

# Neutrino Geoscience 2010

6 - 8 october 2010

Gran Sasso National Laboratory – Italy

## Program

Wednesday, October 6, 2010

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**8.30-9.00**      **Registration**

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### Scientific Setting (Chairperson: A. Ianni)

9.00-9.30      G. Bellini (University of Milan) - The neutrino: an incredible probe for the study of the nature

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9.30-10.00      G. Fiorentini (University of Ferrara) - Geo-neutrinos: a new probe of Earth's interior

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10.00-10.30      M. Javoy (Institute of Geophysics of Paris, Paris Diderot University) - The composition of the Earth

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**10.30-11.00**      **Coffee Break**

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### The silicate Earth and geo-neutrinos (Chairperson: B. McDonough)

11.00-11.30      R. Rudnick (University of Maryland) - The composition of the continental crust

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11.30-12.00      S. Dye (Hawaii Pacific University) - Measuring the U and Th enrichment of the silicate earth

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12.00-12.30      T. Alboussiere (University Joseph Fourier) - A dynamical model for the Earth's inner core

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**12.30-14.30**      **Lunch**

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### Reactors anti-neutrinos (Chairperson: M. Chen)

14.30-15.00      T. Lasserre (Laboratoire astroparticule et cosmologie (APC))- Antineutrino from reactor

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15.00-15.30      B. Ricci (University of Ferrara) - Reactor antineutrinos in the world

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15.30-16.00      J. Maricic (Drexel University) - Geo-reactor neutrinos: experimental status

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**16.00-16.30**      **Coffee Break**

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### Anti-neutrino Measurements (Chairperson: E. Lisi)

16.30-17.00      V. Sinev (Institute for Nuclear Research RAS) - A large volume scintillation detector at Baksan: status and perspectives

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17.00-17.30      L. Miramonti (University of Milan) - Nuclear physics for geo-neutrino studies

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**17.30 onward**      **Discussion**

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Thursday, October 7, 2010

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**Anti-neutrino Measurements (Chairperson: G. Bellini)**

9.00-9.30 L. Ludhova (INFN - Milan) - Borexino: status and prospects

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9.30-10.00 M. Coltorti (University of Ferrara) - How was determined the U and Th content of the Continental Crust underneath the Gran Sasso area?

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10.00-10.30 A. Amato (INGV) – Moho depth and crustal structure in peninsular Italy

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**10.30-11.00 Coffee Break**

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**Geo-neutrinos and geological implications (Chairperson: R. Rudnick)**

11.00-11.30 I. Shimizu (Tohoku University) – KamLAND: status and prospects

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11.30-12.00 M. Chen (Queens University) - SNO+: status and prospects

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12.00-12.30 C. Jaupart (University of Paris) - Geo-neutrino production near the Sudbury Neutrino Observatory

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**12.30-14.30 Lunch**

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**Geo-neutrinos and geological implications (Chairperson: M. Javoy)**

14.30-15.00 W. Gosnold (University of North Dakota) - The global heat flow database and the relationship between heat flow and Earth's radioactive heat content

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15.00-15.30 J. Majorowicz (University of Alberta) - Heat flow measured in shallow (< 1000 m) wells may inaccurately determine the heat flow/heat generation relationship and earth's heat loss - Paleoclimatic factor

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15.30-16.00 C. Bonadiman (University of Ferrara) - The role of clinopyroxene in the chemical evolution of Earth's mantle

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**16.00-16.30 Coffee Break**

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**Next experiments (Chairperson: R. Raghavan)**

16.30-17.00 F. von Feilitzsch (Technical University of Munich) - LENA: status and prospects

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17.00-17.30 R. de Meijer (University of the Western Cape) - EARTH project: status and prospects

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**17.30 onward Discussion**

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**19.30 Workshop dinner**

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**Friday, October 8, 2010**

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**Future challenges (Chairperson: F. von Feilitzsch)**

9.00-9.30 H. Watanabe (Tohoku University) - Toward low energy anti-neutrinos directional measurement; development of Li loaded liquid scintillator

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9.30-10.00 B. Szczerbinska (Dakota State University) - Potassium geo-neutrinos and their detection

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10.00-10.30 E. Lisi (INFN) - Combined analysis of KamLAND and Borexino neutrino signals from Th and U decays in the Earth's interior

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**10.30-11.00 Coffee Break**

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**Future challenges (Chairperson: S. Dye)**

11.00-11.30 J. Learned (University of Hawaii) - Towards Hanohano

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11.30-12.00 R. Raghavan (Virginia Polytechnic Institute and State University) - Quest for New Physics with MeV Neutrino sources brighter than a thousand Suns

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12.00-12.30 B. McDonough (University of Maryland) - Geo-neutrinos: future geoscience impacts

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**12.30-14.30 Lunch**

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**14.30-17.30 Underground tour**

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