



austrijski kulturni forum^{sar}

DAADCONNECT2020



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

Cultural Collisions Bosnia and Herzegovina - 2020/2021

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⁸CERN - European Organization for Nuclear Research, Geneva, Switzerland

Organized by **ORIGIN-CMS**, Summary 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

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 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**,

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. 16th 2021; <https://indico.cern.ch/event/1005605/>
 5. **Virtual Visit to CERN / CMS:** - March 25th 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. **3rd General Rehearsal session:** - May 26th 2021: <https://indico.cern.ch/event/1041786/>
 7. **Closing Hybrid-Vernissage:** - June 18th 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

Big Bang The Origin of Everything

Diagram illustrating the expansion of the universe from the Big Bang, showing the progression from a central point to the formation of galaxies and the cosmic microwave background.

Standard Model Particles & Interactions

Diagram illustrating the Standard Model of particle physics, showing the classification of particles (Quarks, Leptons, Force carriers) and their interactions. Includes the equation $E=mc^2$.

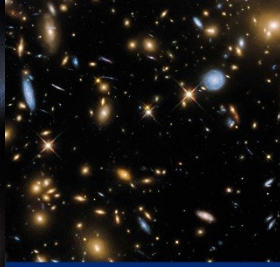
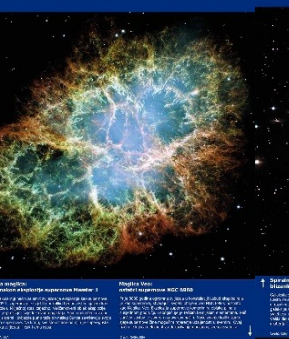
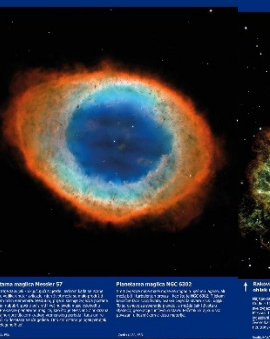
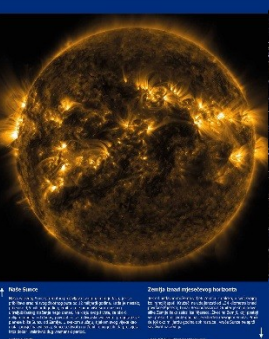
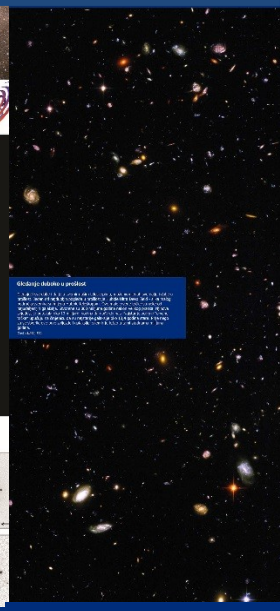
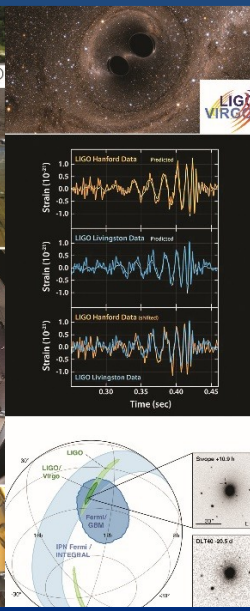
CERN Largest Particle Physics Laboratory

Aerial view of the CERN facility and a map of Europe showing its location. Includes text: "Largest Particle Physics Laboratory".

CMS Compact Muon Solenoid experiment at CERN

3D cutaway diagram of the CMS detector, showing its complex internal structure and components.

Aerial view of the LIGO and VIRGO gravitational wave observatories, showing the long interferometer arms in a rural landscape.



