

08:00

Registration					
09:00	<p>Reception, Gran Sasso Science Institute 08:30 - 09:20</p> <p>Presentation of the School COCCIA, Eugenio et al.</p> <p>Main Lecture Hall, Gran Sasso Science Institute 09:20 - 10:00</p>				
10:00	<table border="1"> <tr> <td> <p>A short phenomenological description of the elementary particles; outline of quantum mechanics; outline of the restricted relativity FIORENTINI, Giovanni</p> <p>Room A, Gran Sasso Science Institute 10:00 - 12:00</p> </td> <td> <p>Origin and evolution of the Earth. Composition. Methods to study the Earth: geology, mineralogy, petrology, geochemistry, geodynamics MCDONOUGH, William</p> <p>Room B, Gran Sasso Science Institute 10:00 - 12:00</p> </td> </tr> <tr> <td> <p>Cosmic rays CHIAVASSA, Andrea</p> <p>Room A, Gran Sasso Science Institute 12:00 - 13:00</p> </td> <td> <p>Geodynamic picture of the Earth SRAMEK, Ondrej</p> <p>Room B, Gran Sasso Science Institute 12:00 - 13:00</p> </td> </tr> </table>	<p>A short phenomenological description of the elementary particles; outline of quantum mechanics; outline of the restricted relativity FIORENTINI, Giovanni</p> <p>Room A, Gran Sasso Science Institute 10:00 - 12:00</p>	<p>Origin and evolution of the Earth. Composition. Methods to study the Earth: geology, mineralogy, petrology, geochemistry, geodynamics MCDONOUGH, William</p> <p>Room B, Gran Sasso Science Institute 10:00 - 12:00</p>	<p>Cosmic rays CHIAVASSA, Andrea</p> <p>Room A, Gran Sasso Science Institute 12:00 - 13:00</p>	<p>Geodynamic picture of the Earth SRAMEK, Ondrej</p> <p>Room B, Gran Sasso Science Institute 12:00 - 13:00</p>
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16:30 - 16:45					
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18:00					
19:00					

Tue 12/7

09:00	A short phenomenological description of the elementary particles; outline of quantum mechanics; outline of the restricted relativity <i>FIorentINI, Giovanni</i> <i>Room A, Gran Sasso Science Institute</i> 09:00 - 11:00	Origin and evolution of the Earth. Composition. Methods to study the Earth: geology, mineralogy, petrology, geochemistry, geodynamics <i>MCDONOUGH, William</i> <i>Room B, Gran Sasso Science Institute</i> 09:00 - 11:00
10:00		
11:00	Break 11:00 - 11:30	
12:00	Particle detection techniques <i>RANUCCI, Giacchino</i> <i>Room A, Gran Sasso Science Institute</i> 11:30 - 12:30	Basics of seismology and Earth structure <i>CAMMARANO, Fabio</i> <i>Room B, Gran Sasso Science Institute</i> 11:30 - 12:30
13:00	Lunch <i>Canteen, Gran Sasso Science Institute</i> 12:30 - 14:00	
14:00	Cosmic rays <i>CHIavASSA, Andrea</i> <i>Room A, Gran Sasso Science Institute</i> 14:00 - 15:00	Geodynamic picture of the Earth; basic of heat flow <i>SRAMEK, Ondrej</i> <i>Room B, Gran Sasso Science Institute</i> 14:00 - 15:00
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16:00	Break <i>Main Lecture Hall; Room A; Library</i> 16:00 - 16:30	
17:00	Discussion <i>Room A, Gran Sasso Science Institute</i> 16:30 - 18:00	Discussion <i>Room B, Gran Sasso Science Institute</i> 16:30 - 18:00
18:00		

09:00	Neutrino physics and detection methods	<i>CHEN, Mark</i>
10:00		
	<i>Room D, Gran Sasso Science Institute</i>	09:00 - 11:00
11:00	Break	11:00 - 11:30
	Earth mineralogy and its phase transition	<i>MCDONOUGH, William</i>
12:00		
	<i>Room D, Gran Sasso Science Institute</i>	11:30 - 12:30
	Lunch	
13:00		
	<i>Canteen, Gran Sasso Science Institute</i>	12:30 - 14:00
14:00	Thermal evolution of the Earth	<i>SRAMEK, Ondrej</i>
	<i>Room D, Gran Sasso Science Institute</i>	14:00 - 15:00
15:00	Mineralogy and petrology	<i>TSUCHIYA, Taku</i>
	<i>Room D, Gran Sasso Science Institute</i>	15:00 - 16:00
16:00	Break	16:00 - 16:20
	Time-resolved two million year old supernova activity, discovered in the Earth's microfossil record	<i>BISHOP, Shawn</i>
	<i>Room D, Gran Sasso Science Institute</i>	16:20 - 17:00
17:00	Discussion	
18:00		
	<i>Room D, Gran Sasso Science Institute</i>	17:00 - 18:30

