PAST, PRESENT AND FUTURE OF UNIVERSE
SCIENCE & ART - CONNECTING PEOPLE

Cultural Collisions Bosnia and Herzegovina - 2020/2021
Organized by ORIGIN-CMS

Jadranko Batista¹, Daniela Brill², Azra Gazibegović Busuladžić³, Nikola Godinović⁴, Mirza Hadzimehmedović⁵, Michael Hoch⁶, Ivica Puljak⁷, Nemanja Rakić⁷, Christoph Schäfer⁸,

¹University of Mostar, Mostar, Bosnia and Herzegovina
²Master, Science & Art, University Applied Arts Vienna, Austria
³University of Sarajevo, Sarajevo, Bosnia and Herzegovina
⁴University of Split, Split, Croatia
⁵University of Tuzla, Tuzla, Bosnia and Herzegovina
⁶FSU – Florida State University, United States
⁷University of Banja Luka, Banja Luka, Bosnia and Herzegovina
⁸CERN - European Organization for Nuclear Research, Geneva, Switzerland

DAAD – CONNECT2021 NEUM August 9th–14th 2021
Objectives

Demonstrate how **science & art enables connecting people**

- **stimulate curiosity** on science,
- **foster** critical & creative thinking process;
- **engage** in science via art practice

Engage, Network and Inspire all generations, particularly young people

Regional Involvement of Schools, Universities and local cultural Institutions

Network & Connect Students local scientists, artists, educators and real people with international partners in science & art

Foster digitalisation: bring Big Science experiments such as those at CERN, gravitational waves interferometers, space telescopes live into the class room and disseminate how global science collaborations networking works.

Sustainability: Transfer methodology knowledge, materials tools to local partners
Cultural Collisions is an educational interdisciplinary art & science engagement and networking format that allows students to gain authentic and personal access to the world of science and to approach complex topics through artistic exploration.

Cultural Collisions is divided into 3 phases:

1. **Interdisciplinary exhibition / lectures and Workshops:** (beginning of School Year e.g. September or October)
   - science, technology and art exhibition lectures and workshops held by scientists and artists.

2. **Elaboration of the topics at schools:** (e.g. October – May)
   - further research and work of the students with creative supervisors in dialogue with science teachers at the schools.
   - Several event should be offered: ideas exchange rehearsal sessions, mentoring and discussion sessions with in international partners/ Virtual Visits to large international Science experiments e.g. CERN

3. **Final presentation of the students' works:** (end of School Year; e.g. May or June)
   - exhibition of the themes/artworks created by the students in a museum, possibly again with a supporting program.

The process that the students go through during the workshop allows them to acquire scientific skills, as well as to discuss and express creative approaches to solutions in an artistic dialogue.

The direct contact with real scientists and artists, who are perceived as identification figures and can give the students direct, real-life and professional insights,
Connect teams from all over B&H

**Duration:** Nov. 2020 - June 2021

**11 teams in 6 towns:**
- Banja Luka,
- Gradačac,
- Mostar
- Sarajevo,
- Tuzla,
- Zenica

**Every team consists of at least:**
- Students
- One teacher
- One scientist
- One local artist

Planning: new Cycle 2021/2022
1. **Pre Opening:** install in 4 cities small local inspiration exhibitions:
   - 18 printed posters sent to each town to create 4 local science & art exhibitions for inspiration.
   - All 4 exhibitions sponsored by ACF and DAAD stay permanently with local partners.

2. **Kick-off online Symposium:** – 6 and 7 Nov 2020; [https://indico.cern.ch/event/970862/](https://indico.cern.ch/event/970862/)

3. **First Ideas Exchange Session:** - 12 Dec 2020; [https://indico.cern.ch/event/1015445/](https://indico.cern.ch/event/1015445/)

4. **Second General Rehearsal Session:** - Feb. 16th 2021; [https://indico.cern.ch/event/1005605/](https://indico.cern.ch/event/1005605/)

5. **Virtual Visit to CERN / CMS:** - March 25th 2021; [https://indico.cern.ch/event/1018237/](https://indico.cern.ch/event/1018237/)
   - Plenary session contributions by director Austrian Cultural Forum, Science Minister Sarajevo, Vice Rector Univ. Banja Luka, Art Gallery Director Mostar
   - Introduction Presentation & Virtual Visit to CMS/ CERN followed by Q&A session

6. **3rd General Rehearsal session:** - May 26th 2021: [https://indico.cern.ch/event/1041786/](https://indico.cern.ch/event/1041786/)

7. **Closing Hybrid-Vernissage:** - June 18th 2021: [https://indico.cern.ch/event/1047913/](https://indico.cern.ch/event/1047913/)
   - International Zoom Conference + 2 physical presents Vernissages (Sarajevo + Banja Luka)
   - Student presentation + Plenary Session with local partners

► Preview: Kick Off of Cultural Collisions Cycle 2021/2021: Autumn 2021
Posters - permanent local exhibitions

