



The Vesuvius Observatory Museum

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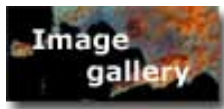
[Palmieri](#)

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Since its foundation the Vesuvius Observatory has been visited both by scientists and local or foreign guests. In 1970, near the [historical edifice](#), a new modern building was constructed for the needs of modern research. From this time the historical edifice was the naturally destined place for the storage of the valuable mineralogical, histrumental and artistic collections owned by the Observatory.



Since April 2000, the Vesuvius Observatory museum has hosted an exhibition entitled [Vesuvius: 2000 years of observation](#), organised by the Vesuvius Observatory in conjunction with the Civil Protection authorities. The museum offers guided tours of the exhibition as well as lectures, conferences and seminars.



The Vesuvius Observatory's [historic Library](#) houses a rich collection of works on vulcanology, seismology and meteorology and some interesting general works on the subject of Earth Sciences.

[more](#)



The [old instruments](#) used by scientists and researchers over the centuries.

[more](#)



[The History](#) of the Vesuvius Observatory.

Paintings and sculptures

[Frescoes in the Palmieri room](#)

Historic texts

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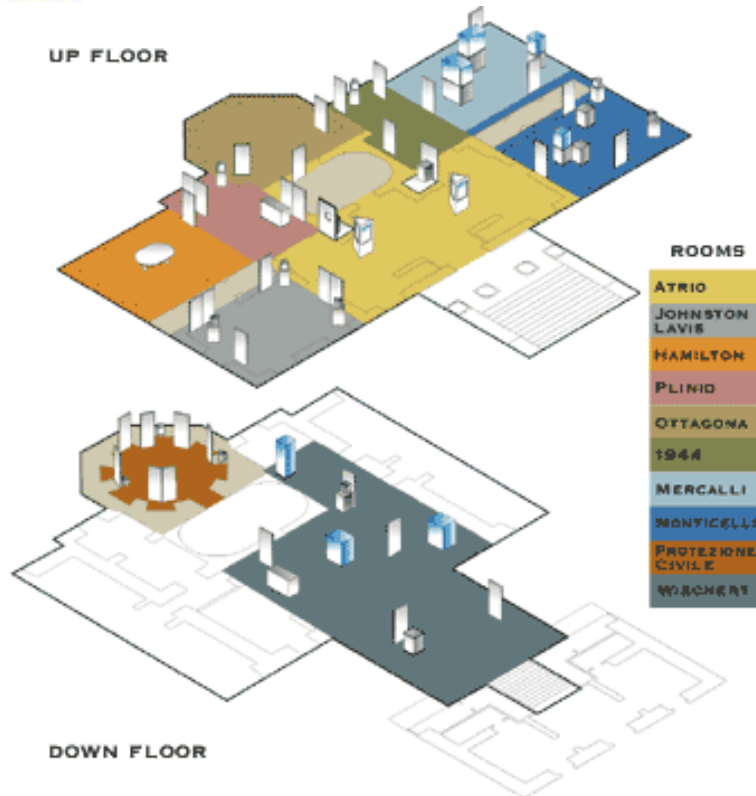
[16th century texts](#)

[17th century texts](#)



The Vesuvius Observatory exhibition

Vesuvius: 2000 years of observation



Room Plan

Free entrance

Brief guide to the exhibition

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[How to get there](#)



info@ov.ingv.it

The exhibition takes the visitor on a fascinating tour through the world of volcanoes.

It starts off with a description of the various types of eruption and how dangerous they are, and finishes with observation, in real time, of seismic and geochemical data recorded by the Vesuvius Observatory surveillance team. And everything is brought to life with the aid of video clips, illustrations, collections of rocks and minerals, historical instruments, books, paintings...

It is also possible to look through the camera's eye deep into the craters of Vesuvius, Etna, Vulcano and Stromboli.

The exhibition is housed in the old Bourbon building on Vesuvius. To find out [how to get there](#), click [here](#).

One of the Observatory guides will show visitors round. Opening times:

Monday to Friday 9am – 2pm - schools and groups – advanced booking necessary

Saturday and Sunday 10am – 2pm - open to the public

For information and bookings phone 081 6108483 (from Monday to Friday, 9am – 1pm)

THE HISTORY OF THE VESUVIUS OBSERVATORY



The Vesuvius Observatory is the oldest scientific institution devoted to the study of volcanoes as it dates back to 1841. The [historical site](#) of the Observatory is an elegant neo-classical structure, designed by **Gaetano Fazzini**, on the slopes of Mt Vesuvius, on Colle del Salvatore, between Herculaneum and Torre del Greco, at 608 metres above sea level.

The chosen site was particularly suitable because it was sufficiently far away as to be out of range of ballistic ejecta and high enough on the little hill of Colle del Salvatore not to be at risk from lava flow.

*"Signori, noi abbiamo rapiti i fulmini al cielo;
ma quel che è e quel che segue a poca
profondità
sotto questa terra che tutti calpestiamo
e dove tutti abbiamo vita e morte,
è ancora un gran mistero per noi.
Dio mi guardi di presumere tanto di me stesso,
ch'io ardisca promettermi di sollevare questo
grave velo,
dove mani sterminate più vigorose
sentirono pur troppo la loro impotenza."*

*"Gentlemen, we have managed to seize thunder
from the skies;
but what there is and what lies just below where
we walk from which all of us arise and return to
after our death is still largely a mystery to us.
God forgive me for being so presumptuous, but I
am desperate to raise this dark veil,
though more vigorous hands were destroyed in
the attempt and unfortunately forced to recognise
their impotence"*

(Melloni, 1845: speech for the opening ceremony of the *Vesuvius Meteorological Observatory*).

One of Melloni's friends was the eminent geologist, Alexander von Humboldt, a confirmed believer in plutonism, the theory whereby rocks are said to be the product of endogenous phenomena happening beneath the earth's surface. Melloni upheld this theory too. It was Von Humboldt who encouraged the Bourbon Court to appoint Melloni.

10 July 1839 The King appointed Macedonio Melloni as Director of the Observatory. He initially requested that the Observatory be built on the Riviera di Chiaia because he was afraid that the "magnetic lava would affect the working of their magnetic instruments". His request was turned down.

1841 Building work started both on the Observatory and the road that would link it to Resina. Melloni managed to get grants to buy Meteorological and Physics instruments.

1806 The Bourbon government asked for the Observatory to be built and the request was repeated in 1829 by [Teodoro Monticelli](#), permanent Secretary for the Academy of Science in Naples.

1839 King Ferdinand II agreed to the construction of the Observatory. It was the intention of the King and his minister, Nicola Santangelo, a fervent supporter of technological and scientific progress, that the Observatory be a place of research and observation of natural phenomena.

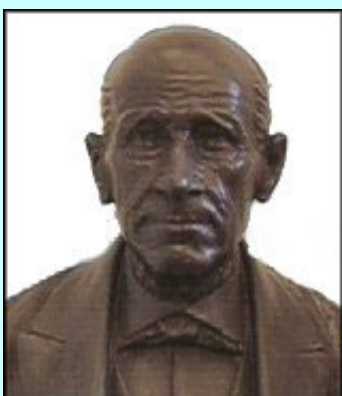
A renowned physicist of the period, [Macedonio Melloni](#), was appointed Director. He had spent long periods in London and Paris working on joint projects with eminent foreign scientists, and his own research was into the propagation of heat and the earth's magnetic field. One of his major discoveries was that light, heat and chemical radiation are all of the same nature. Melloni was a man of liberal ideas and it was because of this that he lost his position at the University of Parma where he taught physics.

