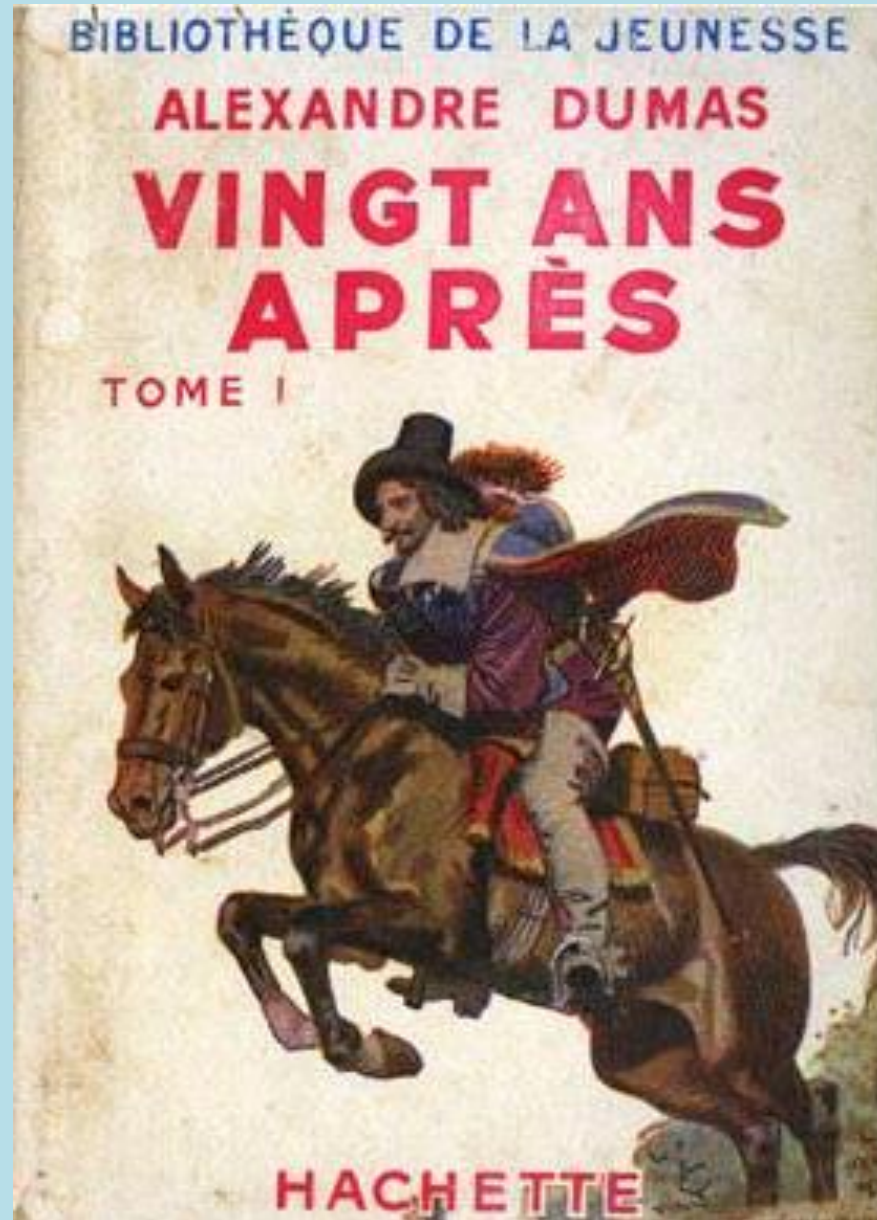


Yes, we are already...



XX Roma Tre Topical
Seminar on
Subnuclear Physics

December 14th, 2017

Before facing new and more exciting adventures, it's time to look back for a while.....

In 1992 a group of brave pioneers came to civilize the wild and dangerous West of Rome....



In 1998 regular INFN troops came to support them



To show to the world their free and fascinating new country, they organized a first workshop in novembre 1998, with the following simple ideas:

- Address a hot physics topic in just one afternoon
- Putting together theorists and experimentalists
- Keep a very informal style with open discussion

Ideas were good, and the workshop was organized regularly since then on

Historic research is difficult in the digital era.....

Apparently all files and emails of the first 2 workshops have disappeared! Still to look into paper archives. However I kept track of the workshop titles:

1998: Le masse dei neutrini: risultati recenti e prospettive

Kamiokande claimed first evidence of muon neutrino disappearance, and thus of non-zero neutrino mass. MACRO also published some interesting results on atmospheric neutrinos: one of the speakers was F.Ronga (LNF). Not clear memory of the others.....

