Villa Mondragone
Historic Site of the European Physical Society

Dove Guglielmo Marconi pose le basi
per lo sviluppo delle moderne telecomunicazioni

Università degli Studi di Roma Tor Vergata
Centro Congressi Villa Mondragone – Sala degli Svizzeri

9 giugno 2025

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Società italiana di Fisica – SIF
Società Europea di Fisica – EPS

Physics Learned Societies have the goal to promote Physics & Physicists' interests

Their means are:

- Membership
- Prizes
- Meetings, conferences
- Bulletins, newsletters, social media
- Scientific publications
- Declarations, statements, surveys, reports
- Initiatives & actions

– The International Year of Quantum Science and Technology 2025

– The International Year of Basics Sciences for Sustainable Development 2022

– The International Year of Light 2015

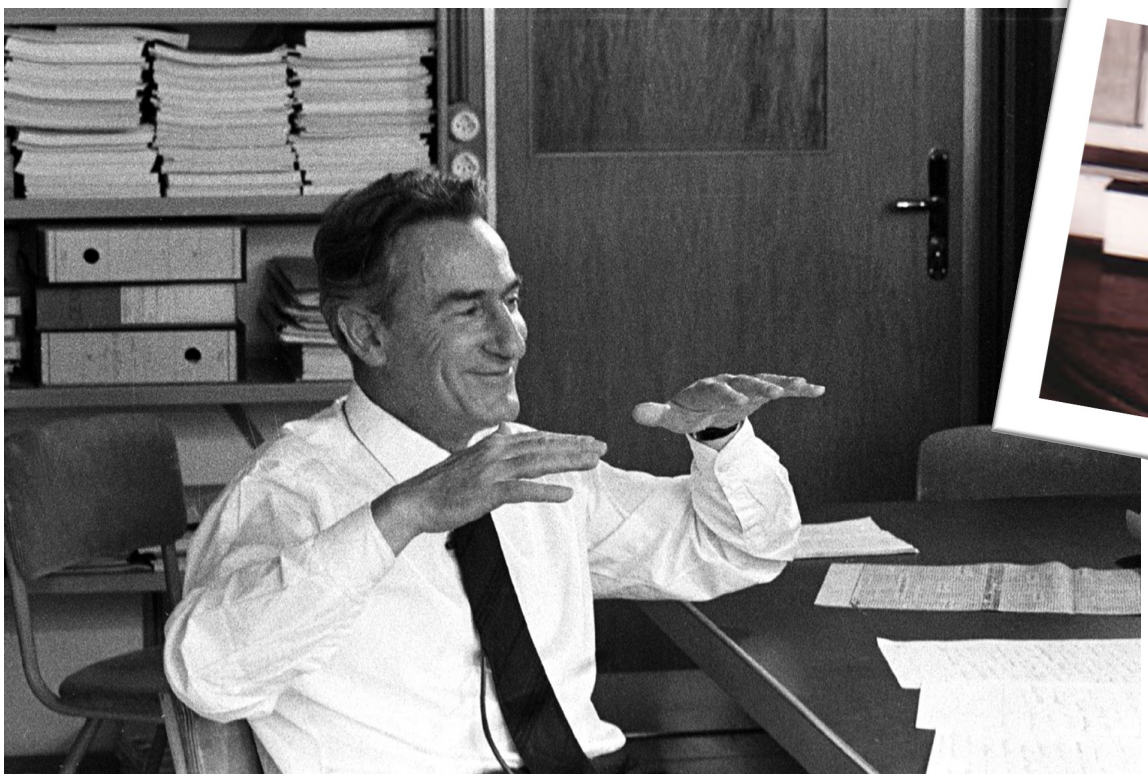
– The International Year of Physics 2005

An example for all …

The European Physical Society (EPS)

The European Physical Society was founded in Geneva, Switzerland in **1968** – through the inspired leadership of Gilberto Bernardini (CERN Research Director)

"as a further demonstration of the determination of scientists to collaborate as close as possible in order to make their positive contribution to the strength of European cultural unity"



