

Planetary Mapping Winter School 2022



Report of Contributions

Contribution ID: 2

Type: **not specified**

QGIS: mappy plugin demo and practice

Demonstration of the mappy plugin and hands-on to start geological mapping

Presenters: Dr PENASA, Luca (INAF-OAPD); POZZOBON, Riccardo (INAF-OAPD)

Session Classification: GIS and mapping basics

Track Classification: Practical Demonstration

Contribution ID: 7

Type: **not specified**

Creating geological cross sections

Friday, February 11, 2022 9:00 AM (50 minutes)

Geological sections unveil the subsurface geology hidden underneath the landscape of any planetary body. They can be produced from geological maps and used to check their consistency as well as to create 3D subsurface models. The lecture will explain the general principles to be followed in order to produce geological sections showing their differences on diverse planetary and geological contexts.

Presenter: Prof. MASSIRONI, Matteo (UNIPD)

Session Classification: GIS and mapping basics

Track Classification: Frontal Lecture

Contribution ID: **10**

Type: **not specified**

Welcome and Introduction to geological maps

Monday, February 7, 2022 9:20 AM (30 minutes)

What are geological maps? Which is their importance on the Earth and for planetary exploration? How can the geological evolution of a planetary body be deciphered from geological maps? By answering to these questions the IInd edition of the Geology and Planetary mapping winter school will formally begin and a throughout description on how the school will be organized will be given.

Presenter: Prof. MASSIRONI, Matteo (UNIPD)

Session Classification: General Information

Track Classification: Frontal Lecture

Contribution ID: 11

Type: **not specified**

End of the School and Next Steps

Friday, February 11, 2022 4:45 PM (15 minutes)

Presenters: Prof. ROSSI, Angelo (Jacobs Univ. Bremen); Prof. MASSIRONI, Matteo (UNIPD)

Session Classification: General Information

Track Classification: Frontal Lecture

Contribution ID: 12

Type: **not specified**

How to use streaming maps in QGIS: WMS and Analysis Ready Data (ARD) as streamed from COGS (GeoTIFFS)

Monday, February 7, 2022 4:00 PM (45 minutes)

Presenter: Dr HARE, Trent (USGS)

Session Classification: Invited Talks

Track Classification: Seminar

Contribution ID: 13

Type: **not specified**

Introduction to MOST Project 'Key Technologies and Demonstration of Standardised Planetary Geologic Mapping

Monday, February 7, 2022 9:50 AM (20 minutes)

Presenter: Prof. KANG, Zhizhong (CUGB)

Session Classification: Invited Talks

Track Classification: Seminar

Contribution ID: 14

Type: **not specified**

Introduction to QGIS: basic usage and standard tools

Monday, February 7, 2022 2:00 PM (1h 30m)

QGIS overview

The interface

Mapping project creation

Loading rasters and mouse buttons: styling and properties of DTMs and imagery

CRS: project and layer CRSs

Measuring Distances

Creating vector layers

First steps in geometry creation: Add Point/Line/Polygon

Attribute tables

Styling vectors using the fields

Saving project

Plugin manager

Presenters: Dr PENASA, Luca (INAF-OAPD); Dr POZZOBON, Riccardo (INAF-OAPD)

Session Classification: GIS and mapping basics

Track Classification: Practical Demonstration

Contribution ID: 17

Type: **not specified**

Europlanet Society

Monday, February 7, 2022 9:00 AM (20 minutes)

Presenter: Prof. MASON, Nigel (University of Kent)

Session Classification: General Information

Track Classification: Frontal Lecture

Contribution ID: 19

Type: **not specified**

Open Source Tools for crater counting

Tuesday, February 8, 2022 10:00 AM (30 minutes)

Presenter: Dr MICHAEL, Greg (FUB)

Session Classification: Invited Talks

Track Classification: Practical Demonstration

Contribution ID: 22

Type: **not specified**

Towards a real collaborative mapping experience for geology

Friday, February 11, 2022 4:00 PM (45 minutes)

Presenter: QUINN, Daven

Session Classification: Invited Talks

Track Classification: Frontal Lecture

Contribution ID: 24

Type: **not specified**

Mapping on the Moon

Introduction to the specific aspects of mapping the lunar surface and peculiar morphologies

Presenter: PÖHLER, Claudia (WWU)

Session Classification: Moon Mapping

Track Classification: Frontal Lecture

Contribution ID: 27

Type: **not specified**

Mapping the Moon surface

Tuesday, February 8, 2022 9:00 AM (1 hour)

Presenter: Dr VAN DER BOGERT, Carolyn (WWU)

Session Classification: Moon Mapping

Track Classification: Frontal Lecture

Contribution ID: 34

Type: **not specified**

Mapping Mars Sedimentary Deposits

Thursday, February 10, 2022 9:00 AM (1 hour)

Mapping of martian sedimentary structures and best practices

Presenter: Prof. PONDRELLI, Monica (UNICH)

