



# **EURO-CARES**

## **Planetary Protection for Mars SR**

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**and EURO-CARES team**

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EURO-CARES WP5 Workshop  
Frankfurt, June 1<sup>st</sup>-3<sup>rd</sup> 2016



# WP2 Objectives

- Ascertain and review **planetary protection policies** at a national and international level;
- To define methods, **protocols and techniques** for planetary protection issues and **recommend protocols and methods** for implementation.

# Planetary Protection

Two major contamination issues:

**Forward:** biological contamination of explored solar system bodies (false positive issues).

**Backward:** biological contamination of Earth as a result of returned extraterrestrial samples.

Science and mission requirements should cover any concerns about **sample return, landing site targeting and retrieval, and sample condition.**



# WP2 Science Team

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John Robert Brucato	INAF	Istituto Nazionale di Astrofisica	Lead
Andrea Meneghin	INAF	Istituto Nazionale di Astrofisica	Engineer
Petra Rettberg	DLR	Deutsches Zentrum für Luft - und Raumfahrt	Deputy
John Bridges	LEI	Leicester University	Mars Sample Return
Stefan Leuko	DLR	Deutsches Zentrum für Luft - und Raumfahrt	Biologist
Allan Bennett	PHE	Public Ealth England	Biosafety and Biosecurity
Andrea Tozzi	INAF	Istituto Nazionale di Astrofisica	Optic technology designer
Luca Carbonaro	INAF	Istituto Nazionale di Astrofisica	Technician
John Holt	LEI	Leicester University	Biohazard Technology
Thomas Pottage	PHE	Public Ealth England	Biosafety and Biosecurity

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# Task 2.1 – Biohazard Detection

Participants: INAF, DLR, LEI     Deliverable 2.1 (almost completed)

- Define criteria and procedures for selection of representative portion of returned samples for life/biohazard detection.
- Review protocols and recommend implementation for life detection.
- Define methods and validation procedures.
- Assess techniques.
- Define biological model systems for biohazard essays. Conduct a critical review of testing strategies.

## Task 2.2 – Biohazard and Biosecurity

Participants: PHE, INAF, DLR → Deliverable 2.2 (on going)

- Review literature on the containment of biohazardous agents.
- Review and assess techniques and methods of risk assessment.
- Review test methods for the detection of pathogenic organisms.
- Review primary and secondary containment systems in terms of protection of laboratory personnel and the environment.
- Review and assess safety equipment, enclosed containers, etc. to minimize exposures to hazardous biological materials.
- Organize workshop of worldwide experts on BSL4 facility.
- Select procedures to monitor the health of personnel working in the Facility and select precautions for safe practices.



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# EURO-CARES

European Curation of Astromaterials Returned from  
Exploration of Space

**WP2 Meeting & Workshop**

## **Planetary Protection Aspects of European Sample Return Curation Facility**

June 14<sup>th</sup>–16<sup>th</sup>, 2016

University of Florence, Museum of Natural History – La Specola  
Via Romana 17, Firenze - Italy

The **WP2 Workshop and Meeting** will focus on the main Planetary Protection aspects related to European Sample Curation Facility, specifically:

- Techniques and methods of risk assessment of biohazard;
- Test methods for the detection of pathogenic organism;
- Containment systems;
- Sterilization processes;
- Safety equipment, enclosed containers, engineering control to remove or minimize to hazardous biological materials;
- Procedures to monitor the health of personal and select precautions for safe practice.

**For more information visit:**

[www.euro-cares.eu](http://www.euro-cares.eu)