Dedicated to the **physics community** at large but also to a **wider audience**, and in line with this idea of **scientific "cultural unity"** → launch of a new initiative end of 2011

EPS HISTORIC SITES

The EPS Historic Sites Award commemorates places in Europe – or even outside geographical Europe – important for the development and the history of PHYSICS

Sites with national or European/international significance to physics and its history can be considered for the Historic Site distinction from the EPS

→ places (laboratories, buildings, institutions, universities, towns etc…) associated with an event, discovery, research or body of work, by one or more individuals, that made long lasting contributions to physics

Nominations are open throughout the year from the EPS website and reviewed 2-3 times/year by the **EPS Historic Sites Committee**

The EPS works with the nominators to obtain local authorisations for placing a plaque and in organising the commemorative ceremony

EPS HISTORIC SITES

For each EPS HS award ceremony:

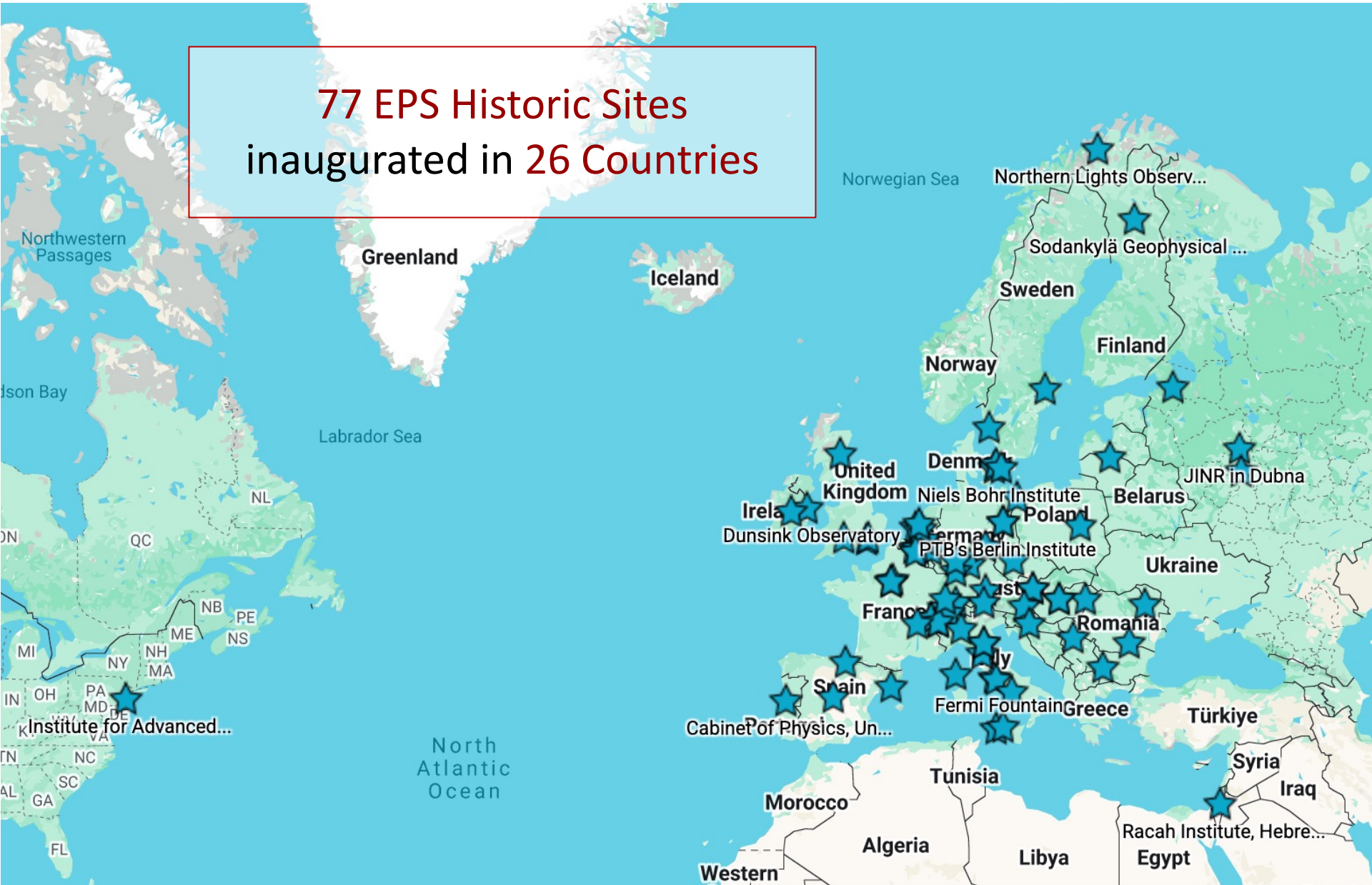
- Involvement of local national Member Society & Associate Member Institution & Authorities
- Presence of EPS delegation
- News in **e-EPS** electronic newsletter

