INTRODUCTION TO SURFICIAL GEOLOGY OF TERRESTRIAL-TYPE PLANETS

Prof. A. P. Rossi, Jacobs University Bremen

TER STUDIORUM

BIGEA e DIFA Dept. | 29-31 Marzo 2017

Via Zamboni 67, BiGeA-AULA GIS

Lectures will cover basics of Planetary Geology of the Terrestrial planets, with particular emphasis on Mars and its similarities/differences with Earth in terms of dominating processes, evolution and resulting landforms, deposits and structures.

29 March 2017 (16.00-18.00): Introduction to the geology of Terrestrial planets 30 March 2017 (08.30-10.30): Endogenic and surface processes and their evolution on Earth and Mars

31 March 2017 (08.30-10.30): Basic planetary cartography and data handling (for geology)

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29 March 2017 (16.00-18.00): Introduction to the geology of Terrestrial planets

An overview of Terrestrial Planets and Comparative Planetology methods will be presented, including its evolution as a discipline and its link with space exploration. Basic facts and a description of the overall physiography and regional geology of the Terrestrial planets will be provided, including the large-scale geological outline and comparisons with Earth. Impact cratering as a common process will be also introduced.

30 March 2017 (08.30-10.30): Endogenic and surface processes on Earth and Mars

Based on and building upon the general overview, the processes acting through time and space on the surface Terrestrial planets will be described, based on data returned from both orbiter and lander spacecrafts. Basics of endogenic processes throughout the Inner Solar System will be covered, as well as surface ones, mainly on Mars and Earth.

31 March 2017 (8.30-10.30): Basic planetary cartography and data handling (for geology)

The seminar aims at providing basic knowledge on Planetary Geology with overall state of the art, planetary datasets, tools, techniques, and case studies with particular emphasis on Mars. At the end of the course participant will have gathered information on where to obtain and how to perform very basic data hadling and mapping on exemplary locations.

