

Multi³ - A cubic approach to Dark Matter

Multi-messenger Multi-wavelength Multi-experiments

Padova, Department of Physics G.Galilei, March 1-4, 2010

Local organizers

Michele Doro
Mattia Fornasa
Michael Gustaffson
Miguel Pato

Secretary

Paola Zenere
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Scientific Committee

D. Bastieri
C. Brogini
G. Busetto
M. Doro
F. Feruglio
M. Fornasa
M. Gustafsson
M. Laveder
M. Mariotti
A. Masiero
S. Matarrese
M. Pato
M. Passera
L. Pieri
M. Pietroni



We organize a 4-days workshop entitled “Multi3 : a multi-wavelength, multi-messenger and multi-experiment approach to Dark Matter searches” .

Our intention is to invite speakers instead than having a public opening for contributions. This is motivated by our desire to reach a maximum of 30 participants in order to keep the workshop “informal” and to ease the discussion. The main topic of Multi3 will be the possibility of **combining different experimental approaches and techniques to the search of DM in order to maximize the information that can be obtained** about the existence and the nature of this mysterious component of Universe around us.

Thanks!

Participants

Invited participants from (many) different backgrounds!

- **Borriello, Enrico**
(University of Naples, Italy)
- **Brun, Pierre**
(Saclay, France)
- **Cañadas, Beatriz**
(Universidad Autonoma Madrid, Spain)
- **Canepa, Anadi**
(Vancouver, Canada and CERN)
- **Cerdeño, David**
(Universidad Autonoma Madrid, Spain)
- **Colafrancesco, Sergio**
(ASI-ASDC, Rome, Italy)
- **Cuoco, Alessandro**
(Stockholm, Sweden)
- **Delahaye, Timur**
(LAPTH Annecy, France & Univ. Turin, Italy)
- **Goudelis, Andreas**
(Univ. Paris Sud, France & INFN Padova)
- **Iocco, Fabio**
(IAP, Paris, France)
- **Irastorza, Igor Garcia**
(Universidad de Zaragoza, Spain)
- **Landsberg, Greg**
(Brown University, USA)
- **Lineros, Roberto**
(Univ. & INFN Torino, Italy)
- **Kamon, Teruki**
(Texas A&M University/KNU/Fermilab, USA)
- **Maccione, Luca**
(Desy, Hamburg, Germany)
- **Morselli, Aldo**
(University of Rome2, Italy)
- **Panci, Paolo**
(L'Acquila University, Italy & Paris7, France)
- **Pieri, Lidia**
(Osservatorio Astronomico di Padova, Italy)
- **Sanchez-Conde, Miguel-Angel**
(Instituto Astrofisica Canarias, Tenerife, Spain)
- **Taoso, Marco**
(IFIC-SSIC, Valencia, Spain)
- **Tran, David**
(Technical University of Munich, Germany)
- **Ullio, Piero**
(SISSA, Trieste, Italy)

Local organizers



LOCALS CAR CLUB FÖRAR 2 ÅR, LÖRDAG 13/12-2008 PÅ PET SOUNDS BAR 21-01

- **Michele Doro** (postdoc)
University of Padova and INFN Padova
- **Mattia Fornasa** (postdoc)
Istituto Astrofisica Andalusia
- **Miguel Pato** (PhD)
University of Padova & INFN Padova & IAP France
- **Michael Gustafsson** (postdoc)
INFN Padova

- **Paola Zenere**, secretary

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Goals of this meeting



GOAL 1) Put together people from different physics backgrounds to share experiences, try to interchange knowledge and create a collaboration.



GOAL 2) Define uncertainties of models and measurements



GOAL 3) Learn how to combine results in a robust way

Don't be shy to make questions in these days!

Outline of the workshop

Plenary talks

MONDAY March, 1.

