umjetnost i znanost"
Sudjeluju: James Beacham, Branko Franceschi, Nikola Godinović,
Michael Hoch, Chiara Mariotti

Petak, 21. rujna 2018.
18h30 Javno predavanje
James Beacham, Ohio State University:
"A Big Bang Machine on the Moon"

* Javna predavanja i okrugli stol će se održati u palači Mileti, u okviru konferencije "LHC Days in Split", ulaz slobodan

*** Možete su grupne posjete izložbi za učenike svih uzrasta. Za dogovor se javite emailom na Nikola.Godinovic@fesb.hr ili Ivica.Pujjak@fesb.hr



walk through exhibition **Split** - > <https://youtu.be/XYIDehGg4Xs>



Cultural Collisions – Split /Croatia by ORIGIN train the trainers

During the main exhibition we trained students from primary and secondary schools to act as lectures for following (see next slides).

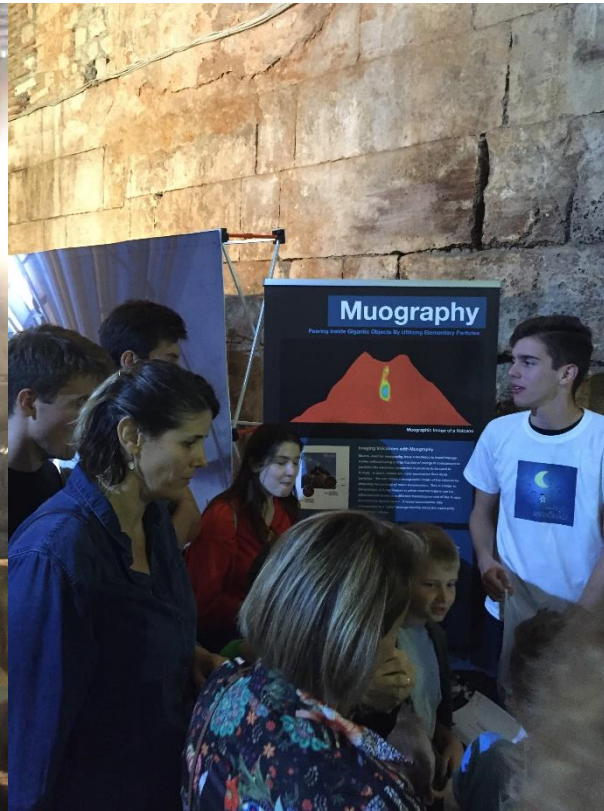


Cultural Collisions – Split /Croatia by ORIGIN

Researchers night – September 28th

Format: students we trained become lecturer to general public and training other students.

Audience during the researchers night: few thousands citizens



Cultural Collisions – Split /Croatia

Visiting primary school – October 2nd

Format: exhibition & lectures, one day

Audience: about 100 primary school students



Cultural Collisions – Split /Croatia by ORIGIN

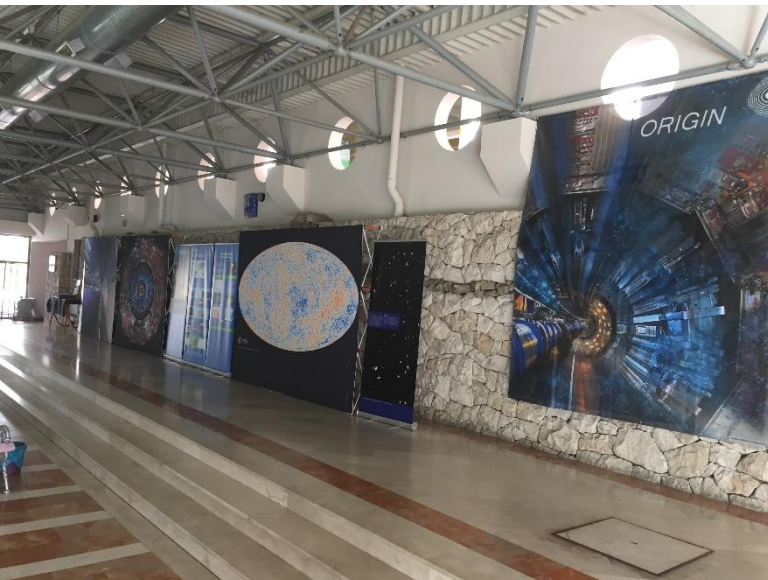
Four secondary schools – October 3rd

Format: exhibition and lectures, one day

Exhibition presented by **trained students**

Lectures given by **CMS scientists**

Audience: about 500 secondary school students



Cultural Collisions – Split /Croatia by ORIGIN

Primary school visit – October 29th

Format: lectures with trained student, training & participation



art@CMS – Art University Collaboration

Gallery National Museum, Cetinje/ Montenegro October 2018

Format: art exhibition lectures and Cultural Collisions workshop start 3 schools 85 students

Event is the final show of our 2 semester course “art@CMS – Art University Collaboration, 2017/ 2018”

Presentation: Final presentation of 5 university art students + art@CMS collaborative artists

Video walk through the exhibition : <https://youtu.be/UUnBDYhiSlk>



LHC workshop & cross disciplinary exhibition

Akademia Shkencave Tirana / Albania October 2018

Format: 2 day science workshop enhances by “light art exhibition”, aim: inspire students and general public and build up interest in our science community

Audience: 3 guided tours with High School students + general public conference



Science & Art, Sarajevo /Bosnia by ORIGIN

Fine Art Academy, 15th -22nd October 2018

Format: cross disciplinary exhibition ORIGIN, public lectures in the exhibition

Audience: general public and about high school **students 400 attending lectures**