1999: Le violazioni di CP e T nei mesoni K

KLOE started data taking in summer. Speakers from NA48 (Calvetti ?), CP LEAR (M.Fidecaro?) and obviously KLOE (not Franzini, he came 4 years later). Theorist speaker was internal...V.Lubicz?

The workshop was in italian (all speakers were) and was named «Incontro sul tema». It was not at all clear that we had started a regular event !

First advs were made
in TeX....then format
was kept when
passing to ppt

Università Roma Tre

Dipartimento di Fisica e Sezione INFN
via della Vasca Navale 84 - 00146 Roma

martedì 7 novembre 2000 ore 15:00
aula N3 (via della Vasca Navale 79)

Incontro sul tema:

The CKM matrix and triangles: recent developments

Programma:

- | | | |
|-------|------------|--|
| 15:00 | F.Ferroni: | Recent measurements from BABAR |
| 15:45 | A.Stocchi: | Determination of the CKM unitarity triangle parameters in the SM |
| 16:30 | | coffee break |
| 17:00 | I.Bigi: | Heavy Flavour decays: a case study in high sensitivity and high accuracy physics |

Neutrinos, our beloved....

2001

Present and Future in Neutrino Oscillation

Leslie Camilleri : [Present experimental status of Neutrino Oscillations](#)

Alain Blondel : [The Neutrino Factory Project](#)

Domizia Orestano : [The HARP experiment](#)

Giuseppe Battistoni : [In Search for Neutrino Oscillations at the Gran Sasso Laboratory](#)

Guido Altarelli : [Theoretical Implications of Neutrino Oscillations](#)

Guido has always supported the workshop, both in defining subjects and speaker, both giving himself beautiful talks

«Anomalies»
have always
been exciting....

Università Roma Tre

Dipartimento di Fisica e Sezione INFN
via della Vasca Navale 84 - 00146 Roma

giovedì 5 dicembre 2002 ore 14:30
aula 4 - edificio di viale G. Marconi 446

Incontro sul tema:

Experimental Anomalies to the Standard Model

Programma:

- | | | |
|-------|--------------|---|
| 14:30 | E.De Rafael: | Status of $(g-2)_\mu$:
Experiment vs Theory |
| 15:15 | K.McFarland: | The NuTeV Measurement of $\sin^2\theta_W$ |
| 15:45 | | coffee break |
| 16:15 | S.Mele: | The $b\bar{b}$ Forward-Backward Asymmetry |
| 16:45 | P.Gambino: | The SM fit and all its troubles:
New Physics around the corner ? |

Università Roma Tre

Dipartimento di Fisica e Sezione INFN
via della Vasca Navale 84 - 00146 Roma

venerdì 12 dicembre 2003 ore 14:30
aula 4 - edificio di viale G. Marconi 446

VI Roma Tre **Topical Seminar** on Subnuclear Physics

Strange Mesons and the Cabibbo Angle

Program:

14:30	N.Cabibbo:	Ouverture, a personal view
15:00	V.Cirigliano:	Status of V_{us} phenomenology
15:40	S.Simula:	K form factors from lattice QCD
16:00		coffee break
16:30	J.A.Thompson:	Ke3 branching ratio from E865
17:10	P.Franzini:	V_{us} measurement with KLOE and concluding remarks

Finally at the 6^o
edition the name of
the serial workshop
appears.....Filippo's
suggestion!

Inviting also
some celebs !

The Angle, view by his father.....

Universality and weak mixing

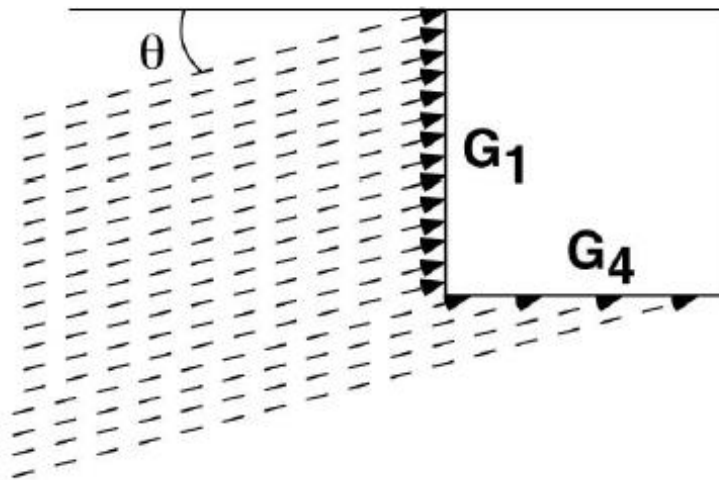
$$N \rightarrow P + e^- + \nu \quad G_1 \approx 0.96 G_{\mu\text{-decay}}$$