Exhibition Posters 2020/2021; Sponsored by „Austrian Cultural Forum“ and „DAAD-CONNECT“
Cultural Collisions - Bosnia and Herzegovina

6-7 November 2020
Europe/Zagreb timezone

Web Link: https://indico.cern.ch/event/970862/

PAST, PRESENT & FUTURE OF THE UNIVERSE

6th, 7th November 2020: Kick Off online symposium - November 2020 till May 2021

Cultural Collisions Bosnia and Herzegovina

PAST, PRESENT AND FUTURE OF THE UNIVERSE

SCIENCE & ART CONNECTING PEOPLE

Inspiring teams of young people to work on scientific topics for several months supervised by scientists and artists to create artistic videos or digital artworks that illustrate their interdisciplinary dialogue. The target audience for these digital artworks are other young students, of similar age, as well as members of the general public.

supported by: Austrian Cultural Forum Sarajevo, ORIGIn, DAADconnect2020

Sessions Video recorded:

6th Nov. morning session: https://videos.cern.ch/record/2743874

6th Nov. afternoon session: https://videos.cern.ch/record/2743875

7th Nov. brainstorming session: https://videos.cern.ch/record/2743876
Kick Off Symposium 11/2020

Program: 2 Days
Participants: 132
Teams: 4
Cities: 4

Cultural Collisions Bosnia and Herzegovina
November 2020 - May 2021

PAST, PRESENT & FUTURE OF THE UNIVERSE

Topics:
The Big Bang and Early Universe
The Evolution of the Universe
Black Holes and Gravitational Waves
The End of the Earth, the Sun and the Universe
Physics and Art
Science Communication

Schedule
8th, 7th November 2020: Kick Off online symposium
November 2020 to May 2021: Work in teams with help from mentors
May 2020: Closing Symposium: final exhibition and presentation, contest and awards

Goal
Inspire teams in each city to work on scientific topics during the year to create digital artworks in which students present their interdisciplinary dialogue. The participants will be supervised by scientists and artists during the whole process. The target audience for these digital artworks are other young students, similar age.

Organisation
Jadranko Batić (Mostar), Daniela Brill (Vienna/Bogota), Azra Gazibegović Busuladžić (Sarajevo), Saša Cvejić (Zagreb), Nikola Godinović (Split), Admir Greipel (Bern), Mirza Hadžimehmedović (Tuzla), Martin Handry (Glasgow), Michael Hoch (Vienna/CERN), Sabine Kemfthaller (Vienna/Sarajevo), Predrag Milenović (Beograd), Tijana Popanović (Novi Sad), Ivica Puljak (Split), Nemanja Rakidić (Banja Luka)

for registration and more information: https://indico.cern.ch/event/870862/

SCIENCE & ART CONNECTING PEOPLE
Two new group joined

Team GRADAČAC

Team ZENICA
Ideas Exchange & Rehearsal Sessions

Students present their Ideas research or progress and discuss with scientists

**Dates:**
- December 12th 2020,
- February 16th 2021,

**First Ideas Exchange Session:** [https://indico.cern.ch/event/1015445/](https://indico.cern.ch/event/1015445/)

**Second General Rehearsal Session:** [https://indico.cern.ch/event/1005605/](https://indico.cern.ch/event/1005605/)
Virtual Visit to CERN / CMS

**Dates:** March 25th 2021,  
**CERN/CMS virtual visit:** [https://indico.cern.ch/event/1018237/](https://indico.cern.ch/event/1018237/)  

**Program:**
10:30 Welcome / Prof. dr. Mirza Hadžimehmedović, University of Tuzla  
10:33 Cultural Collisions – Sci&Art, Dr. Michael Hoch, FSU Tallahassee USA  
10:40 Dir. Sabine Kernthaller, MA, Austrian Cultural Forum Sarajevo  
10:45 Dr. sc. Melika Husić-Mehmedović, Science Minister, Higher Education and Youth, Kanton Sarajevo.  
10:50 Prof. dr. Biljana Antunović, Vice-Rector for International and Interuniversity cooperation University of Banja Luka  
10:55 Dalibor Nikolić, Galery Kraljica Katarina Kosača, Mostar  
11:00 START CERN - CMS VIRTUAL VISIT  
lecture: Prof. dr. Ivica Puljak, University of Split  
guide at CERN/ CMS: Dr. Michael Hoch, FSU Tallahassee USA  
12:00 Question and Answer session with all experts  
12:30 Closing

*Number of online participants following the zoom event: 556*
Final Hybrid Vernissage (Sarajevo/ Banja Luka/ Zoom online) June 18th 2021

Cultural Collisions Bosnia & Herzegovina
Hybrid Vernissage June 18th 2021

PAST, PRESENT AND FUTURE OF THE UNIVERSE - SCIENCE & ART CONNECTING PEOPLE

13h – 16h20 General Session:
Students of 6 different cities present the results of their creative dialogue
Sarajevo, Banja Luka, Mostar, Tuzla, Zenica, Gradačac