Further remark: Art university Sarajevo requests of art university collaboration



Cultural Collisions, Imotski / Croatia by ORIGIN

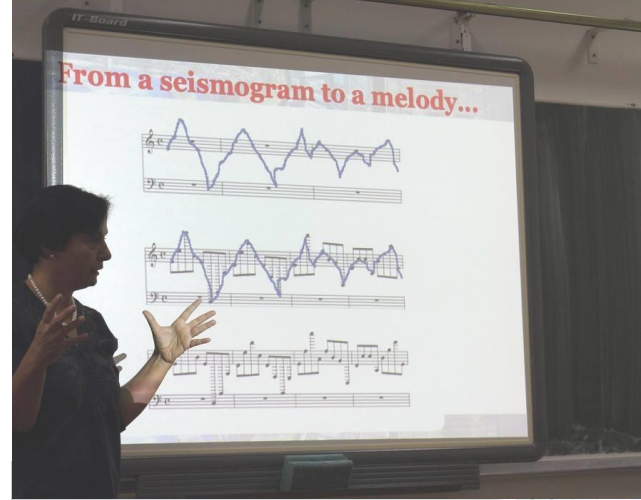
Exhibition and Concert, October 27th 2018

Format: Exhibition, masterclass, lectures, concert with French and local orchestra

-2 workshops in parallel with 2 teams:

Physics & Music, Gravitational Waves, Playing with data

Audience: 400 students of 4 school attending lectures and 70 students workshops participants



Cultural Collisions, Imotski / Croatia by ORIGIN City Hall, October 27th 2018



Format: ORIGIN exhibition, masterclass, lectures, music concert

Concert of the French youth orchestra and the local orchestra playing together.

general public audience in exhibition and concert: ~ 500

Video of the joint concert performance “Beethoven Ode to Joy”

<https://youtu.be/H6y8ziRyEaw>



Fundraising : “South East European cross disciplinary science education, engagement and networking Initiative”

Organizations who raised interest and possible funding or collaboration opportunities:

UNESCO

Austrian Cultural Forum Sarajevo

Western Balkan Funds

Regional UN department Montenegro

JRC-ISPRA

COST European Cooperation of Science & Technology

RYCO (Regional Youth Cooperation Office)

RCC – Regional Cooperation Council

Council of Europe

OSZE

Our local partners in the region:

Ministry of Science Montenegro

Embassy France Sarajevo

Embassy Austria Sarajevo

recent / ongoing / past events and methods

Following slides:

- **Tbilisi/ Georgia Science & art events** at TSU and GSU Sept/ Oct 2018
- International start of next **artUniversity collaboration** semester 2018/2019
- **Japan Art & Science collaboration** upcoming event and outlook 2020
- **Science Rapper ConSensus** US tour November 2018
- general introduction to Format:
 - **“Science&Art@School”** and **“Cultural Collisions”**
- **Cultural Collisions Canada 2018**

Science & Innovation Festival 2018 by ORIGIN

September 22nd – 31st Tbilisi / Georgia

Format: ORIGIN exhibition, lectures

Audience: festival visitors, general public, University students, and organized school students

Lectures by CMS and ATLAS colleagues to about 400 students organized by the Teachers House collaborator

art@CMS collaborative artists presented: Xavier Cortada, Michael Hoch, Anastasia, Chris Henschke, Peter Bellamy, Paul Schuster,



- Walk through the exhibition <https://youtu.be/wAYkB5fgyVo>



Science & Innovation Festival 2018 by ORIGIN

Tbilisi State University TSU - September 22nd – 31st Tbilisi / Georgia

ATLAS and CMS were represented at Tbilisi State University (TSU) at the request of, and **sponsored by, the Georgian Ministry of Science and Education.**

The occasion was a **Science and Innovation Festival** organised in the context of the **100th anniversary of the university** attended by general public, university and school students with their teachers.

ATLAS and CMS combined forces to present an exhibition based on the recently developed ORIGINS format in a large central hall that would have just accommodated CMS (but not ATLAS).

Small displays of Muongrapher and LIGO were included, alongside ATLAS, CMS, and art@CMS posters and hardware.

Georgian ATLAS and CMS colleagues supported the exhibition acting as guides and interpreters.

Special presentations on CERN, particle physics, ATLAS and CMS were organized each afternoon for school students and teachers. In total about **400 students ranging in age from 9 to 18 years from 15 schools attended.**

The **Deputy Minister for Science and Education and the Rector of the TSU University** thanked everyone involved and expressed the desire to continue this very successful educational and outreach collaboration.



CERN Cognitive Festival in Georgia, 22-25 October, 2018

- IPPOG Masterclasses — 3 Days; 96 schoolkids from 9 schools; ~70 guests

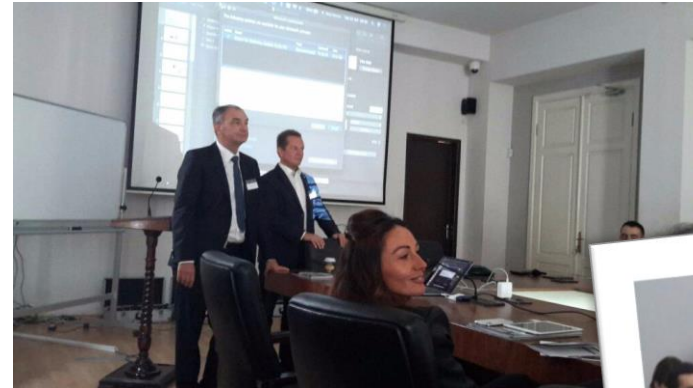


Junior Scientist Diary awarded to each participant

CERN Cognitive Festival in Georgia, 22-25 October, 2018

Format: Art & Science exhibition, masterclass workshops, public lectures

Settings: 20 art works (80x80cm); 40 science art photos (50x50cm); 18 art prints (80x80cm); 3 photo walls; 3 video screens



Festival open ceremony with participation of Georgian minister of education and science, culture and sport



by Alexander Sharmazanashvili lasha.sharmazanashvili@cern.ch

Cultural Collisions /Natural History Museum September 2018-April 2019, Vienna /Austria by ORIGIN

Format: Cultural Collisions, lectures, workshops exhibition “Code of Universe”

80 students of 3 different schools

Venue: NHM - Natural History Museum Vienna

Used existing temporary exhibition: “Code of Universe”

