

# 1st SciNeGHE Workshop 2003 Perugia



Workshop on  
**Science with the New Generation of  
High Energy Gamma-ray Experiments:  
between Astrophysics and Astroparticle Physics**  
May 21, 2003  
Hotel Gio, Perugia, Italy

Organizing Committee:  
**A. De Angelis** (Udine)  
**N. Giglietto** (Bari)  
**F. Longo** (Trieste)  
**P. Lubrano** (Perugia - Chair)  
**A. Morselli** (Roma2)  
**N. Omodei** (Pisa-Siena)  
**G. Tosti** (Perugia)

I.N.F.N. Sez. di Perugia,  
c/o Dipartimento di Fisica  
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tel. 075-5847137  
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<http://www.wosp.pg.infn.it/glast/workshop03/>

## Topics:

Galactic Unidentified Gamma-Ray Sources  
Pulsars  
Clusters of Galaxies  
AGN & GRB Observations and Models  
Dark Matter  
Photon Propagation and Fundamental Physics



\*Palazzo dei Priori and "Fontana Maggiore" (Perugia, Italy). In background the Crab Nebula core as seen by the Chandra X-ray Observatory superimposed to the optical image (credit by S. Ciprini)



# 2nd SciNeGHE Workshop 2004 Bari



Workshop on  
**Science with the New Generation of High Energy Gamma-ray Experiments: between Astrophysics and Astroparticle Physics**  
May 21, 2003  
Hotel Gio, Perugia, Italy

Organizing Committee:  
A. De Angelis (Udine)  
N. Giglietto (Bari)  
F. Longo (Trieste)  
P. Lubrano (Perugia - Chair)  
A. Morselli (Roma 2)  
N. Onofrei (Pisa-Siena)  
G. Tosti (Perugia)

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<http://www.wospg.pg.infn.it/glast/workshop03/>

Topics:  
Galactic Unidentified Gamma-Ray Sources  
Pulsars  
Clusters of Galaxies  
AGN & GRB Observations and Models  
Dark Matter  
Photon Propagation and Fundamental Physics



*Second workshop on:*

## *Science with the New Generation of High Energy Gamma-ray Experiments*

*Between Astrophysics and Astroparticle Physics*

### **Organizing Committee**

- A. De Angelis (Udine)
- C. Favuzzi (Bari)
- P. Fusco (Bari)
- N. Giglietto (Bari)
- F. Longo (Trieste)
- P. Lubrano (Perugia)
- A. Morselli (Roma 2)
- N. Onofrei (Pisa)
- P. Spinelli (Bari)
- G. Tosti (Perugia)

Bari, Italy, June 21-22, 2004

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Web: <http://www.ba.infn.it/~glast/SWIndex.htm>






# 3rd SciNeGHE Workshop 2005 Cividale

**Third Workshop on**  
**Science with the New Generation of**  
**High Energy Gamma-ray Experiments**

Cividale del Friuli, Udine, Italy  
 May 30-31 and June 1, 2005



The workshop is organized by the Physics Department of the Udine University and by Istituto Nazionale di Fisica Nucleare (I.N.F.N.), Italy.

Aim of the workshop is to provide a platform for scientists involved in new developments of astrophysics and astroparticle physics, in particular related to the design and to the analysis of data from ground-based and space-borne experiments dedicated to the observation of the gamma-ray sky.

Contributions are related to topics from High-Energy Physics, Astrophysics and Astronomy, detector development and computational techniques for the management of data.

**International Advisory Committee**

- G. Rabbolini (Trieste University & INFN, Italy)
- G. Barreira (LIP Lisboa, Portugal)
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- F. Carlson (Stockholm Physics Centre KTH, Sweden)
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- S. Ritz (NASA GSFC, Washington DC, USA)
- B. Sadouni (Bielefeld Science Center & Heidelberg, Italy)
- P. Spinelli (Bari University & INFN, Italy)

**Local Organizing Committee**


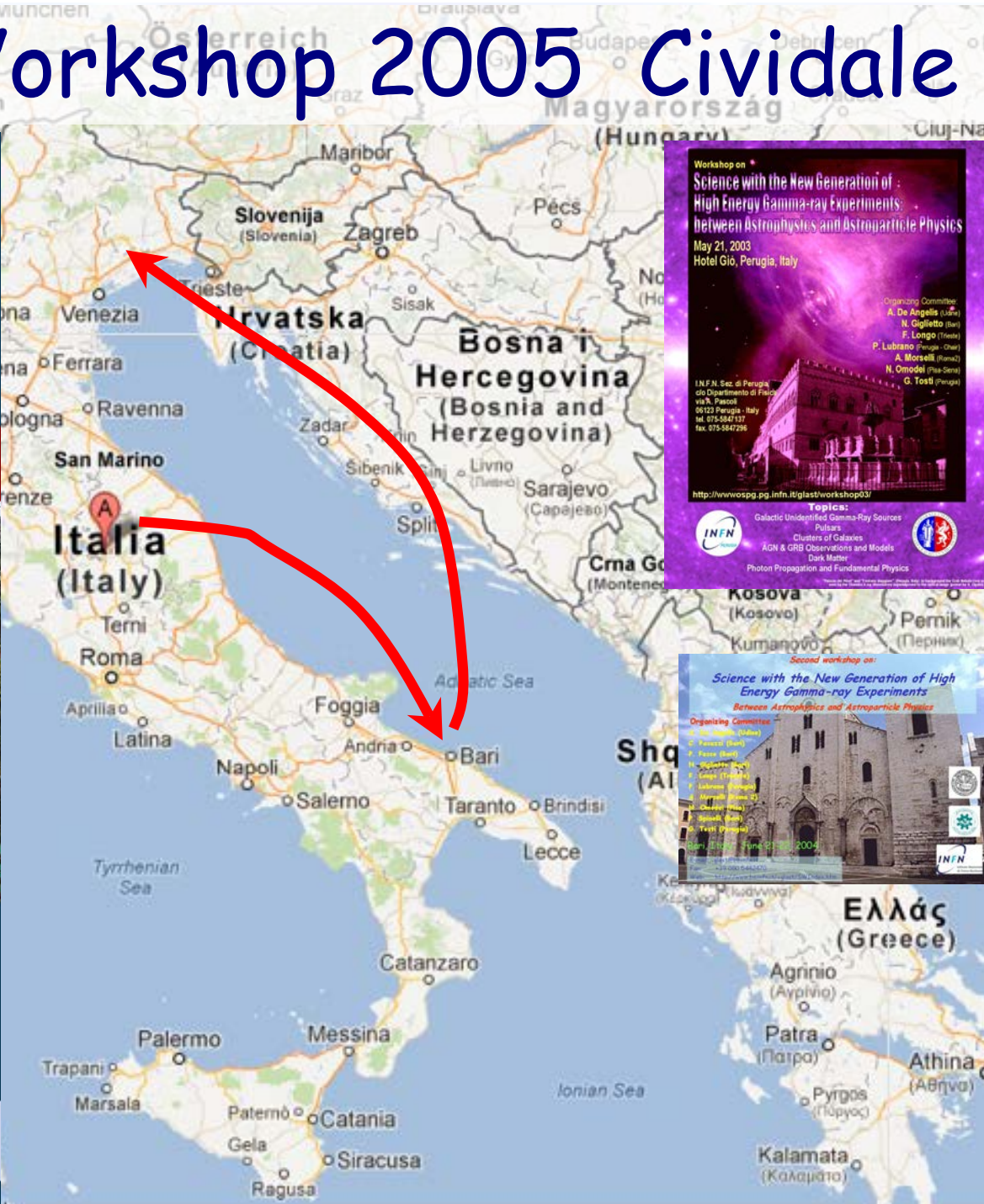
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**Secretariat**