$$\Lambda \rightarrow P + e^- + \nu \quad G_4 \approx 0.2 G_{\mu\text{-decay}}$$

Broken Universality?
no, shared intensity

$$G_1 = \cos\theta G_{\mu\text{-decay}}$$

$$G_4 = \sin\theta G_{\mu\text{-decay}}$$



$$\theta \approx 0.2 \text{ (today } 0.221 \text{)}$$

The effort of
putting together
various fields...

Università Roma Tre
Dipartimento di Fisica e Sezione INFN
via della Vasca Navale 84 – 00146 Roma

LUNEDI 29 NOVEMBRE 2004
ore 14:30 aula 4
edificio di viale Marconi 446

VII Roma Tre Topical Seminar on Subnuclear Physics:

**Problematiche Comuni in
Particelle, Astrofisica e Cosmologia**

Programma

- 14:30 **G.Altarelli:** Problemi Fondamentali alla frontiera tra
Particelle e Cosmologia
- 15:00 **G.Polesello:** Materia Oscura e LHC
- 15:30 **P.Lipari:** Astrofisica ad Alte Energie e sue Sorgenti
- 16:00 **coffee break**
- 16:30 **t.b.a.** γ -Astronomia e Cosmologia con ARGO
- 17:00 **S.Petrera:** Astrofisica e Cosmologia con AUGER
- 17:30 **A.Capone:** ν -Astronomia e Cosmologia con ANTARES

...and of looking
also to non
standard subjects

Università Roma Tre
Dipartimento di Fisica e Sezione INFN
via della Vasca Navale 84 – 00146 Roma

MARTEDI 6 DICEMBRE 2005
ore 14:30 aula 4
edificio di viale Marconi 446

VIII Roma Tre Topical Seminar on Subnuclear Physics:

**The *new wave*
of hadron spectroscopy**

Programma

14:30 **M. Pennington:** Introduction and state of the art
15:15 **A. Palano:** Experimental review from BaBar

15:45 **coffee break**

16:15 **C. Bini :** Experimental review from KLOE
16:45 **L. Maiani :** Overview and prospects

But always
going back to
the first love...

Università Roma Tre

Dipartimento di Fisica e Sezione INFN
via della Vasca Navale 84 – 00146 Roma

LUNEDI 4 DICEMBRE 2006

ore 14:30 Aula Magna Università Roma Tre
Via Ostiense 159

IX Roma Tre Topical Seminar on Subnuclear Physics:

Mesons Oscillations: a complete picture ?

Programma

- 14:30 **R. Faccini:** B_d meson mixing and related physics
15:00 **C. Paus:** Measurement of the B_s meson mixing
15:30 **W. Johns:** The search for D mesons oscillations
- 16:00 **coffee break**
- 16:30 **G. Capon :** The case of kaons oscillations
17:00 **M. Ciuchini :** Theory Overview

We really believed
it was just 'round
the corner....

Università Roma Tre

Dipartimento di Fisica e Sezione INFN
via della Vasca Navale 84 – 00146 Roma

GIOVEDÌ 13 DICEMBRE 2007

ore 14:15 Aula Magna Università Roma Tre
Via Ostiense 159

X Roma Tre Topical Seminar on Subnuclear Physics:

SUSY today : theory and experimental limits one year before LHC

Programma

14:15 **A.Masiero**: Supersimmetry, astrophysics and cosmology

15:00 **V.Buescher**: Present collider limits to Supersimmetry

15:30 **G.Isidori**: Supersimmetry and flavour physics

16:15 **coffee break**

16:45 **M.Spiropulu**: The search for Supersimmetry at LHC

17:15 **G.Altarelli** : Overview and perspectives

And we argued what
could come next

LUNEDI 15 DICEMBRE 2008

ore 15:00 aula G
via della Vasca Navale 84

XI Roma Tre Topical Seminar on Subnuclear Physics:

A FUTURE FOR THE PHYSICS WITH ACCELERATORS ?