<http://mhoch.web.cern.ch/mhoch/Art@CMS/Science and Art Workshop 2018.pdf>



New start of artUniversities Collaboraiton

Semester 2018 - 2019

- Central Saint Martins CERN visit Jan.14th 18th 2019
- Applied Arts Vienna CERN visit Jan.14th 18th 2019
- KASK CERN visit February March 2019
- ORPHEUS and ESA Lille

Possible Shows of final art works to be discussed for:

EPS2019 July ,

CERN open Day, 14th 15th September 2019

Vienna ORIGIN exhibition, first two weeks in September 2019



Muographer collaboration with ORIGIN

November 28th – December 1st 2018

Invitation of our ORIGIN partners 'Muographer' for their annual conference and workshop in foster cross disciplinary international collaboration. -> brainstorming session for ORIGIN events 2019 and 2020 (parallel to Olympic games in Tokyo)

<http://muographers2018.muographers.org/attend/program-schedule-at-a-glance/origin/>

MUOGRAPHERS 2018 / ATTEND / PROGRAM SCHEDULE AT A GLANCE /
INTERNATIONAL WORKSHOP ON PROMOTION OF THE EU-JAPAN HIGH ENERGY PROJECTS AND ACTIVITIES

PROGRAM & EVENTS

- CONFERENCE SCHEDULE BY DAY
- GENERAL ASSEMBLY
- INTERNATIONAL WORKSHOP ON THE EU-JAPAN COOPERATION TO ENHANCE THE EUROPEAN/GLOBAL MUOGRAPHY NETWORK COMMUNICATIONS
- INTERNATIONAL WORKSHOP ON HIGH-ENERGY ART & SCIENCE: TOWARDS 2019 EVENT IN COOPERATION WITH THE FINE-ART-MUOGRAPHERS, Art@CMS, ATLAS, ALICE, AND LIGO/VIRGO
- INTERNATIONAL WORKSHOP ON PROMOTION OF THE EU-JAPAN HIGH ENERGY PROJECTS AND ACTIVITIES
- PANEL DISCUSSIONS
- PUBLIC LECTURES
- POSTERS
- ARTWORK
- CONCERT
- TOUR

INTERNATIONAL WORKSHOP ON PROMOTION OF THE EU-JAPAN HIGH ENERGY PROJECTS AND ACTIVITIES

WS WORKSHOP

WEDNESDAY, 28 NOVEMBER, 13:05-14:15, AUDITORIUM, DELEGATION OF THE EUROPEAN UNION TO JAPAN

WORKSHOP DESCRIPTION

The MSCA-RISE project was approved by the European Commission in June 2018 to enforce the EU-Japan Muography Network, and now it's time to consider how to effectively promote our EU-Japan joint effort in high energy projects and activities to engage more in the communication of our research to the public. Meet face to face the members of groups represented in ORIGIN- Network (Alice, Atlas, CMS, LIGO/VIRGO, and MUOGRAPHERS) to share our vision towards the 2019 Muographers and to discuss goals for the 2018 Muographers.

ORIGIN NETWORKING PRESENTORS

OPENING REMARKS

Hiroyuki Tanaka, University of Tokyo, Thursday, 28 November, 01:05-01:10 p.m.

Recent trend of the muographic cultural outputs

Hiroyuki Tanaka, University of Tokyo, Thursday, 28 November, 01:10-01:25 p.m.

Recent ORIGIN networking activities

Michael Hoch, Art@CMS, LHC, CERN, Thursday, 28 November, 01:25-01:40 p.m.

Round Table Discussions

Contributors: Art@CMS, ALICE, ATLAS, LIGO/VIRGO, and MUOGRAPHERS, Thursday, 28 November, 01:45-02:15 p.m.

Consensus **ConCERNed** US tour

November 2019

Financial Times article; Oct 2018

<https://www.ft.com/content/b4ecf4d8-d940-11e8-aa22-36538487e3d0>

Interview BBC, Nov 2018

<https://www.bbc.co.uk/sounds/play/p06qfhr5>

released Videos of his 9 track album “ConCERNed”:

“Dark Matter”

<https://www.youtube.com/watch?v=OkeA2ePJGK8>

“Method to the Madness”

<https://www.youtube.com/watch?v=tJl8-ArzkBg&feature=youtu.be>

“CMS [Grime Music in CERN]”

<https://www.youtube.com/watch?v=1ju3fo37yLE&feature=youtu.be>

“Antimatter”

<https://www.youtube.com/watch?v=2UupDCfq-LA>

FERMILAB talk:

<http://events.fnal.gov/arts-lecture-series/events/event/rapper-consensus-free-lecture-demonstration/>

BACK USING HIP HOP AND GRIME TO ENGAGE NEW AUDIENCES IN PARTICLE PHYSICS

THE U.S. **CONCERNED** TOUR 2018



CONSENSUS WILL PERFORM
LIVE AT THE FOLLOWING

SATURDAY 3RD NOVEMBER

GAMBA FOREST BROOKLYN, NY

FRIDAY 9TH NOVEMBER

FLORIDA TECH PANTHERIUM, FL

TUESDAY 12TH NOVEMBER

FERMILAB RAMSAY AUDITORIUM, IL

FRIDAY 16TH NOVEMBER

JOHN HOPKINS BI OOMBERG 272 MD



Swiss Cultural Festival – and Swiss outlook

October November 2018

Format: participation with lectures, workshops and performances

Participation of Guenther Dissertori ETH Zuerich, Hans-Peter Beck UniBern, Michael Hoch art@CMS

Launch of study to bring the Natural History Museum Vienna exhibition to Switzerland (after Hamburg / Germany)

2. sagen & märchentage chur
25.10. – 25.11. 2018

alchemie

Von Paracelsus, Goldmachern und dem Stein der Weisen

Programm Infos Kontakt **Tickets**

SPIELPLAN

Kalender

| OKTOBER | | | | | | | NOVEMBER | | | | | | |
|---------|----|----|----|----|----|----|----------|---|---|---|---|---|---|
| M | D | M | D | F | S | S | M | D | M | D | F | S | S |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | | | | | | | |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 | | | | | | | |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 | | | | | | | |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 | | | | | | | |
| 29 | 30 | 31 | | | | | | | | | | | |