Gabriella Ardizzone  
 Antonella Di Marzio  
 Silvia Zaccaro

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Workshop on  
**Science with the New Generation of :  
 High Energy Gamma-ray Experiments:  
 between Astrophysics and Astroparticle Physics**  
 May 21, 2003  
 Hotel Gio, Perugia, Italy

Organizing Committee:  
 A. De Angelis (Chair)  
 N. Giglietto (Chair)  
 F. Longo (Trieste)  
 P. Lubrano (Perugia - Chair)  
 A. Morelli (Roma2)  
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<http://www.wospg.pg.infn.it/glas/workshop03/>


**Topics:**  
 Galactic Unidentified Gamma-Ray Sources  
 Pulsars  
 Clusters of Galaxies  
 AGN & GRB Observations and Models  
 Dark Matter  
 Photon Propagation and Fundamental Physics

Second workshop on:  
**Science with the New Generation of High  
 Energy Gamma-ray Experiments**  
 Between Astrophysics and Astroparticle Physics

Organizing Committee:  
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 M. Martinez (Spain)  
 N. Orsini (Pisa)  
 G. Tosti (Perugia)

Bari, Italy - June 21-22, 2004






# 4th SciNeGHE Workshop 2006 Elba

**4<sup>th</sup> Workshop on  
Science with the New Generation of High Energy  
Gamma-ray Experiments**

Portoferraio, Isola d'Elba (Italy) - 20-21-22 June, 2006



Driver theme of the workshop is the study of the *transient nature of the high-energy Universe*. Contributions are focused on galactic and extragalactic variable gamma-ray sources: their identification and counterparts. An update on the current and planned research for space-borne and ground-based experiments, dedicated to the observation of the gamma-ray sky, is given.

**International Advisory Committee**



- F. Aharonian (Max Planck Institut, Germany)
- G. Barbilioni (Trieste University & INFN, Italy)
- G. Barreira (LIP, Lisboa, Portugal)
- R. Bellazzini (INFN Pisa, Italy)
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- P. Michelson (Stanford University, USA)
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Con il patrocinio/sponsorato di  
Comune di Portoferraio (Isola d'Elba)

Poster by G. Spandre - Photos by N. Omodei



Workshop on  
**Science with the New Generation of  
High Energy Gamma-ray Experiments:  
between Astrophysics and Astroparticle Physics**


May 21, 2003  
Hotel Gio', Perugia, Italy

Organizing Committee:  
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P. Lubrano (Perugia - Chair)  
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**Topics:**  
Galactic Unidentified Gamma-Ray Sources  
Pulsars  
Clusters of Galaxies  
AGN & GRB Observations and Models  
Dark Matter  
Photon Propagation and Fundamental Physics



Second workshop on:  
**Science with the New Generation of High  
Energy Gamma-ray Experiments  
Between Astrophysics and Astroparticle Physics**

Organizing Committee:  
A. De Angelis (Udine)  
P. Fabre (Bari)  
F. Longo (Trieste)  
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G. Tosti (Perugia)  
N. Omodei (Pisa-Siena)

Bari, Elba, June 21-23, 2004



Third Workshop on  
**Science with the New Generation of  
High Energy Gamma-ray Experiments**

Civitate del Friuli, Udine, Italy  
May 30-31 and June 1, 2005






# 5th SciNeGHE Workshop 2007 Roma

**5th Workshop on Science with the New Generation High Energy Gamma-ray Experiments SciNeGHE07**

The light of the dark: solving the mysteries of the Universe

*Villa Mondragone, Frascati, Rome, (Italy)*  
June 18 - 20, 2007





This will be the fifth of a series of Workshops on High Energy Gamma-ray Experiments, following the Conferences held in Perugia 2003, Bari 2004, Civitavecchia del Fraili 2005, Elba Island 2006. This year the focus will be on the use of gamma-ray to study the Dark Matter component of the Universe, the origin and propagation of Cosmic Rays, Extra Large Spatial Dimensions and Tests of Lorentz Invariance. An update on the current and planned research for space-borne and ground-based experiments dedicated to the observation of the gamma-ray sky will be given. Among the participants there are both hardened veterans of the first dedicated gamma-ray missions (like SAS-2 COS-B, CGRO) and young students entering the fascinating field of gamma-ray astrophysics participating in the new generation of high energy gamma-ray astrophysics experiments like GLAST, AGILE, MAGIC, VERITAS, HESS and ARGO.