Kick Off Symposium

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



6-7 November 2020

Europe/Zagreb timezone



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

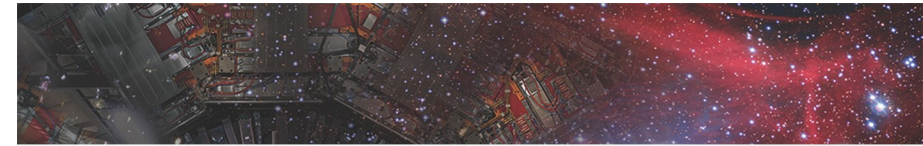
Participation

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

6th, 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

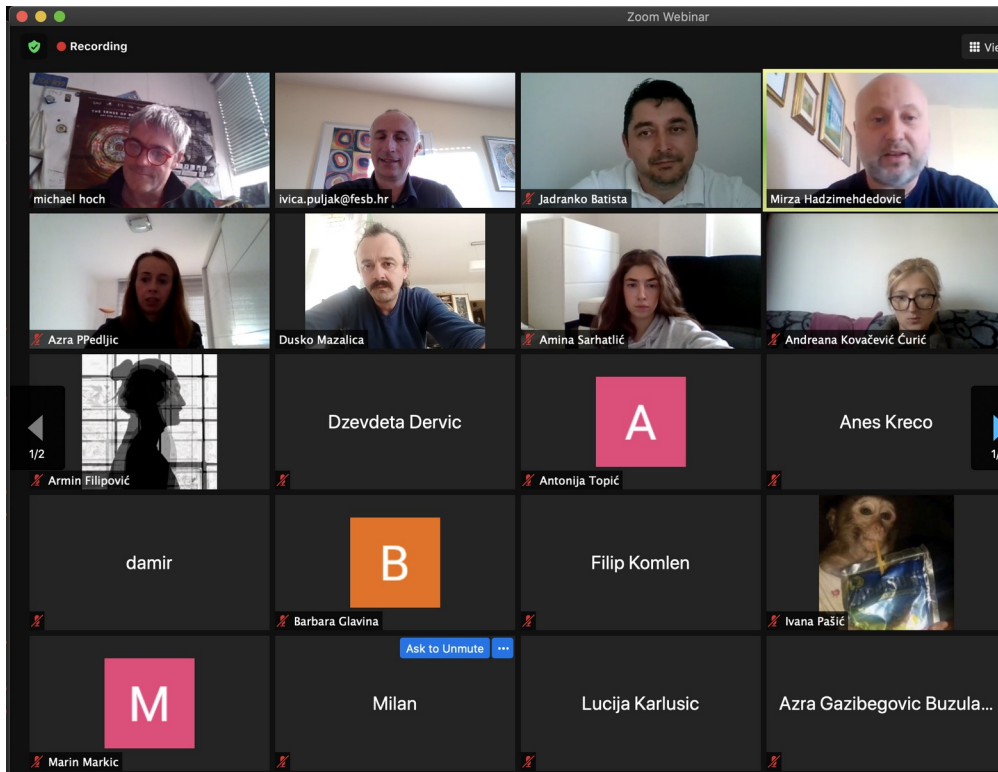
Jadranko Batista (Mostar), Daniela Brill (Vienna/Bogota), Azra Gazibegović Busuladžić (Sarajevo), Saša Ceci (Zagreb), Nikola Godinović (Split), Admir Greljo (Bern), Mirza Hadžimehmedović (Tuzla), Martin Hendry (Glasgow), Michael Hoch (Vienna/ CERN), Sabine Kernthaler (Vienna/ Sarajevo), Predrag Milenović (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



