

art@CMS in Canada

- The **Ontario Ministry of Education**, Toronto, invited **art@CMS** to present an interdisciplinary Science & Art exhibition/workshop/ lectures project called '**Cultural Collisions**' which already has been performed in 2016/2017 at **CERN, Natural History Museum Vienna and Montenegro**
- **ORIGIN**: an international scientific collaboration of experiments & institutes was formed to act as scientific support and advisory board
art@CMS, ATLAS, CLS-Canadian Light Source, CMS, LIGO/VIRGO, Muographer, Perimeter Institute,
- The week-long exhibition, workshops and lectures
« **Cultural Collisions** » event has been a **great success**



ORIGIN



Cultural Collisions

by ORIGIN - Canada

Science: from Astrophysics to Particle Physics

Art: International art@CMS collaborative artists and local artists



- First exhibition April 9th – 15th 2018 Venue: **Ontario Science Centre, OSC**
Research & Inspiration for students
 - Second exhibition: May 29th – June 3rd at OSC : students art-works presentation
 - A formal evaluation by the Ministry of Education will follow in June.
 - Organization:
 - **Toronto Ministry of Education:** general organization, education advisor, evaluation (Lisa Cole)
 - **art@CMS:** Exhibition curation
 - **ORIGIN:** Scientific curation
- art@CMS, ATLAS, CLS-Canadian Light Source, CMS, LIGO/VIRGO, Muographer, Perimeter Institute**
More institutions are interested to join: **TRIUMF, Snowlab**

Cultural Collisions by Origin-Canada



design by Michael Hoch@cern.ch

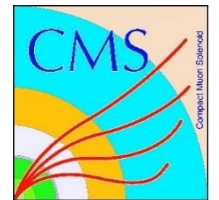
Invited by the **Ontario Ministry of Education**

and supported by **ORIGIN** - collaboration



Canadian
Light
Source

Centre canadien
de rayonnement
synchrotron



UNIVERSITY OF
TORONTO



Cultural Collisions @ Ontario Science Centre



- 32 workshops: 16 scientific and 16 creative
 - 20 lectures: 10 scientific & 10 creative
 - Exhibition of science (hardware & posters), artworks
 - April 9th opening in the presence of officials from the Ministry and the OSC CEO and board
 - science flash mob, science rap and sonification performance
 - April 11th Wednesday night talk on art@CMS by M.Hoch in the “*Great Conversation Speakers Series*”
- ~600 students participated.

Video walk through the exhibition:

<https://www.youtube.com/watch?v=4Hkrr1mCz7o>

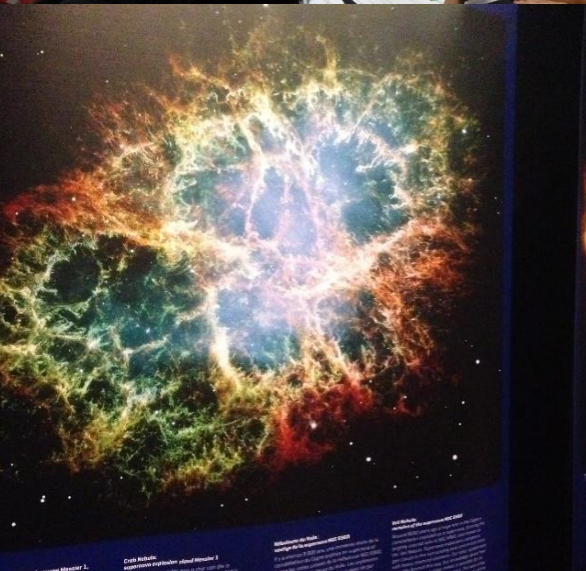
Press article:

<https://research2reality.com/space-quantum/the-large-cultural-collider-of-physics-and-art/>

