



## Workshop

**MARS  
500**

# NUTRITION AND HEALTH STATUS MONITORING IN HUMAN SPACE MISSIONS



December 10<sup>th</sup>, 2009

Sala Ulisse, Accademia delle Scienze dell'Istituto di Bologna  
via Zamboni 31, Bologna

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### Program

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|-------------|---|--|
| <b>9,00</b> | <i>Registration</i>                                 |  |
| <b>9,30</b> | <i>Welcome to the participants and work opening</i> | Academic and Institutional Authorities |

#### THE MARS500 HUMAN MISSION SIMULATION TO MARS: 105-DAY EXPERIMENT

##### Chairmen:

**Prof Aldo Roda**, University of Bologna, Bologna

**Dr. Tatiana Agaptseva**, Institute for Biomedical Problems, Moscow

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| <b>10,00</b> | <i>Work physiology under extreme conditions</i>              | <b>Dr. Igor Ushakov</b><br>Institute for Biomedical Problems – Russian Academy of Sciences, Moscow    |
| <b>10,30</b> | <i>Ground simulation of the manned flight to Mars</i>        | <b>Dr. Alexey Tryamkin</b><br>Institute for Biomedical Problems – Russian Academy of Sciences, Moscow |
| <b>11,00</b> | <i>The research of ASI in the field of Space Biomedicine</i> | <b>Dr Vittorio Cotronei</b><br>Medicine and Biotechnology section, Italian Space Agency, Rome         |

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| <b>11,20</b> | <b>Coffee break offered by CAMST Soc Coop a r.l.</b> |  |
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#### PROJECTS FINANCED BY ASI IN THE MARS500 PROGRAM

##### Chairmen:

**Dr. Gianfranco Risuleo**, Italian Space Agency, Rome

**Dr. Mara Mirasoli**, University of Bologna, Bologna

#### Development of multiplexed non-invasive tests for the real-time monitoring of biomarkers of health status during the Mars500 human mission simulation

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| <b>11,45</b> | <i>Non-invasive monitoring of motor and organ functions of the gastrointestinal system by breath tests</i> | <b>Prof. Aldo Roda</b><br>Department of Pharmaceutical Sciences, University of Bologna, Bologna  |
| <b>12,05</b> | <i>Monitoring of reactivation of latent human Herpesviruses infections</i>                                 | <b>Prof. Monica Musiani</b><br>Department of Haematology and Oncological Sciences «L. E A. Seragnoli» - Microbiology, University of Bologna, Bologna |

<b>12,25</b>	<i>Metabolomic identification of stress biomarkers in biological fluids due to special confinement conditions</i>	<b>Prof. Aldo Laganà</b> Department of Chemistry, University of Rome "La Sapienza", Rome
<b>12,45</b>	<i>Characteristics of human digestive system functioning under orbital space flight conditions.</i>	<b>Dr. Boris Afonin</b> Institute for Biomedical Problems – Russian Academy of Sciences, Moscow

**Astronauts resistance enhancement to stress (ARES)**

<b>13,15</b>	<i>Results of the research activity in the frame of the ARES project</i>	<b>Prof. Remo Bedini, Prof. Angelo Gemignani</b> Centro Extreme SSSA, IFC CNR, Pisa
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<b>13,35</b>	<b>Lunch offered by CAMST Soc Coop a r.l.</b>	
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**THE MARS500 HUMAN MISSION SIMULATION TO MARS: 520-DAY EXPERIMENT**

**Chairmen:**

**Prof Enrico Roda**, University of Bologna, Bologna  
**Dr. Boris Afonin**, Institute for Biomedical Problems, Moscow

<b>14,45</b>	<i>Organization of the forthcoming 520-day MARS500 experiment</i>	<b>Dr. Tatiana Agaptseva</b> Institute for Biomedical Problems – Russian Academy of Sciences, Moscow
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<b>15,15</b>	<i>Food intake during simulated long-term space flight: experimental challenges and lessons learned</i>	<b>Dr. Anke Dahlmann</b> University of Erlangen-Nürnberg
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<b>15,35</b>	<i>Expert opinion: nutrition in extreme conditions</i>	<b>Prof. Giulio Marchesini Reggiani</b> Department of Clinical Medicine, University of Bologna, Bologna
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<b>15,50</b>	<b>Coffee break offered by CAMST Soc Coop a r.l.</b>	
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**16,15** **ROUND TABLE: NUTRITION REQUIREMENTS FOR THE FORTHCOMING 520-DAY MARS500 EXPERIMENT.**

The contribution of Italian public institutions and call for interest to private companies. With the participation of:

	CAMST Soc Coop a r.l		Natura Nuova Srl		Sofar SpA
	Colussi SpA		Valsoia SpA		Carlo Gavazzi Space SpA
	Granarolo SpA		Health Ricerca & Sviluppo srl		Kell Srl

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