**INTERNATIONAL SCIENTIFIC ADVISORY COMMITTEE**

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- P. Spinelli (Bari University & INFN, Italy)
- M. Teshima (Max Planck Institut fuer Physik, Germany)
- M. Tavani (INAF Roma, Italy)
- D. Torres (ICREA/IEEC-CSIC, Barcelona Spain)

**ORGANISING COMMITTEE**

- A. Morselli (INFN & University Roma Tor Vergata) - Chair
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- V. Buttarò (INFN & University Roma Tor Vergata)
- A. De Angelis (INFN & University Udine)
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- N. Omidi (INFN Pisa)
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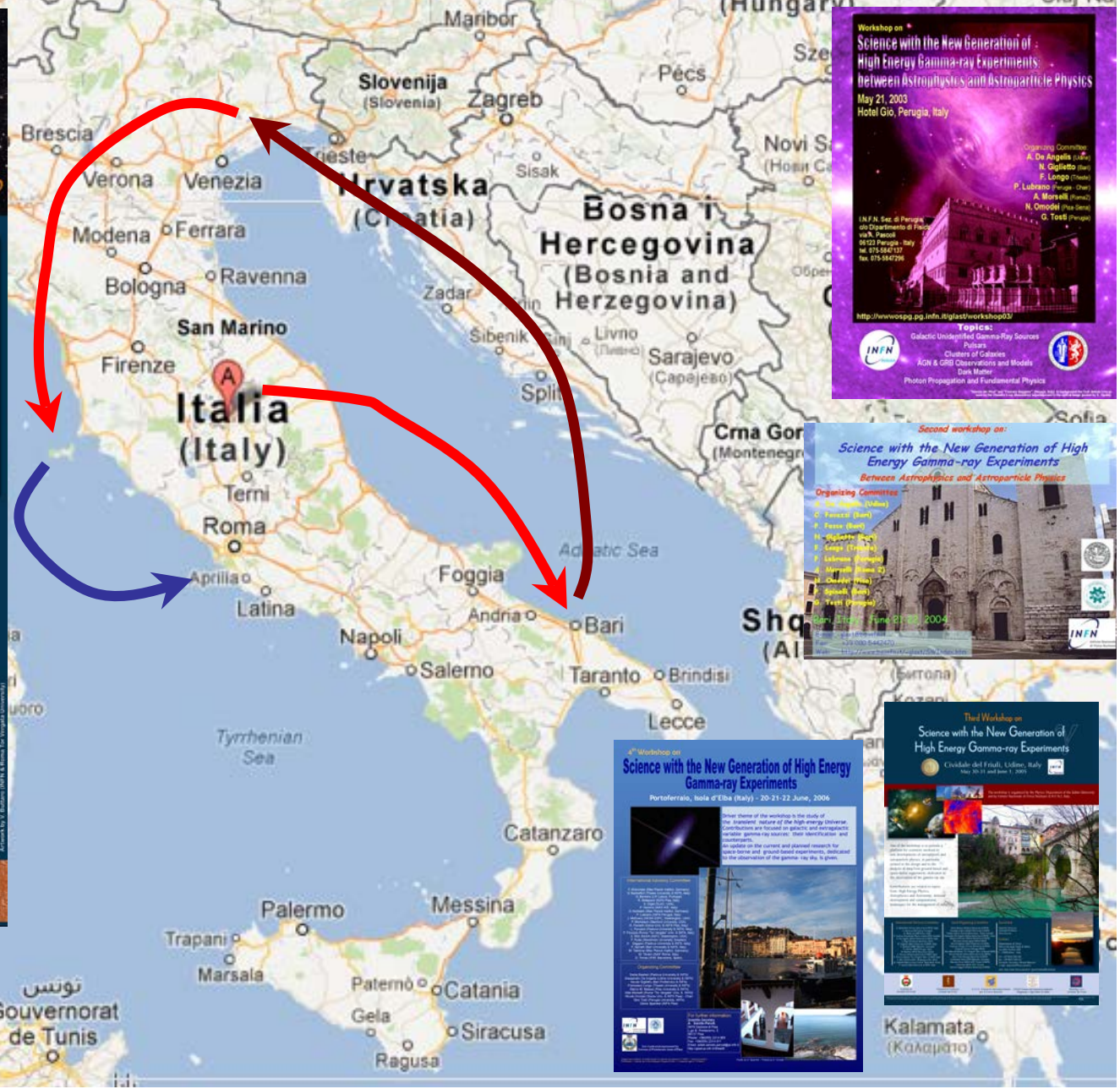
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**Workshop on Science with the New Generation of High Energy Gamma-ray Experiments: Between Astrophysics and Astroparticle Physics**

May 21, 2003  
Hotel Gio, Perugia, Italy

Organizing Committee:  
A. De Angelis (INFN)  
N. Giglietto (Bari)  
F. Longo (Perugia)  
P. Lubrano (Perugia - Chair)  
A. Morselli (Perugia)  
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**Topics:**  
Galactic Unidentified Gamma-Ray Sources  
Pulsars  
Clusters of Galaxies  
AGN & GRB Observations and Models  
Dark Matter  
Photon Propagation and Fundamental Physics





**Second workshop on: Science with the New Generation of High Energy Gamma-ray Experiments Between Astrophysics and Astroparticle Physics**

Organizing Committee:  
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P. Giommi (Perugia)  
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J. M. Lattanzi (Perugia)  
M. Longo (Perugia)  
D. Moresco (Perugia)  
S. Ritz (Perugia)  
Tosti (Perugia)

Bari, Italy June 21-23, 2006




**4th Workshop on Science with the New Generation of High Energy Gamma-ray Experiments**

Portoferraio, Isola d'Elba (Italy) - 20-21-22 June, 2006



Chair: Oliver Stecker of the workshop is the study of the structure, nature of the high energy Universe. The workshop will focus on the use of gamma-ray to study the Dark Matter component of the Universe, the origin and propagation of Cosmic Rays, Extra Large Spatial Dimensions and Tests of Lorentz Invariance. An update on the current and planned research for space-borne and ground-based experiments, dedicated to the observation of the gamma-ray sky, is given.





**Third Workshop on Science with the New Generation of High Energy Gamma-ray Experiments**

Civitavecchia del Fraili, Udine, Italy  
May 10-11 and June 1, 2005



# 6th SciNeGHE Workshop 2008

## Euganean Spa Area, Padova

6th Workshop on:

### Science with the New Generation of High Energy Gamma-ray Experiments

- SciNeGHE08 - bridging the gap between GeV and TeV -  
 - Euganean Spa Area, Italy, 8 - 10 October 2008 -



This will be the sixth edition in a series of Workshops on High Energy Gamma-ray Experiments, following the ones held in Perugia (2003), Bari (2004), Cavalese (2005), Frascati (2006), Villa Mondragone (2007). This year the focus will be on the region known by the acronym VHE (Very High Energy), bridging the gap between GeV and TeV. The physics that lies in this region is of the utmost importance to improve our knowledge of many different astrophysical sources like pulsars, AGNs, GRBs, and understand the main components of the Extragalactic Background Light (EBL). An update on the current and planned research for space-borne and ground-based experiments dedicated to the observation of the  $\gamma$  rays will be given. In particular, a special session will be devoted to GLAST. Among the participants there will be both hardened veterans of the first dedicated gamma-ray missions (like SASA-COS-B, CGRO) and young students entering the fascinating field of  $\gamma$  ray astrophysics participating in the new generation of dedicated experiments like GLAST, AGILE, MAGIC, HESS, VERITAS, CANGAROO, ARGO and MILAGRO.