- Article in **EPN** magazine

Over 110 proposals received from 26 different countries since the establishment of the EPS HS distinction (2011)

- Spontaneous
- Channelled through national Physical Societies

EPS HISTORIC SITES



In Italy, 10 Historic Sites have been inaugurated since the start of the HS initiative:

1. The Goldfish Fountain of the Physics Institute of Panisperna Street – Fermi Centre, Rome, Italy, 20 April 2012

2. The Hill of Arcetri, Florence, Italy, 17 May 2013

3. The Villa Griffone in Pontecchio Marconi, Bologna, Italy, 26 May 2013

4. The AdA Storage Ring at the INFN Frascati National Laboratory, Frascati, Rome, Italy, 5 December 2013

5. The Mount Vesuvius Observatory, Hercolaneum, Naples, Italy, 23 May 2015

6. The "Piersanti Mattarella Tower of Thought", Erice, Italy, 21 August 2016

7. The Institute of Physics of the University, Palermo, Italy, 7 February 2019

8. The Academy of Sciences of the Bologna Institute, Bologna, Italy, 7 November 2019

9. The Institute of Complementary Physics of the University, Milan, Italy, 16 September 2022

10. The Galilean Academy of Sciences, Letters and Arts, Padua, Italy, 18 January 2025

11. Villa Mondragone !!! 9 June 2025

EPS HISTORIC SITES

▲ The 'Fermi fountain', *i.e.* the goldfish fountain of the Physics Institute of Panisperna Street in Rome, presently under refurbishment, and in the foreground the EPS commemorative plaque.

01

The Goldfish Fountain of the Physics Institute of Panisperna Street

Centro Fermi, Rome, Italy, 20 April 2012

Using the water of the goldfish fountain of his Institute, Enrico Fermi established for the first time, in the afternoon of 22 October 1934, the crucial role of hydrogenous substances on neutron induced radioactivity, thus opening the way to the use of slow neutrons in nuclear fission chain reactions.

CENTRO FERMI
Museo Storico della Fisica e
Centro Studi e Ricerche Enrico Fermi

Rome, Italy – 20 April 2012

European Physical Society – EPS Historic Site

The goldfish fountain of the Physics Institute of Panisperna Street – Fermi Centre

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Sito Storico della Società Europea di Fisica – EPS

La fontana dei pesci rossi dell'Istituto Fisico di Via Panisperna – Centro Fermi

Usando l'acqua della fontana dei pesci rossi del suo Istituto, Enrico Fermi stabilì per la prima volta, nel pomeriggio del 22 Ottobre 1934, il ruolo cruciale delle sostanze idrogenate nella radioattività indotta da neutroni, aprendo così la strada all'uso dei neutroni lenti nelle reazioni di fissione nucleare a catena

Roma – 20 Aprile 2012

Alla presenza del Presidente della Repubblica G. Napolitano

▲ The Astronomical Observatory on the hill of Arcetri.

