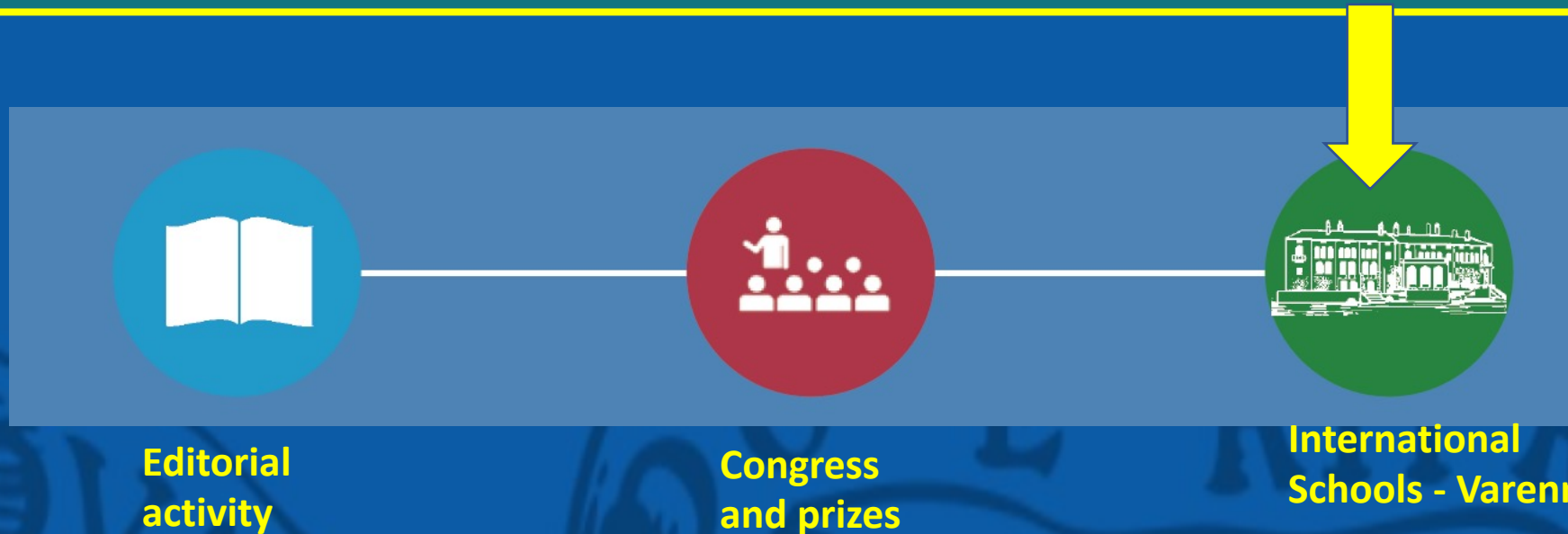


EPS-SIF INTERNATIONAL SCHOOL ON ENERGY



A very important SIF activity

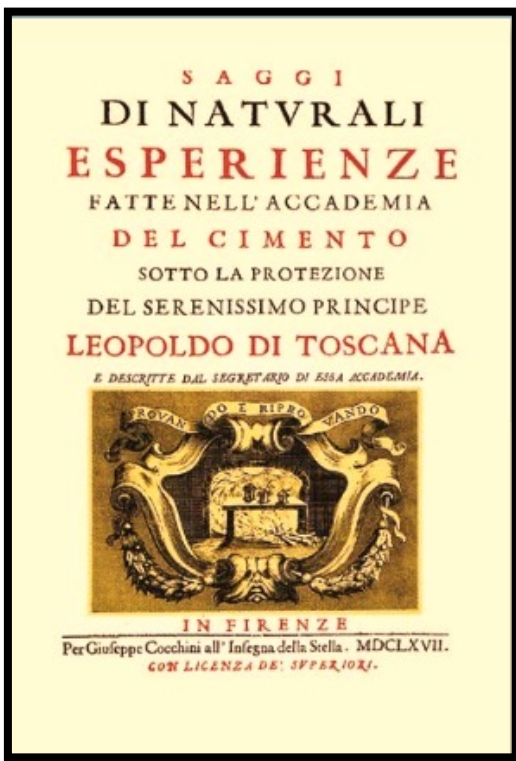


SOCIETÀ ITALIANA DI FISICA
Italian Physical Society

How and where it all began ...
at the Physics Institute of Via Panisperna in Rome
SIF founded in 1897