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	9:30 - 10:30 am	9:30 - 10:30 am	9:30 - 10:30 am
10:00 AM	Science Flash Mob (10:00 - 10:45)				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 6:00 pm	
10:15 AM					Kelly Foyle and Kevin Donkers	Tom McCauley	Michael Hoch	Robin Kingsburgh	Dave Vrolyk et Nathan Chow	Tom McCauley	Michael Hoch	Robin Kingsburgh	Dave Fish and Damian Pope	Tom McCauley	Michael Hoch	Robin Kingsburgh	Olga Michalopoulos	Tom McCauley	Michael Hoch	Robin Kingsburgh	30 students	30 students	30 students	15-20 students
10:30 AM	Moderated Panel: Meet the Scientists and Artists! (10:45 - 11:15)				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			
10:45 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 & Montréal - "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				12:00 pm - 20 minute talk: David Griffin (OCAD University)						
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				1:00 pm - 20 Minute talk: Robin Kingsburgh							
11:15 AM					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 Rap			
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				Volunteers Coming:		Volunteers Coming:	
12:00 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 2D	Workshop 2A	Workshop 2B	Workshop 2C	Workshop 2D	Peter Krieger (ATLAS Canada, Professor, U of T)		Peter Krieger (ATLAS Canada, Professor, U of T)	
12:15 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	12:45 - 1:45 pm	12:45 - 1:45 pm	12:45 - 1:45 pm	12:45 - 1:45 pm
12:30 PM	Workshops and Activities in Exhibit Area				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	Michael Hoch CMS		Michael Hoch CMS	
12:45 PM					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	LIGO, University of Glasgow	BEER, University of Birmingham	CMS - CERN, Collaborative Artist from Montreal working in France	Wen Yi Song (ATLAS Canada, York University)
1:00 PM	Activities in the exhibit area				Martin Hendry	Tom McCauley	Michael Hoch and Brigitte Tessier	Antoine Gittens-Jackson	Martin Hendry	Scott Wilson	Michael Hoch	Antoine Gittens-Jackson	Carl-Johan Haster	Tom McCauley	Michael Hoch	Antoine Gittens-Jackson	Heather Fong	Scott Wilson	Michael Hoch	Antoine Gittens-Jackson	Lisa Cole		Lisa Cole	
1:15 PM					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	30 students	30 students	20 students	20 students	Consensus
1:45 PM	Artists present in exhibit area				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	Brigitte Tessier		Brigitte Tessier	
2:00 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)		
2:15 PM	Departure at 2:30 pm				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							
2:30 PM					Open till 6:00 pm				Départ à 2:30 pm				Ouvert jusqu'à 6:00 pm				Departure at 2:30 pm				Departure at 2:30 pm			





Exhibition & Great Conversation Evening



Concert at the Royal Music Conservatory



ORIGIN contributors

- **ATLAS** – Claire Bourdarios, Karola Dette, Peter Kreuger & Univ. of Toronto team
- **CLS-Canadian Light Source:** Mark Boland, Sandra Ribeiro
- **LIGO/VIRGO:** Martin Hendry & LIGO team
- **Muographer:** Sara Steigerwand, Hiroyuki Tanaka of Univ. of Tokyo
- **Ontario Ministry of Education:** Lisa Cole & her team
- **Ontario Science Centre:** Catherine Paisley, Lorrie Ann Smith, Cathie Spencer, & team
- **Perimeter Institute:** Greg Dick, Marie Strickland & team

- Names (1) Name (2) ...

(1) Institute (2) Institute

CMS and art@CMS people involved

Participants – in Toronto

M.Hoch : creator, organiser, curator, workshops, talks, posters

Consensus: art@CMS collaborative artist, workshop, performance Science Rap

Tom McCauley: workshop “playing with Data”

Lars Roedne: exhibition installation and preparation

Brigitte Tessier: art@CMS collaborative artist, workshop ‘science art history in colours’

Scott Wilson: art@CMS collaborative artist, workshop: Data Sonification

Support

Austin Ball : support & consultant

Zsuzsanna Garai: administration

Elisa Gros: text editing and preparation

Marzena Lapka: communication

Chiara Mariotti : organisation, physics posters creation

Achille Petrilli : finance

Mick Storr : cloud chamber advisor, general consulting & networking