**VLVnT08**

**International Workshop on a Very Large Volume**

**Neutrino Telescope for the Mediterranean Sea**

**Toulon, Var, France : 22-24 April 2008**

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**with papers in each section**

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| **Monday 21 April 2008** |  |

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| |  |  | | --- | --- | | 18:00 | Welcome cocktail and Registration | |

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| **Tuesday 22 April 2008** |

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| |  |  | | --- | --- | | 08:30 | Registration | |

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| 09:00*->18:30*    **Plenary Session I** (Salle Colbert )   |  | | --- | | Chairs: Luciano Moscoso (APC Paris): Morning, Luke Drury (IAS Dublin): Afternoon | |
| |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  | | --- | --- | --- | | 09:00 | Introduction and Welcome |  | |  | * Introduction and Welcome  |  | | --- | | Director : Centre de Physique des Particules de Marseille (CPPM) ;  host institute for the ANTARES underwater neutrino telescope | | Eric KAJFASZ (*CPPM*) | |  | * Welcome address  |  | | --- | | Sénateur-Maire du Var, la Valette du Var,  Première Vice-Présidente de la communauté d'agglomération Toulon-Provence-Méditerrannée, responsible for Economic Development | | Christiane HUMMEL | | | |  |  |  | | --- | --- | --- | | 09:30 | Status of the ANTARES underwater neutrino telescope | Marco CIRCELLA (*INFN Bari*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 10:10 | Status and prospects of IceCube neutrino telescope | Elisa RESCONI (*MPI Heidelberg*) | |  | |  | | --- | |  | | | | | |  |  | | --- | --- | | 10:50 | coffee break | | | |  |  |  | | --- | --- | --- | | 11:20 | The BAIKAL neutrino experiment: status, selected physics results,  and perspectives | Vladimir AYNUDTINOV  (*R.A.S. Moscow*) | |  |  | | | | |  |  |  | | --- | --- | --- | | 11:50 | EMSO: the European Multidisciplinary Seafloor Observation | Paolo FAVALI (*INGV Rome*) | |  | |  | | --- | |  | | | | | |  |  | | --- | --- | | 12:30 | lunch break | | | |  |  |  | | --- | --- | --- | | 14:00 | The Status of Very High Energy Gamma-ray Astronomy  as of early 2008 | Arache DJANATTI-ATAI   (*APC Paris*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 14:30 | Status of extensive air shower studies at Auger | Etienne PARIZOT (*Paris-7*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 15:00 | Status of the KM3NeT project | Ulrich KATZ (*Friedrich-Alexander Universitat Erlangen-Nurnberg*) | |  |  | | | | |  |  |  | | --- | --- | --- | | 15:30 | Status of the NEMO Project | Antonio CAPONE (*Univ. Roma "La Sapienza" & INFN, Roma*) | |  | |  | | --- | |  | | | | | |  |  | | --- | --- | | 16:00 | Coffee break | | | |  |  |  | | --- | --- | --- | | 16:30 | Status of the NESTOR underwater neutrino | Petros RAPIDIS (*INP Demokritos, Greece*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 17:00 | Flavor Distribution of UHE Neutrino Oscillations at Neutrino Telescopes | Zhi-Zhong XING (*Institute of High Energy Physics, Chinese Academy of Sciences*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 17:30 | Transformative Ocean Science through the VENUS  and NEPTUNE Canada Ocean Observing Systems | Stephen M. TAYLOR  (*Ocean Networks Canada*) | |  | |  | | --- | |  | | | | |

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| **Wednesday 23 April 2008** |