15:00 M.Ciuchini: The physics case for a superB in the LHC era

15:40 P.Raimondi: Toward a Super Flavour Factory

16:10 W.Scandale: The evolution of the LHC machine

16:40 coffee break

17:10 L.Serafini: New acceleration techniques and new X/ γ sources

17:40 J.Redondo : Fundamental physics at a FEL

2009

The Missing Year.....

Organization failed due to overlapping conferences on the same subject chosen for that year..... **It was a HOT subject !**

However the workshop was only delayed by few months and held in april 2010 !

Università Roma Tre
Dipartimento di Fisica e Sezione INFN
via della Vasca Navale 84 – 00146 Roma

GIOVEDÌ 15 APRILE 2010
ore 14:30 Aula B

Another new subject !

XII Roma Tre Topical Seminar on Subnuclear Physics:

Dark Matter and Dark Forces

Programma

14:30 **A.Riotto**: The Dark Matter puzzle

15:15 **A.Morselli**: Dark matter searches in space

16:00 **coffee break**

16:30 **P.Schuster**: Dark Forces: a new idea

17:15 **F.Bossi** : Searching dark forces candidates at colliders

In occasione della consegna dei premi ARAP
XIII Roma Tre Topical Seminar on Subnuclear Physics
e ricordo di **Fernanda Pastore**

9 Dicembre 2010

Aula Magna del Rettorato, via Ostiense 159

New Challenges in Particle Physics

15:00 Welcome

15:10 Challenges in Neutrino Physics, *Alessandra Tonazzo*

15:50 Road Map for Discoveries at Hadron Colliders, *Peter Jenni*

16:30 coffee break

16:50 Students awards (in Italian)

17:30 Highlights and Challenges in Particle Physics:

Il vuoto e il nulla, Alvaro De Rujula



In occasione della consegna dei premi ARAP
XIII Roma Tre Topical Seminar on Subnuclear Physics
e ricordo di **Fernanda Pastore**

9 Dicembre 2010

Aula Magna del Rettorato, via Ostiense 159

New Challenges in Particle Physics

15:00 Welcome

Fernanda has been (among other things) a very active event organizer, for the students, for the scientific community and for the general public. We thank her and we still miss her.

enni



LUNEDÌ 5 DICEMBRE 2011
ore 14:00 Aula B

XIV Roma Tre Topical Seminar on Subnuclear Physics:

Hot Topics in Neutrino Oscillations: a Clue to Physics Beyond the Standard Model

Programme

14:30 Recent oscillation results from T2K (C.Giganti, IFAE Barcelona)

15:00 Status and perspectives for double beta decay measurements
(A.Giuliani, CNRS-CSNSM)

15:30 Status of neutrino oscillations with and without sterile
neutrinos (M.Maltoni, CSIC Madrid)

16:15 coffee break

16:45 Models for neutrino masses and mixing and their
phenomenological implications (D. Meloni, Roma Tre)

17:30 Oscillation results and perspectives from OPERA (A. Russo,
INFN Napoli)

18:00 Recent results from MEG (G.Cavoto, INFN Roma)

Something is
changing....
Younger people
in the organizers !

And the Higgs
comes about !

LUNEDI 10 DICEMBRE 2012
ore 14:30 Aula B

XV Roma Tre Topical Seminar on Subnuclear Physics:

Perspectives for new physics in the Higgs era

Programme

14:30 What we learned and what we expect after 2012 experimental achievements (L.Silvestrini, INFN Roma)

15:15 Experimental status and perspectives of Higgs physics at LHC (B.Brelier, Univ Toronto)

15:50 coffee break

16:25 Experimental status and perspectives of flavour physics (D.Derkach, INFN Bologna)

17:00 Experimental status and perspectives of neutrino physics (M.Mezzetto, INFN Padova)

VENERDÌ 6 DICEMBRE 2013
ore 14:30 Aula B

Biagio's era is
starting !

New, coloured
advs !....

But the
workshop style
is the same.

XVI Roma Tre Topical Seminar on Subnuclear Physics:

From the Higgs to Dark Matter

The High Energy Physics after the Higgs Discovery

Program

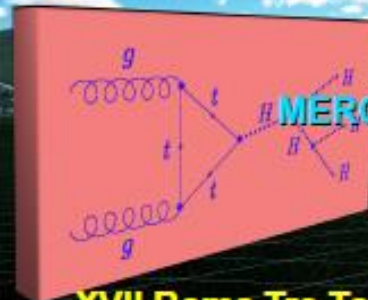
14:30 **Measurement of the Higgs couplings at LHC and perspectives.**
(M. Kado, LAL Orsay - France)

