

VULCANO WORKSHOP 2010

May 23-29, Vulcano, Italy

FRONTIER OBJECTS IN ASTROPHYSICS AND PARTICLE PHYSICS



TENTATIVE FINAL PROGRAM

2010 - May 28

Sunday 23 Afternoon

16.30	Registration of Participants
19.00	End of Registration
19.30	Welcome Cocktail Party
20.00	Dinner

Organized by: INAF-IASF, Roma; INAF-IFSI, Torino; INFN-LNF, Frascati; INFN-LNGS, Assergi; INFN - MI, Milano);
CAEN S.p.A., Viareggio

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Monday 24 Morning

08.50 FRANCO GIOVANNELLI &
GIAMPAOLO MANNOCCI Welcome Address

OPENING REMARKS

Chairperson: NINO PANAGIA

09.00 FRANCO GIOVANNELLI The Golden Age of Astroparticle
Physics in the LHC Era.
09.30 ARNO STRAESSNER LHC news.
10.00 GIULIO AURIEMMA Search for Extradimensions.
10.30 ERASMO RECAMI Localized Waves, sub- and super-
luminal: Experimental results,
theory, and applications.

11.00 Coffee Break

11.30 GIORA SHAVIV The Life of Stars, the Controversial
Inception and Emergence of the
Theory of Stellar Structure.

12.00 END OF SESSION

COSMOLOGY

Chairperson: LAWRENCE JONES

12.00 SERGIO COLAFRANCESCO The importance of SZ effect
in cosmology.
12.30 NINO PANAGIA The Impact of Hubble Space Telescope
for the Evolution and Reionization
in the Universe.

13.00 INTERVAL

Monday 24 Afternoon

COSMOLOGY

Chairperson: GIULIO AURIEMMA

17.00	MASSIMO DELLA VALLE	SN Rates in a Cosmological Context
17.30	ARIEL SANCHEZ	The impact of REFLEX survey in Cosmology.
18.00	MARCO REGIS	Particle Dark Matter: the state of art
18.30	ALESSANDRO BRUNO	PAMELA: annihilation of dark matter Particles and astrophysical sources.
19.00	FABIO BOSSI	Signals from A Low Energy Dark World.

Anticipated talk of the session
DIRECTION FOR NEXT GENERATION EXPERIMENTS

19.15	PIERO SPILLANTINI	Radiation Exposure and Mission Strategies for Interplanetary Manned Missions and Interplanetary Habitats.
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19.45 End of the anticipated talk of the session
DIRECTION FOR NEXT GENERATION EXPERIMENTS

INTERVAL

Monday 24 Night

SPECIAL NIGHT SESSION

Chairperson: ULI KATZ

21.45	ERASMO RECAMI	Ettore Majorana: The Man and The Scientist.
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22.30 **END SPECIAL NIGHT SESSION**

Tuesday 25 Afternoon

ASTROPHYSICS OF HIGH ENERGY COSMIC SOURCES

Chairperson: RITA BERNABEI

17.00	PIETRO UBERTINI	The INTEGRAL High Energy Sky.
17.30	PETER ROMING	Highlights of the SWIFT Gamma Ray Observatory.
18.00	VLADIMIR DOGIEL	Thermal and Non-Thermal X-rays from Galactic Center.
18.20	BERND ASCHENBACH	Evidence for General Relativity Rotational frame-dragging in the light from the Sgr A* supermassive black hole.
18.40	GIUSEPPE DI SCIASCIO	ARGO-YBJ experiment results.
19.00	ANDREA SANTANGELO	Space based experimental search for UHE particles.

19.30 **INTERVAL**

Tuesday 25 NIGHT

THEATRE PERFORMANCE AT THE EOLIAN HOTEL

21.45	FLAVIA GIOVANNELLI & LISA COLOSIMO	"Esercizi di Stile"
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22.45 **END OF THE PERFORMANCE**

Thursday 27 Morning

JET SOURCES AND GAMMA-RAY BURSTS

Chairperson: JANUSZ ZIOLKOWSKI

09.00	KEVIN HURLEY	An overview of current GRB experiments.
09.30	VALERIE CONNAUGHTON	HE Emission from GRBs in the FERMI Era.
10.00	LORENZO AMATI	Gamma-Ray Bursts: The state of art and measuring cosmological parameters.
10.30	TASHIRO MAKOTO	GRBs: The Contribution of SUZAKU.

10.50 Coffee Break

Chairperson: KEVIN HURLEY

11.20	OSCAR SAAVEDRA	GRBs detected by LAGO (Large Aperture Gamma Ray Observatory in Latin America).
11.40	VALERY CHECHETKIN	Hard cosmic gamma-ray emission from AGN jets: Physical mechanisms.
12.00	WOLFGANG KUNDT	The Astrophysical Jets - after 30 years of deliberation.