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| 08:30*->16:00*    **Parallel session on Physics** (Salle Raimu-A )  (Conveners: Stella Bradbury (*Univ.* *Leeds*) , Alexander Kappes (*Univ Wisconsin-Madison*)) |
| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  | | --- | --- | --- | | 08:30 | Results from the NEMO Phase1 experiment | Isabella Amore (*INFN-Laboratori Nazionali del Sud*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 08:50 | ANTARES time calibration | Francisco Salesa (*IFIC-Valencia*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 09:10 | Atmospheric muons in the ANTARES detector | Annarita Margiotta (*INFN* & *Univ. Bologna*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 09:30 | Monte Carlo simulation studies of the timing calibration accuracy  required by the NEMO underwater neutrino telescope | Rosario Megna  (*INFN Bari*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 09:50 | Reconstruction of hadronic cascades in  large-scale neutrino telescopes | R Auer (*Erlangen Centre for Astroparticle Physics (ECAP) & Univ. Erlangen*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 10:10 | Study of the calibration potential of HELYCON  detectors with ANTARES | Jean-Pierre Ernenwein  (*Université de Haute Alsace*) | |  | |  | | --- | |  | | | | | |  |  | | --- | --- | | 10:30 | coffee break | | | |  |  |  | | --- | --- | --- | | 10:50 | Application of Kalman filter methods to event filtering  and reconstruction for Neutrino Telescopy | Apostolos Tsirigotis  (*Hellenic Open University*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 11:10 | Atmospheric MUons from PArametric formulas:  a fast GEnerator for neutrino telescopes | Maurizio Spurio  (*Univ. Bologna*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 11:30 | KM3NeT: optimization studies for a km3 neutrino detector | Rosa Coniglione (*INFN-LNS*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 11:50 | Study of the angular acceptance of a km3 telescope  in the Mediterranean Sea | Piera Sapienza  (*INFN-LNS*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 12:10 | MC studies of the KM3NeT physics performance | Rezo Shanidze (*ECAP/Univ. Erlangen*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 12:30 | Software frameworks for KM3NeT | Claudio Kopper *(ECAP)/ Univ. Erlangen*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 12:50 | First ideas for KM3Net on-shore data storage and distribution | Maya Stavrianakou (*NOA/NESTOR*) | |  | |  | | --- | |  | | | | | |  |  | | --- | --- | | 13:10 | lunch break | | | |  |  |  | | --- | --- | --- | | 14:20 | Predictions of the Diffuse Galactic Neutrino Flux  in Light of New Milagro Data | Andrew Taylor  (*MPIK*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 14:40 | Prospects for Identifying the Sources of the Galactic  Cosmic Rays with IceCube | Alexander Kappes   (*Univ. Wisconsin-Madison*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 15:00 | KM3NeT sensitivity to neutrino bursts from galactic | Rezo Shanidze (*ECAP/Univ. Erlangen*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 15:20 | Individual GRB sensitivity of the cubic-kilometre  deep-sea neutrino telescope KM3NeT | Damien Dornic  (*CPPM*) | |  | |  | | --- | |  | | | | |