Thu 14/7

09:00	Neutrino physics and detection methods <i>Room D, Gran Sasso Science Institute</i>	<i>CHEN, Mark</i> 09:00 - 10:00
10:00	Geochemical model of the Earth <i>Room D, Gran Sasso Science Institute</i>	<i>MCDONOUGH, William</i> 10:00 - 11:00
11:00	Break	11:00 - 11:30
12:00	Radioactive nuclides and decay <i>Room D, Gran Sasso Science Institute</i>	<i>CREMONESI, Oliviero</i> 11:30 - 12:30
13:00	Lunch <i>Canteen, Gran Sasso Science Institute</i>	12:30 - 14:00
14:00	Distribution of radioactive nuclides in the Earth <i>Room D, Gran Sasso Science Institute</i>	<i>MCDONOUGH, William</i> 14:00 - 15:00
15:00	Discussion <i>Main Lecture Hall, Gran Sasso Science Institute</i>	15:00 - 16:00
16:00	Evaluation of the Earth's K-Th-U and He-Ne-Ar budgets <i>Room A, Gran Sasso Science Institute</i>	<i>SRAMEK, Ondrej</i> 16:00 - 18:30
17:00		
18:00		
22:00	Poster Session <i>Floor -1, Gran Sasso Science Institute</i>	21:30 - 22:30

Fri 15/7

09:00	Neutrino physics and detection methods <i>Room D, Gran Sasso Science Institute</i>	<i>CHEN, Mark</i> 09:00 - 10:00
10:00	Muon and their detection <i>Room D, Gran Sasso Science Institute</i>	<i>CARLOGANU, Cristina</i> 10:00 - 11:00
11:00	Break	11:00 - 11:30
12:00	Crust and mantle geodynamics and mantle convection <i>Room D, Gran Sasso Science Institute</i>	<i>TSUCHIYA, Taku</i> 11:30 - 12:30
13:00	Lunch	12:30 - 14:00
14:00	The Earth's heat budget <i>Room D, Gran Sasso Science Institute</i>	<i>SRAMEK, Ondrej</i> 14:00 - 15:00
15:00	Discussion <i>Main Lecture Hall, Gran Sasso Science Institute</i>	15:00 - 16:00
16:00	Visit to the Gran Sasso National Laboratory. Departure from the main entrance of the GSSI, at 16.00.	
17:00		
18:00		
19:00	<i>Underground Laboratory, LNGS</i>	16:00 - 19:00

09:00	Geoneutrinos: origin, detection, background (from reactors and other sources), current geoneutrino measurements, future on geoneutrinos					<i>LUDHOVA, Livia</i>
10:00						
	<i>Room D, Gran Sasso Science Institute</i>					<i>09:00 - 11:00</i>
11:00	Break					<i>11:00 - 11:30</i>
12:00	How to measure 40K					<i>CHEN, Mark</i>
	<i>Room D, Gran Sasso Science Institute</i>					<i>11:30 - 12:30</i>
13:00	Lunch					
	<i>Canteen, Gran Sasso Science Institute</i>					<i>12:30 - 14:00</i>
14:00	Discussion					<i>14:00 - 14:30</i>
	<i>Main Lecture Hall, Gran Sasso Science Institute</i>					
15:00	Group 1 - Extraction of the geoneutrino flux from the experimental event distribution	Group 2 - Extraction of the geoneutrino flux from the experimental event distribution	Group 3 - Extraction of the geoneutrino flux from the experimental event distribution	Group 4 - Extraction of the geoneutrino flux from the experimental event distribution	Group 5 - Extraction of the geoneutrino flux from the experimental event distribution	
16:00						
17:00						
18:00	<i>Library, Gran Sasso Science Institute</i>	<i>Library, Gran Sasso Science Institute</i>	<i>Library, Gran Sasso Science Institute</i>	<i>Library, Gran Sasso Science Institute</i>	<i>Library, Gran Sasso Science Institute</i>	