Institute of Via Panisperna in the twenties : Orso Mario Corbino (who was also SIF president) formed and supported the group of Enrico Fermi, Oscar D'Agostino, Emilio Segrè, Edoardo Amaldi, Franco Rasetti, Bruno Pontecorvo,



The emblem of SIF logo reproduces the one in *Saggi di Naturali Esperienze* *Essays on Natural Experiments* Accademia del Cimento (Florence, 1667)

The Academy was founded by Leopold of Tuscany and animated by Galileo Galilei's disciples

This choice of logo symbolizes an ideal link to the old Accademia del Cimento from which also the SIF historic journal IL NUOVO CIMENTO derives its name

In the logo:

- fireplace
- three crucibles filled with molten metal
- fluttering decorative ribbon
- motto

provando e riprovando
trying and trying again

which can be found also in a tercet of the third canto of Dante's Paradiso, but with the different meaning of

proving and disproving

"Quel sol che pria d'amor mi scaldò 'l petto, di bella verità m'avea scoperto, provando e riprovando, il dolce aspetto"

2021 celebration of 700 years from the death of Dante



I Presidenti della Società Italiana di Fisica



Pietro Blaserna
1897-1898
Università di Roma



Antonio Ricci
1899
Università di Firenze



Augusto Righi
1900-1902, 1905, 1910
Università di Bologna



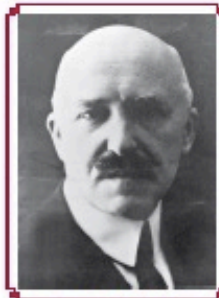
Angelo Bassoli
1903-1906
Università di Pisa



Vito Volterra
1907-1908
Università di Roma



Michele Cantone
1910-1912
Università di Napoli



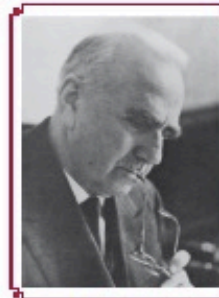
Antonio Garbasso
1913-1914, 1920-1925
Università di Firenze



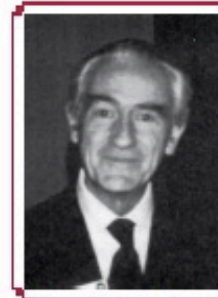
Osvaldo Mario Corbino
1915-1918
Università di Roma



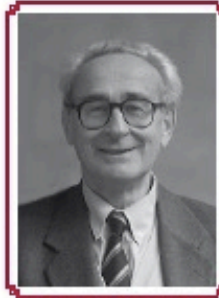
Quirino Majorana
1919-1926
Università di Bologna



Giovanni Polvani
1927-1931
Università di Milano



Gilberto Bernardini
1932-1937
Università di Firenze



Giuliano Toraldo di Francia
1938-1973
Università di Firenze



Carlo Castagnoli
1974-1981
Università di Torino



Renato Angelo Ricci
1981-1996
Università di Padova



Giuseppe Franco Bassani
1998-2007
Scuola Normale Superiore di Pisa



Luisa Cifarelli
2008
Università di Bologna

Enrico Fermi
International
schools

and

EPS-SIF
international
School on
energy

at
Villa
Monastero

The origins of the Varenna school

1953.

President **Giovanni Polvani** creates The International School of Physics of Varenna

Polvani concluded his inaugural address of the first course, titled "Issues related to elementary particle detection, with special attention to cosmic radiation", with the words:

"With the hope that this 'dress rehearsal' – being as it is in the hands of so outstanding scientists and followed by students with so impatient inquiring mind – might proceed worthily and fruitfully grow, I have the honour to declare open the 1953 summer course of the International School of Physics of the Italian Physical Society."