1845 The Observatory was officially opened, even though building work was not finished, to coincide with the VII Congress of Italian Scientists.

Melloni presented a paper on volcanology at the Congress, where, in accordance with plutonist theory, he stated that volcanoes with double surround like Somma-Vesuvio, had a very deep reservoir of magma.

16 March 1848 The Observatory was operative, just two months before the freedom marches started. Melloni was still suspected of republican sympathies and fraternisation and fell into disgrace at court and was removed from the Directorship on 6 November 1849.

In 1852, Luigi Palmieri, Professor of Philosophy at the University of Naples, was given permission to use the Observatory for his work.



8 December 1855 Luigi Palmieri was appointed Director. A meteorological tower was built and some of the instruments Melloni had bought in Paris were installed here. Most of the rest of Melloni's acquisitions are still in the hands of the Physics Department at the University of Naples.

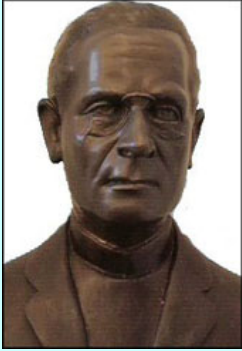
In the [Vesuvius Observatory Annals](#), a scientific journal which he founded and continued to edit until his death, Palmieri left us a detailed account of the eruptions between 1855 and 1872, particularly the 1858 and 1872 eruptions.

In 1860, Luigi Palmieri became Professor of Earth Physics and it began a period of close and prolific collaboration between the Observatory and the University. Palmieri focused on the study of atmospheric electricity and designed the first electromagnetic seismograph which measured and recorded the intensity, duration and origin of seismic tremor. Another of his inventions worthy of mention is the double barrelled electrometer. It was his studies and observations that led to instrument-based surveillance of Mt. Vesuvius and eventually of all other active volcanoes too.

In 1872, a dramatic event occurred. A group of students, anxious to observe the volcanic phenomenon at closer quarters, were killed by a lava flow which unexpectedly was emitted from the north-west side of the volcano. Palmieri was in Naples at the time to make recordings and he was so shaken by what happened that he never left the Observatory. A few days later and the building was dangerously surrounded by lava. Palmieri stayed where he was to observe and record events and his courage, as well as the work he achieved, led to him being made Senator of the Realm.

The government also decided to install a telegraph at the observatory to facilitate communications and to avoid the sensation of isolation which generated so much fear. This move on the government's part was an early example of civil protection – an action aimed at protecting people living near active volcanoes.

1903 After Palmieri's death, and a brief period with **Eugenio Semmola** at the helm, **Raffaele Vittorio Matteucci** was appointed Director of the Observatory. He applied himself with courage to the observation of the eruptions, particularly the 1906 eruption which he followed from the Observatory, sending out dramatic accounts of events down the telegraph lines. Matteucci was also awarded a gold medal for his courageous work.



1911 [Giuseppe Mercalli](#) took over from Matteucci as Director until 1914.

Mercalli devoted his life to research into volcanology and seismology. He made careful recordings of all the major earthquakes and volcanic eruptions during his forty years of work as a scientist. His achievements include the invention of a scale to measure the intensity of earth tremors based on the effects produced, named after him, and the classification of volcanic eruptions.

1927 Of Mercalli's successors, [Alessandro Malladra](#) is worthy of note (Director from 1927 to 1935), for many years the secretary of the International Volcanology Committee, and also the physicist [Giuseppe Imbò](#), who made the Observatory more efficient by adding geophysical equipment like that used by the Japanese observers which enabled him to predict the 1944 eruption of Mt. Vesuvius.

In the last decade the Vesuvius Observatory has seen continued growth of its scientific interests, even in the field of earthquake monitoring and in other sectors, such as the study of ground deformation, the determination of gravimetric field, and so on.

Current interests extend from Geophysics, to Volcanology, Geodesy and Geochemistry. In addition the Observatory carries out 24 hour monitoring and constitutes an official point of reference for the Civil Protection authorities, at national and local level, as regards planning for an emergency connected to volcanic phenomena.

The Observatory has an important educational role too, with many projects, such as seminars, training courses for teachers, and the distribution of reports and brochures explaining its functions. The old Bourbon construction houses a permanent [exhibition](#) which takes the visitor on a guided tour through the world of volcanoes. Scientific instruments, and rock and mineral samples can be seen, which are the result of the centuries of work carried out here. National and international conferences are held on this prestigious site.

The Vesuvius Observatory cooperates directly with many international research institutes and welcomes a large number of researchers from all over the world.

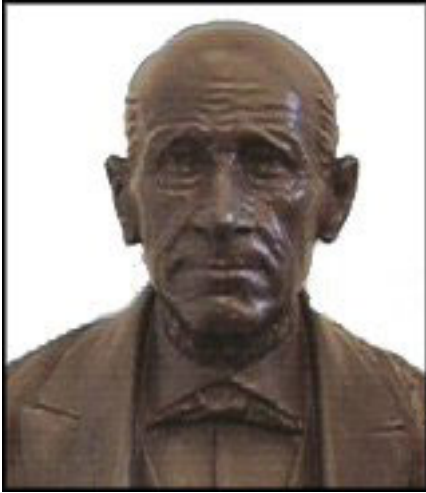
Macedonio Melloni (Parma, 1798 - Napoli, 1854)

When he was younger he studied at the Polytechnic in Paris. On his return to Parma he was appointed professor of Physics at the Ducale University. He devoted his time to meteorology (barometry, thermometry and hygrometry) and then, when he moved to Geneva in 1831 he carried out research into radiant heat. He worked in Paris with Leopoldo Nobili on the same subject, researching thermomultiplication. Faraday recommended that he be awarded the Royal Society of London's Rumfordian medal for his work in 1835. A three-member committee of Arago, Biot and Poisson, also made him correspondent Member for General Physics at the French Institute.

In 1839 Ferdinando II of the Bourbons asked him to return to Naples as Honorary Professor of Physics and Director of the emerging Vesuvius Observatory. Melloni was removed from public duty after his involvement in the Republican demonstrations of 1848. However, because of his scientific merit, he was granted exile in Portici at Villa Moretta, and he devoted the long period he spent there to furthering his studies into the properties of radiant energy and he achieved significant results. Physics research flourished during this period in Naples and the University laboratories acquired new and innovative scientific apparatus.

Melloni designed an ingenious electroscope for his studies which had very different features from its foil predecessors. The instrument was made by the builder **Saverio Gargiulo** and was not completed until 1855 after Melloni's death. The instrument is described in detail in a manuscript which Melloni wanted to present at the Congress of the Naples Academy of Science. He died a few days before the Congress and so his manuscript had to be read by **Antonio Nobile** (1794 – 1863), an eminent astronomer from the Capodimonte Observatory in Naples.