12.20 END OF SESSION

THE CHALLENGE OF COSMIC RAY PRODUCTION

Chairperson: GIORA SHAVIV

12.20	TODOR STANEV	UHE Cosmic Rays: A Review.
12.50	ANATOLY ERLYKIN	Cosmic Rays and Global Warming.

13.10 INTERVAL

Thursday 27 Afternoon

THE CHALLENGE OF COSMIC RAY PRODUCTION

Chairperson: TODOR STANEV

17.00	SERGIO PETRERA	UHE Cosmic Rays in the AUGER Era.
17.30	MARCO PALLAVICINI	Recent Results from BOREXINO Experiment.
18.00	ANNALISA MARIAZZI	Studies of Cosmic Ray Mass Composition with the Pierre Auger Observatory.
18.30	ANATOLY PETRUKHIN	New ideas about measurements of cosmic ray energy spectrum and composition around the knee.
19.00	NIR SHAVIV	Inhomogeneity in Cosmic Ray Sources.
19.20	ANATOLY ERLYKIN	Cosmic rays at PeV Energies with GAMMA Experiment.

19.40 INTERVAL

Thursday 27 Night

MUSIC IN VULCANO

21.45 CONCERT

Alessandro Perpich - Violin
Valentina Usai - Piano

22.45 END OF CONCERT

Friday 28 Morning

THE CHALLENGE OF COSMIC RAY PRODUCTION

Chairperson: RENE HUDEC

- 09.00 LAWRENCE JONES Very High Energy Cosmic Ray Interactions.
09.30 PASQUALE BLASI Cosmic Ray Acceleration and Propagation in the Galaxy.
10.00 ANTONIO CODINO The Naked Iron Knee of the Cosmic Radiation: Its Necessity and Empirical Evidence.
- 10.30 **END OF SESSION**

GRAVITATIONAL WAVES

- 10.30 LEOPOLDO MILANO Gravitational Waves: A Review in The VIRGO and LIGO Era.
- 11.00 **END OF SESSION**
- Coffee Break**

NEUTRINO ASTRONOMY

Chairperson: PEPI FABBIANO

- 11.30 PETER GRIEDER 30 Years of Neutrino Astronomy: What have we achieved, where are we today.
12.00 TERESA MONTARULI Neutrino Astronomy and connections with Gamma Astronomy.
12.30 JUAN ANTONIO AGUILAR-SANCHEZ Search for neutrino point sources with the IceCube Neutrino Observatory.
- 13.00 **INTERVAL**

Friday 28 Afternoon

NEUTRINO ASTRONOMY

Chairperson: TERESA MONTARULI

17.00	CECILE JOLLET- MEREAGAGLIA	News from OPERA experiment.
17.20	ULI KATZ	Neutrino Astronomy with Km3Net.
17.50	MONICA SISTI	Double Beta Decay: A Review.
18.20	KOSHIO YUSUKE	Astrophysical Neutrino Point Sources at Super-Kamiokande.
18.40	DANIELE FARGION	Lightest Nuclei in UHECR versus Tau Neutrino Astronomy.
19.00	LIVIA LUDHOVA	Geoneutrinos.

19.20 **END OF SESSION**

Postponed talk of the session
ASTROPHYSICS OF HIGH ENERGY COSMIC SOURCES

19.20	GIORA SHAVIV	Accretion Induced Collapse: Yes or No?
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19.40 End of the Postponed talk of the session
ASTROPHYSICS OF HIGH ENERGY COSMIC SOURCES

Friday 28 Night

SPECIAL NIGHT SESSION

Chairperson: GUENNADI BISNOVATYI-KOGAN

21.30	GIORA SHAVIV	Why CO2 is not responsible for Global Warming.
22.00	EZIO PREVITALI	Physics of rare events: insights on Napoleon death.

22.30 **END OF THE SPECIAL SESSION**

Saturday 29 Morning

Postponed talk of the session
ASTROPHYSICS OF HIGH ENERGY COSMIC SOURCES

Chairperson: GERALD SKINNER

09.00 CARLOTTA PITTORI Highlights from AGILE.

09.30 End of the Postponed talk of the session
ASTROPHYSICS OF HIGH ENERGY COSMIC SOURCES

Postponed talk of the session
NEUTRINO ASTRONOMY

09.30 FRANCESCO VISSANI What is the Issue with
Supernova Neutrinos?

09.50 End of the Postponed talk of the session
NEUTRINO ASTRONOMY

DIRECTION FOR NEXT GENERATION EXPERIMENTS

09.50 RENE HUDEC New Astronomical X-ray Optics.
10.05 MARCO GARATTINI The Moon as Test Body for
General Relativity and New
Gravitational Theories.
10.20 CARLO GUSTAVINO Future LUNA Experiment Measurements.
10.35 BRUNA BERTUCCI The AMS-02 Detector: Status and
Perspectives.

10.50 **COFFEE BREAK**

Chairperson: CARLOTTA PITTORI

11.20 TODOR STANEV The IceTop Experiment in 2010.
11.35 ANSELMO MEREGAGLIA Double Chooz Experiment:
The State of Art.
11.50 FERNANDO FERRONI LUCIFER: a New Technique for Double
Beta Decay.
12.05 AURELIO GRILLO Strong Selling Point of Astroparticle
Physics: ASTRI & PARTICELLE.

12.15 **END OF SESSION**

Saturday 29 Morning

CONCLUDING REMARKS

Chairperson: BERND ASCHENBACH

12.15 LAWRENCE JONES
12.25 GUENNADI BISNOVATYI-KOGAN
12.35 GIULIO AURIEMMA
13.45 JANUSZ ZIOLKOWSKI

12.55 END OF SESSION

CONCLUDING ADDRESS

12.55 FRANCO GIOVANNELLI Concluding Address

13.10 END OF THE WORKSHOP