

REINFORCE- International Training Course 2022

July 14-15 2022 WP7-Sonorization Workshop

Agenda/Timeline

This workshop is intended to introduce sonorization as a tool for the analysis of astronomical data, in particular the data available in the demonstrators of the REINFORCE project. For that purpose, the sonoUno web interface will be used.

The organizers will provide informative material before the workshop. The participants can download it and learn about the tools that will be used before the meeting. The material will include the link to the tools, video tutorials, instructions files and manuals.

As for the synchronous event, it will take place over two days (**first day 2 hours, second day of 1 hour**).

After each day, participants will be asked to complete a short survey of usability and satisfaction about the meeting and their experience with the sound reinforcement tool and associated techniques.

Agenda

Day 1 (2hs)

PART 1

All the participants with one trainer

- A. Welcome and introduction
 - Importance of the activity and developments for inclusion and equity
 - Theoretical framework, antecedents
 - Multimodal detection: meaning
 - Goals
 - Challenges

(10 min)

- B. Brief description of the sound tool and techniques
 1. sonoUno Desktop (sUD): Description (the last version is available [HERE](#)) (general demo and description [HERE](#))
 2. sonoUno web: similarities and differences with the sUD (general demo [HERE](#)) (mobile devices demo [HERE](#))
 - Inputs: sample data and general data. Data files and audio files.

- Outputs
- Functionalities
- Graphic display: characteristics and possibilities
- Sound deployment: characteristics and possibilities

(10 min)

PART 2

A. *All the participants with one trainer*

Description of the activity

- Signal detection and marking
- Changes in sound characteristics: frequency, tempo, volume.
- Selection of data areas.
- Application of simple mathematical functions: smoothing, logarithm, quadratic function
- Other capabilities
- sound as input

(10 min)

B. *Individual work with one trainer*

Data/Objects to sound (sonoUno Web)

Handling of sample data with guidance ([Sequence of activities](#)) ([Data](#))

- Simple mathematical functions (linear regression sine function; tactile and digital)
- Stars: absorption spectra
- Galaxies: images (tactile and [digital](#)), absorption and emission spectra (tactile, data in two-column files)

(20 min)

REINFORCE demonstrators (REINFORCE Scripts) [REINFORCE scripts Tutoriall](#)

- Glitches: Images (tactile and digital), web display (data in 2-column files)
- New particles: images (tactile and digital), bash sonorization.
- Cosmic muons: images (tactile and digital), sound in bash.

(30 min)

PART 3

Individual work

Training

- Description (5min)
- [Scripts Tutorial](#) (5min)
- REINFORCE data demonstrators understanding (20 min)
 - [Psychopy User Manual](#)
 - GWhitchHunters: training
 - New particles at LHC: training
 - Cosmic Muons images: training

(30 min)

Conclusions Day 1

(10 min)

Day 2

PART 1

Welcome and introduction to the second day activity
(15 min)

PART 2

REINFORCE data demonstrators detection/classification (individual activity)

1. GWhitchHunters: detection and classification
2. New particles at LHC: detection and classification
3. Cosmic Muons images: detection and classification

(20 min)

Conclusions (25 min)

Mood-board
Brainstorm