



## XII International Workshop on “Neutrino Telescopes”

### *Twenty years after the Supernova 1987A neutrino bursts discovery*

*March 6-9, 2007*

“Istituto Veneto di Scienze, Lettere ed Arti”, Palazzo Franchetti - Campo S. Stefano  
**Venice**

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### *Programme*

#### *Twenty years after the Supernova 1987A neutrino bursts discovery*

**Tuesday, March 6, 2007**

09.30-09.45      **M. Baldo Ceolin** (University of Padova)  
*Welcome*

#### **“SUPERNOVAE”**

*“Great Moments”*

*Chair: G. Zatsepin* (INR of RAS, Moscow)

09.45-10.15      **A. Suzuki** (KEK)  
*The Discovery of SN1987A Neutrino Bursts*

10.15-10.45      **G.M. Fuller** (University of California, San Diego)  
*The Neutrino Supernova Discovery Implications for Astrophysics and Cosmology*

10.45-11.15      **Coffee Break**

## “Supernovae and Cosmology”

**Chair: S. Matarrese** (University of Padova)

11.15-11.45 **P. Astier** (IN2P3/CNRS & University of Paris VI et VII)(n.c.)  
*Supernovae and Dark Energy*

11.45-12.15 **E.W. Kolb** (University of Chicago)  
*Lambda-CDM: Beyond the Standard Model*

**Chair: M. Signore** (Observatoire de Paris, LERMA)

12.15-12.45 **J.F. Beacom** (Ohio State University)  
*Direct Measurement of Supernova Neutrino Emission Parameters*

12.45-13.00 **G. Pizzella** (LNF)  
*SN1987A Revisited after 20 Years: May the Supernova bang more than once?*

13.00-14.30 **Lunch**

## “Astrophysics”

**Chair: T. Stanev** (University of Delaware)

14.30-15.00 **F. Halzen** (University of Wisconsin, Madison)  
*Cosmic Neutrino Telescopes*

15.00-15.30 **P. De Bernardis** (University of Roma “La Sapienza”)  
*Cosmic Microwave Background Observations*

15.30-16.00 **G. Navarra** (University of Torino)  
*Hunting for Cosmic Particles*

16.00-16.30 **Coffee Break**

## “Solar Neutrinos”

**Chair: V. Gavrin** (INR of RAS, Moscow)

16.30-17.00 **C. Peña-Garay** (University of Valencia)  
*Neutrinos a Unique Window to Other Ways Inaccessible Physics: The Standard Solar Model*

17.00-17.20 **C. Broggin** (INFN, Padova)  
*LUNA: New Results on  $^3\text{He} + ^4\text{He}$*

17.20-17.40 **G.P. Bellini** (University of Milano)  
*BOREXINO*

*“New Telescopes”*

**Chair: L. Resvanis** (Nestor Institute, Pilos)

17.40-18.05 **E. Blaufuss** (University of Maryland)  
*Neutrino Physics with IceCube*

18.05-18.30 **G. Miele** (University of Napoli)  
*Ultra High Energy Neutrinos in the Mediterranean: detecting  $\nu_\tau$  and  $\nu_\mu$  with a  $km^3$  Telescope*

*“New Results”*

**Chair: O. Saavedra** (University of Torino)

18.30-18.55 **J. Rico** (Institut de Fisica d’Altes Energies, Barcelona)  
*First Results of Galactic Observation with MAGIC*

18.55-19.20 **P. Picozza** (University of Roma “Tor Vergata”)  
*PAMELA: An Experiment for Antiparticles Measurement in Cosmic Rays*

20.00-22.00 **“Pasta e Fasjoi”**

Wednesday, March 7, 2007

**“THE STANDARD MODEL AND BEYOND”**

*“Neutrino Properties”*

**Chair: A. Bottino** (University of Torino)

- 08.30-09.00 **G. Fogli** (University of Bari)  
*Neutrino Mass-Mixing Parameters and Implications for Beta and Neutrinoless Double Beta Decay Searches*
- 09.00-09.30 **G. Altarelli** (University of Roma Tre)  
*Theory of Neutrino Masses and Mixing*

*“Neutrino CP Violation”*

**Chair: K. Kleinknecht** (University of Mainz)

- 09.30-10.00 **N. Cabibbo** (University of Roma “La Sapienza”)  
*Do Neutrinos violate CP?*
- 10.00-10.30 **H. Minakata** (Tokyo Metropolitan University)  
*Measuring Matter Density and Testing MSW*
- 10.30-11.00 **Coffee Break**

*“Measuring  $\theta_{13}$  at Accelerators and Reactors”*

**Chair: H. White** (LANL)

- 11.00-11.30 **M. Goodman** (ANL)  
*Searching for the Neutrino Mixing Angle  $\theta_{13}$  at Reactors*
- 11.30-12.00 **K. Nishikawa** (Kyoto University)  
*Status of the T2K Experiment at J-Park*

**Chair: U. Dore** (INFN, Roma “La Sapienza”)

- 12.00-12.30 **T. Kajita** (University of Tokyo)  
*T2KK; What is New?*
- 12.30-13.00 **K. Lang** (The University of Texas at Austin)  
*NOVA and  $\theta_{13}$*
- 13.00-14.30 **Lunch**

**Chair: V. Matveev** (INR of RAS, Moscow)

14.30-15.00 **J.G. Learned** (Hawaii University)  
*Measuring  $\theta_{13}$  with a Remote Detector of Reactor Antineutrinos*

15.00-15.30 **M. Mezzetto** (INFN, Padova)  
*European Neutrino Programmes Accelerator- and Reactor-based*