Session Classification: Mars Mapping

Track Classification: Frontal Lecture

Contribution ID: 35

Type: **not specified**

Spectral data in the sedimentary deposits of Mars

Thursday, February 10, 2022 10:00 AM (30 minutes)

Overview of the specific datasets and spectral indices related to Martian characteristic minerals and rock types in sedimentary environments

Presenter: BASCHETTI, Beatrice (UNIPD)

Session Classification: Mars Mapping

Track Classification: Frontal Lecture

Contribution ID: 36

Type: **not specified**

Introduction to the practical activity: groups and tiles

Thursday, February 10, 2022 11:00 AM (30 minutes)

Description of the mapping area and tiles distribution

Presenter: Prof. MONICA, Pondrelli (UNICH)

Session Classification: Mars Mapping

Track Classification: Frontal Lecture

Contribution ID: **38**

Type: **not specified**

Group mapping

Thursday, February 10, 2022 11:30 AM (1 hour)

Mapping of tiles divided into groups

Presenter: Prof. MONICA, Pondrelli (UNICH)

Session Classification: Mars Mapping

Track Classification: Group Activity

Contribution ID: 39

Type: **not specified**

Mapping presentation from each group and discussion

Thursday, February 10, 2022 5:30 PM (1 hour)

Each mapping group will briefly present its own tile

Presenter: Prof. MONICA, Pondrelli (UNICH)

Session Classification: Mars Mapping

Track Classification: Group Activity

Contribution ID: 42

Type: **not specified**

The origin of chaotic terrains

Thursday, February 10, 2022 2:00 PM (30 minutes)

Seminar about the origin of chaotic terrains

Presenter: Dr LUZZI, Erica (Jacobs University)

Session Classification: Invited Talks

Track Classification: Seminar

Contribution ID: 43

Type: **not specified**

EPEC - EuroPlanet Early Career network

Friday, February 11, 2022 11:45 AM (45 minutes)

Presentation of the Early Career network and its activities

Presenter: Dr LUZZI, Erica (Jacobs University)

Session Classification: Invited Talks

Track Classification: Seminar

Contribution ID: 44

Type: **not specified**

Group mapping

Thursday, February 10, 2022 2:30 PM (1h 30m)

Mapping of tiles divided into groups

Presenter: Prof. MONICA, Pondrelli (UNICH)

Session Classification: Mars Mapping

Track Classification: Group Activity

Contribution ID: 45

Type: **not specified**

Group mapping

Thursday, February 10, 2022 4:30 PM (1 hour)

Mapping of tiles divided into groups

Presenter: Prof. MONICA, Pondrelli (UNICH)

Session Classification: Mars Mapping

Track Classification: Group Activity

Contribution ID: 46

Type: **not specified**

Cross-section creation in QGIS and Inkscape

Friday, February 11, 2022 10:55 AM (50 minutes)

How to practically create a geologic cross-section starting from QGIS plugins, to extract topographic profiles, geologic contacts, dip and strike. How to finalize the interpreted cross-section in the open source Inkscape software.

Presenters: Dr PENASA, Luca (INAF-OAPD); POZZOBON, Riccardo (INAF-OAPD)

Session Classification: GIS and mapping basics

Track Classification: Practical Demonstration

Contribution ID: 47

Type: **not specified**

Stratigraphic column and correlation

Friday, February 11, 2022 9:50 AM (45 minutes)

Presenter: Prof. PONDRELLI, Monica (UNICH)

Session Classification: GIS and mapping basics

Track Classification: Practical Demonstration

Contribution ID: 48

Type: **not specified**

Map Layouts

Friday, February 11, 2022 2:00 PM (45 minutes)

Map finalization and printing layout creation

Presenter: Dr ANDREA, Naß (DLR)

Session Classification: GIS and mapping basics

Track Classification: Practical Demonstration

Contribution ID: 50

Type: **not specified**

Geological things from other Worlds

Monday, February 7, 2022 10:30 AM (45 minutes)

The presentation will show how the geological evolution of terrestrial bodies such Mars, Moon and Mercury is well reflected on their geological maps, which are indeed extremely important for their future exploration.

Presenter: Prof. MASSIRONI, Matteo (UNIPD)

Session Classification: GIS and mapping basics

Track Classification: Frontal Lecture

Contribution ID: 51

Type: **not specified**

Introduction to remote sensing and planetary data

Monday, February 7, 2022 11:15 AM (45 minutes)

Basics of remote sensing instruments and techniques.

Presenter: Dr POZZOBON, Riccardo (INAF-OAPD)

Session Classification: GIS and mapping basics

Track Classification: Frontal Lecture

Contribution ID: 52

Type: **not specified**

Introduction to spectral data

Monday, February 7, 2022 12:00 PM (30 minutes)

Presenter: Dr CARLI, Cristian (INAF-IAPS)

Session Classification: GIS and mapping basics

Track Classification: Frontal Lecture

Contribution ID: 53

Type: **not specified**

Practice with Mappy, Q&A

Monday, February 7, 2022 4:45 PM (1 hour)

An informal session for practising and reviewing the basics of QGIS. Questions welcome.

