



UNIVERSITÀ
DEGLI STUDI
FIRENZE

IL COLLE
DI GALILEO

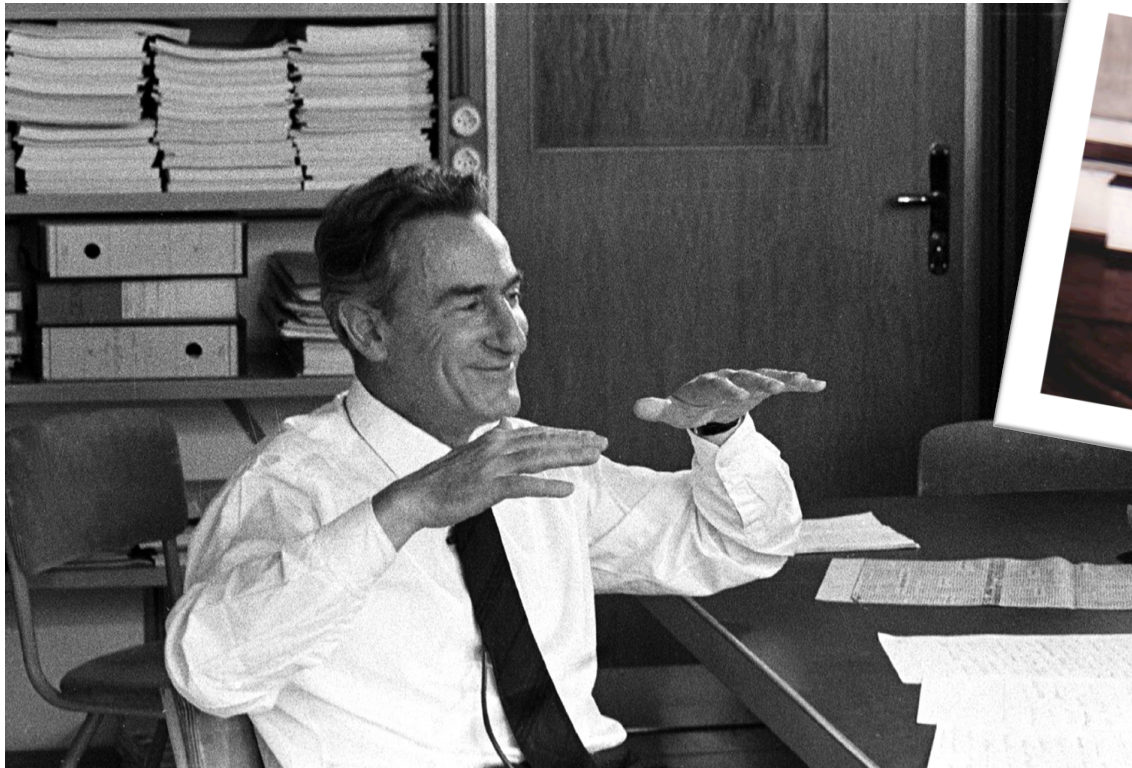


EPS HISTORIC SITE
The Hill of Arcetri
Florence
17 May 2013

LUISA CIFARELLI
University & INFN, Bologna
CERN, Geneva
Centro Fermi, Rome

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”





- The European Physical Society encompasses:
 - **42 MEMBER SOCIETIES**
 - **37 ASSOCIATE MEMBER INSTITUTIONS** (*CERN, DESY, ESRF, JINR, GSI, ESA ... CNR, INFN, IIT ... CAEN, EDISON ...*)
 - **3500 INDIVIDUAL MEMBERS**
- The EPS represents as a whole a community of **OVER 10⁵ PHYSICISTS**
- The EPS provides an **INTERNATIONAL FORUM** for physicists and acts as a **FEDERATION** of physical societies
- The EPS works to **PROMOTE** the interests of **PHYSICISTS & PHYSICS** in Europe and the world over
- The EPS promotes **EXCELLENT PHYSICS RESEARCH** through its **DIVISIONS (11) AND GROUPS (7)**
 - Nuclear Physics Division–NPD
 - High Energy Particle Physics Division–HEPPD
 - Quantum Electronics and Optics Division–QEOD
 - Physics Education Division–PED ...
 - Accelerator Group–AG
 - Energy Group–EG
 - Technology & Innovation Group–TIG
 - History of Physics Group–HoPG
 - Physics for Development Group–PDG ...