05

The Hill of Arcetri

Florence, Italy, 17 May 2013

The EPS has designated this hill, rich in buildings of historical and scientific interest, as an EPS Historic Site. Travelling up the hill, one can see in the following order: The headquarters of the former Institute of Physics, commissioned by A. Garbasso in 1921. A group of brilliant physicists, such as G. Bernardini, E. Fermi, G. Occhialini, G. Racah, F. Rasetti and B. Rossi, worked here. And it was here that E. Fermi wrote his fundamental work on the statistics of electrons in 1926 ; The National Institute of Optics, founded in 1927 by V. Ronchi, a leading light in the rebirth of optics in Italy ; The Astrophysical Observatory of Arcetri, built in 1872 on the initiative of G. Battista Amici and G. B. Donati. G. Abetti was later to play a crucial role in its development ; Villa Il Gioiello, lying higher up the hill just outside the complex. This is where G. Galilei spent the last years of his life (1631-1642) and finished writing his fundamental work entitled "Discourses and Mathematical Demonstrations Relating to Two New Sciences" (1638).

▲ Villa Griffone.

The Villa Griffone in Pontecchio Marconi

Bologna, Italy, 26 May 2013

Here, using a transmitter and receiver made by himself, Guglielmo Marconi aged 21, in summer 1895 established the first long range electromagnetic wave communication between the loft of Villa Griffone and a place out of sight behind the Celestini hill about 2 km away. This experiment started the last century fundamental studies of the radio waves physics and the following developments of today's worldwide wireless communication technology.

06

▲ INFN President Fernando Ferroni address at the unveiling ceremony.

13

The AdA Storage Ring at the INFN Frascati National Laboratory

Frascati, Rome, Italy, 5 December 2013

Here, in February 1961, the first particle–antiparticle accelerator in the world, called AdA: Anello di Accumulazione (Storage Ring) started operation. In AdA electrons and positrons were made to circulate with equal velocity and opposite direction in the same ring, and brought to collide. In the annihilation, all the initial energy could be made available to the creation of new particles. AdA was proposed by Bruno Touschek and built by him together with a small group of scientific and technical staff from the Laboratories. AdA showed the feasibility of electron-positron machines and opened the way to the large accelerator colliders subsequently built all over the world. In Italy, at the INFN Frascati National Laboratories, the accelerators ADONE (1969) and DAFNE (1999) were built yielding fundamental contributions to the development of Elementary Particle Physics.

23

The Mount Vesuvius Observatory, Hercolaneum

Naples, Italy, 23 May 2015

In this building, the 'Reale Osservatorio Vesuviano' was founded in 1841 by King Ferdinand II. The Vesuvius Observatory, the first volcanological observatory in the world, has had eminent scientists as directors, who deeply influenced the history of physics, seismology and volcanology: Macedonio Melloni, the first director (1841), discovered infrared electromagnetic radiation and its thermal effects ; Luigi Palmieri (1854) devised the first electromagnetic seismometer and discovered the presence of helium on the Earth (1882) ; Giuseppe Mercalli (1911), seismologist and volcanologist, famous worldwide for his Earthquake Intensity Scale. Throughout the 20th century the Vesuvius Observatory maintained its leading role in geophysical research. Since 2000 it is the seat of the Naples section of the National Geophysics and Volcanology Institute.

▼ Osservatorio meteorologico del Vesuvio.