Sparte

Ort

Kantonsbibliothek, Donnerstag, 25.10.2018, 18:00
«Die Gespenstersammlerin»
Lesung von und mit Verena Stössinger
[mehr](#)

HTW Chur, Samstag, 27.10.2018, 14:00
«Wir alle sind aus Sternenstaub»
Multimedialer Vortrag von Prof. Dr. Günther Dissertori, ETH Zürich
[mehr](#)

HTW Chur, Samstag, 27.10.2018, 15:30
«Cloudchamber-Workshop» - Der Teilchenfänger - Workshop
Das CERN-Experiment mit Dr. Michael Hoch
[mehr](#)

Bündner Naturmuseum, Sonntag, 28.10.2018, 14:00 / 15:00
«Goldvogel & Zauberbaum – Von der Magie der Bäume»
Märchenhafter Hörspaziergang mit der Erzählerin Caroline Capiaghi durch die Sonderausstellung «Wild auf Wald» im Bündner Naturmuseum
[mehr](#)

Stadtbibliothek - Biblioteca da la citad, Samstag, 17.11.2018, 11:00
«Die Sage vom Crap Fraissen – La ditga dal Crap Fraissen»
Familienlesung mit Tonia Maria Zindel Deutsch-Romanisch – Prelecziun per famiglias cun Tonia Maria Zindel tudestg-rumantsch
[mehr](#)

Schloss Reichenau, Sonntag, 18.11.2018, 16:00
«Die vergessene Alchemie von Schloss Reichenau – Von Basel bis Graubünden»
Mit Doris Portner und Nadja von Planta, Thomas Hofmeier und Gian-Battista von Tscharnier
[mehr](#)

NACH OBEN



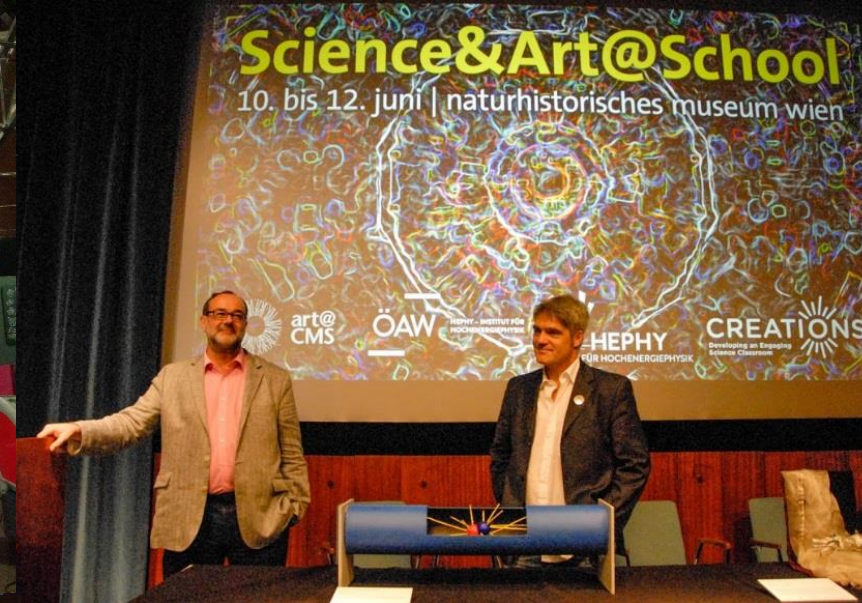
Science&Art@School – Cultural Collisions

You are cordially invited to
Cultural Collisions

An art exhibition, music and dance performance presented by Austrian and Genevese students



Photos : CERN Bldg 40 became a stage for students



CERN Meyrin Bldg 40 February 24th 2017

In the presence of His Excellency Thomas Hajnóczi,
Permanent Representative of Austria to the international organizations in
Geneva / Switzerland

- 18h30 Opening
- 19h00 Welcome
- 19h15 art show & performance by Haydn Gym. Vienna,
Herz Jesu Gym. Salzburg, ECOLINT LGB Geneva,
- 20h00 Drinks
- 21h00 Close



art@CMS INFN Science & Art across Italy Tour - has similar very successful Science&Art@School format 2016 -2018



Science&Art@School

science&art@school – first workshop 2012/2013

- 1) Support the teacher to prepare the students
- 2) Organization of a Virtual Visit with participating experiments
- 3) Scientists go to school and give lectures
- 4) Creative production at school
- 5) Final student artwork exhibition



Cultural Collisions - science engagement methodology

© Michael Hoch

- 1) Participating science teacher receive science support material
- 2) Organization of a Virtual Visit with participating experiments
- 3) Curate in collaboration with public venue - “RESEACH & INSPIRANTION” experience – **first exhibition**


Use the framework of the exhibition to organize a series of

- LECTURES on science and art topics
- WORKSHOPS – science workshops as well as creative workshops
- Further activity for students and general public:
 - special topic talks
 - round table discussion with scientists and specialists of other fields in the arts, education or completely different
 - documentary film presentations (e.g. “The Beauty of Science”, “ATLAS





- 4) Send the school groups back with the challenge to do on their own further scientific research and create science related artworks under the supervision of the science teacher & the art teacher
- 5) Organize a second exhibition in a prominent venue where the results of the student artworks are presented
 - Possibility : selection of the best artworks, competition and award for the best artworks ?

