

LRT2004 – Revised Program Agenda (Rev 6)

Alfonse Ramond Building E125, Laurentian Campus, Sudbury (Canada) 12-13th December 2004

Sunday 12th December

- 8:00-8:45 Registration desk open. Coffee, juice and pastries available.
8:45am Start of workshop conference
3 min Welcome to Laurentian University (L. Vasseur – LU Associate VP Research)
10 min Workshop welcome and objectives (D. Sinclair - SNOLAB Director)
2 min Workshop announcements and administration comments (D. Hallman)
- 9:00-10:30 **Session 1 – Overview of global low radioactivity measurement facilities (Chair: H. Miley)**
20 min European underground laboratories: an overview (L. Miramonti)
20 min Japanese and eastern facilities (M. Nakahata)
20 min North American facilities – Existing + DUSEL (P. Cushman)
15 min North American facilities – SNOLAB (A. Hime)
15 min *Questions and discussion*
- 10:30-11:00 Coffee break
- 11:00-1pm **Session 2 – Low background counting techniques (Chair: Stefan Schonert)**
10 min **Introduction for keynote speaker Gerd Heusser**
50 min *Low level counting from meteorites to neutrinos: Ge spectroscopy, proportional counting, multi-coincidence NaI, rare gas mass spectroscopy.*
(Workshop guest of honour: Gerd Heusser)
20 min Accelerator mass spectrometry and low level ¹⁴C measurement (T. Litherland)
20 min Trace analysis of K, U and Th by Neutron Activation Analysis (I. Pillalamarri)
20 min *Questions and discussion*
- 1:00-2:00 Lunch break (Breakout lunch session on laboratories' coordination - rooms TBA)
- 2:00-3:40 **Session 3 – Screening facilities and low background detectors (Chair: T. Kishimoto)**
20 min KAMLAND screening and measurement facilities (K. Inoue)
20 min Background reduction in cryogenic detectors (D. Bauer)
20 min SOLO: Soudan low background screening facility (R. Gaitskell)
20 min Surface/beta activity screening (T. Shutt)
20 min *Questions and discussion*
- 3:40-4:10 Coffee break
- 4:10-6:00 **Session 4 – Low radioactivity detector components (Chair: A. McDonald)**
20 min Double-beta decay crystals (F. Danevich)
20 min Production of low activity CsI crystals for WIMP searches (Y. Kim)
20 min Low radioactivity at the Modane Underground Laboratory (P. Loaiza)
20 min Low radioactivity in CANDLES (T. Kishimoto)
20 min Low radioactivity TPC for low energy neutrinos (I. Irastorza)
10 min *Questions and discussion*

Monday 13th December

- 8:30-9:00 Coffee, juice and pastries available.
- 9:00-10:45 **Session 5 – Reduced background air and purification of noble gases**
(Chair: G. Heusser)
- 20 min Adsorption techniques for gas purification (H. Simgen)
 - 20 min Radon assay and distillation purification of liquid Xenon for Kr (Y. Takeuchi)
 - 20 min Atom trap trace analysis (C. Orzel)
 - 15 min Rn diffusion and emanation (G. Zuzel)
 - 15 min Rn-reduced air – electrostatic (M. Koga)
 - 15 min *Questions and discussion*
- 10:45-11:15 Coffee break
- 11:15-1pm **Session 6 – Cleanliness studies and clean fabrication techniques**
(Chair: T. Noble)
- 20 min Clean fabrication and Rn-free air for Borexino nylon vessels (A. Pocar)
 - 20 min Clean fabrication and monitoring in SNO (D. Hallman)
 - 20 min Ultra-low-background copper production and clean fabrication (C. Aalseth)
 - 15 min Cleanliness, backgrounds and surface contamination in Cuore (S. Pirro)
 - 15 min Surface contamination and washing studies (M. Leung)
 - 15 min *Questions and discussion*
- 1:00-2:00 Lunch break
- 2:00-3:30 **Session 7 – Liquid scintillators and water properties and purification**
(Chair: R. Hahn)
- 20 min Liquid scintillator purification (Y. Kishimoto)
 - 20 min Water purification and Ra/Rn assay techniques (J. Farine)
 - 20 min Metal loaded scintillators and Silica-gel purification (TBA)
 - 15 min Gd loaded scintillators (M. Yeh)
 - 15 min *Questions and discussion*
- 3:30-4:00 Coffee break
- 4:00-5:30 **Session 8 – Background studies and simulations**
(Chair: A. Hime)
- 20 min Simulation of backgrounds, cosmic rays and neutron fluxes (J. Formaggio)
 - 20 min Neutron backgrounds (eg. $^{13}\text{C}(\alpha,n)$) (T. Mitsui)
 - 20 min Backgrounds and simulations for dark matter experiments (V. Kudryavtsev)
 - 20 min Self-shielding effect for liquid xenon (S. Moriyama)
 - 10 min *Questions and discussion*
- 5:30-6pm **Workshop summary and discussions**
(Chair: M. Chen)
- 10 min Workshop summary (M. Chen)
 - 15 min *Discussion of future direction and international cooperation on facilities*
 - 5 min *Plans for a future workshop*
- 6pm End of workshop conference