On Melloni's death, his widow sold all his equipment, including instruments he bought in Paris and London for the Observatory then never used, to the Physics School. When the Bourbon monarchy collapsed all these instruments were handed over to the Physics Laboratory at the University of Naples which was founded in 1861.



Luigi Palmieri

(Faicchio, 1807 - Napoli, 1896)

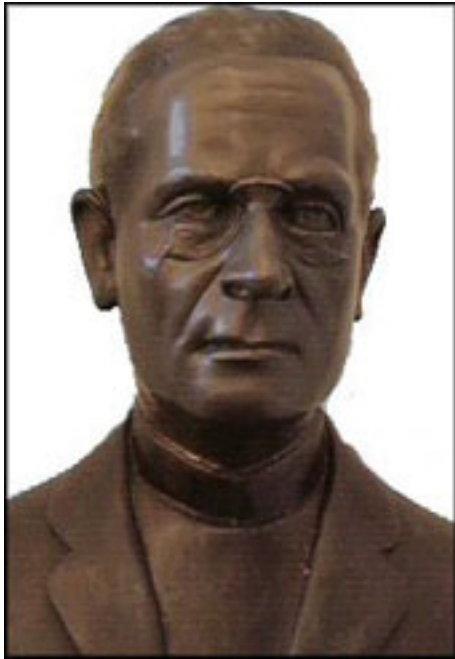
A famous academic in the field of atmospheric electricity, seismology and volcanology. he graduated in Physical Science and Maths from Naples in 1825 and later got a degree in Philosophy. He opened a private studio in the ex Nobili seminary. He taught at the Medico-Cerusico College and the Royal Marine College. In 1847 he was appointed Professor of Logic and Metaphysics at the University of Naples, Pasquale Galluppi's chair. Later, in 1869, he was offered the Professorship of Earth Sciences and Meteorology. He served as Director of the Vesuvius Observatory from 1855 to 1896.

He invented an [electrometer](#) which won the Lisbon Academy of Sciences award in 1855 and was presented at the International technology Fair in Vienna in 1874. In 1856 he also invented a famous, sophisticated [seismograph](#) which he used on Mt. Vesuvius to record the earth tremors which are the precursor to an eruption. The Japanese government bought a copy of the same seismograph at this time for the Meteorological Agency of Tokyo.

He was the first academic to prove that movement of the earth's surface is a precursor to eruptions and to measure the scale of the movement. His studies of the 1858, 1861, 1868 and 1872 eruptions were very important and descriptions of these were published in the "[Vesuvius Observatory Annals](#)", a journal which he set up and published between 1859 and 1873.

After the massive 1872 eruption of Vesuvius he made sure that a telegraphic station was set up at the Observatory so that data about the volcanic activity could be sent to Naples.

He was made Senator of the Realm, Chief Officer of the Mauriziano Order, Lord of Civil Merit of Savoia and, in 1876, Local Councillor for the City of Naples.



Giuseppe Mercalli

(Milano, 1850 -
Napoli, 1914)

Vulcanologist and priest, Mercalli studied geology at the Abbey in **Stoppani**. He started teaching at Monza and then went to Reggio Calabria in 1885 and from there to Naples in 1892.

He taught mineralogy and geology at the University of Catania, volcanology at the University of Naples and then took over from **Matteucci** as Director of the Vesuvius Observatory in 1911. His studies in the field of seismology and volcanology earned him international fame. He designed a scale for measuring the intensity of earth tremors which is universally known by his name, and a way of categorising volcanic eruptions. Amongst his numerous publications we would like to remind you of “Active Volcanoes of the World” (1889).

Alessandro Malladra (Torino, 1865 - Roma, 1944)

A teacher at the Rosmini College in Domodossola until he was appointed by **Mercalli** as his assistant at the Vesuvius Observatory. After Mercalli's death, he became curator then later director of the Observatory from 1927 until 1935. He was also General Secretary of the Volcanology Section of the International Union of Geodesics and Geophysics from 1919 until 1936. He was President of this same Union from 1930 until 1933. He restructured the meteorological service and was also responsible for organising gravimetric and altimetric surveys on Mt. Vesuvius.

He constantly studied and observed the Volcano's eruptive activity, particularly the morphology of the crater. He published a series of articles in the [Vesuvius Observatory Annals](#) and was an excellent publicist for information regarding Mt. Vesuvius and its activities.



Giuseppe Imbò

(Procida,
6/12/1899 -
Napoli
19/11/1980)

Geofisico, sismologo, fu prima assistente di Alessandro Malladra all'Osservatorio Vesuviano, poi, dal 1929, direttore dell'Osservatorio di Catania. Venne nominato direttore dell'OV nel 1935; l'anno successivo ottenne inoltre la cattedra di Fisica Terrestre dell'Università di Napoli. Imbò diede inizio a un vasto programma di lavori di riammodernamento della struttura dell'OV, che prevedeva la sostituzione di alcune strumentazioni soprattutto sismiche con altre più idonee. Tale programma tardò a realizzarsi a causa dell'avvento della seconda guerra mondiale; non vennero tuttavia mai sospese le osservazioni meteorologiche, vulcanologiche e sismiche, anche quando l'Osservatorio vesuviano fu requisito dalle truppe alleate. In queste circostanze avvenne l'eruzione del 1944, che Imbò studiò approfonditamente, nonostante i pochi mezzi a sua disposizione.

Il programma di riammodernamento fu ripreso al termine della guerra, e con Imbò iniziò una stretta collaborazione dell'OV con l'Istituto Nazionale di Geofisica, e con ricercatori giapponesi. Gli studi di Imbò riguardarono soprattutto la vulcanologia fisica e la sorveglianza geofisica dei vulcani.*



The Vesuvius Observatory historic Library

[Texts from 16th and 17th centuries](#) [The Vesuvius Observatory Annals](#)

The Vesuvius Observatory's **historic Library** originally started off as part of [Teodoro Monticelli](#)'s private collection (1759-1845) which was later acquired by **Arcangelo Scacchi** (1810-1893) before becoming the property of the Observatory at the request of the then director [Luigi Palmieri](#) (1807-1896).

A first list of the contents of the collection was compiled by Palmieri. He reports that the works present in the library collection when he took over as director number five hundred plus 9 unedited manuscripts. Other brief lists were subsequently drawn up. A large number of books were bought by [Giuseppe Mercalli](#) (1850 – 1914) to support and document his precious research into the history of vulcanology and seismology. Over subsequent years, up to and including the time of [Alessandro Mallandra](#) (1865 – 1944) and **Giuseppe Imbò** (1899 – 1980) the Observatory would continue to add to its collection on the same topics.