Director: **Giampietro Puppi**

Lecturers includes: **Patrick Blackett, Cecil Powell, Beppo Occhialini, Hannes Halfvén**

**Enrico Fermi
International
schools**

and

**EPS-SIF
international
School on
energy**

**at
Villa
Monastero**

Villa Monastero

Villa Monastero, a property of the Province of Lecco, is one of the most interesting attractions of the territory thanks to its strategic location, its history, its landscape. Since 2004 its fourteen rooms can be visited following a charming itinerary. The Villa offers rooms and facilities to hold meetings, conferences, etc.

The Villa is surrounded by a spectacular and fascinating botanical garden which extends for two kilometres from Varenna to Fiumelatte, with several rare botanic species; it is visited yearly by about 50.000 people and offers recreation and learning opportunities thanks to the presence of many botanical species, both indigenous and exotic.



A photograph of a serene landscape featuring a calm lake in the foreground, with rolling mountains in the background under a clear sky. In the immediate foreground, a dark, ornate wrought-iron railing with floral and scrollwork patterns is visible, framing the view. The image is set against a blue background that also features a faint, large watermark of a classical bust on the right side.

1954

The 1st course in 1953 was a real success, to the extent that Puppi was asked to direct another one in the Summer of 1954.

The 2nd course was again devoted to elementary particles, this time placing emphasis on accelerators:

“The contribution from existing and planned accelerators to elementary particles physics”.

In his opening address Puppi talked about *“the fantastic world of high-energy phenomena”*.

To illustrate them, eminent physicists were invited to lecture, like Enrico Fermi, Werner Heisenberg, Gilberto Bernardini, Bruno Rossi ...