15:15 **Dark Matter: evidences and basic properties from cosmology,
astrophysics and particle physics searches.**
(M. Cirelli, CEA Saclay - France)

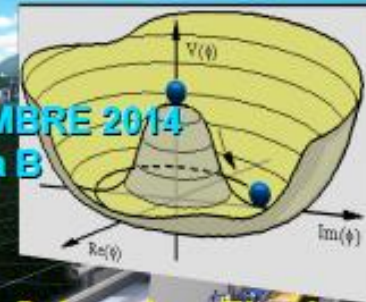
16:00 coffee break

16:30 **Status and perspectives of Dark Matter direct searches.**
(A. Ianni, INFN LNGS - Italy)

17:15 **Implications of the Higgs and Dark matter on the physics
beyond the Standard Model.** (A. Masiero, Università di Padova - Italy)



MERCOLEDÌ 10 DICEMBRE 2014
ore 14:30 Aula B



XVII Roma Tre Topical Seminar on Subnuclear Physics:

The Higgs potential and physics at future colliders.

Program

14:30 The Higgs potential: vacuum stability and Higgs inflation models.

(V. Branchina, Università degli Studi di Catania and INFN)

15:00 Search for new physics with fixed target experiments.

(M. Battaglieri, INFN Genova)

15:30 Physics at High Luminosity LHC and FCC colliders.

(R. Tenchini, INFN Pisa)

16:00 Schematic of an 80 - 100 km long tunnel

Coffee break

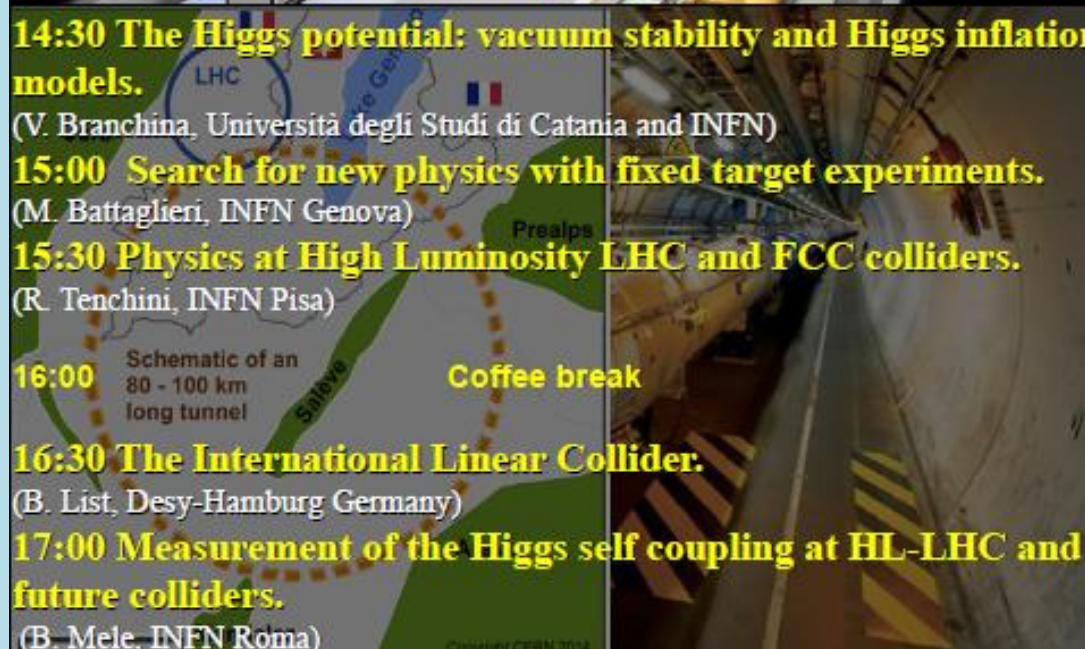
16:30 The International Linear Collider.

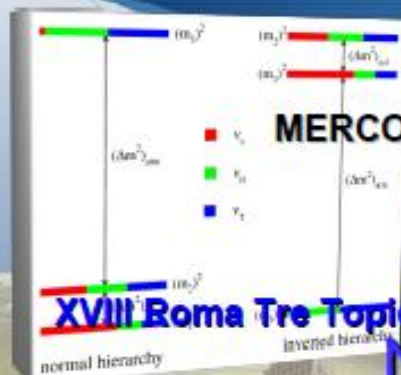
(B. List, Desy-Hamburg Germany)

17:00 Measurement of the Higgs self coupling at HL-LHC and future colliders.