**Local Organising Committee**

D. Bafiletti (chair) INFN & U. Padova  
 L.A. Antonelli INFN/ASDC, Roma  
 S. Carrara INFN & U. Padova  
 A. De Angelis INFN & U. Udine  
 N. Guglielmo INFN & Politecnico Bari  
 F. Longo INFN & U. Trieste

**International Scientific Advisory Committee**

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**SCIENTIFIC TOPICS**

Between the higher energies accessible to satellite and the energy threshold of ground-based gamma-ray telescopes, a sizeable region of the electromagnetic spectrum, more than a decade wide, remains unexplored. In this interval several fundamental problems concerning Astrophysics, Cosmology and Fundamental Physics could find their answers. Cherenkov detectors already capable to fly airplanes in this region the full wealth of sources in HESS galactic or the discovery by MAGIC of new classes of extragalactic VHE emitters like Flat-Spectrum Radio Quasars (FSRQ) or Low-frequency BL Lac's type (LBL). However, the gap will not be covered by the soon to come observations of AGILE and GLAST satellites, sensitive in this region where most of the source counts lie.

This workshop, shortly after GLAST launch, is one of the first occasions to understand the new opportunities opened by the satellite in orbit, and is devoted to the sources that will profit more from broad-band (GeV-TeV) observations, possibly giving answers to many astrophysical issues.

**Topic 1: Nonthermal Galactic Sources**

- Supernova Remnants
- Pulsars & planets
- Binary systems and/or other compact galactic objects
- Diffuse galactic emission

**Topic 2: Extragalactic Sources**

- High-frequency peaked BL Lac (HBL)
- Active galaxies and blazars
- Gamma Ray Bursts
- AGN fast variability
- Correlations of  $\gamma$  ray and optical activity
- AGN Extragalactic Background Light (EBL)

**Topic 3: Dark Matter & exotic physics**

**Topic 4: What next? The future of  $\gamma$  ray astronomy**

Moreover, the workshop introduces the participants to the intricacies of the analysis at very high energies, where data have usually to be mined in a much larger background. Given the presence of many veterans in the field, a special session will be devoted to data analysis and to a broader overview of the available analysis tools and techniques.

**Info: [gev2tev@gmail.com](mailto:gev2tev@gmail.com)**

**INFN**

<http://scineghe08.pd.infn.it/>



Workshop on:

### Science with the New Generation of High Energy Gamma-ray Experiments

Between Astrophysics and Astroparticle Physics

May 21, 2003  
 Hotel Gio, Perugia, Italy

**Organizing Committee:**  
 A. De Angelis  
 F. Longo  
 A. Marinelli  
 G. Tosti

**INFN**

**Topics:**  
 Cosmic (Extragalactic) Gamma-ray Sources  
 Quality of Observations  
 Key & GRB Observations and Models  
 Dark Matter  
 Future Perspectives and Fundamental Physics

Second workshop on:

### Science with the New Generation of High Energy Gamma-ray Experiments

Between Astrophysics and Astroparticle Physics

**Organizing Committee:**  
 G. Barbierini  
 H. Ballester  
 F. Longo  
 M. Tashima  
 G. Tosti

**INFN**

6th Workshop on:

### Science with the New Generation of High Energy Gamma-ray Experiments

SciNeGHE07

The light of the dark: solving the mysteries of the Universe

Villa, Abbadia San Salvatore, Siena (Italy)  
 June 18 - 20, 2007

**INFN**

4th Workshop on:

### Science with the New Generation of High Energy Gamma-ray Experiments

Portoferraio, Isola d'Elba (Italy) - 20-22 June, 2006

Over the course of the workshop the study of the structure, nature of the high energy Universe, the role of the high energy astrophysics observations are reviewed in the context of the new generation gamma ray sources: their identification and localization. An update on the current and planned research for space-borne and ground-based experiments, dedicated to the observation of the gamma-ray sky, is given.

**Organizing Committee:**  
 F. Longo  
 G. Tosti

**INFN**

Third Workshop on:

### Science with the New Generation of High Energy Gamma-ray Experiments

Cavalese del Fruttu, Udine, Italy  
 May 30-31 and June 1, 2005

**Organizing Committee:**  
 A. De Angelis  
 F. Longo  
 G. Tosti

**INFN**



# 7th SciNeGHE Workshop 2009 Assisi

**SciNeGHE 2009**  
 VII Workshop on Science with the New Generation of High Energy Gamma-ray Experiments  
**Gamma Ray Physics in the LHC Era**  
 October 7-9, 2009  
 Gran Hotel Assisi, Assisi, PB, Italy

Fundamental research on the nature of matter at the high energy frontier takes place in three main fields: accelerator based particle physics, high energy astrophysics, and the cosmology of the early universe. The study of subatomic physics can have significant implications for solving puzzles at the LHC, and at the same time, the LHC provides the laboratory to perform measurements of great importance for cosmic ray astrophysics and cosmology. In the era of the new era of High Energy Gamma-ray Experiments, the study of the nature of matter at the high energy frontier takes place in three main fields: accelerator based particle physics, high energy astrophysics, and the cosmology of the early universe. The study of subatomic physics can have significant implications for solving puzzles at the LHC, and at the same time, the LHC provides the laboratory to perform measurements of great importance for cosmic ray astrophysics and cosmology. In the era of the new era of High Energy Gamma-ray Experiments, the study of the nature of matter at the high energy frontier takes place in three main fields: accelerator based particle physics, high energy astrophysics, and the cosmology of the early universe. The study of subatomic physics can have significant implications for solving puzzles at the LHC, and at the same time, the LHC provides the laboratory to perform measurements of great importance for cosmic ray astrophysics and cosmology.

