



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

## Cultural Collisions Bosnia and Herzegovina - 2020/2021

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# 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

# Format – Cultural Collisions

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 events should be offered: ideas exchange rehearsal sessions, mentoring and discussion sessions with 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

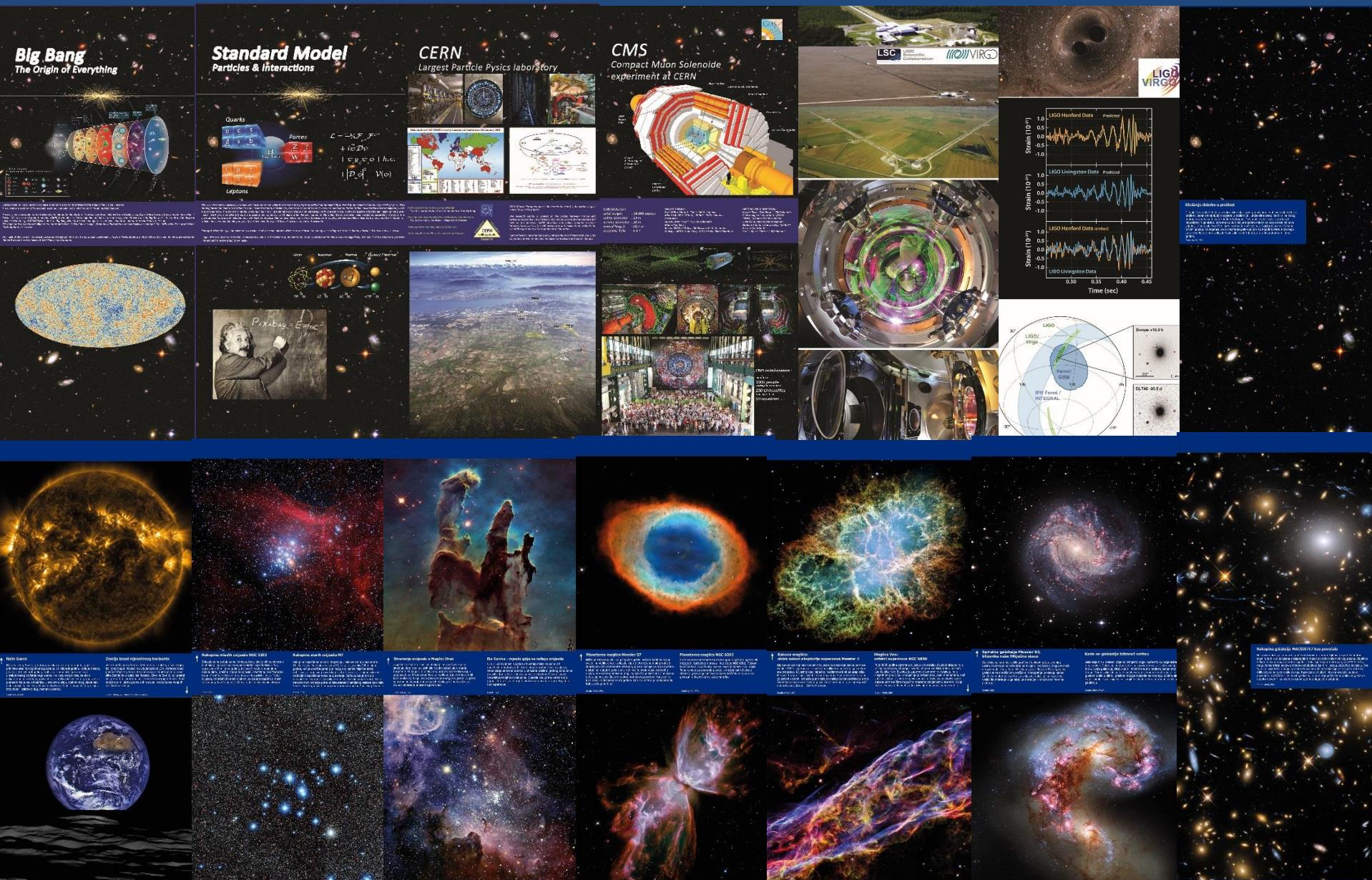


# Schedule

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/>
  3. **First Ideas Exchange Session:** -12 Dec 2020; <https://indico.cern.ch/event/1015445/>
  4. **Second General Rehearsal Session:** - Feb. 16<sup>th</sup> 2021; <https://indico.cern.ch/event/1005605/>
  5. **Virtual Visit to CERN / CMS:** - March 25<sup>th</sup> 2021; <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. **3<sup>rd</sup> General Rehearsal session:** - May 26<sup>th</sup> 2021: <https://indico.cern.ch/event/1041786/>
  7. **Closing Hyrid-Vernissage:** - June 18<sup>th</sup> 2021: <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“

# Kick Off Symposium

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



## Cultural Collisions - Bosnia and Herzegovina

6-7 November 2020

Europe/Zagreb timezone

Search...



