Workshops Biennial Event 2024

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(02) Metagenomics in action

(03) Virtual reality & programming – FULL !!

(04) Live review session of a science article

(05) Light pollution: measuring its impact on biodiversity!

(06) Using satellite data to understand climate change

(07) Make the Lego® Mindstorms EV3 robots dance by programming!

(08) Augmented Reality for Biology courses, the teaching tool of the future – FULL !!

(09) Design your town

(10) Your most beautiful electronic jewellery

(11) Come and programme the flight of a drone- FULL !!

(12) Build an earthquake-resistant tower – FULL !!

(13) Energy and you

(14) Discover graphs, mathematical objects hidden everywhere

(15) Mathematics of life: ecosystem modelling

(16) A little greenhouse effect for a habitable planet

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(23) The infinite world of fungi

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(01) In the shoes of a bioanthropologist

Workshop presented by: University of Geneva - Anthroposcope
Languages: French and English

Discover the job of a bioanthropologist by putting yourself in the shoes of the specialists who study past societies by analysing human remains found in archaeological contexts. It is by observing the skeleton that it is possible to attribute a biological identity - such as sex, age or stature - to an individual. This workshop, which usually takes place as part of the anthroposcope, brings together bioanthropologists and students keen to share and promote their profession.
Workshop led by: Dr. Jocelyne Desideri (lecturer, archaeologist and bioanthropologist - ARCAN, Biology Section, Faculty of Science, University of Geneva - Anthroposcope, Scienscope, Faculty of Science, University of Geneva)

(02) Metagenomics in action

Workshop presented by: Swiss Institute of Bioinformatics (SIB)
Languages: French and English

Apple, trout, earthworm, squirrel, measles virus, E.coli bacteria, boletus? Depending on the species you find in a biological sample, you can identify its source: air, water or soil. The more different species you discover, the more you can validate your results.
To do this, you'll put yourself in the shoes of a bioinformatician detective and analyze traces of DNA found in biological samples.
DNA is universal, but DNA sequences are specific to a species and enable it to be identified, rather like a barcode. This is what is known as metagenomics.
It's up to you to find the species present in 3 surprise samples!
Click here to find out more about Metagenomics!
Workshop led by: Dr. Marie-Claude Blatter (Outreach manager - SIB Swiss Institute of Bioinformatics), Dr. Valérie Barbié (Director Clinical Bioinformatics)

(03) Virtual reality & programming – FULL !!

Workshop presented by: Future Kids
Languages: French and English

Participants will create a 3D world. They will also develop their programming skills to animate the various elements of their scene, which they will then be able to view in virtual reality.

Although not compulsory, it is recommended that participants take a smartphone with them.

Workshop led by: Mr. Dorian Weber (Operations Manager – Future Kids)

(04) Live review session of a science article

Workshop presented by: Frontiers for Young Minds

Languages: French and English

Research scientists will have one of their articles examined by a panel of young evaluators. The scientists will first present their research, and will then respond to comments, suggestions and questions from the panel of young reviewers.

Workshop led by: Ms. Laura Henderson - Head of Program (strategic director, for translation purposes)

Video: Highlights from our live review from the Dubai Expo in January 2022

Video: Highlights from our live review at the University of the Sunshine Coast, Australia in 2018

Article Authors: Dr Noemie Ott (OST University) and Dr Igua Muñoz (EPFL)

(05) Light pollution: measuring its impact on biodiversity!

Workshop presented by: Objectifs Science International (OSI)

Languages: French and English

Through an experiment, we will measure light pollution according to the type of lighting. We will discuss the impact of this pollution on biodiversity and on our night sky. This will also be an opportunity to introduce you to Globe at Night, an international participatory science protocol that allows you to contribute directly from home by measuring the brightness of your night sky.

To use the light pollution detection equipment, you need to be in the dark!

Workshop led by: Mrs. Elodie Blandin (OSI Scientific Educator - Objectifs Science International, OSI Univers)

(06) Using satellite data to understand climate change

Workshop presented by: RightsTech Women
Languages: French and English

Part 1: Increasing the number of women in MINT careers: representatives from RightsTech Women and CERN Women in Technology will talk about the need to attract more girls and women into MINT, career prospects and their experience of working at CERN, the European Organisation for Nuclear Research.
Part 2: Technical coaches from the CERN Micro Club and CERN Women in Technology will explain to the girls how they can use images of the Earth taken from space to understand climate change locally and around the world.
We introduce girls to satellite imagery and the process of working with such data to investigate their own questions.
We introduce the girls to Google Earth Engine, an open platform that can be used to visualize and understand climate trends such as deforestation, temperature change and extreme events.
Click here to find out more about RightsTech Women!
Workshop led by: Ms. Ellen Walker (Founder of RightsTech Women)

(07) Make the Lego® Mindstorms EV3 robots dance by programming!

