



SAPIENZA
UNIVERSITÀ DI ROMA



70 ANNI
DI RICERCA
PER TRACCIARE
IL FUTURO

Bruno Touschek

Memorial Symposium 1921-2021

First bulletin – 21 October 2021

On the occasion of 100 years since the birth of Bruno Touschek, we are pleased to announce the organization of a Symposium to celebrate his life and scientific accomplishments.

The Symposium will take place on 2-3-4 December 2021, in the locations where Touschek left a major scientific legacy. Starting on December 2nd from *Sapienza University* and the *Sezione INFN of Rome*, the Symposium will move on December 3rd to the *INFN National Laboratories* in Frascati, and conclude on December 4th at the *Accademia Nazionale dei Lincei*, of whom Touschek was a member. The programme will emphasize Touschek's contribution to the development of both accelerators and theoretical physics, university teaching and science outreach, and give a view on present and future collider physics.

Bruno Touschek was born in Vienna on February 3rd 1921, and arrived in Rome, Italy, in 1952 after a perilous life. He brought to Rome and the Frascati Laboratories his exceptional learning experience in theoretical and accelerator physics. In Frascati he built and brought to completion the first electron-positron storage ring, AdA (*Anello di Accumulazione*), whose successful operation, in a collaboration Frascati-Orsay, inspired the planning of particle colliders all over the world. All along, Touschek was also influencing the formation of modern theoretical physics, in Rome and in Frascati, as it will be highlighted in the Symposium.

The Symposium is expected to be held in *hybrid* mode (in person and in streaming), with full respect of antiCOVID measures, which limit available seating. To accommodate a larger attendance, the program will be broadcasted in streaming, and made locally available in more than one venue.

- Registration will be available soon, and information will be given with the Second Bulletin. We attach the Symposium preliminary program and look forward to your participation either in presence or in streaming.

For contacts and any further information, write us to

Maria.Cristina.Damato@lnf.infn.it
Daniele.delre@roma1.infn.it
Convegni@lincei.it

The Symposium Organizing Committee

Luisa Bonolis - Max Planck Institute for the History of Science, Berlin
Fabio Bossi - INFN Laboratori Nazionali di Frascati
Pierluigi Campana - Giunta Esecutiva INFN
Maria Cristina D'Amato - INFN Laboratori Nazionali di Frascati
Daniele del Re - Sapienza Università, Rome
Giovanni Gallavotti - Sapienza Università, Rome
Stefano Giagu - Sapienza Università, Rome
Paola Gianotti - INFN Laboratori Nazionali di Frascati
Gianni Iona-Lasinio - Sapienza Università, Rome
Luciano Maiani - Sapienza Università, Rome
Paolo Mataloni - Sapienza Università, Rome
Sonia Mozzillo - INFN Sezione di Roma
Aleandro Nisati - INFN Sezione di Roma
Giulia Pancheri - INFN Laboratori Nazionali di Frascati
Giorgio Parisi - Accademia Nazionale dei Lincei, Rome
Luca Silvestrini - INFN Sezione di Roma

DRAFT PROGRAMME (Titles are provisional)

BRUNO TOUSCHEK 100 YEARS

2-4 December, 2021

2 December: Dipartimento di Fisica, La Sapienza

Morning Session 9:00-13:00

9:00-10:00 Authorities

includes participation of Francis Touschek

Bruno Touschek (1921-1978),

Luisa Bonolis, 30'

Ada at Orsay,

Jacques Haissinski, 30' (Zoom)

Touschek and Statistical Mechanics,

Giancarlo Rossi, 30'

11:30-11:50 Coffee Break

The Era of Colliders,

Carlo Rubbia, 40'

ADONE, Asymptotic Freedom, QCD,

Giorgio Parisi, 30'

13:00-15:00

Shows (posters, photos, movies)

Lunch Break (catering)

Afternoon Session 15:00-18:30

Standard Theory and Theoretical Physics in Roma

Luciano Maiani, 30'

Physics with LEP

Ugo Amaldi, 40' (Zoom)

16:10-16:30 Coffee Break

Dual Models, from Quarks to Gravitons,

Gabriele Veneziano, 30'

QCD and Super Computers,

Guido Martinelli, 30'

17:30-18:30 Recollections and Discussion

3 December: Laboratori Nazionali di Frascati

Morning Session 10:00 -13:30

Physics at Frascati with Ada and Adone

Mario Greco, 30'

Accelerators at LNF. From Ada to Eupraxia

Andrea Ghigo, 30'

Accelerator Physics at Orsay

Achille Stocchi, 30'

11:30-12:00 **Coffee break**

High gradient acceleration

Ralph Assmann: 40'

Technical challenges for the future colliders

Lucio Rossi, 40'

13:30 - 14:30 **Lunch break**

Afternoon session 14:30-16:30

Muon collider

Daniel Schulte, 40'

High brilliance synchrotron radiation machines

Pantaleo Raimondi, 40'

16:30 **Naming Ceremony of the LNF Visitor Center** with Francis Touschek.

18:00 **Public Event:** Antonio Zoccoli, Presidente INFN

4 December: Accademia Nazionale dei Lincei. Roma

Morning Session 9:00-13:00

10:00-12:30

Address by President of Accademia dei Lincei, 10'

Bruno Touschek (1921-1978)

Giulia Pancheri, 30'

The Making of Adone

Claudio Pellegrini, 30'

Coffee Break 11:10-11:30

Spontaneous Symmetry Breaking in Particle Physics

Giovanni Jona-Lasinio, 30'

String Theory

Paolo Di Vecchia, 30'

12:30-14:00

Shows (posters, photos, movies)

Lunch Break (catering)

Afternoon Session 14:00-19:00

Multimessenger Astronomy,

Marica Branchesi, 40'

Knowledge and Technology Transfer from HEP,

Manuela Cirilli, 30'

Coffee Break 15:20-16:00

16:00-18:40 **The Future of High Energy Physics:**

High Energy Physics and the European Strategy,

Gian Giudice, 40'

Circular Collider in China,

Yifang Wang, 40'

High Energy Linear Colliders,

Steinar Stapnes, 40'

High Energy Neutrinos,

Sergio Bertolucci, 40'

Discussion 20'

18:40-19:00

Recollections

,