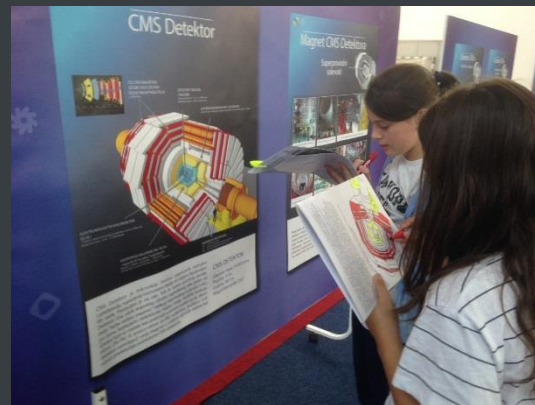
sciARTmasterclass – Montenegro Science Festival 2017

Otvoreni dani nauke
Mladi naučnik
5-9 godina



Ime: _____ Godine: _____

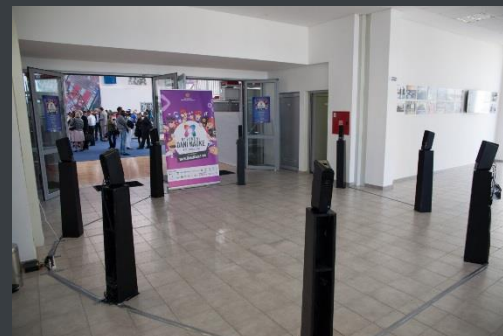
   



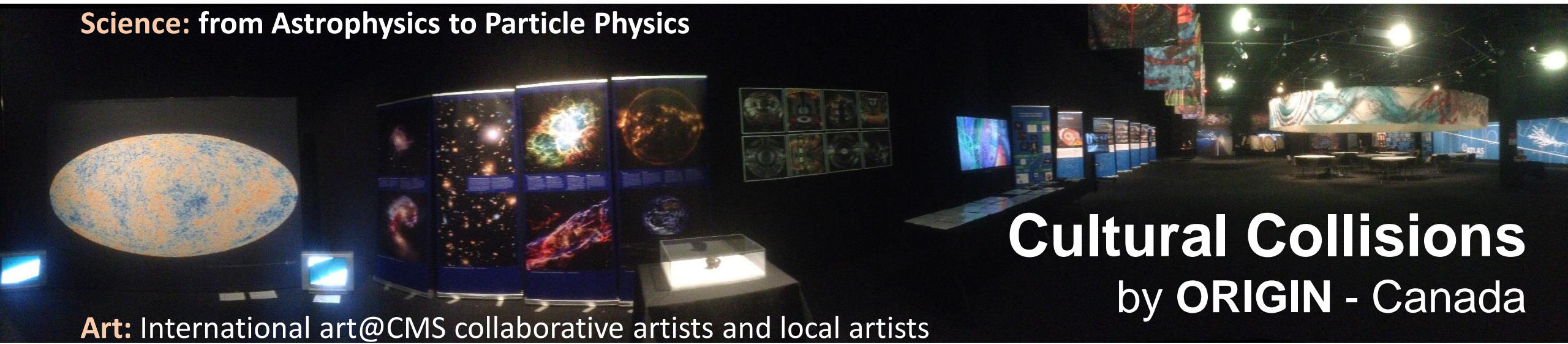
Students participating in the **CMS Junior Scientist Program -> Booklet** art@CMS interdisciplinary Exhibition with: real detector & accelerator equipment, art works, creative corners, lectures and detector workshops as well as sciART workshops.

Montenegro 2017: <https://www.youtube.com/watch?v=9vflW-Pf7vg>

Athens 2015: <https://www.youtube.com/watch?v=tT8MHsCaYks>



Science: from Astrophysics to Particle Physics



Cultural Collisions by ORIGIN - Canada

Art: International art@CMS collaborative artists and local artists

Venue: **Ontario Science Centre, OSC**

First exhibition April 9th – 15th 2018
student research and inspiration

Second exhibition: May 29th – June 3rd at OSC :
students art-works presentation

A formal evaluation by the Ministry of Education

Organization:

creation of ORIGIN

Toronto Ministry of Education: general and education organization,
evaluation

art@CMS: Exhibition curation

ORIGIN: Scientific curation

art@CMS, ATLAS, CLS, CMS, LIGO/VIRGO, Muography, Perimeter Institute

More institutions are interested to join: TRIUMF, Snowlab



ORIGIN



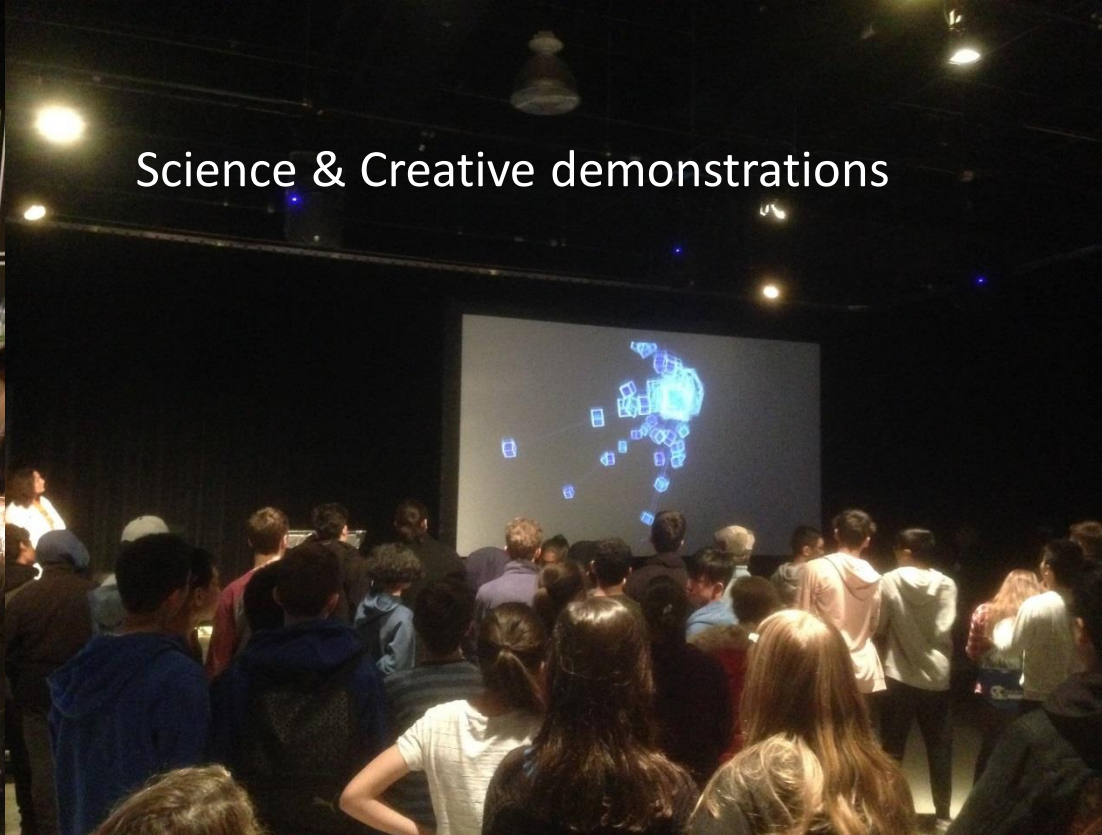
Cultural Collisions Canada – week schedule