Enrico Fermi
International
schools

and

EPS-SIF
international
School on
energy

at
Villa
Monastero

The mythical 1954

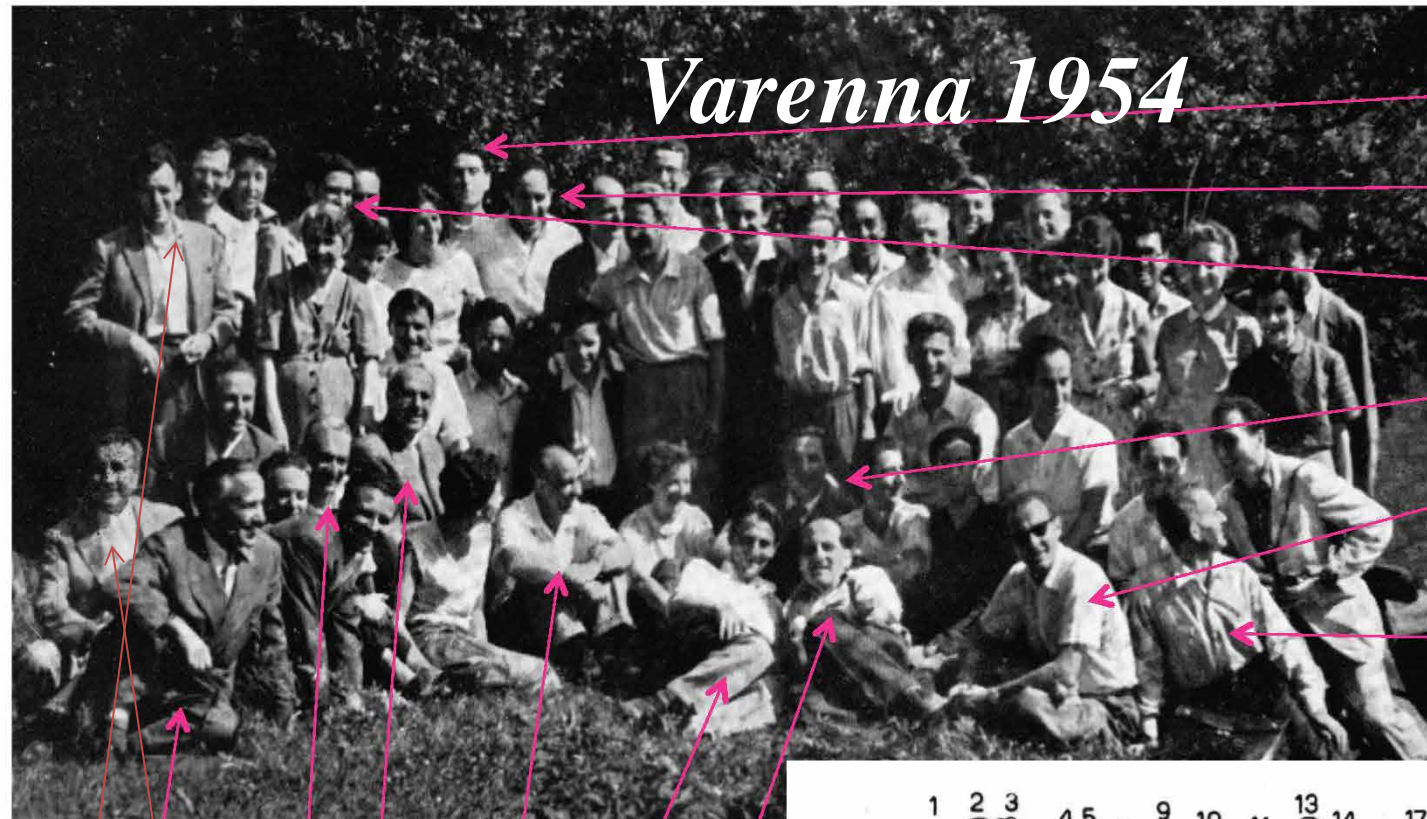


Enrico Fermi
International
schools

and

EPS-SIF
international
School on
energy

at
Villa
Monastero
Varenna



Varenna 1954

Salvini

Castagnoli

J. Steinberger

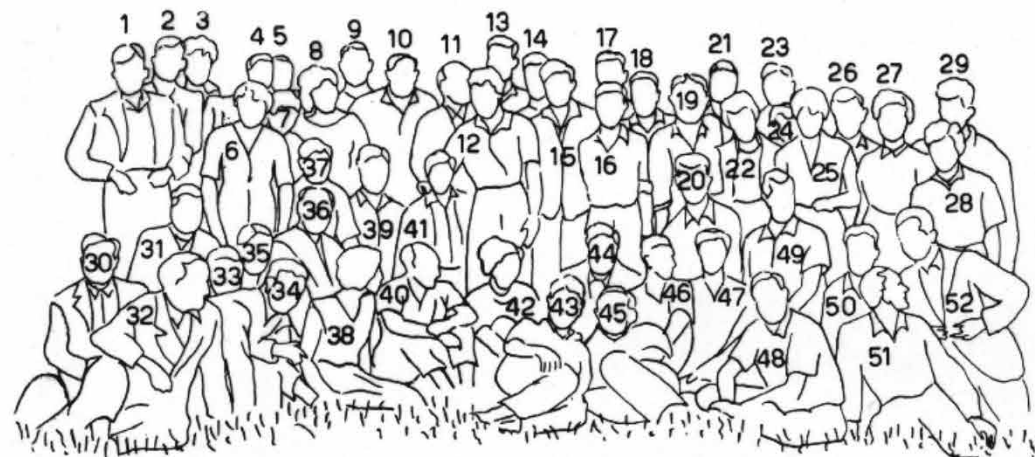
Puppi

Conversi

Leprince-Ringuet

Rossi
Fermi
Borsellino
G. Bernardini
Cresti
Polvani
Rostagni
Occhialini

**A celebrated
group photo
1954**



1. M. CRESTI - 2. M. DEUTSCHMANN - 3. B. PUPPI - 4. J. STEINBERGER - 5. N. DALLAPORTA - 6. I. POLVANI - 7. S. C. NASSAR - 8. A. ORKIN-LE-COURTOIS - 9. G. SALVINI - 10. C. CASTAGNOLI - 11. G. FOIANI - 12. A. ROGOZINSEY - 13. J. BREZOT - 14. J. TREMBLEY - 15. M. CECCARELLI - 16. M. PORTER - 17. P. GIACOMETTI - 18. K. KANDIAH - 19. G. WATAGHIN - 20. U. HABER-SCHAIM - 21. J. G. RÖDERER - 22. B. LOCATELLI - 23. K. GOTTSTEIN - 24. C. M. GARELLI - 25. C. DILWORTH-OCCHIALINI - 26. Y. FUJIMOTO - 27. L. TALLONE - 28. G. TOMASINI - 29. R. LEVI-SETTI - 30. A. ROSTAGNI - 31. B. BRUNELLI - 32. A. BORSellino - 33. G. FIDECARO - 34. P. CALDIROLA - 35. B. ROSSI - 36. G. POLVANI - 37. I. KEEFE - 38. G. CINI - 39. M. G. K. MENON - 40. E. FERMI - 41. Y. GOLDSCHMIDT-CLERMONT - 42. M. BRUN - 43. G. BERNARDINI - 44. G. PUPPI - 45. G. OCCHIALINI - 46. L. SCARSI - 47. B. VITALE - 48. M. CONVERSI - 49. G. QUARENTI - A. BONETTI - 51. L. LEPRINCE-RINGUET - 52. B. T. FELD

Enrico Fermi
International
schools

and

EPS-SIF
international
School on
energy

at
Villa
Monastero
Varenna

The “fantastic world

Varenna 1954

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N. DALLAPORTA – Statistical Evidence Concerning the γ -Meson Decay	» 247
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Enrico Fermi and Werner Heisenberg gave the first two lectures of a series on the physics of pions and nucleons