Some of the oldest books in the Vesuvius Observatory's historic library are [10 sixteenth century books](#) and [54 seventeenth century books](#). Most of the latter focus on the 1631 eruption of Mt. Vesuvius. The sixteenth century texts, (in Latin for the most part) as well as the seventeenth century ones are included in the [attached bibliography](#). We would like to point out the importance of **Ignazio Sorrentino**'s⁷ work (1663 – 1737). He kept precise records of all the Vesuvius eruptions between 1690 and 1730. His general information about volcanic deposits like the "Campanian Tufo" is invaluable, as are his observations about the sedimentology of volcanic products. Another eighteenth century work which deserves mention is that of **Francesco Serao**⁸ (1702 – 1783) a wonderful monograph on the 1737 eruption which he wrote in his capacity as Secretary of the Science Academy, founded in 1734 by **Celestino Galiani**. The work was commissioned by Charles III of the Bourbons at the beginning of his reign because, having seen the treasures the first excavations at Herculaneum revealed, he was keen to know more about the protagonist of this extraordinary event i.e. Mt. Vesuvius. There is coverage of the whole of the eighteenth century because the Bourbon government commissioned important people within their Administration to compile reports on the most violent eruptions and their consequences.

- **Giuseppe Maria Mecatti**⁹, a civil servant working for the Royal Intendenza at the Palace in Portici,
- **Giovanni Maria Della Torre**¹⁰ (1710 – 1782) librarian at the Bourbon Museum,

- **Gaetano De Bottis**¹¹ (1721 – 1790), Professor of Natural History at the University of Naples,
- **Ascanio Filomarino** (1749 – 1799)
- **Scipione Breislak**¹² (1748 – 1826) a famous geologist who wrote, with **Antonio Winspeare** a brief but significant report on the enormous, unusual eruption of 1794.

The most important work after those about the eighteenth century eruptions is the book by **Teodoro Monticelli** and **Nicola Covelli** about the 1822 eruption ¹³ the worst eruption that century. What is significant about this work is the detailed observation of the way sedimentation and stratification of the pyroclastic products occurred. Another important work, a landmark in the history of geology, is another book written by Monticelli and Covelli in 1825 entitled *Prodromo della Mineralogia vesuviana*. This is based on countless observations the two of them recorded working in Monticelli's private laboratory using highly-accurate microscopes and careful chemical analysis. Soon afterwards, **Leopoldo Pilla's**¹⁴ important series of observations starts. These were mainly published in the journal *Il Progresso*¹⁵. The Observatory has recently acquired these writings.

His works focus on the 1834 and 1839 eruptions. Over these same five years, plans to build an Observatory on Vesuvius were developed and carried out. Work was finished in 1845 the same year the **Arcangelo Scacchi** (1810 – 1893) and **Luigi Palmieri's** work was published. We would like to make particular mention of **Arcangelo Scacchi's** work on the 1850 eruption¹⁶ and the work by **Scacchi, Giuseppe Guarini** and **Luigi Palmieri** on the 1855 eruption¹⁷. These two monographs are included in the *Acts of the Science Academy*. Later works worthy of mention are Palmieri's accounts of the 1861, 1868 and 1872¹⁸ eruptions, published in the *Vesuvius Observatory Annals*, a journal he founded in 1859. We should also note here **Charles Saint-Claire Deville's** work on fumaroles¹⁹ which he published in a series of letters to his teacher **Elie de Beaumont**. Amongst **Giuseppe Mercalli's** many works we would like to note those on the huge eruption of the island of Vulcano in 1888 – 1889, on the Ligurian earthquake of February 23rd 1887, on the Andalusian earthquakes and his series of important observations on the Vesuvian eruptions (*News from Vesuvius*) which were published regularly in the *Italian Society of Seismology's Bulletin* between 1891 and 1906. Apart from Italian writers' works there are also important works by W. Hamilton, **J. Schmidt**¹, **J. Roth**², **C. Fuchs**³, **J. Phillips**⁴. Later noteworthy works include those by **H.J. Johnston-Lavis**⁵ and **Frank A. Perret**⁶ on the 1906 eruption. Other events apart from the Vesuvius eruptions that caught the attention of academics were the Casamicciola (Ischia) and Messina earthquakes of 28 July 1883 and 28 December 1908 respectively.

Periodicals

Of the historic periodicals the Vesuvius Observatory stocks, those most worthy of note are the [Vesuvius Observatory Annals](#), particularly the editions containing:

Luigi Palmieri's series, published between 1859 and 1873; the series edited by the Volcanology Committee, **Chistoni, De Lorenzo, Zambonini** and **Dainelli**, published during the Twenties; the series edited by **Alessandro Malladra**, published between 1927 and 1932; the series edited by **Giuseppe Imbò** between 1944 and 1970.

Other journals include:

- *The Bulletin of the Italian Society of Seismology* (1895 – 1937)
- *The Bulletin of the Italian geological Society* (from 1882 onwards)

Journals which are particularly significant as far as the history of Neapolitan Science and Culture are concerned are:

- *Documents of the Royal Institute for the Promotion of Natural Sciences, Naples* (1863-1921)
- *Documents of the Pontanian Academy* (1893 – 1933)
- *Documents of the Royal Academy of Science of Naples* (1819 – 1970)
- *The Bulletin of the Naples Naturalist Society* (1891 onwards)
- *Documents of the Naples Academy of Archaeology, Literature and Art* (1880 – 1902)

Bulletins published by certain American geological societies are of particular significance to the history of Geology:

- *Annual report of the United States Geological Survey, Washington* (1880 – 1902)
- *Annual report of Iowa Geological Survey* (1895 – 1929)
- *Annual report of the Board of Regents of the Smithsonian Institution* (1890 – 1970)
- *Bulletin of the National Research Council* (1924 – 1951)

As far as the history of volcanology is concerned we would like to draw your attention to *Zeitschrift fur Vulkanologie* (1914 – 1936) the volcanology journal edited by **Immanuel Friedlander**. Also worthy of mention are the recordings of various meteorological, magnetic and seismological observers from around the world including:

- *Bulletin du Bureau Central Seismologique Francais, published by the Institute of World Physics in Strasbourg*
- *Annals of the Central Physics Observatory of Russia* (1850 – 1887)
- *Annals of the Royal Observatory of Belgium*
- *Swedish meteorological observations published by the Swedish Royal*

Academy of Sciences (1861 – 1905)

- *Annals of the Imperial Observatory, Rio de Janeiro.*

There are other bulletins too from France (for example *The Meteorological Annals of France 1850 – 1859*), from Greece, from Romania, From Albania, Hawaii, India, Mexico, Canada, Spain (*Meteorological Observations from the Madrid Observatory*) South Africa etc. These periodicals were sent to the Observatory as an exchange.

We must also point out a few Japanese scientific journals, some of which are particularly prestigious:

- *Japanese Journal of Geology and Geography published by the National Research Council of Japan, Tokyo (from 1922 onwards);*
- *Japanese Journal of Astronomy and Physics (from 1942 onwards);*
- *Bulletin of the Earthquake Research Institute of Tokyo (from 1926 onwards);*
- *Journal of the Faculty of Science, University of Hokkaido.*



The original site of the Vesuvius Observatory

The historical site of the Vesuvius Observatory is an elegant building in neodoric style, as designed by Gaetano Fazzini (1806-1878); the construction workers were busy from 1841 until 1848, when the building was definitively handed over to the director Macedonio Melloni, although the inauguration of the observatory had already taken place in 1845, on the occasion of VII Congress of Scientists in Naples. It is situated on Colle del Salvatore, at 608 m above sea level and can be reached by following a short side road, off the road which leads to the crater of Vesuvius.