@ 14.30 - 18.30, AULA S - DEPARTMENT OF PHYSICS

14.30-15.00 Organizers: Welcome and Presentation of the workshop and goals

15.00-16.00 P. Ullio: Status of DM searches

16.00-16.30 Coffee break

16.30-17.30 S. Colafrancesco: "A multi³ approach: from the Galactic Center to Large Scale Structures"

17.30-18.30 L. Pieri: N-body simulations and DM structures (45+15)

18.30-20.00 Welcome spritz

TUESDAY March, 2.

@ 9.00 - 13.30, AULA S - DEPARTMENT OF PHYSICS

09.00-09.40 P. Brun: DM searches with IACTs

09.40-10.20 A. Morselli: DM searches with Fermi

10.20-11.00 E. Borriello: "Dark Matter constraints from galactic radio observations"

11.00-11.30 Coffee break

11.30-12.10 A. Cuoco: Constraints from gamma-rays

12.10-12.50 F. Iocco: "Constraints from CMB and Reionization"

WEDNESDAY March, 3.

@ 9.00-13.00 AULA S - DEPARTMENT OF PHYSICS

09.00-10.00 T. Delahaye: Cosmic ray propagation - analytical

10.00-11.00 L. Maccione: Cosmic ray propagation - numerical

11.00-11.30 Coffee break

11.30-12.10 M. Pato: Multi-messenger constraints on annihilating DM

12.10-12.50 D. Cerdeño: DM searches and Direct Detection

12.50-13.30 I.G. Irastorza: DM searches and Direct Detection

THURSDAY March, 4.

@ 09.00-11.30 AULA S - DEPARTMENT OF PHYSICS

09.00-09.40 T. Kamon: "Collider Searches for SUSY DM"

09.40-10.20 G. Landsberg: "Collider Searches for non-SUSY DM"

10.20-11.00 A. Canepa: "DM searches at the Tevatron"

11.00-11.30 Coffee break

11.30-12.10 M. Fornasa: Combining direct detection with colliders

12.10-13.30 Topics talks and discussion: A. Goudelis: "Determining the WIMP mass through the complementarity between gamma-ray detection, direct searches and the ILC"

Small talks and discussion

Afternoons are for discussions and short topic talks
Resuming of talks, questions, exchange of info
Aula della Presidenza di Scienze, via Jappelli 1

TUESDAY March, 2.

@ 14.30-18.30 AULA PRESIDENZA DI SCIENZE

14.30-16.30 Free discussion.

16.30-17.00 *Coffee break*

17.00-18.30 Topic talks and discussion

WEDNESDAY March, 3.

@ 14.30-16.30 AULA PRESIDENZA DI SCIENZE

14.30-16.30 Free discussion.

@ 16.30-23.00 Trip to Venice and dinner

THURSDAY March, 4.

@ 15.00-17.00 AULA A - DEPARTMENT OF PHYSICS

15.00-17.00 Department's colloquia: Young-Kee Kim "The role of Particle Physics in the economy and society of United States" (Fermilab)

17.00-17.30 *Coffee break*

17.30-18.30 Free discussion.

(FRIDAY March, 5 OPEN SESSION)

@ 9.30-13.30 AULA R - DEPARTMENT OF PHYSICS

9.30-13.30 Discussion and future plans (open session, for those who can stay)

Practical information

Important!