Gilberto Bernardini, Bernard T. Feld gave a second group of lectures on photoproduction

Bruno Rossi lectured on fundamental particles and on the origin of cosmic rays

Particle accelerator projects at CERN, in the UK, in France and in Italy were illustrated by world experts

Fermi

Fermi gave 16 lectures in Varenna on “**PIONS and NUCLEONS**” from 16th of July to 6th of August 1954

Fermi passed away on 28 November 1954

On the 6th of August 1955 President Polvani in an official commemorative ceremony in Varenna and Como in the presence of Fermi's wife, Mrs. Laura Fermi, and Fermi's sister, Mrs Maria Sacchetti, announced that the School would be named after Enrico Fermi



A bronze medallion with his low-relief effigy was unveiled in memory and in honour of Enrico Fermi at Villa Monastero



Also a porphyry plaque was placed bearing a Latin epigraph:

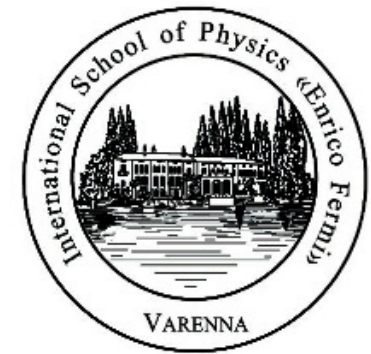
ENRICO FERMI
— 1954 - 53rd of his life —

"Here with quiet spirit among so many natural beauties, I revealed for the last time, to a rank of men of science, the ultimate and most remote elements in motion inside the atoms, with which I had already made my name immortal"

In 1955 in Como at the Tempio Voltiano,
Isidor I. Rabi was invited to give the official
commemorative address in honour of Enrico Fermi

*“Here in Italy where his memory is so alive and where so many have heard Fermi lecture I do not have to describe the remarkable fascination he could induce in any audience. He used no histrionics in his delivery. It was always calm and deliberate. **The fascination lay** in the feeling of clarity and simplicity he could impart to the audience. They felt illuminated and had the sense of participating in profound and beautiful insight”*