The building stands three storeys high. The facade is south facing and has two levels with independent entrances, one above the other. The top one forms the real monumental entrance with its portico and supporting colonnade; access is from two adjoining lateral stone staircases. On the main facade, two marble discs are engraved with a sundial and the months of the calendar. In the centre there is a rectangular stone to commemorate the foundation of the Observatory at the wishes of the king, Ferdinando II.

The large, panoramic terraces on the first and second floors are designed for external observation. On the first floor the elegant octagonal room (the so-called "Sala Ottagona") was designed to house the marble bust of Ferdinando II, sculpted for the occasion by Tito Angelini (1804-1878).

Palmieri Room



The ballroom – known as the Palmieri room now – is on the second floor of the Observatory's historic building. It boasts six niches surrounded by pilaster strips with capitals and tympanums with decorated framework and plaster inscriptions. Gennaro Maldarelli (1795-1858) was commissioned to do the ceiling work. Of the nine original paintings, only the five central ones have survived, and we owe their recovery to recent complex restoration work:



Minerva crowning Prometheus



Vulcan's foundry



Eolus commanding the winds



*A typhoon
A tornado*

The last two works, which hang at each end of the room, are strange representations of these weather events and offer a simplified interpretation of scientific-meteorological phenomena whereby "air, sea and land are in harmony". These, along with the fire symbolised by Vulcan, constitute nature's four primordial elements. In terms of composition, the elliptical rainbow which links them means that they form a framework for the other pictures which illustrate the main theme. The mythological scene of Minerva is symbolic homage to the benevolence of the Bourbon king who, in the guise of a young man, represents youthful Science with his torch in hand.

There are Latin inscriptions on two walls, translated below (by Antonio Nazzaro).

1. (South wall)

"Ferdinando II devoted to the promotion of Science decided to build an Observatory to observe and record noteworthy events between heaven and earth and to investigate the causes of the Vesuvian conflagrations and not only in Italy, but in all the lands where such an observatory is needed, even the summit should be accessible by road with tortuous bends carved out of the hillside. And he gave it all the equipment it needed as well as a well-stocked library."

2. (North wall)

"These rooms made a significant contribution to the study of natural phenomena. Ferdinando II, inspired by the generosity of his forebears and father, founded the observatory on 3rd September 1841 by laying the long-awaited foundation stone. The Observatory is enhanced by works of art and equipped with scientific instruments of every description. The building was opened on 28th September 1845 on the occasion of the 7th Congress of Natural Sciences in Naples."



The Vesuvius Observatory Annals

Annali del Reale Osservatorio Meteorologico Vesuviano,
compilati da Luigi Palmieri Volume I (1859)

Annali del Reale Osservatorio Meteorologico Vesuviano,
compilati da Luigi Palmieri, Volume II (1860, '61 e '62)

Annali del Reale Osservatorio Meteorologico Vesuviano,
compilati da Luigi Palmieri, Volume III (1862-'64)

Annali del Reale Osservatorio Meteorologico Vesuviano,
compilati da Luigi Palmieri Volume IV (1865-69)

Annali del Reale Osservatorio Meteorologico Vesuviano,
compilati da Luigi Palmieri- Nuova Serie - Anno I (1873)

Annali del R. Osservatorio Vesuviano,
3^a serie, a cura del Comitato Vulcanologico della R. Università di Napoli, Vol. I-
Anno 1924

Annali del R. Osservatorio Vesuviano,
3^a serie, a cura del Comitato Vulcanologico della R. Università di Napoli, Vol. II-
Anno 1925

Annali del R. Osservatorio Vesuviano,
3^a serie, a cura del Comitato Vulcanologico della R. Università di Napoli, Vol. III
- Anno 1926

Annali del Reale Osservatorio Vesuviano,
4^a serie, a cura di A. Malladra, Volume I (1927-28)

Annali del Reale Osservatorio Vesuviano,
4^a serie, a cura di A. Malladra, Volume II (1929-30)

Annali del Reale Osservatorio Vesuviano,
4^a serie, a cura di A. Malladra, Volume III (1931-32)

Annali dell'Osservatorio Vesuviano,
5^a serie, a cura di G. Imbò Volume unico celebrativo del primo centenario
dell'Osservatorio Vesuviano - 1949

Annali dell'Osservatorio Vesuviano,
6^a serie a cura di G.Imbò Vol. I, Anno 1952

Annali dell'Osservatorio Vesuviano,
6^a serie a cura di G.Imbò Vol.II, Anno 1956

Annali dell'Osservatorio Vesuviano,
6^a serie a cura di G.Imbò Vol. III, Anno 1959

Annali dell'Osservatorio Vesuviano,
6^a serie a cura di G.Imbò Vol. IV, Anno 1962

Annali dell'Osservatorio Vesuviano,
6^a serie a cura di G.Imbò Vol. V, Anno 1963

Annali dell'Osservatorio Vesuviano,
6^a serie a cura di G.Imbò Vol. VI, Anno 1964

Annali dell'Osservatorio Vesuviano,
6^a serie a cura di G.Imbò Vol. VII, Anno 1965

Annali dell'Osservatorio Vesuviano,
6^a serie a cura di G.Imbò Vol. VIII, Anno 1966



The Vesuvius Observatory historical texts



XVIth century texts

- **Alberti F. Leandro**
Descrizione di tutta l'Italia
ed. Degli Avanzi Lodovico, Venezia 1568
 - **Alberti F. Leandro**
Isole appartenenti all'Italia
ed. Degli Avanzi Lodovico, Venezia 1567
 - **Buoni Iacomo Antonio**
Del terremoto. Dialogo distinto in quattro giornate
ed. P. Gadalini & Fratelli, Modena 1571
 - **Dionisio di Alicarnasso**
De situ orbis
ed. Cerni Eucarium, Colonia, 1530
 - **Dionisio di Alicarnasso**
Oikoumenes periegesis
(edizione in greco di *De situ orbis*) Parigi, 1538
 - **Imperato Ferrante**
Dell'istoria naturale. Libri XXVIII nella quale ordinatamente si tratta della diversa condition di miniere e pietre. E con alcune historie di piante et animali fin'hora non date alla luce
ed. Stamperia di Porta Reale, Napoli 1599
 - **Leonis Ambrosi**
De Nola opusculum
ed. Rubri Joannis, Venetiis 1500
 - **Merula**
"Conflagratio Vesevi montis ex Dione per supratictum Merulam" (in *Iustinii Historia ex Trogo*)
Firenze, 1510
 - **Uinandum Stephanum** (Pighio Stefano Uinando)
Ercules prodicius seu principis iuventutis vita et peregrinatio,
Antverpiae, 1587
-