**ASSISI**  
 October 7-9, 2009

International Scientific Advisory Committee:  
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**Workshop on Science with the New Generation of High Energy Gamma-ray Experiments - Between Astrophysics and Astroparticle Physics**  
 May 21, 2003  
 Hotel Gio, Perugia, Italy

Organizing Committee:  
 A. De Angelis (INFN)  
 G. Giacomini (INFN)  
 P. Labaree (INFN)  
 N. Martinelli (INFN)  
 A. Orlandi (INFN)  
 G. Tori (INFN)

<http://www.nsgg.org/inf/it/glastworkshop03/>

**Second workshop on Science with the New Generation of High Energy Gamma-ray Experiments - Between Astrophysics and Astroparticle Physics**  
 October 1-3, 2004  
 Hotel Gio, Perugia, Italy

Organizing Committee:  
 A. De Angelis (INFN)  
 G. Giacomini (INFN)  
 P. Labaree (INFN)  
 N. Martinelli (INFN)  
 A. Orlandi (INFN)  
 G. Tori (INFN)

**Third Workshop on Science with the New Generation of High Energy Gamma-ray Experiments**  
 Cividale del Friuli, Udine, Italy  
 May 20-21 and June 1, 2005

**8th Workshop on Science with the New Generation of High Energy Gamma-Ray Experiments - SciNeGHE08 - Bridging the gap between GeV and TeV**  
 Euganean Spa Area, Italy, 8 - 10 October 2008

Info: gev2eve@gmail.com  
<http://scineghe08.pd.infn.it/>

**9th Workshop on Science with the New Generation of High Energy Gamma-ray Experiments - SciNeGHE09**  
 Perugia, Italy, 20-21 June 2009

**10th Workshop on Science with the New Generation of High Energy Gamma-ray Experiments**  
 Perugia, Italy, 20-21 June 2009



# 8th SciNeGHE Workshop 2010 Trieste



**SciNeGHE 2010**  
8th Workshop on Science with the New Generation of High Energy Gamma-ray Experiments  
**Gamma-ray Astrophysics in the Multimessenger context**

**International Advisory Committee**

- F. Aharonian (DAS Dublin, Ireland and MPIK Heidelberg, Germany)
- G. Battistoni (Trieste University and INFN Trieste, Italy)
- G. Battistoni (Perugia University and INFN Perugia, Italy)
- G. Barreira (LIP Lisbon, Portugal)
- G. Battistoni (INFN Pisa, Italy)
- A. Digel (SLAC, USA)
- F. Fidone (Pisa University and INFN Pisa, Italy)
- P. Giommi (INAF Roma and ASI, Italy)
- F. Heiter (University Wisconsin-Madison, USA)
- G. Heusch (MPE, Garching, Germany)
- G. Lubrano (INFN Perugia, Italy)
- M. Marotti (Padova University and INFN Padova, Italy)
- A. Menniero (Padova University and INFN Padova, Italy)
- A. McNally (NASA GSFC, Washington, USA)
- R. Michelson (Stanford University, USA)
- E. Ong (University of California Los Angeles, USA)
- R. Pain (Université Pierre et Marie Curie, Paris, France)
- C. Prochaska (University of Rome "Tor Vergata", Italy)
- D. Seiner (University of Astoria, USA)
- F. Ritz (Santa Cruz University, USA)
- F. Ryde (Royal Institute of Technology (KTH), Stockholm, Sweden)
- F. Secco (INAF - IASF Palermo, Italy)
- A. Saggion (Padova University and INFN Padova, Italy)
- D. Smith (CNRS Bordeaux-Gradignan, France)
- A. Sornani (Bari University and INFN Bari, Italy)
- M. Teschke (MPP, Munich, Germany)
- E. Tavecchio (INAF - IASF Roma, Italy)
- D. Torres (CREA/IEEC-CSIC, Barcelona, Spain)

**Workshop**  
The 2010 edition of the Scineghe conference, organized by INFN Trieste, will focus on the emission mechanisms governing gamma-ray sources using complementary information coming from the multiwavelength and multimessenger (cosmic ray, neutrino, gravitational wave) approach. Special attention will be devoted to different gamma-ray source classes (PSR, PWN, SNR, Gamma-ray binaries, Terrestrial Gamma-ray Flashes, Solar Flares, GRB, AGN, Dark Matter) and to diffuse emissions and their relations to cosmic rays, neutrino and gravitational wave emission.

**Scientific Organizing Committee**

- Denis Bastieri (Padova University and INFN Padova)
- Mirco Bascioli (INFN Trieste)
- Claudia Cecchi (Perugia University and INFN Perugia)
- Alessandro De Angelis (Udine University and INFN Trieste)
- Giosuè Giannini (Trieste University and INFN Trieste)
- Nicola Giglietto (Bari University and INFN Bari)
- Francesco Longo (INFN Trieste) - Chair
- Aldo Moretti (INFN Roma2)
- Erica Novaco (INFN Trieste)
- Nicola Orlandi (Stanford University)
- Massimo Pavesi (INAF Trieste and INFN Trieste)
- Massimiliano Razzano (INFN Pisa)
- Gino Tosti (Perugia University and INFN Perugia)

**Data analysis school**  
The workshop will be preceded by a two days (September 6-7) hands-on session on data analysis of gamma-ray and cosmic ray experiments (organized in collaboration with ISSIGIFS).

**Supported by**

- Consorzio per la Fisica, Trieste
- Università degli Studi di Trieste
- Dipartimento di Fisica, Università degli Studi di Trieste
- Sezioni Italiane di Fisica
- Consorzio Interuniversitario per la Fisica Spaziale, Torino
- International School of Space Science (ISSS), L'Aquila
- Regione Autonoma Friuli-Venezia Giulia
- Provincia di Trieste
- Comune di Trieste

**Secretariat**  
I.N.F.N. Sezione di Trieste  
Via Valerio, 2, I-34127 Trieste, Italy  
phone: +39 040 550 3367  
fax: +39 040 550 3350  
scineghe2010@ts.infn.it

www.ts.infn.it/eventi/scineghe2010



**Workshop on Science with the New Generation of High Energy Gamma-ray Experiments between Astrophysics and Astroparticle Physics**  
May 21, 2003  
Hotel Gio, Perugia, Italy

Organizing Committee:  
A. De Angelis (INFN Perugia)  
N. Giglietto (INFN Perugia)  
P. Longo (INFN Perugia)  
P. Lubrano (INFN Perugia)  
A. Orlandi (INFN Perugia)  
G. Tosti (INFN Perugia)

INFN, Sez. di Perugia  
Via. Valerio, 2  
I-05100 Perugia, Italy  
Tel. 075.566.137  
Fax 075.566.136  
http://www.infn.it

**Second workshop on Science with the New Generation of High Energy Gamma-ray Experiments between Astrophysics and Astroparticle Physics**