Workshop presented by: Union internationale des télécommunications (UIT)
Languages: French and English

Participants will have the opportunity to manipulate, program and direct Lego® Mindstorms EV3 robots to create a robotic choreography. They will be welcomed by a passionate team of engineers from the ITU (International Telecommunication Union), who will guide them through the exploration of robot programming in a fun and entertaining way.
Workshop led by: Dr. Hanane Naciri (Head of IT Support Unit - Telecommunications Development Office)

(08) Augmented Reality for Biology courses, the teaching tool of the future – FULL !!

Workshop presented by: UNIGE-CVI (Centre for Visual Immersion)
Languages: French and English
Why see images of animals in 2D when you could discover them in 3D? Discover an augmented reality experiment and the hidden world of progammation to help education!
Workshop led by: Ms. Kimmy Costa, Head of UNIGE-CVI (Centre for Visual Immersion)

(09) Design your town

Workshop presented by: Haute Ecole du Paysage, d'Ingénierie et d'Architecture de Genève (HEPIA)
Languages: French and English

How can we rethink the spaces developed by humans?
Let's take a look at the spatial layout of built-up areas, agricultural production zones and natural ecosystems: to create functional living spaces, we need to understand how these different elements can combine and interact in positive or negative ways.
A model showing these different areas is used as a basis for guided reflection by people trained in the fields of agriculture, town and country planning and the environment.
Each group taking part in the activity is divided into three discussion teams, which take it in turns to deal with these different aspects.
To find out more about HEPIA, click here!
Workshop led by HEPIA's Landscape Architecture, Agronomy and Nature Management programmes

(10) Your most beautiful electronic jewellery

Workshop presented by: Haute Ecole du Paysage, d'Ingénierie et d'Architecture de Genève (HEPIA)
Languages: French and English

Better than in the sci-fi movies... and real! Come and make your own electronic jewellery.
Workshop led by: Dr. Delphine Bechevet, Associate Professor HES - Computer Science and Communication Systems Department

(11) Come and programme the flight of a drone- FULL !!

Workshop presented by: Haute Ecole du Paysage, d'Ingénierie et d'Architecture de Genève (HEPIA)

Languages: French and English

Have you always wanted to fly a drone? Come and try your hand at intuitively programming a quadrotor drone to fly the course of your choice.

To find out more about HEPIA, click here!

Workshop led by: Mr. Loïc Adam, HES Assistant in Mechanical Engineering

(12) Build an earthquake-resistant tower – FULL !!

Workshop presented by: Haute Ecole du Paysage, d'Ingénierie et d'Architecture de Genève (HEPIA)

Languages: French and English

After an explanatory section on earthquakes, you'll have to build a tower as high as possible that can withstand the effects of an earthquake. The art of building high and flexible!

To find out more about HEPIA, click here!

Workshop led by: Ms Héloïse Vust and Mr. Rabe Lorentz (Bachlor of science in civil engineering and assistant in the HEPIA civil engineering programme)

(13) Energy and you

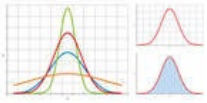Workshop presented by: Haute Ecole du Paysage, d'Ingénierie et d'Architecture de Genève (HEPIA)

Languages: French and English

Energy demonstrations: the different energies and the links that unite us.

To find out more about HEPIA, click here!

Workshop led by: Mr José Boix, Associate Professor HES, Head of the Building Technology programme.

(14) Discover graphs, mathematical objects hidden everywhere

Workshop presented by: Université de Genève (UNIGE) - Mathscope (Scienscope)
Languages: French and English

Through a range of hands-on exercises and practical situations, participants will discover graphs and their many hidden applications in everyday life.
Workshop led by: Dr. Shaula Fiorelli (Scientific assistant - UNIGE, Mathscope (Scienscope))

(15) Mathematics of life: ecosystem modelling

Workshop presented by: Objectif Sciences International
Languages: French and English

Understand mathematics with a tailor-made game. Accessible to all.
Workshop led by: Mr. Xavier Morvan (Head of the Mathematics of Life programme - Objectif Sciences International)