XVIIth century texts

- **AA.VV.**
Lettere memorabili, istoriche, politiche ed erudite scritte e raccolte da Antonio Bulifon
ed. A. Bulifon, Napoli 1685
- **Acerbi Francesco**
Polypodium Apollineum
ed. Francesco Paci, Napoli, 1674
- **Adami Pietro**
Napoli liberata dalle straggi del Vesuvio
Napoli, 1633
- **Agnello di Santa Maria de' Scalzi Agostiniani d'Italia**
Trattato scientifico delle cause che concorsero al fuoco et terremoto del Monte Vesuvio vicino Napoli
ed. Scoriggio L., Napoli 1632
- **Anonymous**
La Talia del Monitio
ed. Camillo Cavallo, Napoli, 1647
- **Balducci Francesco**
Rime. Gli incendi del Vesuvio, discorso Accademico
Venezia, 1655
- **Beltrano Ottavio di Terranova di Calabria Cirra**
Vesuvio centone
Napoli, 1633
- **Bonito Marcello**
Terra tremante ovvero continuazione de' terremoti dalla creazione del Mondo sino al tempo presente in cui....
ed. Parrino Antonio e Mutio Michele Alfonso, Napoli 1692
- **Bottoni Dominici**
Pyrologia topographica idest de igne dissertatio juxta loca cum eorum descriptionibus
ed. Parrino Domenico Antonio e Mutio Michele Alfonso, Napoli 1692
- **Braccini Giulio Cesare**
Dell'incendio fattosi sul Vesuvio a XVI di Dicembre MDCXXXI e delle sue cause ed effetti, con la narrazione di quanto è seguito in esso per tutto marzo 1632. E con la storia di tutti gli altri incendi, nel medesimo monte avvenuti
ed. Roncagliolo Secondino, Napoli 1632
- **Calà Carlo**
Memorie storiche dell'apparizione delle croci prodigiose
ed. De Bonis Novello, Napoli 1661
- **Capaccio Giulio Cesare**
La vera antichità di Pozzuolo descritta da Giulio Cesare Capaccio, Segretario dell'Inclita città di Napoli. Ove con la storia di tutte le cose del contorno si narrano la bellezza di Posillipo, l'origine della città di

Pozzuolo, Baia, Miseno, Cuma, Ischia, riti, costumi...

ed. De Rossi Filippo, Roma, 1652.

- **Da Secinara Filippo**

Trattato universale di tutti li terremoti occorsi e noti nel mondo con li casi infausti ed infelici pressagiti da tali terremoti

ed. Gobbi Gregorio, L'Aquila 1652

- **Danza Eliseo** (da Montefusco)

Breve discorso dell'incendio succeduto a' 16 di dicembre 1631 nel Monte Vesuvio e luoghi circumvicini et tremuoti nella città di Napoli

ed. Valerij Lorenzo, Trani 1632

- **De Arminio Jean Dominici**

De terremotibus et incendiis eorumque causis et signis naturalibus, et sopranaturalibus. Item de flagratione Vesuvii eiusque mirabilibus leentis et auspicijs

ed. Scoriggio Lazzaro, Napoli 1632

- **De Eugenij Frat'Angelo da Perugia**

Il meraviglioso e tremendo incendio del Monte Vesuvio detto a Napoli la Montagna di Somma nel 1631. Ove si raccontano distintamente tutte l'ationi e successi in detto Monte, suoi luoghi adiacenti, et a Napoli con un discorso metereologico o filosofico degli effetti naturali che

ed. Beltrano Ottavio, Napoli 1631

- **De Quinones Ivan**

El Monte Vesuvio aora la montana de Soma

ed. Ano Juan Goncales, Madrid 1632

- **De' Pietri Francesco**

I problemi accademici

ed. Francesco Savio, Corte Arcivescovile Napoli, 1642

- **Destiti Iulii Caesaris**

Polyhymnia sive sylvarum libri tres

ed. Iacobus Gassarus, Napoli, 1644

- **Di Tura Nicolò Antonio**

Degli aborti poetici. Parte prima e parte seconda

Venezia, 1668

- **Eilert Johann Christoph**

De montibus ignivomis, praeside M. Georg Casp. Kirchmaiero

ed. Porckardi Johannis, 1661

- **Elisei Nicolai Augeti** (Eliseo Nicolao Angelo)

Rationatis methodus curandi febres flagrante Vesevo subortas. Ad futuri saeculi memoriam miserandi Vesuvij casus accessit enarratio

ed. Roncagliolo Secondino, Napoli 1645

- **Elisei Nicolai Augeti** (Eliseo Nicolao Angelo)

Rationalis methodus curandi febres flagrante Vesevo subortas. Pars secunda

ed. Aegidium Longu, Neapoli, 1634

- **Falcone Scipione**

Discorso naturale delle cause et effetti causati nell'incendio del Monte Vesuvio con relazione del tutto

- ed. Beltrano Ottavio, Napoli 1632
- **Giorgi Urbano**
Scelta di poesie nell'incendio del Vesuvio
ed. Francisci Corbelletti, Roma, 1632
 - **Giuliani Gianbernardino**
Trattato del monte Vesuvio e de' suoi incendi
ed. Egidio Longo, Napoli 1632
 - **Glielmo Antonio**
L'incendio del Monte Vesuvio. Rappresentazione spirituale. Seconda impressione rivista dall'Autore
ed. Montanaro Domenico, Napoli 1634
 - **Guicciardini Celestino**
Mercurius Campanus
ed. Novello de Bonis, Napoli, 1667
 - **Ittigii Thomas M.**
Lucubrationes Academicae de montium incendiis montium catalogum
ed. Wittigan Joh., Lipsiae, 1671.
 - **Kircher Athanasius**
Mundus subterraneus, in XII libros digestus, quo divinum subterrestris mundi opificium
ed. Jansonium J, Amsterdam 1668
 - **Latini Antonio**
Lo scalco alla moderna, ovvero l'arte di ben disporre i conviti
ed. Domenico Antonio Parrino e Michele Luigi Mutii, Napoli, 1694
 - **Macrino Giuseppe**
De Vesuvio (item poetica opuscola eiusdem)
ed. Fasuli Hieronymi, Napoli, 1693
 - **Magnati Vincenzo**
Notizie storiche di terremoti succeduti ne secoli trascorsi, e nel presente
ed. Bulifon Antonio, Napoli 1688
 - **Masculi Giovanni Battista**
De incendio vesuvi excitato XVIJ. Kal. Ianuar anno trigesimo saeculi decimo septimi, libri X cum chronologia superiorum incendiorum ephemeride ultimi
ed. Roncagliolo Secondino, Napoli 1633. Le ultime 37 pagine trattano della cronologia delle eruzioni vesuviane, chiude il volume un dettagliato indice analitico di 9 pagine, il frontespizio è preceduto dalle due figure del Vesuvio prima e dopo l'eruzione del 1631
 - **Monitio Cesare**
La talia dove si contiene la fiasca, con le lagrime del Vesbo furioso, e uno assaggio del volume maggiore intitolato Crumena Sapientis
ed. Camillo Cavallo, Napoli, 1647
 - **Mormile Giuseppe**
L'incendio del Monte Vesuvio, e delle straggi, e rovine, che ha fatto ne' tempi antichi e moderni, infine a 3 di marzo 1632, con nota di tutte le relazioni stampate fino ad oggi del Vesuvio, raccolte da Vincenzo Bove
ed. Longo Egidio, Napoli, 1632