Cultural Collisions Project with Origin - Maximum number of students per day (Tuesday - Friday) is 100 to accommodate workshops - Exhibit can always handle visitors

| | Monday April 9, 2018 | Tuesday April 10, 2018 | | | | Mercredi 11 avril 2018 | | | | Thursday April 12, 2018 | | | | Friday April 13, 2018 | | | | Saturday April 14, 2018 | Sunday April 15, 2018 |
|----------|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|--------------------------------------|------------------------------------------------------------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|------------------------------------------------------------------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|------------------------------------------------------------------|-------------------------|---------------------------------------------------------------------------------------------|--------------------------------------|------------------------------------------------------------------|-------------------------|----------------------------------------------------------------------------|----------------------------------------------------------|
| | Schools: Danforth Collegiate, Ecole secondaire Toronto Ouest, University of Toronto Schools | Danforth Collegiate (60 grade 9 and 11 Students) and University of Toronto Schools (6 Grade 11 students) + OSC invitations | | | | Ecole secondaire Toronto Ouest (61 étudiants - 10e et 11e année) - École francophone | | | | University of Toronto Schools (95 students - Grade 8, 10) - Shifted schedule 30 minutes later - Start time is 9:30 am this day only! | | | | Open for Ontario Science Centre Invitations to Participate - York Region Schools | | | | Open to the public - Open at 10 am | Open to the public - Open at 10 am |
| 9:00 AM | | 20 Minute Talk: Karola Dette, University of Toronto - From Particle Physics to Astrophysics | | | | Mini-présentation: Karola Dette, Université de Toronto - De la physique des particules à l'astrophysique | | | | 20 Minute Talk: Karola Dette, University of Toronto - From Particle Physics to Astrophysics | | | | 20 Minute Talk: Karola Dette, University of Toronto - From Particle Physics to Astrophysics | | | | | |
| 9:30 AM | Opening Event (9:30 - 10:00) - Richard Franz, Maurice (OSC), Rock Paper Science Hall (RPS) | Workshop 1A | Workshop 1B | Workshop 1C | Workshop 1D | Atelier 1A | Atelier 1B | Atelier 1C | Atelier 1D | Workshop 1A | Workshop 1B | Workshop 1C | Workshop 1D | Workshop 1A | Workshop 1B | Workshop 1C | Workshop 1D | Exhibit area activities will be available for the public | Exhibit area activities will be available for the public |
| 9:45 AM | | 9:30 - 10:30 am | 9:30 - 10:30 am | 9:30 - 10:30 am | 9:30 - 10:30 am | 9:30 - 10:30 am | 9:30 - 10:30 am | 9:30 - 10:30 am | 9:30 - 10:30 am | 9:30 - 10:30 am | 9:30 - 10:30 am | 9:30 - 10:30 am | 9:30 - 10:30 am | 9:30 - 10:30 am | 9:30 - 10:30 am | 9:30 - 10:30 am | 9:30 - 10:30 am | 9:30 - 10:30 am | |
| 10:00 AM | | What keeps us stuck to the Earth? (EN) | Playing with Data (EN) | Particle Surprise in a Cloud Chamber (EN/FR) | Celestial Luminescence | Qu'est-ce qui nous garde les pieds sur Terre? / What keeps us stuck to the Earth?(EN) | Jouer avec les données (EN/FR) | Surprise de particules dans une chambre à nuages (EN/FR) | Celestial Luminescence | What keeps us stuck to the Earth? (EN) | Playing with Data (EN) | Particle Surprise in a Cloud Chamber (EN/FR) | Celestial Luminescence | What keeps us stuck to the Earth? (EN) | Playing with Data (EN) | Particle Surprise in a Cloud Chamber (EN/FR) | Celestial Luminescence | Exhibit area activities will be available for the public | Exhibit area activities will be available for the public |
| 10:15 AM | | Perimeter Institute | CMS - CERN, University of Notre Dame | ATLAS, CMS, CERN | York University | Institut Périmètre | CMS - CERN, University of Notre Dame | ATLAS, CMS, CERN | York University | Perimeter Institute | CMS - CERN, University of Notre Dame | ATLAS, CMS, CERN | York University | Perimeter Institute | CMS - CERN, University of Notre Dame | CMS - CERN | York University | Open till 8:00 pm | Open till 8:00 pm |
| | Science Flash Mob (10:00 - 10:45) | Kelly Foyle and Kevin Donkers | Tom McCauley | Michael Hooh | Robin Kingsburgh | Dave Vrolyk et Nathan Chow | Tom McCauley | Michael Hooh | Robin Kingsburgh | Dave Fish and Damian Pope | Tom McCauley | Michael Hooh | Robin Kingsburgh | Olga Michalopoulos | Tom McCauley | Michael Hooh | Robin Kingsburgh | Pop up Public Talks | Pop up Public Talks |
| 10:30 AM | | 30 students | 30 students | 30 students | 15-20 students | 30 étudiants | 30 étudiants | 30 étudiants | 15-20 étudiants | 30 students | 30 students | 30 students | 15-20 students | 30 students | 30 students | 30 students | 15-20 students | 11 am - 20 Minute Talk: Peter Krieger, University of Toronto - ATLAS / LHC | |
| 10:30 AM | | RPS Hall | Room: Workshop 4 | Room: Dry Lab | Exhibit area | Salle avec des tables -RPS Hall | Salle: Workshop 4 | Salle: Ecosystems Lab | Aire d'exposition | RPS Hall | Room: Workshop 4 | Room: Dry Lab | Exhibit area | RPS Hall | Workshop 4 | Ecosystems Lab | Exhibit area | | |