(16) A little greenhouse effect for a habitable planet

Workshop presented by: Association l'Agora d'Hypatie - département d'astronomie – astroscope - Université de Genève (UNIGE)
Languages: French and English

Understand th greenhouse effect, which is found not only on Earth but also on other planets in our solar system and further afield. The girls will then be able to manipulate the physical concepts through a game in which the aim is to maintain a habitable planet with a little greenhouse effect, but not too much!
Workshop led by: Dr. Baptiste Lavie (Scientific Assistant - Association l'Agora d'Hypatie, Astronomy Department, Astroscope) and Dr. Marion Cointepas (Astrophysicist, Astronomy Department, Astroscope)

(17) Magnetic challenge

Workshop presented by: CERN
Languages: French and English

CERN uses thousands of magnets for particle physics experiments. For example, powerful electromagnets are used to bend the trajectory of protons in the Large Hadron Collider (LHC). Powerful permanent magnets are also used in particle physics research, for example inside the AMS particle detector attached to the International Space Station.
In this workshop, participants are invited to tackle a series of magnet-related challenges. They explore the properties of different permanent magnets, build their own small electromagnet and learn why magnets are important at CERN. CERN
Workshop led by: Ms Charlotte Baumgart, member of the CERN educational laboratories team

(18) Artificial intelligence

Workshop presented by: University of Geneva (UNIGE) - CUI
Languages: French and English

Machine Learning is a field of study in artificial intelligence that uses mathematical and statistical approaches to give computers the ability to 'learn' from data, i.e. to improve their performance in solving tasks without being explicitly programmed for each one. These major concepts are illustrated by concrete activities involving the classification of shapes, carried out on a computer. Has the computer understood anything? Not sure...
Workshop led by: Ms Gauri Dixit (Student - UNIGE, CUI)

(19) Big Data

Workshop presented by: University of Geneva (UNIGE) - Infoscope
Languages: French and English

Automatically processing large volumes of data is an increasingly common activity, both in scientific research (in astronomy, climatology, earth sciences, etc.) and in the activities of the giant Internet companies that collect vast amounts of information via social networks and other applications. One way of tackling such a titanic task is to programme computers so that they cooperate and work in parallel.
This workshop invites participants to take on the role of processors in order to simulate and understand the type of algorithms used to process what is known as 'Big Data'.
Workshop led by: Mr. Abuzar Chitsaz (Student - UNIGE, CUI)

(20) Build a real wind-up clock – FULL !!

Workshop presented by: WorldTempus
Languages: French and English

In this fun workshop, you will learn the basics of how a mechanical clock works by assembling the gear train, barrel, escapement and hands, in the company of a TAG Heuer master watchmaker. You can also keep your own clock!
Workshop led by: Mrs. Furley Sophie (Editor-in-Cheif - WorldTempus)

(21) An olfactory introduction to perfumery - FULL !!

Workshop presented by: Coty, Cosmetique Development parfums unit
Languages: French and English

In this workshop, we invite participants to discover the basics of perfume composition, the different olfactory families and to re-compose a perfume from among several options that we will propose to them.
Workshop led by: Ms. Eva Vinas (SVP Fragrance - Cosmetique Development parfums)

(22) Women emergency doctors: indispensable in emergency departments!

Workshop presented by: World Health Organization (WHO)
Languages: French and English

Emergency management requires a wide range of skills in the fields of health, finance, logistics, resource planning, artificial intelligence and so on. The workshop will showcase the academic and professional backgrounds of the women who work in this field.
Workshop led by: Ms. Cristina del Pueyo (International officer - WHO)

(23) The infinite world of fungi

Workshop presented by: Agroscope-CH, Mycology Group within the Plant Protection Research Department
Languages: French and English

In this workshop, you'll discover that mushrooms are everywhere and on everything around you, and that they're even used to colour and flavour your favourite sweets, cakes, biscuits and perfumes. Through a series of fun experiments, you'll learn all about these microscopic organisms.
Workshop led by: Dr. Katia Gindro (Group Manager - Mycology Group within the Plant Protection Research Department)

(24) Cosmic SOS

Workshop presented by: CERN
Languages: French and English

Find out how particle detectors are used in experiments at CERN and on the International Space Station in an adventure game focusing on astroparticles and radiation.
In this workshop, participants will have to solve a series of challenges using different types of particle detectors, such as Geiger-Müller counters and pixel detectors. Through hands-on activities, they will discover the wider applications of detectors, which extend beyond terrestrial laboratories to the frontiers of space exploration.
Workshop led by: Ms Lou Planchamp (Coordinator of local educational offers - CERN)