Location of the rooms

Building

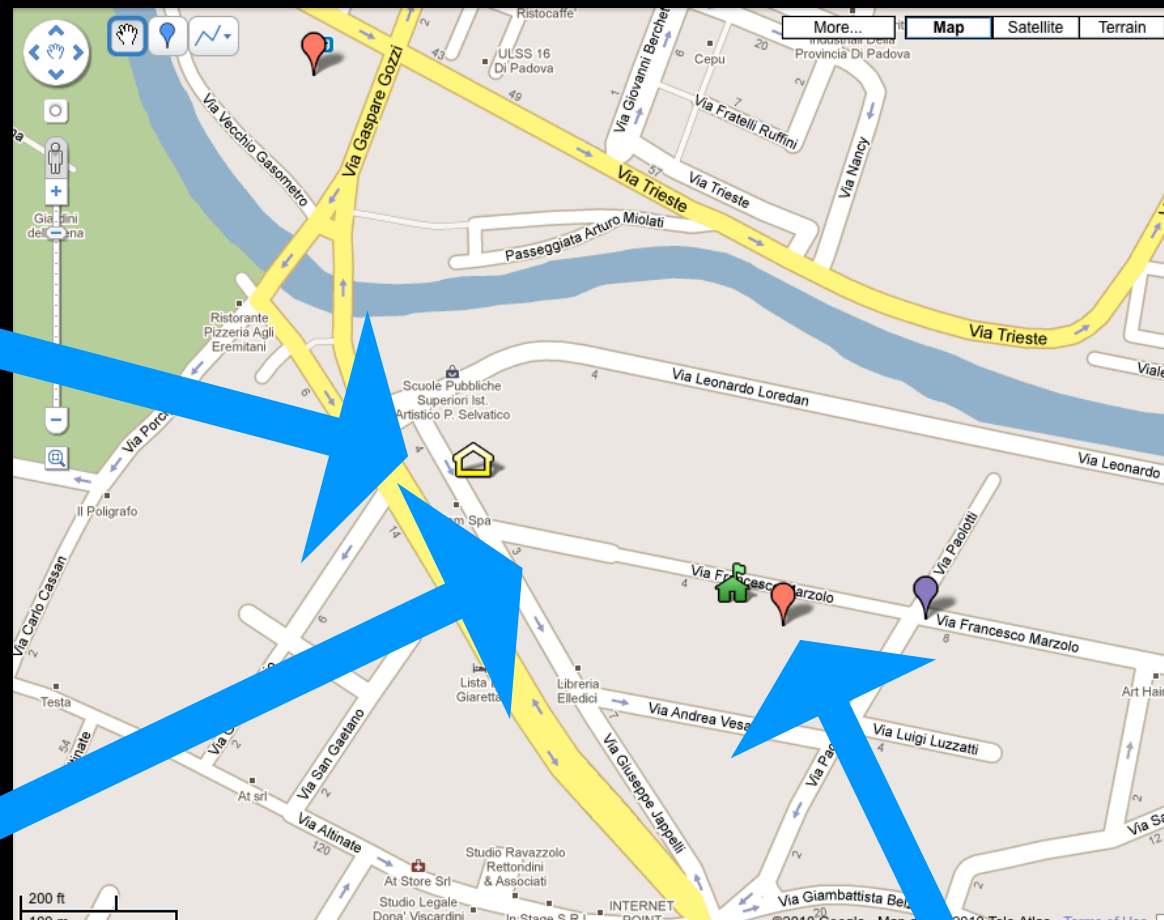
“Presidenza di Scienze”

V. Jappelli 1

* Aula presidenza scienze

(1 floor)

(If it's close please ring the bell at the entrance and follow signs)



Bar Aurora

via Marzolo 4

(for afternoon coffees)

Dep. Physics G, Galilei

v. Marzolo 8

* AULA S

* AULA R (III floor)

Internet

- Within the department of Physics
 - non-INFN, use “cap” wireless and type give username, password
 - INFN, use “INFN-dotIx”
- For **Aula presidenza scienze**
 - everybody please give us MAC addresses (there will be a paper circulating)
 -

Trip to Venice and dinner

- Wednesday at 17.25 we take a bus to Venice (from Piazzale Boschetti), we make a tour (Piazza S.Marco-Rialto) and then have dinner together at Trattoria Ae Cravate. The bus to come back is at 23.00
- Everybody is invited but..
- 25 euros for dinner + 7 euros for bus
- Please write down your name on the circulating paper

Enjoy the workshop!