Overview

Timetable

Registration

Participant List

ZOOM link

## 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

# Participation

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

6<sup>th</sup>, 7<sup>th</sup> 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 Batista (Mostar), Daniela Brill (Vienna/Bogota), Azra Gazibegović Busuladžić (Sarajevo), Saša Ceci (Zagreb), Nikola Godinović (Split), Admir Greljo (Bern), Mirza Hadžimehmedović (Tuzla), Martin Hendry (Glasgow), Michael Hoch (Vienna/ CERN), Sabine Kernthaller (Vienna/ Sarajevo), Predrag Milenović (Beograd), Tijana Prodanović (Novi Sad), Ivica Puljak (Split), Nemanja Rakić (Banja Luka)



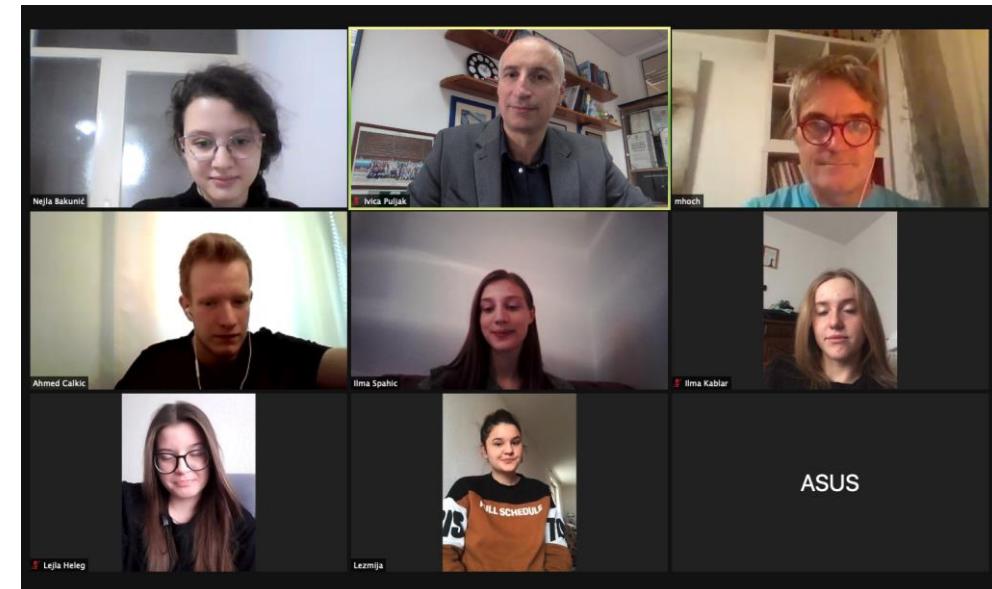
for registration and more information: <https://indico.cern.ch/event/970862/>