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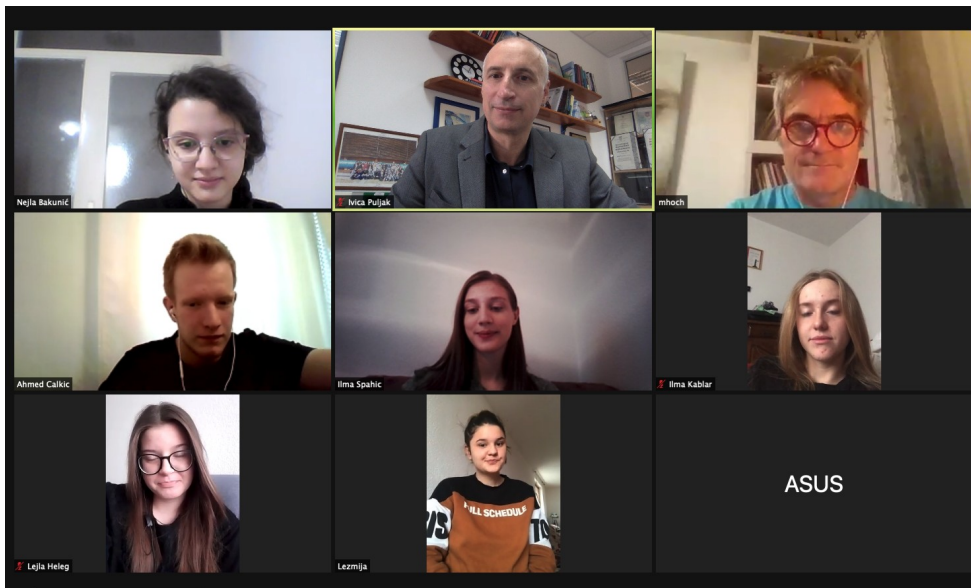


Two new group joined

Team GRADAČAC



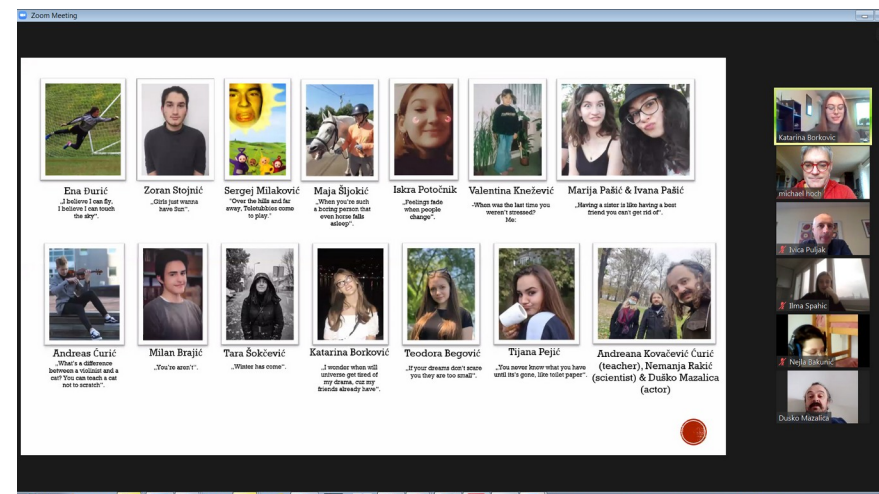
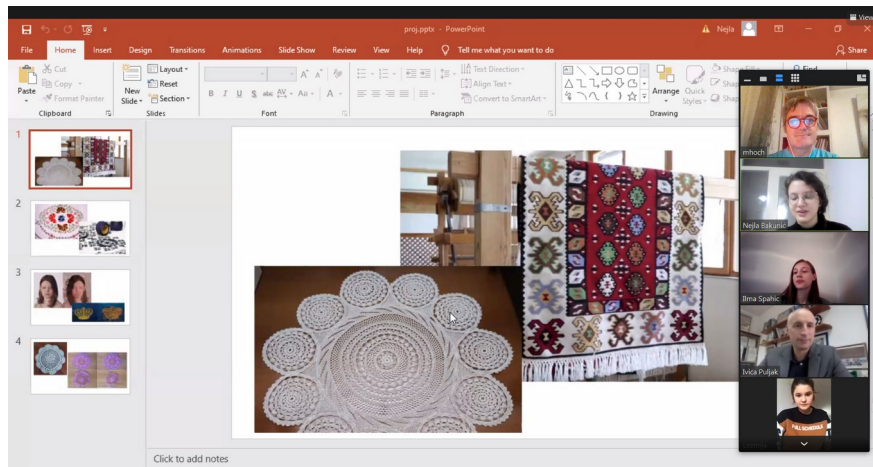
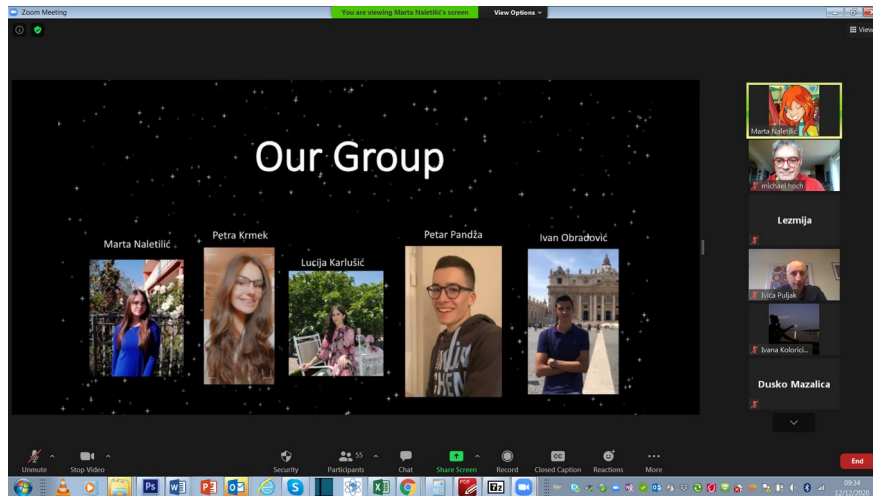
Team ZENICA