Presenters: Dr PENASA, Luca (INAF-OAPD); Dr POZZOBON, Riccardo (INAF-OAPD)

Session Classification: GIS and mapping basics

Track Classification: Practical Demonstration

Contribution ID: 54

Type: **not specified**

Mercury surface features

Wednesday, February 9, 2022 9:00 AM (1 hour)

Mapping mercury and its peculiar geologic features

Presenter: Dr GALLUZZI, Valentina (INAF-IAPS)

Session Classification: Mercury Mapping

Track Classification: Frontal Lecture

Contribution ID: 55

Type: **not specified**

Mercury surface composition

Wednesday, February 9, 2022 10:00 AM (30 minutes)

Presenter: Dr CARLI, Cristian (INAF-IAPS)

Session Classification: Mercury Mapping

Track Classification: Frontal Lecture

Contribution ID: 56

Type: **not specified**

Mercury mapping general information

Wednesday, February 9, 2022 11:10 AM (40 minutes)

Presenter: Dr GALLUZZI, Valentina (INAF-IAPS)

Session Classification: Mercury Mapping

Track Classification: Frontal Lecture

Contribution ID: 57

Type: **not specified**

Mercury practical introduction

Wednesday, February 9, 2022 12:00 PM (30 minutes)

Introduction to the mapping area, tiles distribution, mapping scale and best practices

Presenter: Dr GALLUZZI, Valentina (INAF-IAPS)

Session Classification: Mercury Mapping

Track Classification: Practical Demonstration

Contribution ID: 59

Type: **not specified**

Mercury mapping practical

Wednesday, February 9, 2022 2:00 PM (2h 45m)

Mapping activity with instructors subdivided into different groups

Presenters: Dr GALLUZZI, Valentina (INAF-IAPS); Dr BLANCE, Alistair (OU); Dr LENNOX, Annie (OU); Dr GIACOMINI, Lorenza (INAF-IAPS); Dr CANALE, Marc (OU)

Session Classification: Mercury Mapping

Track Classification: Group Activity

Contribution ID: **61**

Type: **not specified**

Mercury practical discussion and tile merging

Wednesday, February 9, 2022 5:00 PM (50 minutes)

Presenter: Dr GALLUZZI, Valentina (INAF-IAPS)

Session Classification: Mercury Mapping

Track Classification: Group Activity

Contribution ID: 64

Type: **not specified**

Tectonics of Mercury

Wednesday, February 9, 2022 6:00 PM (1 hour)

Presenter: Prof. CRANE, Kelsey (Mississippi State Univ.)

Session Classification: Invited Talks

Track Classification: Seminar

Contribution ID: 65

Type: **not specified**

Introduction to the practical activity: groups and tiles

Tuesday, February 8, 2022 11:00 AM (1 hour)

Presenter: PÖHLER, Claudia (WWU)

Session Classification: Moon Mapping

Track Classification: Practical Demonstration

Contribution ID: 67

Type: **not specified**

Group Mapping

Tuesday, February 8, 2022 12:00 PM (30 minutes)

Presenter: PÖHLER, Claudia (WWU)

Session Classification: Moon Mapping

Track Classification: Group Activity

Contribution ID: **68**

Type: **not specified**

Group mapping

Tuesday, February 8, 2022 2:00 PM (1h 30m)

Presenter: PÖHLER, Claudia (WWU)

Session Classification: Moon Mapping

Track Classification: Group Activity

Contribution ID: 69

Type: **not specified**

Group Mapping

Tuesday, February 8, 2022 4:00 PM (30 minutes)

Presenter: PÖHLER, Claudia (WWU)

Session Classification: Moon Mapping

Track Classification: Group Activity

Contribution ID: 70

Type: **not specified**

Mapping presentation from each group

Tuesday, February 8, 2022 4:30 PM (30 minutes)

Presenter: PÖHLER, Claudia (WWU)

Session Classification: Moon Mapping

Track Classification: Group Activity

Contribution ID: 71

Type: **not specified**

Merging group mapping

Tuesday, February 8, 2022 5:00 PM (30 minutes)

Presenter: PÖHLER, Claudia (WWU)

Session Classification: Moon Mapping

Track Classification: Practical Demonstration

Contribution ID: 72

Type: **not specified**

Map finalization

Tuesday, February 8, 2022 5:30 PM (30 minutes)

Presenter: PÖHLER, Claudia (WWU)

Session Classification: Moon Mapping

Track Classification: Group Activity

Contribution ID: 77

Type: **not specified**

QGIS Map Layout Tutorial

Friday, February 11, 2022 2:45 PM (45 minutes)

Presenter: Dr FRIGERI, Alessandro (INAF-IAPS)

Session Classification: GIS and mapping basics

Track Classification: Practical Demonstration

Contribution ID: 78

Type: **not specified**

Mercury Spectral Analysis

Wednesday, February 9, 2022 10:40 AM (30 minutes)

Presenter: Dr ZAMBON, Francesca

Session Classification: Mercury Mapping