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| 08:30*->16:05*    **Parallel session: Engineering for deep deployment neutrino telescopes** (Salle Colbert )  (Convener: Paul Kooijman (*NIKHEF, Utrecht*) , Paolo Piattelli (*INFN LNS, Catania*) ) |
| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  | | --- | --- | --- | | 08:30 | Low Power Multi-Dynamics Front End Architecture for  the Optical Module of a Neutrino Underwater Telescope | Domenico Lo Presti  (Univ. *Catania*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 08:40 | Time over Threshold electronics for an  underwater neutrino telescope | George Bourlis  (*Hellenic Open University*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 08:50 | The NEMO-Phase2 data acquisition and transmission system | Gabriele Giovanetti (*INFN LNS*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 09:00 | Qualification tests and readout electronics reliability analysis  for the deep sea underwater telescope NEMO | Stefano Russo  (*Univ. di Napoli Federico II*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 09:10 | Commodity, FPGA based, front end electronics  for underwater neutrino telescopes | Theodoros Athanasopoulos  (*NOA / IAF Nestor*) | |  | |  | | --- | |  | | | | | |  |  | | --- | --- | | 09:20 | short break | | | |  |  |  | | --- | --- | --- | | 09:30 | Proposal for a reconfigurable on-shore Data Acquisition  system for km3 scale underwater Neutrino telescope. | Anastasios BELIAS  (*NOA/NESTOR*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 09:45 | KM3NeT: Real-time Opto-electronic Readout System | Peter Healey (*CIP*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 10:05 | Developments for a passive optical node network for deployment in deep sea enabling time synchronous data readout. | Jelle Hogenbirk   (*NIKHEF*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 10:20 | Photonic technologies for future  Very Large Volume Neutrino Telescopes | M.J. Van der Hoek  (*NIKHEF*) | |  | |  | | --- | |  | | | | | |  |  | | --- | --- | | 10:30 | break | | | |  |  |  | | --- | --- | --- | | 10:45 | A low cost redundant store and forward DAQ system for KM3NeT, using copper in the Vertical String | Peter Jansweijer, P.P.M. (*NIKHEF*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 11:00 | A proposal design for data transmission system  on copper backbone | Fabrizio Ameli  (*INFN Roma ‘La Sapienza ;*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 11:20 | Wet mateable optical connector advancements | Steven Thumbeck (*SEACON Advance products LLC*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 11:40 | The electro-optical cabling system for the NEMO Phase-2 tower | Antonio D'Amico (*INFN-LNS*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 11:55 | KM3NET deep sea wet mateable connector:  report of performed tasks and results | Diego Torazza  (*I.N.F.N. Genova*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 12:05 | The sector of the Antares line to be deployed in the NEMO site | Davide Piombo (*INFN. Genova*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 12:15 | A comparison of AC and DC power feeding systems  based on the NEMO experiences | Rosanna Cocimano  (*INFN - LNS*) | |  | |  | | --- | |  | | | | | |  |  | | --- | --- | | 12:30 | lunch break | | | |  |  |  | | --- | --- | --- | | 14:00 | Positioning System of the ANTARES Neutrino Telescope | Miguel Ardid  (*IGIC- Univ. Politècnica de València*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 14:15 | Acoustic tomography applied to the Baikal Neutrino Telescope | O Kebkal (*Evologics GmbH,*  *Berlin, Germany*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 14:30 | The acoustic positioning system for NEMO Phase 2 | Francesco Simeone  (*Univ. "La Sapienza" & INFN,Roma*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 14:45 | NURC expertise for Neutrino Telescope | Alain Maguer (*NURC - Nato Undersea Research Centre*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 15:00 | On line monitoring of the power control and engineering parameters systems of the NEMO Phase-2 tower. | Angelo Orlando  (*INFN - LNS*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 15:15 | Time calibration and positioning for KM3NeT | Simona Toscano (*IFIC - Valencia*) | |  |  | | | | |  |  |  | | --- | --- | --- | | 15:30 | Time Calibration of the NEMO apparatus | Marco Circella (*INFN Bari*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 15:45 | Calibration from ten to hundreds of meters in an  underwater neutrino telescope | Spyridon Koutsoukos  (*NOA / Nestor*) | |  |  | | | |

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| 09:00*->16:20*    **Parallel session on Photodetection** (Salle Raimu-B )  (Conveners: Mauro Taiuti (*INFN Genova*) , Sylvain Henry (*CPPM*) ) |
| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  | | --- | --- | --- | | 09:00 | Photomultipliers from ET Enterprises Ltd  (formerly Electron Tubes Ltd) | Ronald Stubberfield  (*ET Enterprises*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 09:30 | Recent Progress in Hamamatsu Large Format PMTs | Yuji Yoshizawa (*Hamamatsu Photonics*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 10:00 | Title: The X-HPD -- A modern Implementation  of a SMART Concept | Christian Joram  (*CERN / PH Department*) | |  | |  | | --- | |  | | | | | |  |  | | --- | --- | | 10:30 | coffe break | | | |  |  |  | | --- | --- | --- | | 11:00 | Crystal-based hybrid single photon detector development  for the KM3NeT cubic kilometre neutrino telescope | G Hallewell  (*CPPM*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 11:30 | Hybrid Phototubes in Neutrino Telescope:  Experience and Perspectives | Bayarto Lubsandorzhiev  (*Inst. Nuclear Research*, *RAS*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 12:00 | A hybrid photodetector using the TIMEPIX pixel semiconductor  for photoelectron detection | Gisela Anton  (ECAP/ Univ.*Erlangen*) | |  | |  | | --- | |  | | | | | |  |  | | --- | --- | | 12:30 | lunch break | | | |  |  |  | | --- | --- | --- | | 14:00 | Sensitivity of a multi-photomultiplier optical module for KM3NeT | Herbert Loehner  (*KVI, Univ. Groningen*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 14:30 | Instrumentation of A New Direction Sensitive  Segmented Optical Module. | Andrea Bersani  (*INFN Genova*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 14:45 | Characterization of a prototype of a new multianodic  large area photomultiplier | Emanuele Leonora   (*INFN Catania*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 15:00 | LED based powerful nanosecond light sources for calibration systems of deep underwater neutrino telescopes | Bayarto Lubsandorzhiev  *. (Inst. Nuclear Research*, *RAS*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 15:20 | Distribution of bioluminescence in the Mediterranean Sea  and predicted effects on a neutrino telescope | Jessica Craig (*Oceanlab*  *Univ Aberdeen*) | |  | |  | | --- | |  | | | | | |  |  | | --- | --- | | 15:50 | coffee break | | |