Ideas Exchange & Rehearsal Sessions

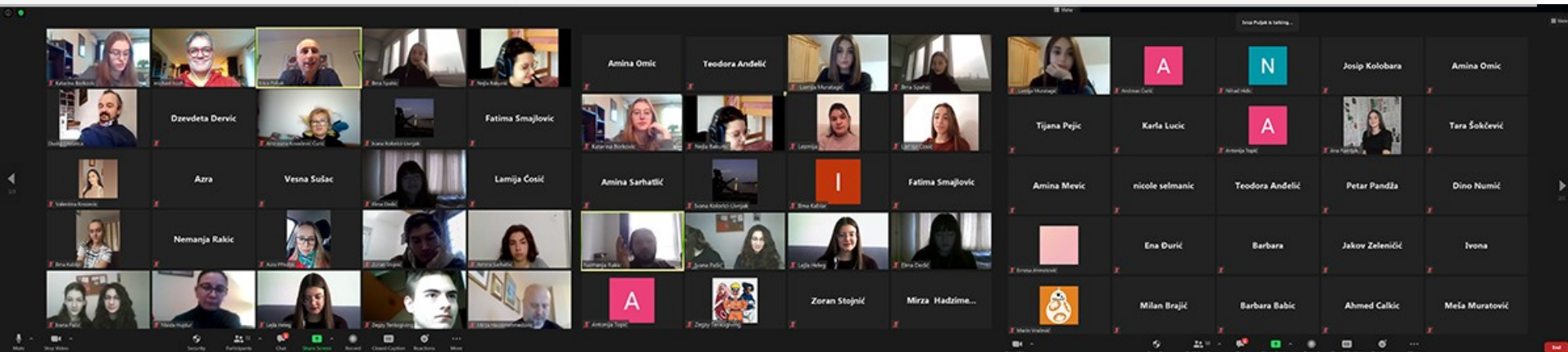
Students present their Ideas research or progress and discuss with scientists

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



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 Questions and Answer session with all experts

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=dU13dG9mOVNtL0FVc052NHJicjZqUT09>