**Chair: P.O. Hulth** (Stockholm University)

15.30-15.55 **Y. Farzan** (IPM, Teheran)  
*Leptonic CP Violation: Zero, Maximal or between the Two Extremes*

15.55-16.20 **T. Schwetz-Mangold** (CERN)  
*What is the Probability that  $\theta_{13}$  and CP Violation will be discovered in the Future Neutrino Oscillation Experiments?*

16.20-16.45 **W. Rodejohann** (MPI, Heidelberg)  
*Broken  $\mu$ - $\tau$  Symmetry and CP Violation*

16.45-17.15 **Coffee Break**

“Neutrino results”

**Chair: G. Wilquet** (Université Libre, Bruxelles)

17.15-17.45 **J. Panman** (CERN)  
*New HARP Results*

17.45-18.15 **P. Vahle** (University College of London)  
*MINOS Results after Two Years Running*

**Chair: J. Schneps** (Tufts University)

18.15-18.45 **M.T. Muciaccia** (University of Bari)  
*First Events from the CNGS Neutrino Beam Detected in the OPERA Experiment*

18.45-19.15 **M. Shaevitz** (Columbia University)  
*MiniBooNE Oscillation Update*

19.30-20.30 **“Visit to the Portrait Collection”**

Thursday, March 8, 2007

***“BEYOND THE STANDARD MODEL”***

08.45-09.00 Emilio Zavattini Memorial (Nicola Cabibbo)

*“PVLAS”*

09.00-09.30 **G. Zavattini** (University of Ferrara)  
*PVLAS*

09.30-10.00 **M. Roncadelli** (University of Pavia)  
*Theoretical Aspects*

*Chair: C. de los Heros* (Uppsala University)

10.00-10.30 **A. Ringwald** (DESY)  
*Particle Interpretations of the PVLAS Data*

10.30-11.00 **A. Mirizzi** (University of Bari)  
*Cosmological Bounds on Axions*

11.00-11.30 **Coffee Break**

*“Majorana”*

*Chair: P. Minkowski* (University of Bern)

11.30-12.00 **M. Yoshimura** (Okoyama University)  
*Toward Majorana Neutrino Spectroscopy*

12.00-12.30 **N. Sasao** (University of Kyoto)  
*CP-even Neutrino Beam*

12.30-13.00 **E. Fiorini** (University of Milano “Bicocca”)  
*Double  $\beta$  Decay and Majorana Neutrinos*

13.00-14.30 **Lunch**

*“Sterile neutrinos”*

**Chair: A. Guglielmi** (INFN, Padova)

- 14.30-15.00 **S. Pakvasa** (University of Hawaii)  
*Non Standard Oscillation Models*
- 15.00-15.30 **R.S. Raghavan** (Virginia Polytechnic Inst. & State University, Blacksburg)  
*Probing Active to Sterile Neutrino Oscillations in the LENS Detector*
- 15.30-16.00 **A. Melchiorri** (University of Roma “La Sapienza”)  
*Is Cosmology Compatible with Sterile Neutrinos?*
- 16.00-16.30 **Coffee Break**

*“Lepton Flavour Physics”*

**Chair: F. Vannucci** (APC, University of Paris 7)

- 16.30-17.00 **A. Rossi** (University of Padova)  
*Lepton Flavour Violation in Neutrino Seesaw Scenarios*
- 17.00-17.30 **C. Bemporad** (University of Pisa)  
*The MEG Experiment at PSI*

**Chair: E. Lisi** (INFN, Bari)

- 17.30-18.00 **S. Davidson** (University of Lyon-I)  
*On the Impact of Flavour in Leptogenesis*
- 18.00-18.30 **S.T. Petcov** (SISSA)  
*Low-Energy Leptonic CP-Violation and Leptogenesis*
- 20.00-22.30 **“Conference Dinner at the Hotel Cipriani, Isola della Giudecca”**

Friday, March 9, 2007

*“Looking forward”*

**Chair: D. Haidt** (DESY)

09.00-09.30 **L. Maiani** (University of Roma “La Sapienza”)  
*Experiments and Theory with the LHC: a Personal View*

09.30-10.00 **A. Romanino** (SISSA)  
*LHC and Neutrino Physics*

**Chair: J.J. Aubert** (CPPM, Marseille)

10.00-10.30 **G. Senjanovic** (ICTP, Trieste)  
*See-saw at LHC*

10.30-11.00 **M.E. Shaposhnikov** (IPT, Lausanne)  
*Where to find a Dark Matter Sterile Neutrino?*

11.00-11.30 **Coffee Break**

*“New Horizons”*

**Chair: F. Ronga** (LNF)

11.30-12.00 **A. McDonald** (Queen’s University, Kingston)  
*SNO and the New SNOLAB*

12.00-12.30 **E. Coccia** (LNGS)  
*Gran Sasso Future Programmes*

12.30-13.00 **B. Sadoulet** (University of California, Berkeley)  
*The DUSEL Project in the US*

13.00-14.30 **Lunch**

*“Going on”*

**Chair: G. Costa** (University of Padova)

14.30-15.00 **R.N. Mohapatra** (University of Maryland)  
*Unified TeV Scale Picture of Baryogenesis and Dark Matter*

15.00-15.30 **A. Masiero** (University of Padova)  
*Physics of Neutrino Flavours*

*Chair: E. Iarocci* (LNF)

- 15.30-16.00 **P. Binetruy** (APC, Paris)  
*The Incredible Progresses of Particle Physics and Cosmology*
- 16.00-16.30 ***Coffee Break***
- 17.00 ***“Recital for soprano and lute”***
- 18.00 ***“Farewell Party”***