| 10:45 AM | | 10:45 am - Talk in Exhibit Area - By Perimeter Institute - Dr. Kelly Foyle, Black holes and the Event Horizon Telescope | | | | 10:45 am - Brigitte Tessier, Artiste collaboratrice de la France & Montreal - "QUI DES DEUX INSPIRE L'AUTRE: Le SCIENTIFIQUE ou L'ARTISTE?" | | | | 10:45 am - Talk in Exhibit Area - By Perimeter Institute - Dr. Damian Pope - Hidden Patterns in Physics | | | | 10:45 am - Talk in Exhibit Area - Peter Krieger | | | | | |
| 11:00 AM | | Exhibit Area with Scientists and Artists | | | | Aire d'exposition avec les scientifiques et les artistes | | | | Exhibit Area with Scientists and Artists | | | | Exhibit Area with Scientists and Artists | | | | 12:00 pm - 20 minute talk: David Griffin (OCAD University) | |
| 11:15 AM | Moderated Panel: Meet the Scientists and Artists! (10:45 - 11:15) | | | | | | | | | | | | | Exhibit Area with Scientists and Artists | | | | 1:00 pm - 20 Minute talk: Robin Kingsburgh | |
| Lunch | 11:15 am - 12:00 pm | 11:30 am - 12:15 pm | | | | 11:30 am - 12:15 pm | | | | 11:30 am - 12:15 pm | | | | 11:30 am - 12:15 pm | | | | 3 pm - 20 minute Talk: Consensus Science Rep | |
| 12:00 PM | | 12:15 pm - Talk in Exhibit Area - Michael Hooh or Robin | | | | 12:15 pm - Talk in Exhibit Area - Peter Krieger | | | | 12:15 pm - Talk in Exhibit Area - Peter Krieger | | | | 12:15 pm - Talk in Exhibit Area - consensus | | | | Volunteers Coming: | Volunteers Coming: |
| 12:15 PM | Performance of Consensus, interactive component, Scott Wilson with the audience and then Q & A | Workshop 2A | Workshop 2B | Workshop 2C | Workshop 2D | Atelier 2A | Atelier 2B | Atelier 2C | Atelier 2D | Workshop 2A | Workshop 2B | Workshop 2C | Workshop 2C | Workshop 2A | Workshop 2B | Workshop 2C | Workshop 2C | Peter Krieger (ATLAS Canada, Professor, U of T) | Peter Krieger (ATLAS Canada, Professor, U of T) |
| 12:30 PM | | 12:45 - 1:45 pm | 12:45 - 1:45 pm | 12:45 - 1:45 pm | 12:45 - 1:45 pm | 12:45 - 1:45 pm | 12:45 - 1:45 pm | 12:45 - 1:45 pm | 12:45 - 1:45 pm | 12:45 - 1:45 pm | 12:45 - 1:45 pm | 12:45 - 1:45 pm | 12:45 - 1:45 pm | 12:45 - 1:45 pm | 12:45 - 1:45 pm | 12:45 - 1:45 pm | 12:45 - 1:45 pm | Michael Hooh CMS | Michael Hooh CMS |
| 12:45 PM | | Listening to Einstein's Universe (EN/FR) | Playing with Data (EN) | Accelerating Colours (EN/FR) | Science through Rap | Écouter l'univers d'Einstein (EN/FR) | Des données créatives au son (EN/FR Maybe) | Accélérer les couleurs (EN/FR) | La science à travers le rap | Listening to Einstein's Universe (EN/FR) | Creative Data to Sound (EN) | Accelerating Colours (EN/FR) | Science through Rap | Listening to Einstein's Universe (EN/FR) | Creative Data to Sound (EN) | Accelerating Colours (EN/FR) | Science through Rap | | |
| 1:00 PM | Workshops and Activities in Exhibit Area | LIGO, University of Glasgow | CMS - CERN, University of Notre Dame | CMS - CERN, Collaborative Artist from Montreal working in France | Consensus | LIGO, University of Glasgow | BEER, University of Birmingham | CMS - CERN, Collaborative Artist from Montreal working in France | Consensus | LIGO, University of Glasgow | CMS - CERN, University of Notre Dame | CMS - CERN, Collaborative Artist from Montreal working in France | Consensus | LIGO, University of Glasgow | BEER, University of Birmingham | CMS - CERN, Collaborative Artist from Montreal working in France | Consensus | Wen Yi Song (ATLAS Canada, York University) | Bianca Ciungu (ATLAS Canada Toronto MS) |
| 1:15 PM | Activities in the exhibit area | Martin Hendry | Tom McCauley | Michael Hooh and Brigitte Tessier | Antoine Gittens-Jackson | Martin Hendry | Scott Wilson | Michael Hooh | Antoine Gittens-Jackson | Carl-Johan Haster | Tom McCauley | Michael Hooh | Antoine Gittens-Jackson | Heather Fong | Scott Wilson | Michael Hooh | Antoine Gittens-Jackson | Lisa Cole | Lisa Cole |
| 1:30 PM | Prompts? | 30 students | 30 students | 20 students | 20 students | 30 étudiants | 30 étudiants | 20 étudiants | 20 étudiants | 30 students | 30 students | 20 students | 20 students | 30 students | 30 students | 20 students | 20 students | Consensus | Vincent Pascuzzi (ATLAS Canada Toronto F) |
| 1:45 PM | Interaction with staff, scientists in the staff | Room: RPS Hall | Dry Lab | Exhibit Area | Room: Studio 3 | RPS Hall | Workshop 4 | Aire d'exposition | Salle: Dry Lab | Room RPS Hall | Workshop 4 | Exhibit Area | Room: Studio 3 | Room: RPS Hall | Workshop 4 | Exhibit area | Dry Lab | Bianca Ciungu (ATLAS Canada MSc Student, Toronto) | |
| 2:00 PM | Artists present in exhibit area | Activities in Exhibit Area with Q & A | | | | Activités dans l'aire d'exposition (questions et réponses) | | | | Activities in Exhibit Area with Q & A | | | | Activities in Exhibit Area with Q & A | | | | | |
| 2:15 PM | | | | | | | | | | | | | | | | | | | |
| 2:30 PM | Departure at 2:30 pm | Departure at 2:30 pm | | | | Départ à 2:30 pm | | | | Departure at 2:30 pm | | | | Departure at 2:30 pm | | | | | |
| | | Open till 6:00 pm | | | | Ouvert jusqu'à 6:00 pm | | | | Open till 6:00 pm | | | | Open till 6:00 pm | | | | | |
| | | | | | | Evening Talk - 7:00 pm | | | | | | | | | | | | | |