Organizing Committee:  
F. Secco (INFN Palermo)  
F. Ritz (Santa Cruz University, USA)  
F. Ryde (KTH, Stockholm, Sweden)  
F. Aharonian (MPIK Heidelberg, Germany)  
G. Barreira (LIP Lisbon, Portugal)  
G. Battistoni (INFN Pisa, Italy)  
A. Digel (SLAC, USA)  
F. Heiter (University Wisconsin-Madison, USA)  
G. Heusch (MPE, Garching, Germany)  
G. Lubrano (INFN Perugia, Italy)  
M. Marotti (Padova University and INFN Padova, Italy)  
A. Menniero (Padova University and INFN Padova, Italy)  
A. McNally (NASA GSFC, Washington, USA)  
R. Michelson (Stanford University, USA)  
E. Ong (University of California Los Angeles, USA)  
R. Pain (Université Pierre et Marie Curie, Paris, France)  
C. Prochaska (University of Rome "Tor Vergata", Italy)  
D. Seiner (University of Astoria, USA)  
F. Ritz (Santa Cruz University, USA)  
F. Ryde (KTH, Stockholm, Sweden)  
F. Secco (INFN Palermo, Italy)  
A. Saggion (Padova University and INFN Padova, Italy)  
D. Smith (CNRS Bordeaux-Gradignan, France)  
A. Sornani (Bari University and INFN Bari, Italy)  
M. Teschke (MPP, Munich, Germany)  
E. Tavecchio (INAF - IASF Roma, Italy)  
D. Torres (CREA/IEEC-CSIC, Barcelona, Spain)

**Third Workshop on Science with the New Generation of High Energy Gamma-ray Experiments**  
Civiltà del Friuli, Udine, Italy  
May 10-11 and June 1, 2005

Organizing Committee:  
A. De Angelis (INFN Perugia)  
N. Giglietto (INFN Perugia)  
P. Longo (INFN Perugia)  
P. Lubrano (INFN Perugia)  
A. Orlandi (INFN Perugia)  
G. Tosti (INFN Perugia)

**6th Workshop on Science with the New Generation of High Energy Gamma-ray Experiments**  
SciNeGHE06 - Bridging the gap between GeV and TeV  
Euganean Spa Area, Italy, 8 - 10 October 2008

Gamma Ray Physics in the LHC Era

ASSISI  
October 7-9, 2009

Info: gev2tve@gmail.com  
http://scineghe08.pd.infn.it/

**7th Workshop on Science with the New Generation of High Energy Gamma-ray Experiments**  
SciNeGHE07  
The light of the dark: solving the riddles of the Universe  
SciNeGHE07 - Bridging the gap between GeV and TeV  
Euganean Spa Area, Italy, 8 - 10 October 2008

**8th Workshop on Science with the New Generation of High Energy Gamma-ray Experiments**  
SciNeGHE08  
The light of the dark: solving the riddles of the Universe  
Euganean Spa Area, Italy, 8 - 10 October 2010

**Workshop on Science with the New Generation of High Energy Gamma-ray Experiments**  
Periferica, Isola d'Elba (Italy) - 20-21-22 June, 2006



# Fermi Symposium Roma, May 9-12 1011





# 9th SciNeGHE Workshop 2012 Lecce



## SciNeGHE 2012

**9th Workshop on Science with the New Generation of High Energy Gamma-ray Experiments**  
Lecce, 2012, June 20 - 22

**International Advisory Committee (IAC)**

- F. Aharonian (IMAS Dublin, Ireland and MPK Heidelberg, Germany)
- G. Battistoni (Torino University and INFN Torino, Italy)
- R. Battiston (Perugia University and INFN Perugia, Italy)
- G. Boella (L'Oratoire, Padova)
- R. Bellazzoni (INFN Pisa, Italy)
- T. Chou (SLAC, USA)
- F. D'Amico (INFN Padova and INFN Trieste, Italy)
- F. Di Grande (INFN Trieste)
- F. Fraschetti (University of Ferrara, Italy)
- G. Galati (INFN Trieste)
- M. Mészáros (Padova University and INFN Padova, Italy)
- A. Mozer (Padova University and INFN Padova, Italy)
- J. Mitnik (NASA GSFC, Washington, USA)
- P. Morin (Stanford University, USA)
- H. Ohmic (University of California Los Angeles, USA)
- F. Sciavicco (University of Ferrara, Italy)
- P. Scuderi (University of Rome "Tor Vergata" and INFN Roma2, Italy)
- C. Rømer (Aarhus University, Denmark)
- B. Rott (Santa Cruz University, USA)
- T. Stenlund (Royal Institute of Technology (KTH), Stockholm, Sweden)
- A. Sironi (INFN - INFN Padova, Italy)
- A. Sironi (INFN - INFN Trieste, Italy)
- D. Smith (Stan University and INFN Bari, Italy)
- F. Tavecchio (INFN Trieste)
- A. Sironi (INFN Trieste)
- M. Teshima (GSI, Darmstadt, Germany)
- M. Teshima (INFN Trieste, Italy)
- D. Torres (CREA/EEC-CSC, Barcelona, Spain)

**Scientific Organizing Committee (SOC)**

- D. Battistoni (Padova University and INFN Padova)
- Giuseppe Cecchi-Pestor (Perugia University and INFN Perugia)
- M. Mészáros (Padova University and INFN Trieste)
- F. Fraschetti (INFN Trieste)
- F. Sciavicco (INFN Trieste)
- Giuseppe Galati (INFN Trieste)
- Giuseppe Morin (Padova University and INFN Padova)
- Paolo Reolon (INFN Trieste)
- Valeria Orlandi (Stanford University)
- Massimo Ripani (Trieste and INFN Trieste)
- Massimiliano Razzano (INFN Pisa)
- Giorgio Tassi (Perugia University and INFN Perugia)

**Local Organizing Committee (LOC)**

- Carla Gentile (INFN - Lecce)
- Via per Amerigo, 1-73100 Lecce, Italy
- phone: +39 0832 297481
- fax: +39 0832 532128
- sciNEGHE2012@infn.it
- sciNEGHE2012.le.infn.it

**Workshop**

The 2012 edition of the SciNeGHE conference will be a unique occasion for the scientific community in the field of the new generation of high energy gamma-ray experiments. It will focus on the theory, observation, and instrumentation of these experiments, with particular emphasis on the complementary information coming from the charged cosmic-ray and high energy neutrino observations.

**Latest experimental results** will provide a new look for the study of the emission mechanisms governing gamma-ray sources by using complementary information coming from the charged cosmic-ray and high energy neutrino observations.