**SCIENCE & ART CONNECTING PEOPLE**



# Two new group joined

## Team GRADAČAC

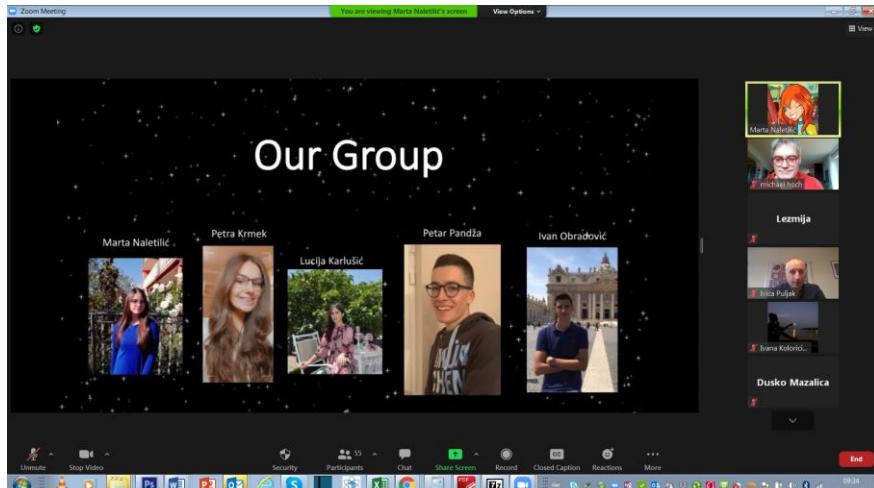


## Team ZENICA

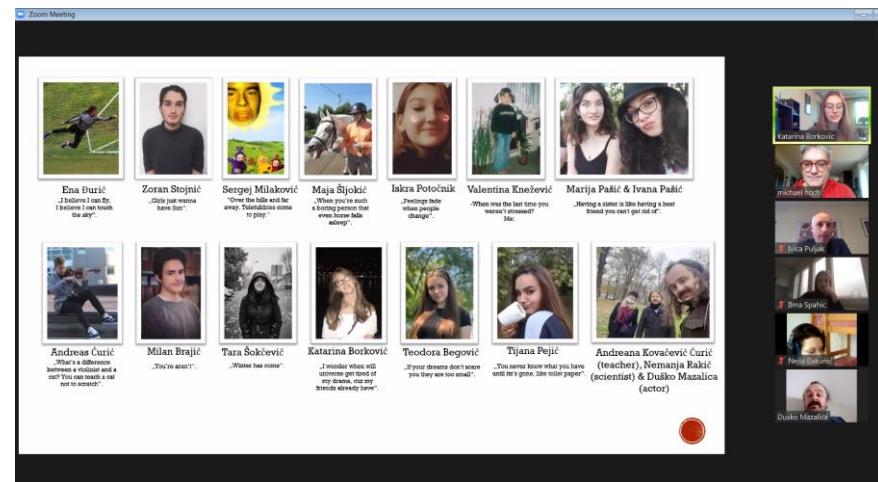
# Ideas Exchange & Rehearsal Sessions

Students present their Ideas research or progress and discuss with scientists

**Dates:** December 12<sup>th</sup> 2020, **First Ideas Exchange Session:** <https://indico.cern.ch/event/1015445/>  
February 16<sup>th</sup> 2021, **Second General Rehearsal Session:** <https://indico.cern.ch/event/1005605/>



A screenshot of a PowerPoint presentation titled "proj.pptx - PowerPoint". The slide contains a large image of a white crocheted doily and a video feed of a person. The video feed shows a person's face and hands, likely demonstrating a craft. The PowerPoint interface at the top shows tabs for File, Home, Insert, Design, Transitions, Animations, Slide Show, Review, View, and Help. The participant list on the right includes Nejc Šafračić, Jelena Palički, Ivana Kolođić, and Neja Šafračić. The Zoom interface at the bottom shows various controls.