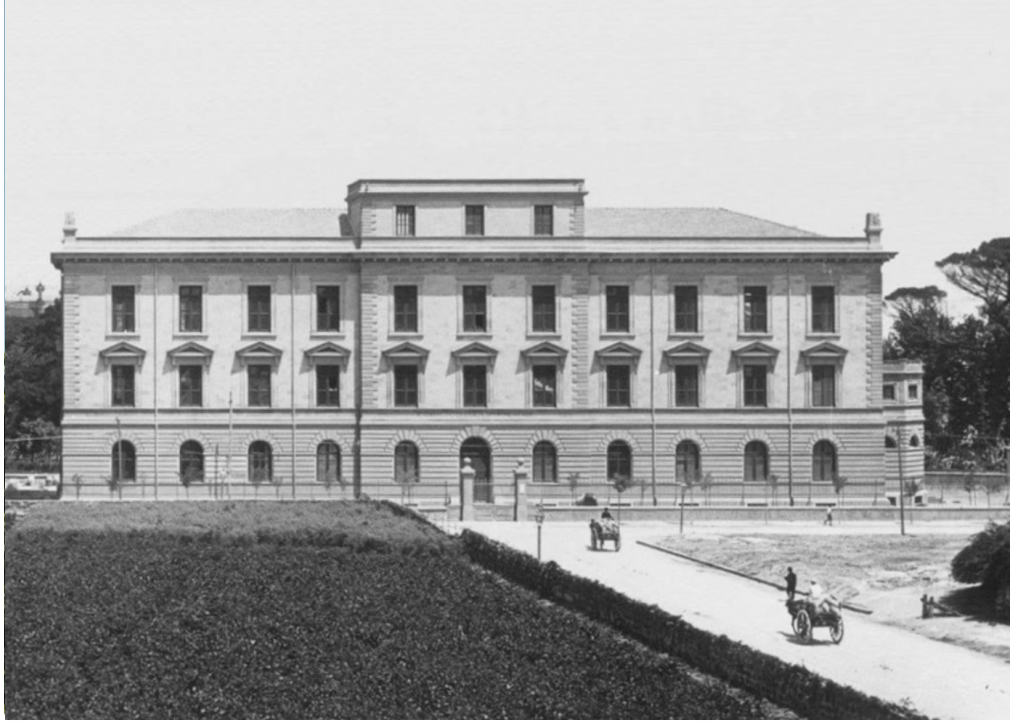
▲ Piersanti Mattarella Tower of Thought.

30

The "Piersanti Mattarella Tower of Thought" of the Ettore Majorana Foundation and Centre for Scientific Culture

Erice, Italy, 21 August 2016

Here in 1982, the "Erice Statement" for a science without secrets and without frontiers was devised and written in this very place by Paul Dirac, Piotr Kapitza and Antonino Zichichi. In 1985, at the Geneva meeting of the USA and URSS leaders, Reagan and Gorbachev declared that peace's enemy number one in the world were the secret labs, as stated in the Erice Statement, now signed by over one hundred thousand scientists worldwide. The name given to the tower was a tribute to Piersanti Mattarella, a strong supporter of the Erice Centre, assassinated by the Mafia in January 1980.



The Institute of Physics
of the University
Palermo, Italy, 7 February 2019

To honour Emilio Segrè and his discovery, together with Carlo Perrier, of technetium in 1938. This was the first artificial chemical element to be isolated by man.

The Academy of Sciences of the Bologna Institute

Bologna, Italy, 7 November 2019

To honour Luigi Galvani who in the 18th century discovered the physiological action of electricity on dead frogs' muscles when struck by electric sparks. The phenomenon was called "Galvanism" and is at the origin of modern electrophysiology.

The Institute of Complementary Physics of the University

Milan, Italy, 16 September 2022

The first institute of physics of the University of Milan was established by Aldo Pontremoli in 1924. Named "Institute of Complementary Physics", it was rapidly equipped thanks to Pontremoli with an advanced spectroscopic and radiological laboratory. The laboratory was soon considered one of the most important and modern physics laboratories in Italy for radiological studies, analyses and controls In the field of medical physics and industry.

The Institute was also engaged in the preparation of the first scientific expedition to the Arctic led by Umberto Nobile on board the airship "Italia" in 1928.

The Galilean Academy
of Sciences, Letters and Arts
Padua, Italy, 18 January 2025

To honour Galileo Galilei who was one of the founding members of the Academy, as recorded in the minutes of the first session on 25 November 1599, at the time when he began his journey toward discovering the laws of motion.

INTERNATIONAL YEAR OF
Quantum Science and Technology

The City of Göttingen
Göttingen, Germany
1 April 2025

The European Physical Society (EPS) has named the City of Göttingen an “EPS Historic Site” in recognition of its leading role in the development of quantum mechanics. Quantum mechanics and so the basis of quantum physics were founded in Göttingen in 1925.