16h30 - 18h General Discussion:
Michael Hoch, ORIGIN program leader
Ivica Puljak, ORIGIN regional coordinator/ Split Mayor
Mirza Hadžimehmedović, ORIGIN Bosnia & Herzegovina coordinator
Sabine Kernthaller, Director Austrian Cultural Forum/Austrian Embassy Sarajevo
Marcus Bleicher, DAAD/CONNECT 21 project leader
Christoph Schäfer, CERN
Melika Husić-Mehmedović, Minister Higher Education and Science, Sarajevo
Mirza Dautbašić, Vice Rector UNSA
Sanja Bijakšić, Vice-Rector University of Mostar
Elvis Baraković, Minister for Science & Education Tuzla
Vesna Bratovčić, Vice Rector IR UNTZ
Jasmin Imamović, Tuzla Mayor
Srđan Rajčević, Minister Science and Technology, Higher Education Republika Srpska
Goran Trbić, Dean Faculty of Natural Sciences and Mathematics, University of Banja Luka
Biljana Antunović, Vice-Rector for International and Interuniversity Cooperation, University of Banja Luka
Suzana Gotvac Atlagić, Assistant Prof. RMSchools Ambassador at Schools 4.0, EIT

Program:
https://indico.cern.ch/event/1047913/
Zoom: https://cern.zoom.us/j/68405785504?pwd=dU13dG9mOVNTL0FVeUd2NHJiczFqUT09
Some creative results:

**Original challenge to all 11 student working groups in 6 different cities was to:**

- learn about the scientific topic
- continue your own research
- connect to local and international researchers
- start a dialogue with local creative community
- create a novel artwork which is dedicated to communicate the scientific topic to your peer group or younger students.
- All creative expressions are allowed.

- TV Serie Law & Physics Court Room
- Participatory art & Science Practice with young Children
Mira-I research the black holes and that’s what attracted me to this project.

Are we going to die like the deer hit by an archer’s arrow,
Some creative results:

- Theatre Play
- Social Media Participatory art piece with Small Children
and the first three minutes of the Universe and what happened in the moments, following the beginning of the cosmos from virtually nothing.
How the Universe was created?
Our team contributed a poster

one of our students, Lamija Muratagic helped to make the design

Scientific paper is under preparation
https://www.connect2020.online

<table>
<thead>
<tr>
<th>Time</th>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00 - 09:30</td>
<td>Registration and Opening Session</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
</tr>
<tr>
<td>09:30 - 10:00</td>
<td>Opening and Introduction</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
</tr>
<tr>
<td>10:00 - 10:30</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
</tr>
<tr>
<td>10:30 - 11:00</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
</tr>
<tr>
<td>11:00 - 11:45</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
</tr>
<tr>
<td>11:45 - 12:30</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
</tr>
<tr>
<td>12:30 - 14:00</td>
<td>Lunch</td>
<td>Lunch</td>
<td>Lunch</td>
<td>Lunch</td>
<td>Lunch</td>
<td>Lunch</td>
</tr>
<tr>
<td>14:00 - 16:00</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
</tr>
<tr>
<td>16:00 - 16:30</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
</tr>
<tr>
<td>16:30 - 18:00</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
</tr>
<tr>
<td>18:00 - 18:30</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
</tr>
<tr>
<td>18:30 - 19:00</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
</tr>
<tr>
<td>19:00 - 20:00</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
<td>Coffee</td>
</tr>
</tbody>
</table>

**DAAD - CONNET2021 Collaboration with ORIGIN-CMS**

**Cultural Collisions Bosnia and Herzegovina**

**Neum/ Bosnia August 8th – 14th 2021**
Summary

► Excellent first cycle kick-off – program designed for long term engagement

► Enthusiastic Participation and Strong Engagement of Various Communities contributed to the Outstanding Success:
  ▪ Students / Teachers
  ▪ Regional scientist groups / international science community
  ▪ Local art community / international guests
  ▪ Local and regional support by political opinion leaders, academic institutions
  ▪ Galleries, Theatre, Schools, Radio Stations, TV stations
  ▪ International support by diplomatic institutions

► Excellent Networking and support by local scientists and local creative & art community
  ▪ Enthusiasm level high particularly among students and supervisors
  ▪ Passionate engagement of regional and international science community
  ▪ High interest of opinion leaders, higher education institutions as well as local and regional creative community

► Next steps Cultural Collisions Bosnia and Herzegovina 2022
  ▪ Enlarge & Network in the region: Bosnia, Croatia, Montenegro, Serbia

► Prepare for funding to make it sustainable
To make it sustainable:

We kindly ask you for suggestions and contacts to possible institutions who are interested to support and create a **sustainable regional cross disciplinary science and art engagement and networking hub for education**.

**Cultural Collisions 4 Creative and Prosperous Europe**

Thank you for your attention!

Michael.Hoch@cern.ch
art@CMS/ORIGIN programm leader
Visiting Professor FSU Tallahassee, US

phone: +41 754115720