- The renown of EPS **PRIZES & CONFERENCES & WORKSHOPS** is very high: these EPS meetings remain as **model meetings** for the whole international physics community
(several thousands of attendants/year)

- The EPS has a number of **ACTION COMMITTEES**
 - to supply a **EUROPEAN VIEW** on important questions relating to physics and to society at large
 - to act as a **CATALYST** for bringing together physicists in different fields and different countries
 - Forum on Physics & Society–FPS
 - Equal Opportunities–EOC
 - European Integration–CEI
 - Young Minds–EPSYM
 - Historic Sites–HS...

EPS HISTORIC SITES

The **EPS Historic Sites Award** commemorates places in 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

EPS HISTORIC SITES

EPS Historic Sites Committee:

Martin Huber

Maciej Kolwas

Ove Poulsen

Peter Maria Schuster – HoP Division

Fritz Wagner

Alan Chodos (APS)

Giovanni Volpe (EPSYM)

LC – Chair

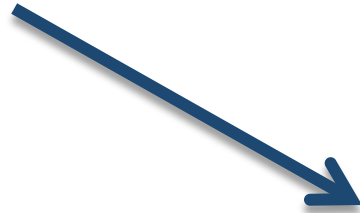
Nominations are open throughout the year from the EPS website and reviewed 3 times/year

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
- EPS representation
- News in **e-EPS** electronic newsletter
- Article in **EPN** magazine



35 proposals received & approved since the establishment of the EPS HS distinction (2011)

- Spontaneous
- Channelled through national Physical Societies (e.g. DPG)

EUROPEAN PHYSICAL SOCIETY – EPS HISTORIC SITE

*THE GOLDFISH FOUNTAIN OF THE PHYSICS INSTITUTE
OF PANISPERNA STREET – FERMI CENTRE*

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

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



Chamonix, France – 23 July 2012

EUROPEAN PHYSICAL SOCIETY – EPS HISTORIC SITE LABORATORY 'LES COSMIQUES'

IN 1943, DURING THE WAR, HERE AT 3613 M ABOVE SEA LEVEL, THE FRENCH CNRS-NATIONAL CENTRE FOR SCIENTIFIC RESEARCH ESTABLISHED A HIGH ALTITUDE LABORATORY UNDER THE AEGIS OF LOUIS LEPRINCE-RINGUET TO STUDY THE COSMIC RAYS AND THEIR APPLICATIONS IN NUCLEAR PHYSICS.

IN 1946, THE LABORATORY WAS INAUGURATED IN THE PRESENCE OF IRÈNE JOLIOT-CURIE AND CONTINUED TO BE OPERATED UNTIL 1955. HIGH VOLTAGE LINES SUSPENDED ABOVE THE GLACIERS SUPPLIED THE NECESSARY ELECTRIC POWER. "THIS IS HOW UP THERE – IN THE WORDS OF LEPRINCE-RINGUET – IN REALLY SPORTY CONDITIONS, WITH AN ELECTRIC CABLE, A LOCAL ELECTRICITY POWER SOURCE, SOME ELECTRON COUNTERS, A SMALL WILSON APPARATUS, WE MANAGED TO STUDY PARTICLES FROM COSMIC RADIATION ..."