European Physical Society – EPS Historic Site
The City of Göttingen
In 1925, the foundations of quantum mechanics were laid in Göttingen by Max Born, Werner Heisenberg and Pascual Jordan. This new theory fundamentally changed our understanding of nature. Quantum Mechanics was rapidly developed and applied, with further ground-breaking contributions from Maria Goeppert-Mayer, Friedrich Hund, Lucy Mensing, John von Neumann, Robert Oppenheimer, Wolfgang Pauli, Viktor Weisskopf, and Eugene Wigner, who all worked in this city. Göttingen quickly became a leading centre for modern physics, building on the excellence of world-leading mathematicians, notably Richard Courant, David Hilbert, Felix Klein, Emmy Noether, and Hermann Weyl. Atomic and molecular spectroscopy experiments performed by James Franck and Hertha Sponer confirmed the theoretical work and spurred the success of quantum mechanics.
Europäische Physikalische Gesellschaft – Historische Stätte
Die Stadt Göttingen
Im Jahr 1925 begründeten Max Born, Werner Heisenberg und Pascual Jordan in Göttingen die Quantenmechanik. Die neue Theorie, die unser Naturverständnis grundlegend veränderte, wurde rasch weiterentwickelt und angewandt, mit weiteren bahnbrechenden Beiträgen von Maria Goeppert-Mayer, Friedrich Hund, Lucy Mensing, John von Neumann, Robert Oppenheimer, Wolfgang Pauli, Viktor Weisskopf und Eugene Wigner, die alle in den folgenden Jahren hier arbeiteten. Göttingen wurde schnell zu einem führenden Zentrum der modernen Physik. Diese Entwicklung wurde durch die herausragende Stellung der Göttinger Mathematiker begünstigt, insbesondere vertreten durch Richard Courant, David Hilbert, Felix Klein, Emmy Noether und Hermann Weyl. Die Experimente zur Atom- und Molekülspektroskopie von James Franck und Hertha Sponer bestätigten die theoretischen Arbeiten und förderten den Erfolg der Quantenmechanik.
Göttingen 2025
EPS
Further Information

HISTORIC SITE

Villa Mondragone

Pope Gregory XIII
Galileo Galilei

Guglielmo Marconi

European Physical Society (EPS) Historic Site

VILLA MONDRAGONE
WHERE THE FIRST MODERN TELEPHONE TECHNOLOGY WAS PIONEERED

Villa Mondragone, built-in 1574 as the summer residence of the papal court, has a strong link with the history of scientific knowledge. The Villa witnessed major events, like the signing in 1582 of the bull 'Inter Gravissimas' by Pope Gregory XIII, which gave rise to the Gregorian calendar, or the performance of Galileo Galilei's experiment in 1611, whereby he demonstrated the extraordinary power of his new telescope pointing it at the Villa from Rome's Janiculum Hill.

Here, in 1932, Guglielmo Marconi laid the foundations for the development of modern communications. Villa Mondragone was chosen as the site for experiments of new transmission techniques with ultra-short waves. That year, Pope Pius XI decided to replace the old telegraph line on poles between the Vatican City in Rome and the Apostolic Palace in Castel Gandolfo to establish more secure telephone communications between the two sites. Marconi set up a small transmitter in the Vatican and a receiver in Villa Mondragone. The results of his tests were entirely positive: signals were received at Villa Mondragone with great intensity, only slightly weaker at the nearby Castel Gandolfo, where the receiver was then moved. In 1933, the world's first fixed microwave telephone bridge was inaugurated in the Vatican. It was the start of modern telephone technology.

TOR VERGATA
UNIVERSITÀ DEGLI STUDI DI ROMA

SITO STORICO DELLA SOCIETÀ EUROPEA DI FISICA – EPS
VILLA MONDRAGONE: DOVE GUGLIELMO MARCONI POSE LE BASI PER LO SVILUPPO DELLE MODERNE TELECOMUNICAZIONI

EPS HISTORIC SITES

For each EPS HS award ceremony so far:

- Improvement of mutual relations between EPS and **local** national Member Societies & Associate Member Institutions & Authorities
- Increase of EPS impact & visibility
- Enhancement of some 'spirit of belonging' to EPS

Moreover

- Awareness that not only ARTISTIC CULTURAL HERITAGE & NATURAL HERITAGE should be preserved for humankind but also SCIENTIFIC CULTURAL HERITAGE

This was the goal!