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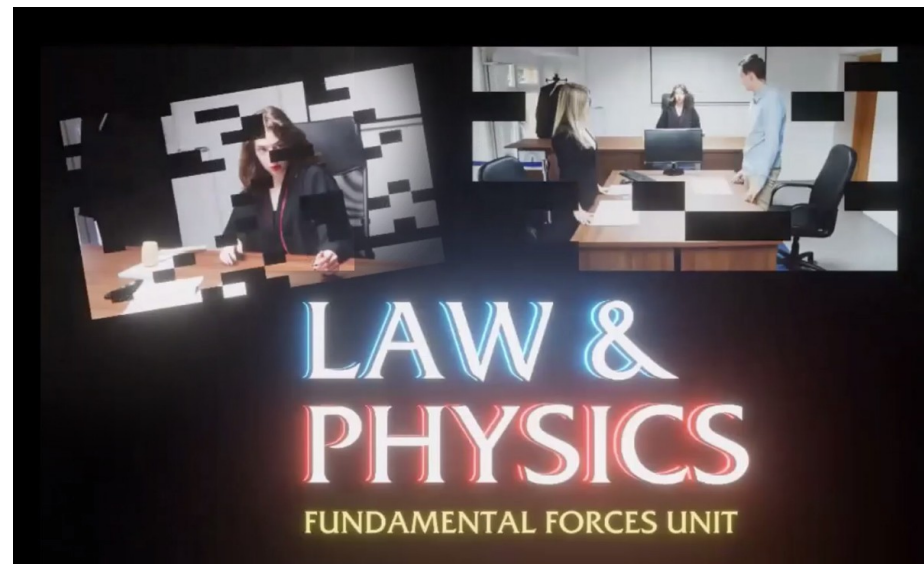
ORIGIN



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



► Philosophical Animation Video

Some creative results:

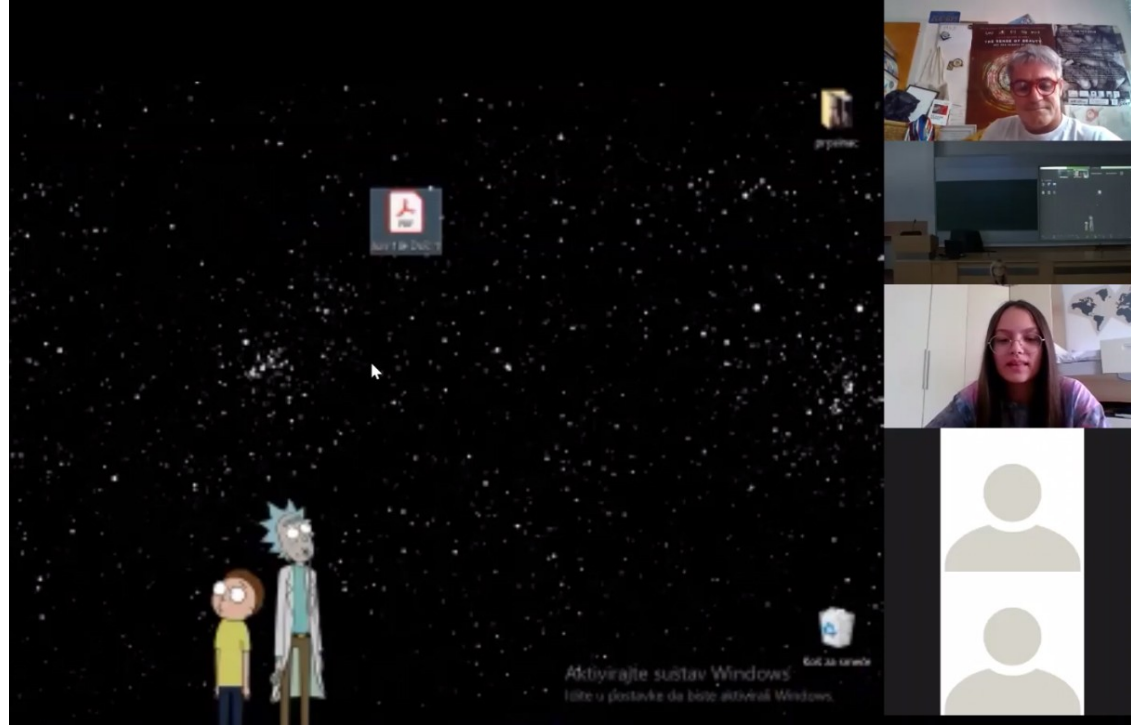
► Theatre Play



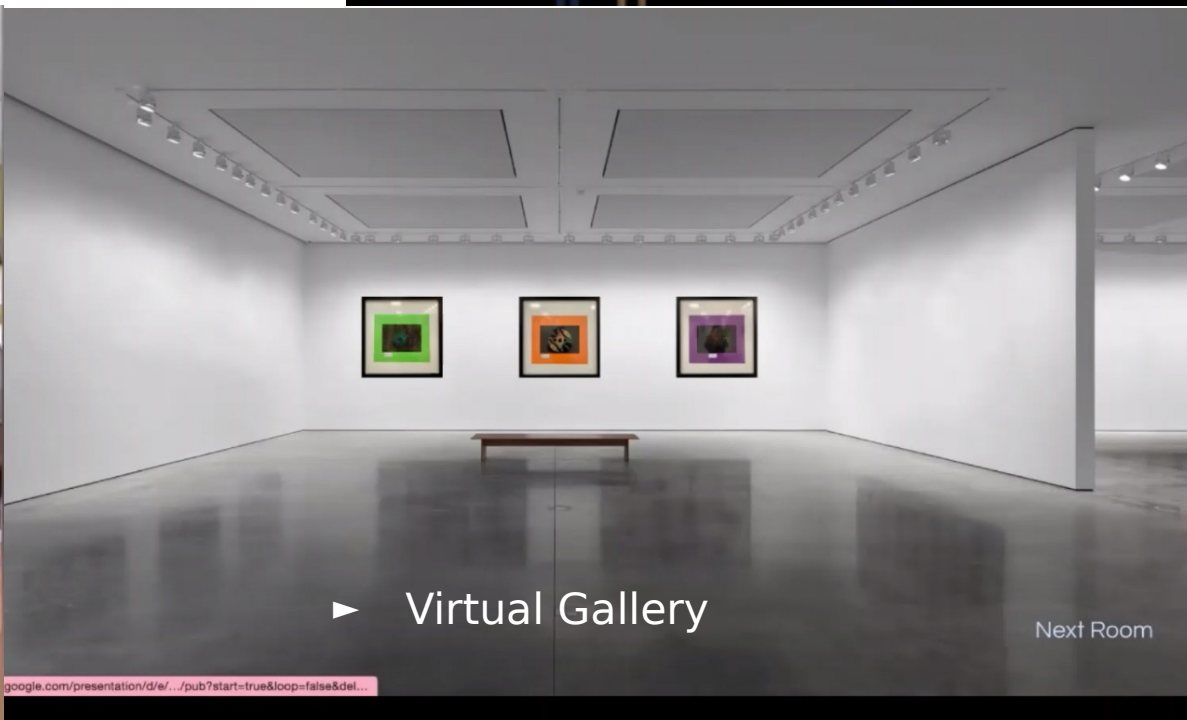
► Social Media Participatory art piece with Small Children