This is what Fermi’s lectures still inspire



**On the 70th anniversary of the
Nobel Prize award to Enrico Fermi
in 1938**

**the Italian Physical Society
has reprinted in a special issue of
La Rivista del Nuovo Cimento
the original**

**“Lectures on Pion and Nucleons”
by Enrico Fermi**

Enrico Fermi
International
schools

and

EPS-SIF
international
School on
energy

at
Villa
Monastero
Varenna

The Italian Physical Society Fermi Prize and Medal



The prestigious prize "Enrico Fermi" has been awarded starting from 2001, to commemorate the great scientist on the occasion of the centenary of his birth

Enrico Fermi
International
schools

and

EPS-SIF
international
School on energy
at
Villa Monastero
Varenna

NOW

> 200 courses

> 13000 participants

60 Nobel Prize winners

Nobel Prize Winners in Varenna

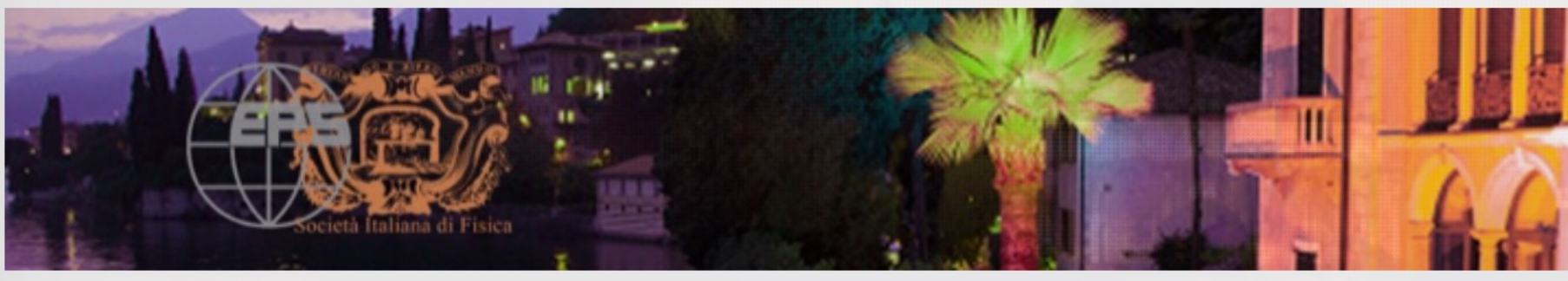
Along the years several Nobel Prize Winners participated in the International School of Physics "Enrico Fermi" in Varenna as lecturers or directors.

Here is the list:

Name (prize awarded in year) in Varenna

Serge Haroche (2012)	1992 - 2001 - 2008
David J. Wineland (2012)	1991 - 2001
Roy J. Glauber (2005)	1967 (director) - 1991
John L. Hall (2005)	1991 - 1992
Th. W. Hänsch (2005)	1975 - 1992 (director) - 1995 - 1998 - 2000 - 2006 (director)
A. J. Leggett (2003)	1987
Riccardo Giacconi (2002)	1965 - 1975 (director)
Eric A. Cornell (2001)	1991 - 1998 - 2001
Wolfgang Ketterle (2001)	1991 - 1998 - 2006 (director)
Carl E. Wieman (2001)	1991 - 1998 - 2006 (director)
Robert B. Laughlin (1998)	1991 - 1992 - 1998 (director)
Steven Chu (1997)	2002
C. Cohen-Tannoudj (1997)	1991 - 1992
William D. Phillips (1997)	1960 - 1991
Georges Charpak (1992)	1991 (director)-1995-1998-2000
P.-Gilles de Gennes (1991)	1984
Norman F. Ramsey (1989)	1973 - 1996 -2003
Wolfgang Paul (1989)	1991 - 2005
Leon M. Lederman (1988)	1965
Melvin Schwartz (1988)	1959 - 1964
Jack Steinberger (1988)	1964
K. A. Müller (1987)	1954 - 1964 - 1967 (director)
Klaus von Klitzing (1985)	1956 - 1973 (director) - 2003
Carlo Rubbia (1984)	2012
S. Chandrasekhar (1983)	1987 - 1990
William A. Fowler (1983)	1975