**An update on the current and planned research** for space borne and ground based experiments will be presented in the context of the gamma-ray and cosmic-ray fields will be given.

**The RAD programs** going on to set up the observational techniques and devices will also be covered.

**Conference venue**  
Officina Cantarino  
Via per Amerigo, 1-73100 Lecce, Italy

**Sponsored by**  
Department of Integrative Sciences  
Department of Physics

**From high energy gamma sources to cosmic rays, one century after their discovery**



**Workshop on Science with the New Generation of High Energy Gamma-ray Experiments - Between Astrophysics and Astroparticle Physics**  
May 21, 2003  
Hotel Gio, Perugia, Italy

**Organizing Committee:**  
A. De Angelis (INFN Pisa)  
N. Ghisellini (INFN Trieste)  
P. Longo (INFN Trieste)  
P. Labriola (INFN Trieste)  
A. Cipriotti (INFN Trieste)  
G. Tosti (INFN Trieste)

**Workshop on Science with the New Generation of High Energy Gamma-ray Sources**  
INFN - Bari  
INFN - Lecce  
INFN - Padova  
INFN - Trieste  
INFN - Roma1  
INFN - Roma2  
INFN - Roma3  
INFN - Bologna  
INFN - Ferrara  
INFN - Genova  
INFN - Milano  
INFN - Pisa  
INFN - Perugia  
INFN - Torino  
INFN - Udine

**Workshop on Science with the New Generation of High Energy Gamma-ray Experiments**  
INFN - Trieste  
INFN - Padova  
INFN - Ferrara  
INFN - Bologna  
INFN - Genova  
INFN - Milano  
INFN - Pisa  
INFN - Perugia  
INFN - Torino  
INFN - Udine



**Second workshop on Science with the New Generation of High Energy Gamma-ray Experiments - Between Astrophysics and Astroparticle Physics**  
June 10-12, 2004  
Bari, Italy

**Organizing Committee:**  
G. Tosti (INFN Trieste)  
P. Longo (INFN Trieste)  
P. Labriola (INFN Trieste)  
A. Cipriotti (INFN Trieste)  
N. Ghisellini (INFN Trieste)  
A. De Angelis (INFN Pisa)  
G. Galati (INFN Trieste)  
G. Tosti (INFN Trieste)

**Workshop on Science with the New Generation of High Energy Gamma-ray Experiments**  
INFN - Bari  
INFN - Lecce  
INFN - Padova  
INFN - Trieste  
INFN - Roma1  
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INFN - Roma3  
INFN - Bologna  
INFN - Ferrara  
INFN - Genova  
INFN - Milano  
INFN - Pisa  
INFN - Perugia  
INFN - Torino  
INFN - Udine



**Third Workshop on Science with the New Generation of High Energy Gamma-ray Experiments**  
Civiltà del Friuli, Udine, Italy  
May 20-21 and June 1, 2005

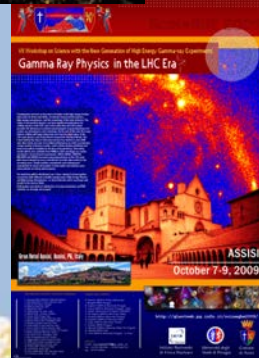
**Workshop on Science with the New Generation of High Energy Gamma-ray Experiments**  
INFN - Trieste  
INFN - Padova  
INFN - Ferrara  
INFN - Bologna  
INFN - Genova  
INFN - Milano  
INFN - Pisa  
INFN - Perugia  
INFN - Torino  
INFN - Udine



**SciNeGHE 2010**  
The International Conference on the Physics of High Energy Gamma-rays  
Gamma-ray Astrophysics in the Multimessenger context

**Workshop**  
The workshop will focus on the study of the emission mechanisms governing gamma-ray sources by using complementary information coming from the charged cosmic-ray and high energy neutrino observations.

**Workshop on Science with the New Generation of High Energy Gamma-ray Experiments**  
INFN - Bari  
INFN - Lecce  
INFN - Padova  
INFN - Trieste  
INFN - Roma1  
INFN - Roma2  
INFN - Roma3  
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INFN - Ferrara  
INFN - Genova  
INFN - Milano  
INFN - Pisa  
INFN - Perugia  
INFN - Torino  
INFN - Udine



**Workshop on Science with the New Generation of High Energy Gamma-ray Experiments**  
Gamma Ray Physics in the LHC Era  
October 7-9, 2009  
Assisi, Italy

**Workshop on Science with the New Generation of High Energy Gamma-ray Experiments**  
INFN - Bari  
INFN - Lecce  
INFN - Padova  
INFN - Trieste  
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INFN - Roma3  
INFN - Bologna  
INFN - Ferrara  
INFN - Genova  
INFN - Milano  
INFN - Pisa  
INFN - Perugia  
INFN - Torino  
INFN - Udine



**Workshop on Science with the New Generation of High Energy Gamma-ray Experiments**  
Science with the New Generation of High Energy Gamma-ray Experiments  
October 8-10, 2008  
Spis, Slovakia

**Workshop on Science with the New Generation of High Energy Gamma-ray Experiments**  
INFN - Bari  
INFN - Lecce  
INFN - Padova  
INFN - Trieste  
INFN - Roma1  
INFN - Roma2  
INFN - Roma3  
INFN - Bologna  
INFN - Ferrara  
INFN - Genova  
INFN - Milano  
INFN - Pisa  
INFN - Perugia  
INFN - Torino  
INFN - Udine



**Workshop on Science with the New Generation of High Energy Gamma-ray Experiments - SciNeGHE07**  
The 7th edition of the SciNeGHE conference will be a unique occasion for the scientific community in the field of the new generation of high energy gamma-ray experiments. It will focus on the theory, observation, and instrumentation of these experiments, with particular emphasis on the complementary information coming from the charged cosmic-ray and high energy neutrino observations.