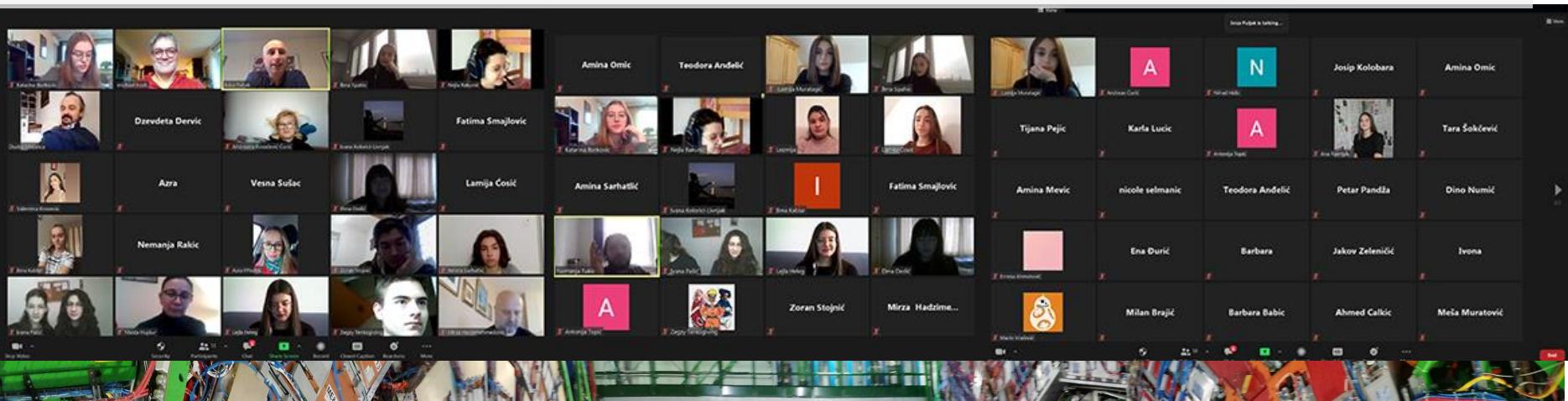
# Virtual Visit to CERN / CMS

**Dates:**

March 25<sup>th</sup> 2021,

CERN/CMS virtual visit:

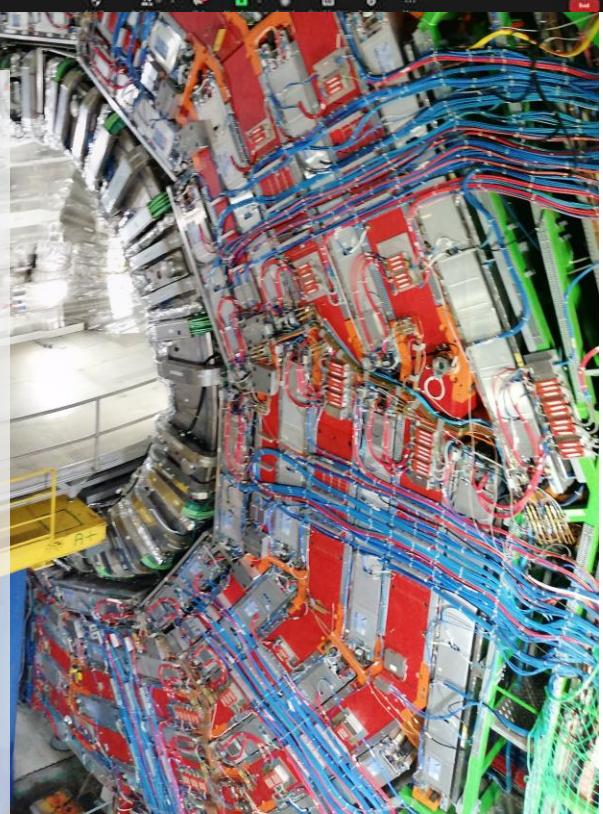
<https://indico.cern.ch/event/1018237/>



## 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*



## Cultural Collisions Bosnia & Herzegovina

Hybrid Vernissage June 18<sup>th</sup> 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=dU13dG9mOVNTL0FVc052NHJiczFqUT09>