- **Mormile Giuseppe**
Descrizione della città di Napoli, e del suo amenissimo distretto e dell'antichità della città di Pozzuolo
ed. Paci G. F., Napoli 1670
- **Oldenburgio Henrico**
Acta PhilosoPhica
Amstelodami, 1676
- **Oliva Nicolò Maria**
Lettera scritta all' illustriss. Sig. Abbate D. Flavio Ruffo, nella quale da' vera e minuta relatione delli segni, terremoti et incendi del Monte Vesuvio, cominciando dalli 10 del mese di dicembre 1631 per infino alli 5 di gennaio 1632
ed. Lazzaro Scoriggio, Napoli, 1632
- **Oliva Nicolò Maria**
Lettera scritta dal Sig. Nicolò Maria Oliva nella quale dà relatione delli segni, terremoti et incendii del Monte Vesuvio, cominciando dalli 16 del mese di dicembre 1631 alli 5 di gennaio 1632
ed. Scoriggio Lazzaro, Napoli 1632
- **Pacichelli Giovanni Battista**
Lettere familiari istoriche ed erudite
Tomo I. ed. Parrino e Mutii, Napoli, 1695
- **Palamolla Giacomo**
Poesie Liriche
Venezia, 1640
- **Paragallo Gaspare**
Ragionamento intorno alla cagione de' tremuoti
Ed. Fasulo Geronimo, Napoli 1689
- **Pellegrini Camillo**
Apparato alle antichità di Capua, ovvero Discorsi della Campania felice
ed. Francesco Savio Stampatore della Corte Arcivescovale, Napoli, 1651.
- **Pisani Baldassarre**
L'armonie feriali, poesie liriche
ed. Socii Dom. Ant. Parrino e Michele Luigi Mutii, Napoli, 1695
- **Quaranta Andrea**
Tre fuggitivi. Dialogo
ed. Secondino Rocagliolo, Napoli, 1632
- **Recupito Giulio Cesare**
De Vesuviano Incendio Nuntius in Lucem Iterum Editus Aegidium Longum 1632, et denuo per Octavium Beltranum 1633, Neapoli
- **Schott**
Ioco seriorum naturae et artis sive magiae naturalis centuriae tres,
1670
- **Silos Giovanni Michele**
Pinacotheca sive Romana Pictura et Sculptura libri duo
Roma, 1673
- **Tedeschi Tomaso**
Breve ragguaglio degli incendi di Mongibello avvenuti in quest'anno

1669

ed. Longo Egidio, Napoli, 1669

- **Tomasi Francesco Antonio**

Il Vesuvio fiammeggiante. Poema. Sincero academico insensato

ed. Rocagliolo Secondino, Napoli 1632

- **Varonis Salvatoris** (Varrone Salvatore) e **Societate Iesu**

Vesuviani incendii historiae Libritres

ed. Savio Francesco, Napoli 1634

- **Volpe Camillo**

Breve discorso dell'incendio del Monte Vesuvio et de gli suoi effetti

ed. Scoriggio Lazzaro, Napoli, 1632.

EXHIBITION ROOMS



[Hall](#)



[Johnston Lavis Room](#)



[Hamilton Room](#)



[Pliny Room](#)



[Octagonal Room](#)



[1944 Room](#)



[Mercalli Room](#)



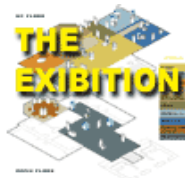
[Monticelli Room](#)




[Civil Protection Room](#)



[Wiechert Room](#)



Entrance on top floor

To be able to access the virtual tour of the exhibition rooms you need to install Quick Time  with the Virtual Reality plug-in which you can download from <http://www.apple.com/quicktime/download/standalone/>

HALL



Live footage from cameras positioned on the crater of Mt. Vesuvius. Panels explain the history of the Vesuvius Observatory as well as Mt. Vesuvius. Satellite images of the Campanian plains.



JOHNSTON LAVIS ROOM



This room is devoted to volcanology and has videos and panels about volcanic phenomena and the precursors to an eruption as well as a compelling simulation of an explosive eruption of Mt. Vesuvius.



HAMILTON ROOM



On display in period bookcases, works from the extensive collection belonging to the Vesuvius Observatory's historic Library.



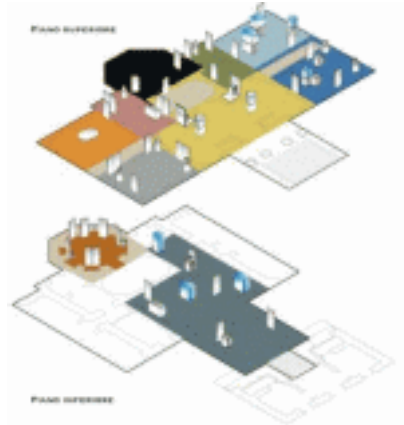
PLINIO ROOM



A reconstruction of the AD 79 eruption of Mt. Vesuvius; the most famous one. An interesting film takes the visitor through the various phases of the eruption which destroyed Pompeii, Herculaneum and Stabia. How you can read what happened through analysing the erupted deposits. A poignant plaster cast of one of the victims of the eruption.



OCTAGONAL ROOM



The display cases, lining the walls of this unusually-shaped room, house rock and mineral samples from the Vesuvius Observatory collection.

[more](#)



1944 ROOM



Mt. Vesuvius and its last eruption (1944), told through video, panel and period photographs.



MERCALLI ROOM



Historical Instruments dominate this room, displayed in glass cases and described on panels. The most famous: [Luigi Palmieri's seismograph](#).



MONTICELLI ROOM



Modern instruments for volcanic surveillance: seismic and geochemical signals live from stations of the surveillance network on Mt. Vesuvius managed by the Vesuvius Observatory.



CIVIL PROTECTION ROOM



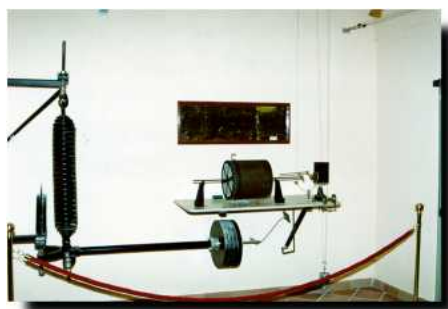
The history of other active volcanoes in Italy: Flegrean Fields, Ischia, Etna, Stromboli and Vulcano. Panels show how defence against eruptions is organised and explain the significance of volcanic Risk. Three monitors with live footage from the craters of Stromboli, Etna and Vulcano.



WIECHERT ROOM



The historical seismographs of the Vesuvius Observatory. The Mercalli Scale in a video about “Earthquakes in cinema”. A modern seismograph measures the visitor’s “earthquake” levels.





The Vesuvius Observatory Exhibition

How to get to the Exhibition:

- By car: take the Torre del Greco exit off the Naples-Salerno motorway then follow the signs for Mt. Vesuvius.
- By public transport: take the [Circumvesuviana train](#) (either the Naples-Sorrento or Naples-Poggioreale line) and get off at the station called *Ercolano Scavi* where you can pick up a bus to Mt. Vesuvius (**times:** Ercolano - Vesuvius Observatory 9.30, 10.30, 11.50, 12.50, 13.50; Vesuvius Observatory - Ercolano 11.35, 13.00, 13.55, 15.00, 16.10).