**Workshop on Science with the New Generation of High Energy Gamma-ray Experiments**  
INFN - Bari  
INFN - Lecce  
INFN - Padova  
INFN - Trieste  
INFN - Roma1  
INFN - Roma2  
INFN - Roma3  
INFN - Bologna  
INFN - Ferrara  
INFN - Genova  
INFN - Milano  
INFN - Pisa  
INFN - Perugia  
INFN - Torino  
INFN - Udine

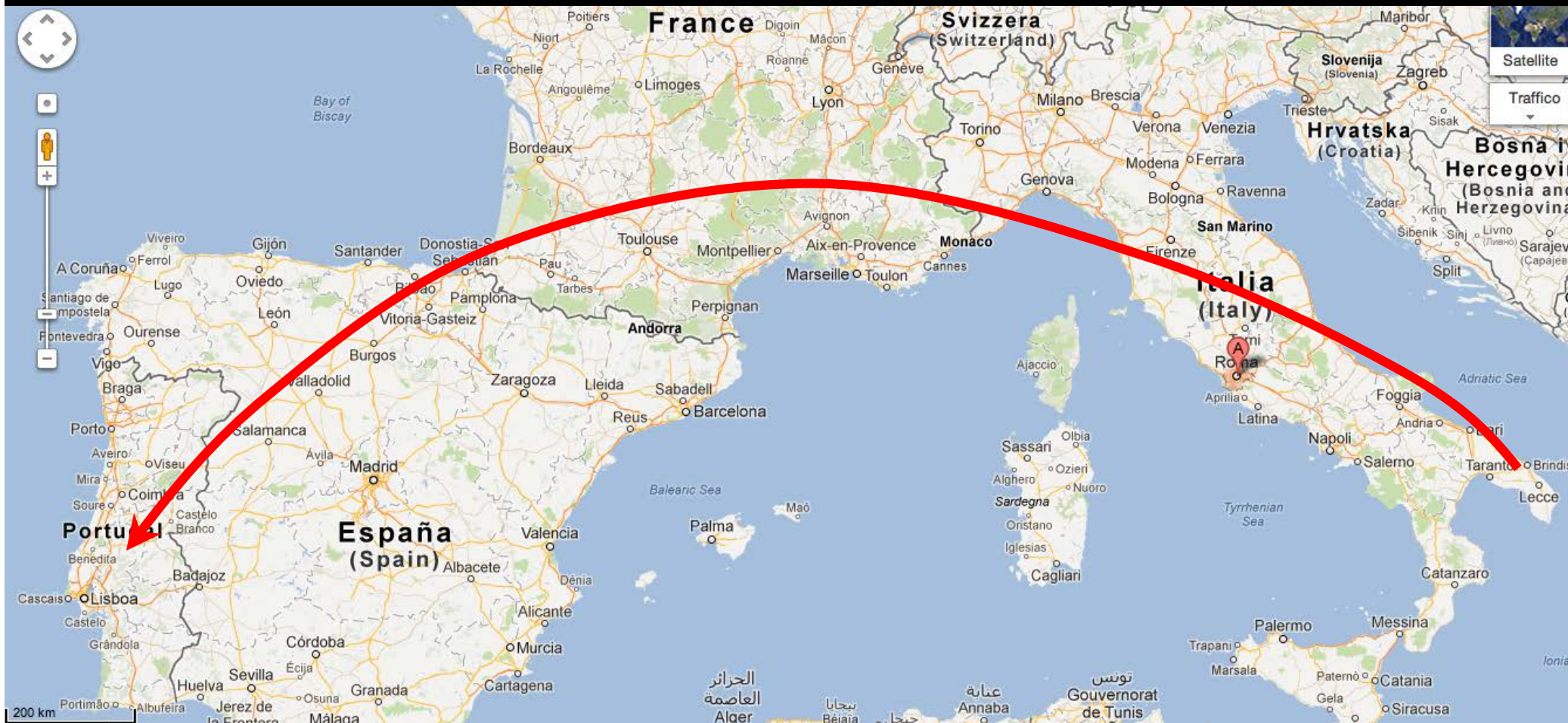


**Workshop on Science with the New Generation of High Energy Gamma-ray Experiments**  
June 20-22, 2012  
Lecce, Italy

**Workshop on Science with the New Generation of High Energy Gamma-ray Experiments**  
INFN - Bari  
INFN - Lecce  
INFN - Padova  
INFN - Trieste  
INFN - Roma1  
INFN - Roma2  
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INFN - Bologna  
INFN - Ferrara  
INFN - Genova  
INFN - Milano  
INFN - Pisa  
INFN - Perugia  
INFN - Torino  
INFN - Udine



# For the 10th Workshop SciNeGHE gets international:





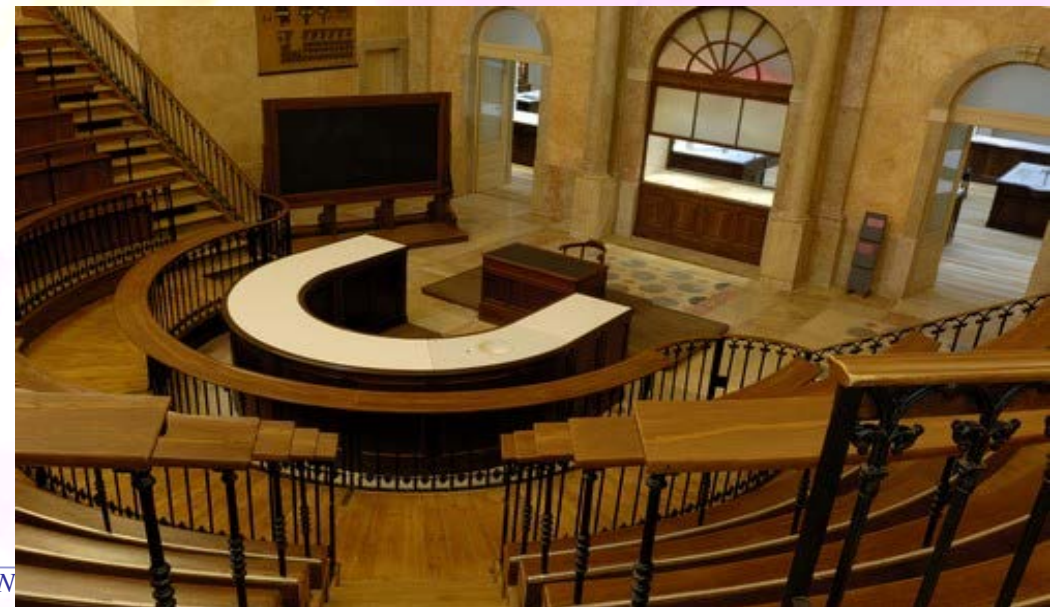
# 10th SciNeGHE Workshop

## Lisboa, June 2014





# Likely location: old faculty of Sciences near Principe Real (Bairro Alto)





Likely location: old faculty of Sciences near  
Principe Real (Bairro Alto)



See you there !!!