(B. Mele, INFN Roma)

Again the Higgs,
looking at future
machines





MERCOLEDÌ 9 DICEMBRE 2015

ore 14:30 Aula B



XVIII Roma Tre Topical Seminar on Subnuclear Physics:

Neutrinos

(in memoria di Guido)

Program

14:30 Introduction

(M. Ciuchini, Istituto Nazionale di Fisica Nucleare)

14:40 Neutrino masses and mixing angles: a tribute to Guido Altarelli

(F. Feruglio, Università degli Studi di Padova and INFN)

15:20 Solar, atmospheric and reactor neutrinos: what we can learn without a beam

(S. Dusini, INFN Padova)

16:00

Coffee break

16:30 Neutrino oscillations: status and perspectives with accelerator beams

(Andrea Longhin (INFN - LNF Frascati))

17:00 Precision neutrino physics with neutrino factories

(P. Soler, University of Glasgow - UK)

Guido is still with us

LUNEDÌ 5 DICEMBRE 2016
ore 14:30 Aula B

**XIX Roma Tre Topical Seminar on Subnuclear Physics:
Gravitational waves and cosmology**

Program

14:30 Status of the cosmological model after Planck
(L. Verde, Institute of Cosmological Sciences – Universidad de Barcelone)

**15:10 Gravitational waves, gravitational astronomy and
non-particle candidates for dark matter**
(E. Coccia, Università degli Studi di Tor Vergata e I.N.F.N.)

15:50 Inflation models in the LHC era
(N. Bartolo, Università degli Studi di Padova e I.N.F.N.)

16:30 Coffee break

**17:00 Tackling the Dark Energy problem with large
astronomical datasets**
(E. F. Branchini, Università degli Studi di Roma Tre e I.N.F.N.)

**17:00 Status of the search for Dark Matter as an elementary
particle**
(N. Fornengo, Università degli Studi di Torino e I.N.F.N.)

New fantastic
discoveries are
changing our view
of the universe

Today!



ALICE

LHCb

GIOVEDÌ 14 DICEMBRE 2017
ore 14:30 Aula B

**XX Roma Tre Topical Seminar on Subnuclear Physics:
Flavour Anomalies at LHC and Prospects at Meson Factories**

PROGRAM

14:30 Twenty years of Roma Tre Topical Seminars: a brief history

(A. Passeri, Istituto Nazionale di Fisica Nucleare sezione di Roma Tre)

14:50 Flavour anomalies at LHC

(F. Archilli, Nikhef National Institute for Subatomic Physics – The Netherlands)

15:35 QCD systematics in current flavour anomalies

(J. M. Camalich, European Council for Nuclear Research – CERN - Switzerland)

16:15

Coffee break

16:45 The Belle II experiment and prospects on flavour anomalies

(P. Krizan, Ljubljana University and J. Stefan Institute – Republic of Slovenia)

17:40 Flavour anomalies and BSM, what do we learn from them?

(D. Marzocca, Istituto Nazionale di Fisica Nucleare sezione di Trieste)

Back to flavour and to anomalies...

To make a kind of summary:

- **20 workshops**
- **More than 90 talks**
- **Many different subjects: neutrinos, flavour, dark matter, spectroscopy, accelerators, Higgs, gravitational waves....both from the theoretical and experimental point of view**
- **A regular, interested audience, always including students, also from outside**
- **Choice of the subject always timely with recent developments**

and last but not least.....

20 excellent coffee breaks !!!!



Thanks to:

The 3 INFN directors: Cesare Bacci, Mario Greco, Marco Ciuchini

The INFN administration (present and past): Francesca Luna, Nicoletta Felici, Alfredo Cardosi, Filomena Foglietta, Gianluca Di Francesco

The INFN computing and network service support: A.Budano, M.Siteni

The INFN «Formazione» office and our local reference: A.Farilla

All the many organizers....I would say all the Roma Tre scientific staff, where everybody helped when needed, at all organization stages:

- Discussing and choosing the subject
- Selecting and contacting the speakers
- Booking the aula and the services
- Helping the speakers arriving to Roma3, driving to
- Organizing lunches and dinners
- Promoting the workshop at all levels
-



...

Finally, before listening to today's workshop, let's bring with us the wise words of a Great One:

Per conchiudere.

Una violazione della unitarietà della matrice CKM sarebbe una grande scoperta.

Un disaccordo tra K_{13} e decadimenti degli iperoni è solamente un segno che c'è ancora molto da fare e da capire.

Buon lavoro!

