



19th October 2020
Day 1: The Earth

Webex transmission

CEST = WEST + 1h

10:00 Welcome to the course

Günther Hasinger

ESA Director of Science & ESAC Director

Miguel Más Hesse

Centre of Astrobiology, Astrophysics Department (CSIC-INTA)

Jesús Alonso Martín

ISDEFE Business Development Director

Michel G. Breitfellner, Beatriz González-García

CesaR Team

Rosa Doran

NUCLIO

11:00 Talk: Introduction to the European Space Agency (ESA)

Javier Ventura-Traveset

ESA Head of Galileo Navigation Science Office

12:00 Coffee break

12:15 Talk: ESA Earth Explorers

Jorge Fauste

ESA SMOS Instrument Operations Manager

13:15 Lunch

14:30 Warmup

14:45 21st century skills on a mission to Earth

Rosa Doran

15:45 Hands-on session: A 3D Earth with Google Earth

Beatriz González-García

16:30 Coffee break

16:45 Talk: Gravity, Magnetism and Space physics

Rune Floberghagen

ESA Head of the Mission Operations Division

17:30 Talk: Navigation satellites and Earth observation (Galileo satellites)

Manuel Castillo Fraile

GNSS Galileo Science Office, Mars Express Science Ground Segment

18:00 Virtual visit to the SMOS control room (if not possible questions to a Space Expert)

Jorge Fauste

18:15 Teachers feedback & announcements

18:30 End



20th October 2020
Day 2: Mars

Webex transmission

CEST = WEST + 1h

10:00 Talk: Mars Missions

Alejandro Cardesín

Mars Express Science Ground Segment Manager
Science Operations Coordination with ExoMars

11:00 Hands-on session: Mars Seasons

Beatriz González-García

12:00 Coffee break

12:15 Hands-on session: Craters in the Classroom & DNA Activity

Sandra Benitez Herrera

Instituto Astrofísica de Canarias (IAC) communicator, CosmoLAB coordinator

13:15 Lunch

14:30 Warmup

14:45 Hands-on: Image processing with SalsaJ

Rosa Doran

15:45 Hands-on session – Mars Express Visual Monitoring Camera

Jorge Hernández Bernal

University of the Basque Country

16:45 Coffee break

17:00 Hands-on session: Mission to Mars

Beatriz González-García

18:00 Virtual visit to the Mars room (if not possible questions to a Space Expert)

Michel G. Breitfellner

CesaR Coordinator, Mars Express Science Operations Engineer

18:15 Teachers feedback & announcements

18:30 End



21st October 2020
Day 3: The Sun

Webex transmission

CEST = WEST + 1h

10:00 **Talk: Getting to know our star: more than 50 years of solar observations from space**

Anik de Groof

ESA Solar Orbiter Instrument Operations Scientist

11:00 **Talk: Introduction to Stellarium**

Rosa Doran

11:30 **Hands-on session: Play with Stellarium**

Rosa Doran, Fraser Lewis, Beatriz González-García, Michel G. Breitfellner

12:00 Coffee break

12:15 **Hands-on session: You are Galileo (with Stellarium)**

Rosa Doran

13:15 Lunch

14:30 Warmup

14:45 **Hands-on session: Eclipses & transits (with SalsaJ)**

Rosa Doran, Manuel Castillo Fraile

15:45 **Virtual visit to the CesaR ESAC observatories (if not possible questions to a Space Expert)**

Michel G. Breitfellner

16:00 **CesaR Space Science Experience on-line**

Beatriz González-García

16:45 Coffee break

17:00 **Hands-on session: Differential Sun rotation & Coronal Mass Ejection**

Beatriz González-García

18:15 Teachers feedback & announcements

18:30 End



22nd October 2020
Day 4: Cosmic Vision

Webex transmission

CEST = WEST + 1h

10:00 Talk: ESA Science Missions

Markus Kissler-Patig

ESA Head of the Science and Operations Department

11:00 Hands-on session: The mysteries of the Universe with ESAsky

Beatriz González-García

12:00 Coffee break

12:15 Talk: Robotic Astronomy with the Faulkes Telescope Project and National Schools' Observatory

Fraser Lewis

Faulkes Telescope Project & National Schools' Observatory

13:15 Lunch

14:30 Warmup

14:45 Talk: Explore the Universe with PETeR

Nayra Rodríguez Eugenio

Instituto Astrofísica de Canarias (IAC) communicator, PETeR coordinator

15:45 Hands-on session: Supernovae with robotic telescopes 1

Nayra Rodríguez Eugenio & Fraser Lewis

16:45 Coffee break

17:00 Hands-on session: Supernovae with robotic telescopes 2

Fraser Lewis & Nayra Rodríguez Eugenio

18:00 Virtual visit to the XMM-Newton control room (if not possible questions to a Space Expert)

Maria Santos-Lleo, Beatriz González-García

18:15 Teachers feedback & announcements

18:30 End



23rd October 2020
Day 5: Science in the Society

Webex transmission

CEST = WEST + 1h

10:00 Talk: Space Safety

Beatriz Jilete

Space Surveillance and Tracking Systems Engineer
 Space Debris Office, Space Safety Programme Office

11:00 Hands-on session: Earth Observation for Society (Google Earth & Snap)

Manuel Castillo Fraile

12:00 Coffee break

12:15 Space in our Daily Lives – Design Thinking & Careers

Rosa Doran

13:15 Lunch

14:30 Warmup

14:45 Digital Skills, Open Schooling and Inclusion

Rosa Doran, Sandra Benitez Herrera

15:45 Hands-on session: Hunting Satellites with Planetarium SW & Apps

Gustavo Rojas

NUCLIO

16:45 Coffee break

17:00 Classroom resources

All

18:00 Evaluation and Final Remarks

18:15 Erasmus School's Accreditation

Rosa Doran

18:30 Closing Event (Acknowledgements)

CEST = Central European Summertime

ESAC = European Space and Astronomy Centre

MEX = Mars Express

SMOS = Soil Moisture and Ocean Salinity

SSA = Space Situation Awareness

VMC = Visual Monitoring Camera

WEST = Western European Summertime