SITE HISTORIQUE DE LA SOCIÉTÉ EUROPÉENNE DE PHYSIQUE – EPS LABORATOIRE DES COSMIQUES

EN 1943, PENDANT LA GUERRE, ICI À 3613 M AU-DESSUS DU NIVEAU DE LA MER, LE CNRS-CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE DEVAIT CRÉER SOUS L'ÉGIDE DE LOUIS LEPRINCE-RINGUET UN LABORATOIRE DE GRANDE ALTITUDE POUR L'ÉTUDE DU RAYONNEMENT COSMIQUE ET SES APPLICATIONS EN PHYSIQUE NUCLÉAIRE. LE LABORATOIRE FUT INAUGURÉ EN 1946 EN PRÉSENCE D'IRÈNE JOLIOT-CURIE ET FONCTIONNA JUSQU'EN 1955. DES LIGNES DE HAUTE TENSION SUSPENDUES SUR LES GLACIERS FOURNIRENT LA PUISSANCE ÉLECTRIQUE NÉCESSAIRE. "C'EST AINSI QUE LÀ-HAUT – DIT LEPRINCE-RINGUET – DANS DES CONDITIONS RÉELLEMENT SPORTIVES, ON RÉUSSIT AVEC UN CÂBLE ÉLECTRIQUE, UNE SOURCE LOCALE D'ÉLECTRICITÉ, DES COMPTEURS D'ÉLECTRONS, UN PETIT APPAREIL WILSON, À ÉTUDIER LES PARTICULES DE RAYONNEMENT COSMIQUE ..."



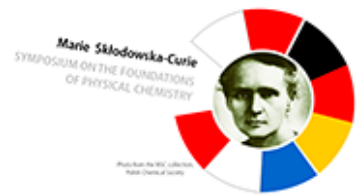
COL DU MIDI, CHAMONIX – 23 JUILLET 2012

EN PRÉSENCE DES SIX ASTRONAUTES AUTEURS DE L'INSTALLATION SUR LA STATION SPATIALE INTERNATIONALE DU DÉTECTEUR DE RAYONS COSMIQUES AMS-ALPHA MAGNETIC SPECTROMETER ET À L'OCCASION DU CENTENAIRE DE LA DÉCOUVERTE DES RAYONS COSMIQUES

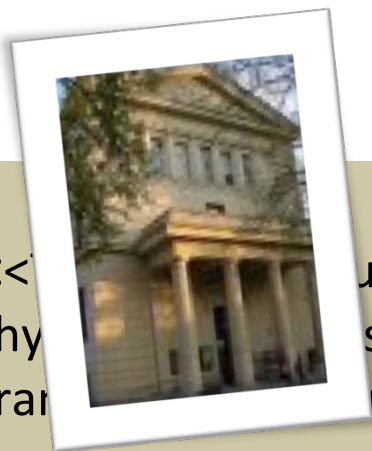


Marie Skłodowska-Curie Symposium on the Foundations of Physical Chemistry

Copernicus Center, Warsaw, POLAND
18th-19th of November 2011



Warsaw, Poland Declaration November 2011 → Ceremony 10 January 2013



<< outstanding importance of the research conducted here and the role of the Copernicus Center in the development of Polish physical chemistry. The Copernicus Center is a fundamental and the most important center of research in the field of physical chemistry. In the 1930s "**Hoża 69**" was a renowned laboratory where fluorescence where the Jabłoński diagram, a fundamental concept in nuclear physics, was invented. Later it housed the laboratory where Marian Danysz and Jerzy Pniewski discovered the hypernucleus in 1952, then the double hypernucleus in 1962, with deep implications for nuclear and particle physics.

This plaque is dedicated to the founders and researchers of "**Hoża 69**", among others to Stefan Pieńkowski, Leonard Sosnowski, Marian Danysz, Jerzy Pniewski, Andrzej Sołtan, Czesław Biało-brzeski, Wojciech Rubinowicz and Leopold Infeld. >>

Dubna, Russia – 22 February 2013



Бруно Понтекорво

JOINT INTERNATIONAL SOCIETY - EPS HISTORIC SITE
THE STUDY OF BRUNO PONTECORVO

BRUNO PONTECORVO WORKED AT DUBNA FROM 1950 TO HIS DEATH IN 1993.

HE GAVE OUTSTANDING CONTRIBUTIONS TO NUCLEAR AND PARTICLE PHYSICS AND INTRODUCED NOVEL EXPERIMENTAL APPROACHES LEADING TO FUNDAMENTAL DISCOVERIES. NEUTRINO PHYSICS WAS CONSTANTLY IN THE FOCUS OF HIS RESEARCH.

HE FIRST PROPOSED THE RADIOCHEMICAL METHOD FOR ELECTRON-NEUTRINO DETECTION, WHICH WAS THEN DEVELOPED TO DETECT, IN THE EARLY 1970S, NEUTRINOS FROM THE SUN IN THE HOMESTAKE EXPERIMENT.