austrijski kulturni forum<sup>sar</sup>

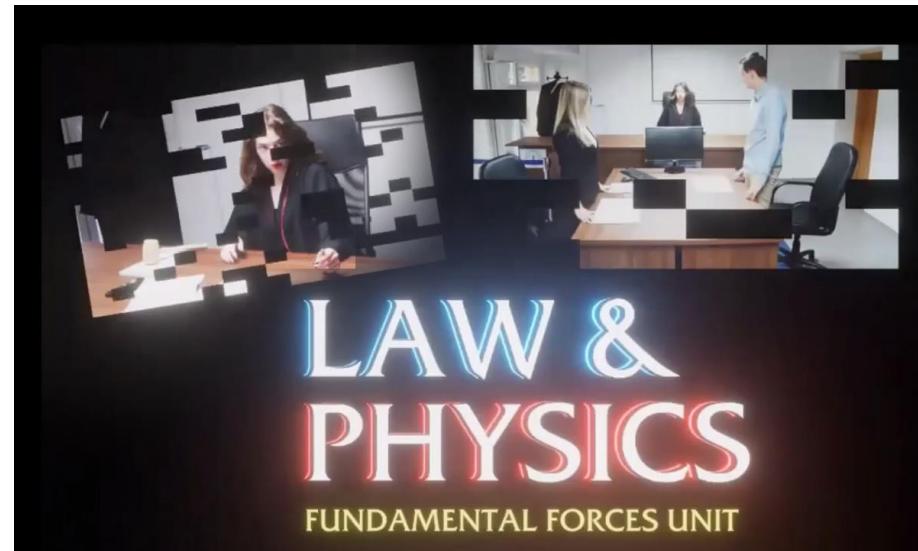
DAADCONNECT2020



# 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

- Round Table Discussion



- Stop Motion Film



Are we going to die like the deer  
hit by an archer's arrow,

- Philosophical Animation Video

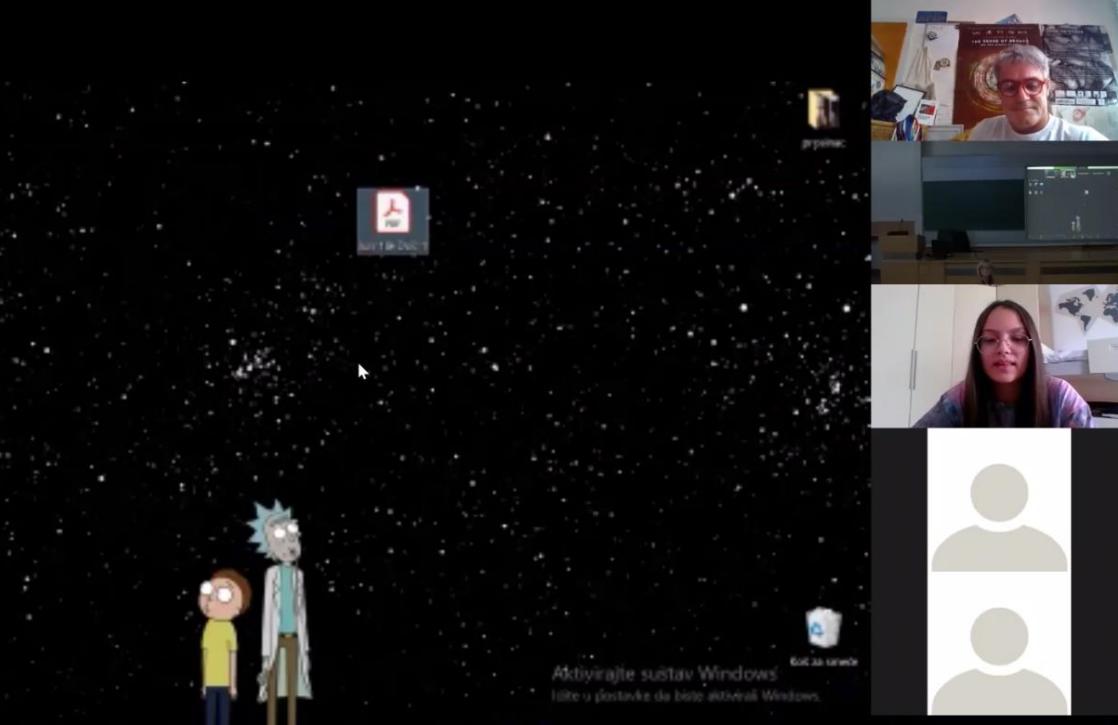
# Some creative results:

- Theatre Play

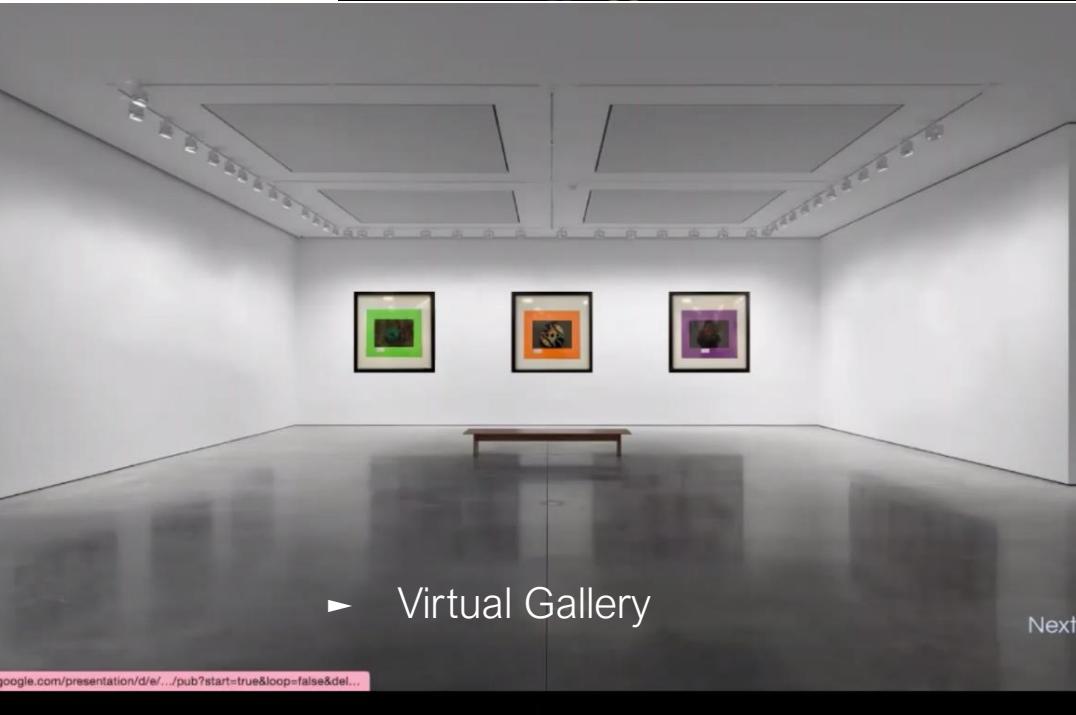


- Social Media Participatory art piece with Small Children

► Animation Video

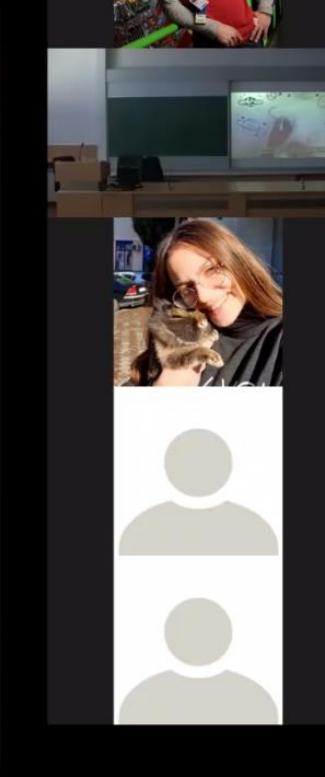
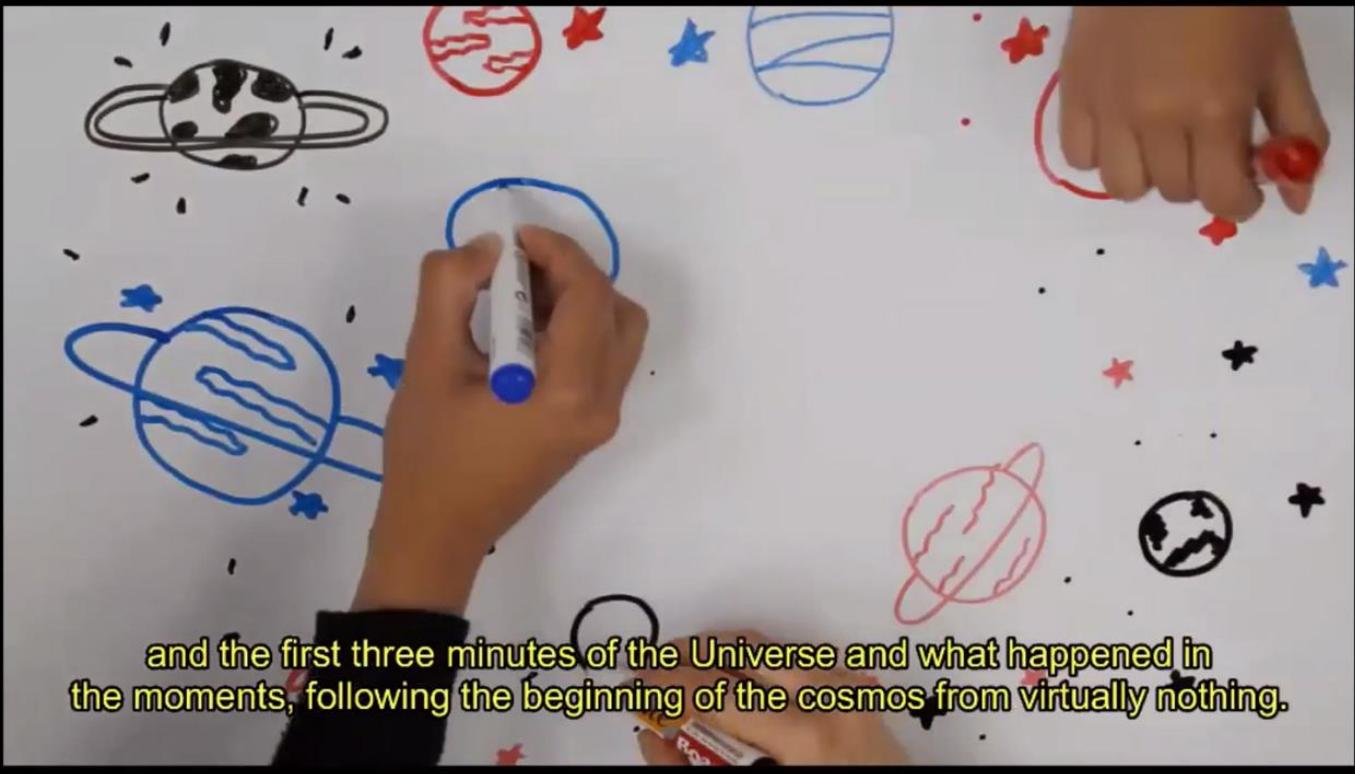