Nicolaas Bloembergen (1981)	1963 - 1975 (director)
Arthur L. Schawlow (1981)	1963 - 1992
Sheldon Lee Glashow (1979)	1964
Abdus Salam (1979)	1971
Arno Allan Penzias (1978)	2004
Philip W. Anderson (1977)	1966 - 1983 - 1987
Sir Nevill F. Mott (1977)	1957
John H. van Vleck (1977)	1956
Aage Niels Bohr (1975)	1976 (director) - 1955
Ben Roy Mottelson (1975)	1960 - 1976 - 1992
Leo Esaki (1973)	1991
Leon Neil Cooper (1972)	1955
John R. Schrieffer (1972)	1957 - 1973 - 1983 - 1987 (director) - 1992 - 1997
Dennis Gabor (1971)	1958
Hannes O. G. Alfvén (1970)	1959 (director)
Louis E. F. Néel (1970)	1956
Luis Walter Alvarez (1968)	1964 (director)
Hans Albrecht Bethe (1967)	1984
Alfred Kastler (1966)	1956 - 1960
Charles Hard Townes (1964)	1955 - 1960 - 1963 (director)
Eugene Paul Wigner (1963)	1963 (director)
Donald Arthur Glaser (1960)	1953
Tsung-Dao (T.D.) Lee (1957)	1964 (director)
John Bardeen (1956)	1983
Willis Eugene Lamb (1955)	1963
Edwards Mills Purcell (1952)	1956
Cecil Frank Powell (1950)	1953
Patrick M. S. Blackett (1948)	1953
Wolfgang Pauli (1945)	1958
Isidor Isaac Rabi (1944)	1955
Enrico Fermi (1938)	1954
Paul A. M. Dirac (1933)	1972
Werner K. Heisenberg (1932)	1954
L.-V.P.R. de Broglie (1929)	1970



The lectures of the Courses of the School on Energy are available online in EPJ Web of Conferences and are published in the book series

“Lecture Notes of the Joint EPS-SIF International School on Energy”

COURSE 1 (2012)

New strategies for energy generation, conversion and storage

Directors: L. Cifarelli, F. Wagner, D. Wiersma

COURSE 2 (2014)

Energy: basic concepts and forefront ideas

Directors: L. Cifarelli, F. Wagner

COURSE 3 (2016)

Jointly organized with the 69th Course of the International School of Solid State Physics: “Materials for Energy and Sustainability V”

Directors: D. Cahen, L. Cifarelli, D. Ginley, A. Slaoui, A. Terrasi, F. Wagner

COURSE 4 (2017)

Advances in Basic Energy Issues

Directors: L. Cifarelli, F. Wagner

Course 5 – 22 - 27 July 2019 -

Energy: Where we stand and where we go

Directors : Luisa Cifarelli, Friederich Wagner

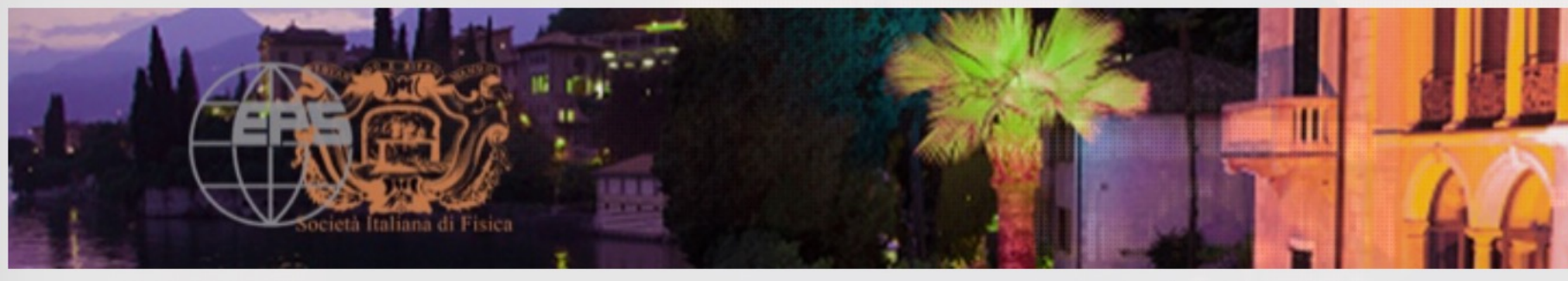
Very successful schools and excellent proceedings!!