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| |  |  |  | | --- | --- | --- | | 16:30 | Visit to ANTARES infrastructures (La Seyne sur Mer)   |  | | --- | | Transfer by boat from Toulon harbour, leaving at 16:30! | | |

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| **Thursday 24 April 2008** |

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| 09:00*->17:30*    **Plenary Session II** (Salle Colbert )   |  | | --- | | Chairs: Gerard van der Steenhoven (NIKHEF): Morning, John Carr (CPPM): Afternoon | |
| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  | | --- | --- | --- | | 09:00 | Commissioning the IceCube neutrino telescope  at the South Pole | Brendan FOX  (*Pennsylvania* ***State University***) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 09:30 | The prototype string for the km3 scale  Baikal neutrino telescope | Vladimir AYNUDTINOV   (*Inst. Nuclear Research*, *RAS*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 09:50 | Perspectives for High Energy Neutrino Astronomy | Dmitri SEMIKOZ (*APC Paris*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 10:20 | The European Research Fleets | Vincent RIGAUD (*IFREMER, Centre de Brest, France*) | |  |  | | | | |  |  | | --- | --- | | 10:50 | Coffee break | | | |  |  |  | | --- | --- | --- | | 11:10 | Experience in ESONET NoE and Standardisation  issues for undersea observatories | Ingrid PUILLAT  (*IFREMER Centre de Brest, France*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 11:40 | Communications and Power for undersea  Neutrino Telescopes | Ronan MICHEL  (*Alcatel-Lucent Submarine Networks*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 12:00 | Underwater matable electro-optical connectors:  the feedback from Antares | Pascal VERNIN   (*CEA Saclay, Paris*) | |  | |  | | --- | |  | | | | | |  |  | | --- | --- | | 12:20 | lunch break | | | |  |  |  | | --- | --- | --- | | 14:00 | Deep Sea Acoustic Neutrino Detection and the AMADEUS  System as a multi-purpose acoustic array | Robert LAHMANN  (*Univ. Erlangen*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 14:20 | Biological Sonar and Noise Pollution | Michel ANDRE (*Laboratori d'Aplicacions Bioacústiques*  *(LAB), Universitat Politècnica de Catalunya (UPC)*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 14:50 | Coincidences between Gravitational Wave Interferometers  and High Energy Neutrino Telescopes | Thierry Pradier  (*IPHC Strasbourg*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 15:20 | Alert systems for Gamma Ray Bursts | Stephane BASA (*LAM Marseille*) | |  | |  | | --- | |  | | | | | |  |  | | --- | --- | | 15:50 | Coffee break | | | |  |  |  | | --- | --- | --- | | 16:10 | Development of Telescopes for Extremely Energetic Neutrinos | Steve BARWICK (*UC Irvine*) | |  | |  | | --- | |  | | | | | |  |  |  | | --- | --- | --- | | 16:40 | Conference Summary | Emilio MIGNECO (*INFN-LNS Catania*) | | | |  |  |  | | --- | --- | --- | | 17:10 | Thank you, farewell and please remember to upload your papers! | Greg Hallewell (*CPPM*) | | |