IN 1959 PONTECORVO DISCUSSED HOW TO ESTABLISH WHETHER NEUTRINOS PRODUCED IN BETA DECAY AND IN PION DECAY WERE OR NOT DIFFERENT PARTICLES. HIS PIONEERING IDEAS WERE PUT IN PRACTICE IN 1962 AT BROOKHAVEN, AND LED TO THE MUON-NEUTRINO DISCOVERY.

IN 1957 PONTECORVO INTRODUCED THE ORIGINAL CONCEPT OF OSCILLATIONS BETWEEN NEUTRINOS AND ANTINEUTRINOS, AND IN 1967 BETWEEN ELECTRON- AND MUON-NEUTRINOS. HE PROPOSED TO TEST THE OSCILLATION HYPOTHESIS WITH NEUTRINOS FROM DIFFERENT SOURCES. NEUTRINO OSCILLATIONS WERE DISCOVERED IN NEUTRINOS FROM THE SUN AND FROM THE ATMOSPHERE, THEN CONFIRMED WITH ACCELERATOR AND REACTOR NEUTRINOS. THE IMPLICATIONS ON NEUTRINO MASSES AND MIXING OPENED THE FIRST WINDOW ON 'PHYSICS BEYOND THE STANDARD MODEL'.

JOINT INSTITUTE FOR NUCLEAR RESEARCH, DUBNA - 22 FEBRUARY 2013
IN THE PRESENCE OF MEMBERS OF THE JINR SCIENTIFIC COUNCIL
ON THE OCCASION OF THE HUNDRETH ANNIVERSARY OF BRUNO PONTECORVO

ИСТОРИЧЕСКОЕ МЕСТО ЕВРОПЕЙСКОГО ФИЗИЧЕСКОГО ОБЩЕСТВА
КАБИНЕТ БРУНО ПОНТЕКОРВО

БРУНО ПОНТЕКОРВО РАБОТАЛ В ДУБНЕ, НАЧИНАЯ С 1950 Г. И ВПЛОТЬ ДО СВОЕЙ СМЕРТИ В 1993 Г.

ОН ВНЁС ВЫДАЮЩИЙСЯ ВКЛАД В ЯДЕРНУЮ ФИЗИКУ И ФИЗИКУ ЧАСТИЦ И ВНЕДРИЛ НОВЫЕ ЭКСПЕРИМЕНТАЛЬНЫЕ ПОДХОДЫ, ПРИВЕДШИЕ К ФУНДАМЕНТАЛЬНЫМ ОТКРЫТИЯМ. ФИЗИКА НЕЙТРИНО ПОСТОЯННО НАХОДИЛАСЬ В ЦЕНТРЕ ЕГО НАУЧНЫХ ИССЛЕДОВАНИЙ.

ОН ПЕРВЫМ ПРЕДЛОЖИЛ РАДИОХИМИЧЕСКИЙ МЕТОД РЕГИСТРАЦИИ ЭЛЕКТРОН-НЕЙТРИННЫХ ВЗАИМОДЕЙСТВИЙ, КОТОРЫЙ БЫЛ ЗАТЕМ РАЗВИТ В НАЧАЛЕ 1970-Х ДЛЯ РЕГИСТРАЦИИ СОЛНЕЧНЫХ НЕЙТРИНО В ЭКСПЕРИМЕНТЕ ХОУМСТЕЙК.

В 1959 Г. ПОНТЕКОРВО ОБСУЖДАЛ КАК УСТАНОВИТЬ, ЯВЛЯЮТСЯ ЛИ НЕЙТРИНО, РОЖДАЮЩИЕСЯ В БЕТА- И ПИОННЫХ РАСПАДАХ, ОДИНАКОВЫМИ ЧАСТИЦАМИ. ЕГО ПИОНЕРСКИЕ ИДЕИ БЫЛИ ОСУЩЕСТВЛЕНЫ НА ПРАКТИКЕ В 1962 Г. В БРУКХЕЙВЕНЕ И ПРИВЕЛИ К ОТКРЫТИЮ МЮОННОГО НЕЙТРИНО.