Entrance at the
school in 2021 !

Entrance at the school!

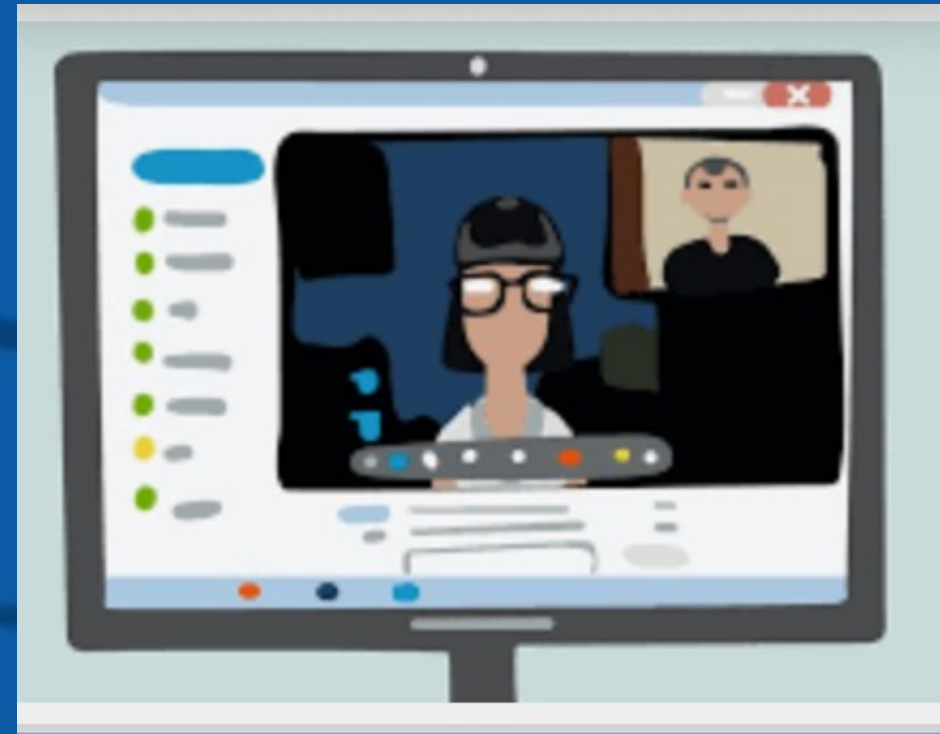
**Very happy for your participation in this School !
We appreciate your interest**



..... we expect also this year a successful school

a good portfolio of timely topics forms the program and the school Lectures, planned to stimulate your interest

and the technical and organizational issues are well taken care – **many thanks to our SIF staff**



Also many thanks to the students of AISF helping us

Thanks
to
everyones

and

enjoy the
School !!

Directors

Luisa Cifarelli - Francesco Romanelli -

Scientific Secretary

Neelima Agrawal -

Scientific Committee

Angela Bracco - Luisa Cifarelli -

Jozef Ongena -

Francesco Romanelli -

Petra Rudolf -

Friedrich Wagner -

Lecturers

Christoph Buchal - Jonathan Craig -

Horst Hahn - Sylvie Leray

Jozef Ongena - Eva Pellicer -

Marco Ripani - Francesco Romanelli

Petra Rudolf - Jacqueliën Scherpen -

Hauke Schmidt - Susanne Siebentritt

Daniela Thrän -

Moniek Tromp -

Machteld Van den Broek -

Stefano Vella -

Olivier Vidal -

Friedrich Wagner -

Hermann-Josef Wagner)