► Creative Production



► Virtual Gallery





- Animation Video
- Presentation







VID-20210522-WA0017

# EPS2021 conference contribution

# CULTURAL COLLISIONS

## Bosnia and Herzegovina

A creative approach to engage on scientific topics.

**November 2020 - June 2021. Authors** Jadranko Batista 1, Daniela Brill 2, Azra Gazibegović Busuladžić 3, Nikola Godinović 4, Mirza Hadžimehmedović 5, Michael Hoch 6, Ivica Puljak 4, Nemanja Rakić 7, Christoph Schaefer 8

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

## Abstract

Cultural Collisions is a novel cross-disciplinary science engagement, networking and education programme designed to stimulate the interest of high school students in science by introducing the methods and concepts of art and creativity into their standard science studies. It is based on a unique collaboration of international, national and local partners (scientists, artists and educators), using modern communication tools which in particular facilitate the participation in city base or rural communities. It provides access to and is supported by science centres and museums through workshops and exhibitions. Cultural Collisions Bosnia and Herzegovina has brought together 11 working groups in 6 different Bosnian cities and has been run entirely online.



During a whole school year, a total of 130 students participated in workshops and 556 in complementary events, including virtual visits and public lectures. They were supported by a unique collaboration of their teachers, local artists, local and international scientists, and demonstrated strong interest and enthusiastic engagement. Their commitment and efforts have resulted in an enhancement of their skills, an improved understanding of big science questions, scientific methodology, and an enhanced ability to discover creative solutions to complex problems. Furthermore, the programme demonstrates that the creative approach to engage on scientific topics encourages an increase in the participation of girls. The program is organized by ORIGIN/CMS following the Cultural Collisions methodology of previous successfully disseminated programs in Canada, Germany, Switzerland and Austria.

**6** Different Bosnian cities

**11** Working groups

**130** Students participating in various workshops

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.

**Each team consisted of:**

- Students
- One scientist
- One local artist
- One teacher

**October 2020 - Pre Opening:** installation in 4 cities local permanent inspiration exhibitions sponsored by ACF and DAAD

**6th and 7th Nov 2020 - Kick-off online Symposium:** https://indico.cern.ch/event/970862/

**12 Dec 2020 - First Ideas Exchange Session:** https://indico.cern.ch/event/1015445/

**Feb. 16th, 2021 - Second General Rehearsal Session:** https://indico.cern.ch/event/1005605/

**March 25th, 2021 - Virtual Visit to CERN / CMS:** https://indico.cern.ch/event/1018237/

**Mar 26th, 2021 - 3rd General Rehearsal session:** https://indico.cern.ch/event/1047786/

**June 18th, 2021 - Closing Hybrid-Vernissage:** https://indico.cern.ch/event/1047913/

**Logos of sponsors and partners:**

- CERN
- austrijski kulturni forum sar
- DAAD CONNECT2020
- ORIGIN
- boszam
- UNIVERSITET SARAJEVO
- UNIVERSITY OF MOSTAR
- UNIVERSITY OF TUZLA
- UNIVERSITET U BANJOJ LUKI
- Druga Gimnazija
- Univerzitet u Tuzli
- University of Banja Luka
- eit RM@Schools

# 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 Cultural Collisions in the region: 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!