В 1957 Г. ПОНТЕКОРВО ВЫСКАЗАЛ ОРИГИНАЛЬНУЮ ИДЕЮ ОСЦИЛЛЯЦИЙ МЕЖДУ НЕЙТРИНО И АНТИНЕЙТРИНО, А В 1967 Г. И МЕЖДУ ЭЛЕКТРОННЫМ И МЮОННЫМ НЕЙТРИНО. ОН ПРЕДЛОЖИЛ ПРОВЕРИТЬ ГИПОТЕЗУ ОСЦИЛЛЯЦИЙ С НЕЙТРИНО ОТ РАЗНЫХ ИСТОЧНИКОВ. ОСЦИЛЛЯЦИИ БЫЛИ ОБНАРУЖЕНЫ В СОЛНЕЧНЫХ И АТМОСФЕРНЫХ НЕЙТРИНО, А ЗАТЕМ СУЩЕСТВОВАНИЕ ОСЦИЛЛЯЦИЙ БЫЛО ПОДТВЕРЖДЕНО ЭКСПЕРИМЕНТАХ С НЕЙТРИНО ОТ УСКОРИТЕЛЕЙ И РЕАКТОРОВ. СЛЕДСТВИЯ, СВЯЗАННЫЕ С МАССАМИ НЕЙТРИНО И ИХ СМЕШИВАНИЕМ, ОТКРЫЛИ ПЕРВОЕ ОКНО В „ФИЗИКУ ЗА ПРЕДЕЛАМИ СТАНДАРТНОЙ МОДЕЛИ“.

ОБЪЕДИНЁННЫЙ ИНСТИТУТ ЯДЕРНЫХ ИССЛЕДОВАНИЙ, ДУБНА — 22 ФЕВРАЛЯ 2013 Г.
В ПРИСУТСТВИИ ЧЛЕНОВ УЧЁНОГО СОВЕТА ОИЯИ
В СВЯЗИ СО СТОЛЕТИЕМ ЮБИЛЕЕМ БРУНО ПОНТЕКОРВО



DUBNA

Florence, Italy – 17 May 2013

EUROPEAN PHYSICAL SOCIETY – EPS HISTORIC SITE

THE HILL OF ARCETRI

THE EUROPEAN PHYSICAL SOCIETY (EPS) HAS DESIGNATED THIS HILL, RICH IN CULTURAL AND SCIENTIFIC INTEREST, AS AN EPS HISTORIC SITE. TRAVELLING UP THE HILL, ON THE FOLLOWING ORDER:

- THE HEADQUARTERS OF THE FORMER INSTITUTE OF PHYSICS, COMMISSIONED IN 1921. A GROUP OF BRILLIANT PHYSICISTS, SUCH AS GILBERTO BERNARDINI, ENRICO FERMI, GIULIO RACAH, FRANCO RASETTI AND BRUNO ROSSI, WORKED HERE. ENRICO FERMI WROTE HIS FUNDAMENTAL WORK ON THE STATISTICS OF ELECTRONS.
- THE NATIONAL INSTITUTE OF OPTICS, FOUNDED IN 1927 BY VASCO RONCHI. THE REBIRTH OF OPTICS IN ITALY.
- THE ASTROPHYSICAL OBSERVATORY OF ARCETRI, BUILT IN 1872 ON THE HILL BY GIOVANNI AMICI AND GIOVANNI BATTISTA DONATI. GIORGIO ABETTI WAS LATER TO PLAN THE REDEVELOPMENT.
- VILLA IL GIOIELLO, LYING HIGHER UP THE HILL JUST OUTSIDE THE COMPLEX. THIS IS WHERE GALILEO 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).

SITO STORICO DELLA SOCIETÀ EUROPEA DI FISICA – EPS HISTORIC SITE

LA COLLINA DI ARCETRI

IN QUESTO LUOGO, DESIGNATO COME SITO STORICO DELLA SOCIETÀ EUROPEA DI FISICA (EPS), SALENDO LUNGO LA COLLINA SI TROVANO EDIFICI DI VALORE STORICO E SCIENTIFICO, NEL SEGUENTE ORDINE:

- LA SEDE DELL'ALLORA ISTITUTO DI FISICA, COSTRUITA NEL 1921 GRAZIE AD ANTONIO GARBASSO, DOVE HA OPERATO UN GRUPPO DI BRILLANTI FISICI QUALI GILBERTO BERNARDINI, ENRICO FERMI, GIUSEPPE OCCHIALINI, GIULIO RACAH, FRANCO RASETTI E BRUNO ROSSI. QUI ENRICO FERMI SCRISSE NEL 1926 IL SUO FONDAMENTALE LAVORO SULLA STATISTICA DEGLI ELETTRONI.
- L'ISTITUTO NAZIONALE DI OTTICA, FONDATA NEL 1927 DA VASCO RONCHI, PROTAGONISTA DELLA RINASCITA DELL' OTTICA IN ITALIA.
- L'OSSERVATORIO ASTROFISICO DI ARCETRI COSTRUITO NEL 1872 SU INIZIATIVA DI GIOVANNI BATTISTA AMICI E GIOVANNI BATTISTA DONATI E AL CUI SVILUPPO CONTRIBUI IN MODO DETERMINANTE GIORGIO ABETTI.
- PIÙ IN ALTO, AI CONFINI DEL COMPRESORIO, È COLLOCATA LA VILLA IL GIOIELLO DOVE GALILEO GALILEI TRASCORSE GLI ULTIMI ANNI DELLA SUA VITA (1631-1642). QUI COMPLETÒ LA SCRITTURA DELLA SUA FONDAMENTALE OPERA "DISCORSI E DIMOSTRAZIONI MATEMATICHE INTORNO A DUE NUOVE SCIENZE" (1638).



Pontecchio Marconi (Bologna), Italy – 26 May 2013

European Physical Society – EPS Historical Site

The Villa Griffone in Pontecchio Marconi

Here, in summer 1895, at the age of 21 Guglielmo Marconi 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 using a transmitter and receiver made by himself. This experiment started in the last century the fundamental studies of the radio waves physics and the developments of today's worldwide wireless communication technology.

Sito Storico della Società Europea di Fisica – EPS

La Villa Griffone di Pontecchio Marconi

Qui Guglielmo Marconi all'età di 21 anni, usando un trasmettitore e un ricevitore da lui stesso costruiti, nell'estate del 1895 stabilì la prima comunicazione a grande distanza tramite onde elettromagnetiche tra la soffitta di Villa Griffone e un punto non in vista dietro la collina dei Celestini a circa 2 km di distanza. Questo esperimento ha dato inizio ai fondamentali studi del secolo scorso sulla fisica delle onde elettromagnetiche e alla diffusione mondiale dell'odierna tecnologia per le comunicazioni via etere.



EPS HISTORIC SITES 2013

→ EPS Historic Site in [Bern, Switzerland](#)
at the 'Einstein Haus' in September 2013



→ EPS Historic Site in [Debrecen, Hungary](#)
at the ATOMKI laboratory in October 2013



EPS HISTORIC SITES 2013

→ EPS Historic Site in [Berlin, Germany](#)
Hahn-Meitner-Bau, Free University Berlin
Former Kaiser-Wilhelm Institute for Chemistry
In December 2013



→ EPS Historic Site in [Kamien Pomorski \(Kammin\), Poland](#)
The Cathedral in October 2013



EPS HISTORIC SITES 2014

→ EPS Historic Site in **Geneva, Switzerland**: the first CERN Synchro Cyclotron (SC) – **60th anniversary of CERN**

NB: In the CERN Council Chamber the EPS Constitution was signed by 62 individual members and 20 national societies, academies and research institutions, including CERN, on 26 September 1968

→ EPS Historic Site in **Innsbruck, Austria**: V.F. Hess high altitude laboratory at Mt Hafelekar – **100th anniversary of cosmic rays discovery**

→ EPS Historic Site in **Barcelona, Spain**: Fabra Observatory – **250th anniversary of the Royal Academy of Sciences and Arts**

... and more proposals already approved by the EPS HS Committee

EPS HISTORIC SITES 2015

Events & sites related to the
International Year of Light



(preliminary)

... and other proposals

EPS HISTORIC SITES



1968 – 2013
45 YEARS
FOR PHYSICS
AND MORE

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
- News associations & subscriptions to EPS
- Enhancement of some 'spirit of belonging' to EPS

Moreover

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

This was the goal!