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	<i>Room D, Gran Sasso Science Institute</i> 09:00 - 10:00				
10:00	Evaluation of local contribution <i>MANTOVANI, Fabio</i>				
	<i>Room D, Gran Sasso Science Institute</i> 10:00 - 11:00				
11:00	Break 11:00 - 11:30				
	Volcano structure and eruption <i>MACEDONIO, Giovanni</i>				
12:00	<i>Room D, Gran Sasso Science Institute</i> 11:30 - 12:30				
	Lunch				
13:00	<i>Canteen, Gran Sasso Science Institute</i> 12:30 - 14:00				
14:00	Discussion 14:00 - 14:30				
	<i>Room D, Gran Sasso Science Institute</i>				
15:00	Group 1 - Calculation of antineutrino rate from the reactors	Group 2 - Calculation of antineutrino rate from the reactors	Group 3 - Calculation of antineutrino rate from the reactors	Group 4 - Calculation of antineutrino rate from the reactors	Group 5 - Calculation of antineutrino rate from the reactors
16:00					
17:00					
18:00	<i>Library, Gran Sasso Science Institute</i>	<i>Library, Gran Sasso Science Institute</i>	<i>Library, Gran Sasso Science Institute</i>	<i>Library, Gran Sasso Science Institute</i>	<i>Library, Gran Sasso Science Institute</i>

Tue 19/7

09:00	Neutrino tomography (generalities)	<i>WINTER, Walter</i>
	<i>Room D, Gran Sasso Science Institute</i>	09:00 - 10:00
10:00	Neutrino tomography (experiments)	<i>VANELEWYCK, VÃ©ronique</i>
	<i>Room D, Gran Sasso Science Institute</i>	10:00 - 11:00
11:00	Break	11:00 - 11:30
	Muography techniques, study of volcanoes perspective	<i>CARLOGANU, Cristina</i>
12:00	<i>Room D, Gran Sasso Science Institute</i>	11:30 - 12:30
	Lunch	
13:00	<i>Canteen, Gran Sasso Science Institute</i>	12:30 - 14:00
14:00	Muon tomography applied to volcanology and other fields	<i>MARTEAU, Jaques</i>
	<i>Room D, Gran Sasso Science Institute</i>	14:00 - 14:40
	Discussion	
15:00	<i>Room D, Gran Sasso Science Institute</i>	14:40 - 15:40
	Break	15:40 - 16:00
16:00	Calculating the Earth heat and the neutrino luminosity	<i>MCDONOUGH, William</i>
17:00		
18:00	<i>Room A, Gran Sasso Science Institute</i>	16:00 - 18:30

09:00	Error estimation and propagation <i>Room D, Gran Sasso Science Institute</i>	<i>MANTOVANI, Fabio</i> 09:00 - 10:00
10:00	Introduction <i>Room D, Gran Sasso Science Institute</i>	<i>CALLEGARI, Ivan</i> 10:00 - 11:30
11:00	Geological survey of local area <i>Room D, Gran Sasso Science Institute</i>	<i>MANTOVANI, Fabio</i> 11:30 - 18:30
12:00		
13:00		
14:00		
15:00		
16:00		
17:00		
18:00	<i>Introduction - Room D; departure from GSSI at 11:30, Gran Sasso Science Institute</i>	11:30 - 18:30

Thu 21/7

09:00	Muography techniques, study of volcanoes perspective <i>Room D, Gran Sasso Science Institute</i>	<i>CARLOGANU, Cristina</i> 09:00 - 10:00
10:00	Directionality in neutrino detection <i>Room D, Gran Sasso Science Institute</i>	<i>WATANABE, Hiroko</i> 10:00 - 11:00
11:00	Break	11:00 - 11:20
	IBD directionality measurement at the Double Chooz Experiment <i>Room D, Gran Sasso Science Institute</i>	<i>KANEDA, Michiru</i> 11:20 - 12:00
12:00	Discussion <i>Room D, Gran Sasso Science Institute</i>	12:00 - 13:00
13:00	Lunch	
14:00	<i>Canteen, Gran Sasso Science Institute</i>	13:00 - 14:30