Science personal dialogue



Science & Creative demonstrations



Creative workshops



Specialized topic talks



General science talks

Young audience



Cloud Chamber Workshop



Life Size Photo Wall



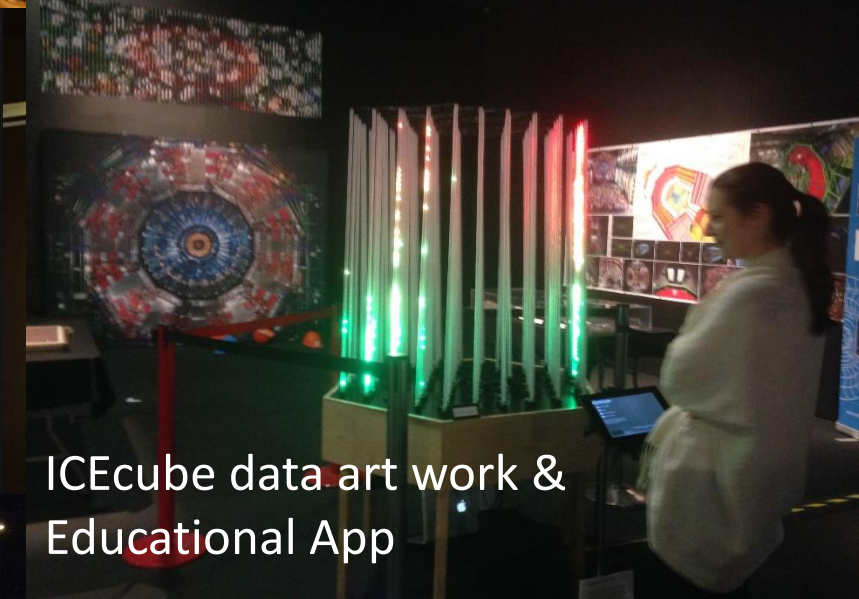
Rap Workshop



Creative Photo Wall



ICEcube data art work & Educational App



General Science Morning Introduction Talk



Exhibition & Great Conversation Evening

“Science engagement through the Arts”



LHC tunnel Photo wall



Science Centre CEO Maurice Bitrain



Direct dialogue



presentation



Guided tour through the exhibition



Entrance CMS life size photo

Concert at the Royal Music Conservatory

Scott Wilson (BEER) world premier "Dark Matter"



Data Sonification Workshop



World Premier "Dark Matter"



Pre Concert Conversation



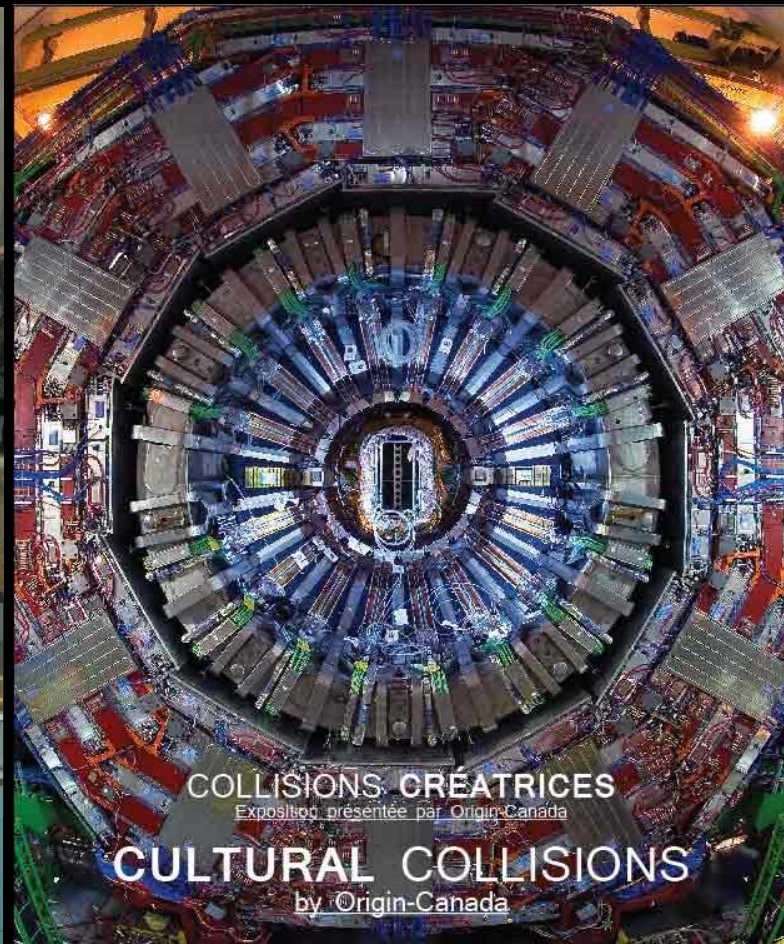
Pre Concert Conversation



OSC data sonification
Life demonstration



Second Exhibition - Student Results - artWorks



STUDENT ART ŒUVRES ÉTUDIANTES
INSPIRED BY SCIENCE INSPIRÉES PAR LA SCIENCE

From May 29 to June 1, 2018 Du 29 mai au 1^{er} juin 2018

Danforth Collegiate and Technical Institute
École secondaire Toronto Ouest
University of Toronto School





Student Exhibition Opening – Rap & Dance Performances



Rap performance & HipHop





Thank you for your attention
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