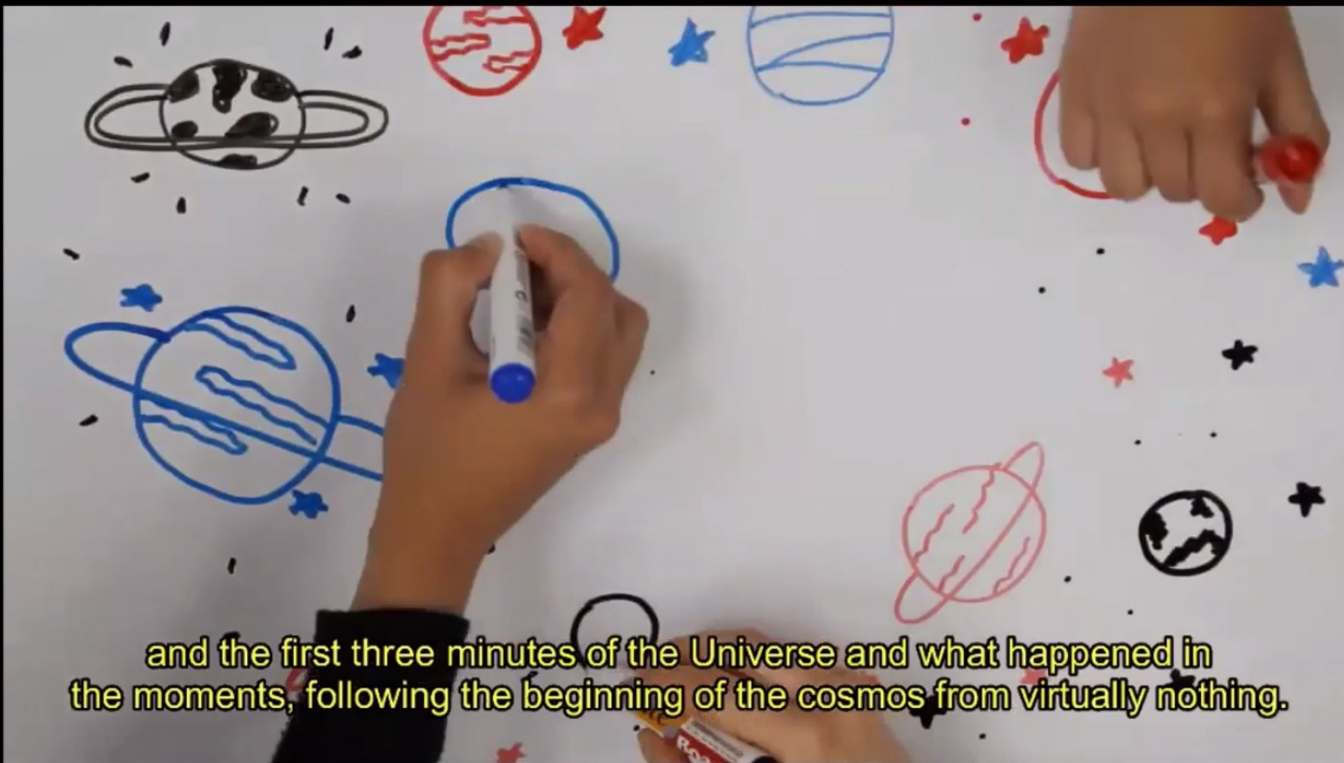


▶ Animation Video

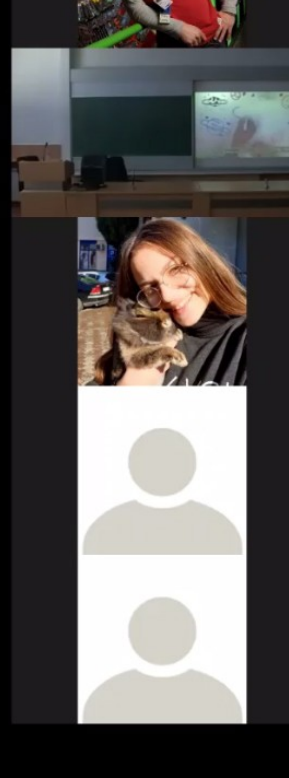


▶ Creative Production





and the first three minutes of the Universe and what happened in the moments, following the beginning of the cosmos from virtually nothing.



▶ Animation Video

▶ Presentation



▶ Dance Performance



How the Universe was created?

Wondershare
Filmora

Created with
Wondershare Filmora free plan

▶ Documentation Video



▶ Music



Ћilim u svemiru,
vanzemaljac u Bosni



► Creative Production



VID-20210522-WA0017

Ožujak 2021., Mostar



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