[The
Circumvesuviana
train timetable](#)



Historic scientific instruments on Museum

Electromagnetic Seismograph

L. Palmieri, 1856

Double-Barrelled

Electrometer

L. Palmieri, 1863

Horizontal astatic

Seismograph

E. Wiechert, 1908

Pretorian Table

XIXth century

Pluviograph

L. Palazzo, end XIXth century

Inclination Compass

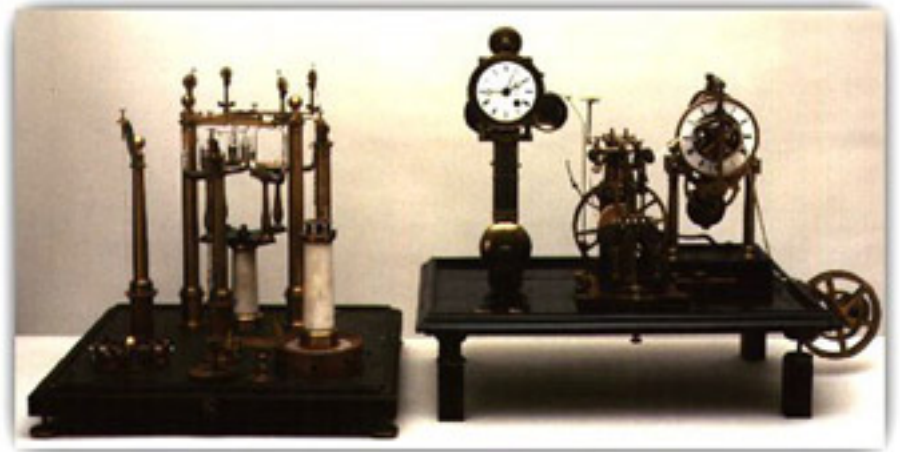
Gambey, mid-XIXth century

Seismic Microphone

M.S. De Rossi, 1878

Seismoscope

Cancani, 1898



The Vesuvius Observatory museum also houses historic scientific instruments used by scientists and researchers over the centuries and some of these are of exceptional historical importance, like Luigi Palmieri's seismograph. Some of these instruments are on display in the Mercalli and Weichert rooms at the exhibition.

ELECTROMAGNETIC SEISMOGRAPH

L. Palmieri, 1856

This was the first instrument to measure so-called instrumental earthquakes and to use electric currents to record seismic activity. It also showed the direction of seismic movement.



The seismograph had two constituent parts, the first being a series of sensors which showed either horizontal or vertical ground movements and the second the recording apparatus. This worked thanks to two electromagnets which activated metal rods with pencils attached so that a series of movements are recorded on a strip of paper. The speed of this was constant thanks to a clockwork mechanism. Another clock was activated by an initial ground movement thus indicating the time the earthquake started.

DOUBLE BARRELLED ELECTROMETER

L. Palmieri, 1863



Luigi Palmieri also invented this double-barrelled electrometer which was used to measure atmospheric electric tension. It was a very advanced instrument for its time because it allowed for extremely precise measurements where dispersion and similar errors were corrected.

HORIZONTAL ASTATIC SEISMOGRAPH

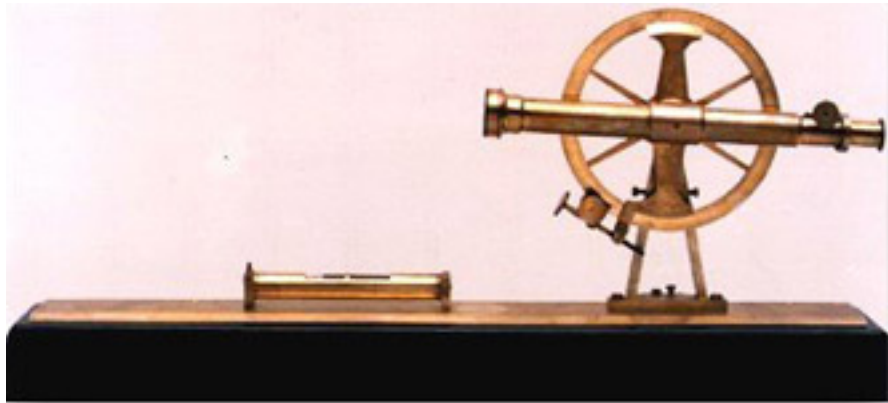
E. Wiechert, 1908



This is a seismograph which is used in conjunction with a vertical astatic seismograph, and which is mechanically powered. They are used to register the horizontal and vertical components of a seismic event.

The sensor is a reverse pendulum with an efficient damping mechanism with continuous ink recordings on smoked paper. Its specifications are as follows: mass: 200g, time: approx. 3.5 secs, magnification: 200 times.

PRETORIAN TABLE XIXth century



The **pretorian table** was used to work out the topographical layout of small surface areas. It is made up of a base with calibrated circular surround and spirit level.

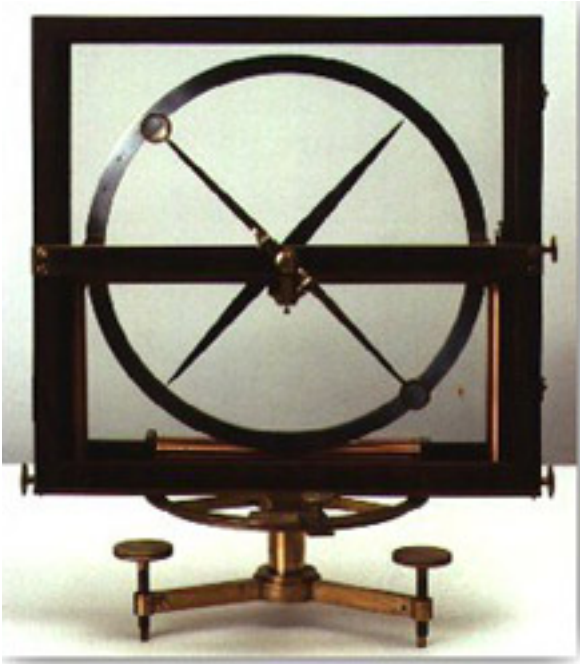
PLUVIOGRAPH L. Palazzo, fine XIX secolo



This instrument was for measuring the amount of rainfall over a certain time. The water was collected through a funnel into a cylindrical container with a float. A pen was attached to this float to record changes in water level on graph paper. As the level rose so did the pen stroke. The graph paper showed the time scale along the horizontal axis and vertical scale showed millimetres of rain collected. A litre of water collected was the equivalent of ten millimetres of rainfall and a decilitre, therefore, one millimetre.

INCLINATION COMPASS

Gambey, mid-XIXth century



This instrument was used to measure magnetic inclination. A magnetic needle revolves around a horizontal pivot and records the angle of inclination on a calibrated brass circle. This rests on a brass support contained in a glass case with wooden frame.

SEISMIC MICROPHONE

M. S. De Rossi, 1878



A unusual instrument used to listen to earthquakes. This instrument is formed by a pendulum hanging on a piece of graphite. When the pendulum oscillates it touches the graphite and closes the electric circuit producing acoustic vibrations and therefore sounds which are then transmitted through a loudspeaker.

MULTIPLE-EFFECTS SEISMOSCOPE

A. Cancani, 1898



The *multiple-effects seismoscope* is composed of a base with seven reverse pendulums mounted on it, each with a different oscillation time. At each end are metal points which then complete the electric circuit and thus sound an alarm.