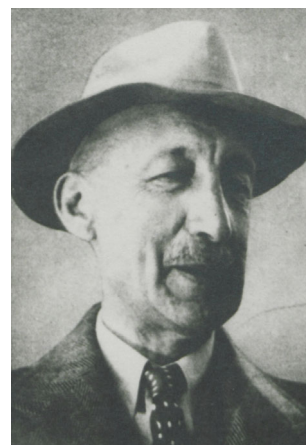

Curriculum Vitae Professor Dr Georg Karl von Hevesy

Name: Georg Karl von Hevesy
Life Dates: 1 August 1895 - 5 July 1966



Georg Karl von Hevesy was a Hungarian chemist who is regarded as the founding father of nuclear medicine. He discovered the element hafnium and was honoured with the Nobel Prize in Chemistry for his work on the use of isotopes as tracers in the study of chemical processes in 1943.

Academic and Professional Career

Hevesy studied chemistry at the University of Budapest, Hungary. In 1904, he moved to Berlin and continued his studies at the Technical University. In the aftermath of a case of severe pneumonia, he followed the recommendation of his doctors to move to Freiburg im Breisgau (Germany), which has a more favourable climate, to fully recover. Several of his brothers had studied there as well. Focussing mainly on physical chemistry, he obtained a doctorate (Dr. phil.) from the University of Freiburg in 1908.

He then went on to work as an assistant at the Institute of Physical Chemistry at ETH Zurich (Swiss Federal Institute of Technology) for two years. Thereafter, he worked for Fritz Haber in Karlsruhe for a short while and then moved to Manchester, UK, for three years in 1911 to study under Ernest Rutherford. He interrupted his studies to spend some time at the Vienna-based Institute for Radium Research in Austria. Hevesy became a private lecturer at the University of Budapest in 1913 and was appointed as professor five years later.

In 1923, Hevesy – in collaboration with Dirk Coster – discovered hafnium, the element with the atomic number 72, in Copenhagen, using x-ray spectroscopy on zirconium minerals. The element was named after its place of discovery, Copenhagen (Latin name: Hafnia). One year earlier, Niels Bohr, whilst working on his Atomic Theory, had already predicted that the properties of the element with the atomic number 72 would resemble those of zirconium.

In 1926, Hevesy became Professor of Physical Chemistry at the University of Freiburg. In 1930/31, he taught as a Baker Lecturer at Cornell University in Ithaca (New York, USA), and in 1949/50 he served as Franqui Professor at Gent University (Belgium).

Due to his Jewish background, Hevesy was threatened with being removed from public service in Germany in 1934, which is why he emigrated to Denmark, where he continued his research at the Niels Bohr Institute in Copenhagen. In 1943, he was forced to flee again and moved to Stockholm, where his research priorities at the Department of Organic Chemistry at Stockholm University included radiobiology. Georg von Hevesy worked in the Swedish capital until 1961, when he moved back to Freiburg.

1943 Nobel Prize in Chemistry

In collaboration with the German-Austrian chemist Fritz Paneth, Georg von Hevesy developed the Radioactive Indicator Method. This method emerged in 1929 during research on the diffusion of liquids in solid structures and went on to become a valuable and versatile working method underpinning many different fields of natural science. The Radioactive Indicator Method, also known as Tracer Principle, is based on natural and artificial radioactive atoms, isotopes in low quantities being easily detectable with suitable devices due to the radiation they emit. When such isotope-containing substances are mixed with equivalent, nonradiative substances or used together with nonradiative atoms to form new compounds, then the marked substances can be detected based on the radiation they emit.

This makes it possible to trace the path of chemical compounds in organisms, for example of medication. The Tracer Principle has also become an important tool in diagnostics. In 1943, Georg von Hevesy received the Nobel Prize in Chemistry for the development of the Radioactive Indicator Method.

Honours and Awarded Memberships

Georg von Hevesy was recognised on numerous occasions, including being honoured with the Rome Academy of Sciences' Stanislo Cannizzaro Award (1929), the British Royal Society's Copley Medal (1949), the Chemical Society London's Faraday Medal (1951), the British Institute of Radiology's Sylvanus Thompson Medal (1956), the German National Academy of Sciences Leopoldina's Cothenius Medal (1959), the University of Chicago's Rosenberg Medal and the Niels Bohr International Gold Medal administered by the Danish Society of Engineers (both in 1961). In 1958, he became a member of the Friedensklasse (Peace Class) of the "Pour le Mérite for Sciences and Arts" order. The Ford Foundation honoured him with the Atoms for Peace Award.

Hevesy was also a member of a number of scientific associations, including the Royal Society of Arts and Sciences in Gothenburg, Sweden (1948), honorary member of the American Academy of Arts and Sciences Cambridge, USA (1950), the National Academy of Sciences of India (1954), the Royal

Academies for Science and the Arts of Belgium (1955) and the German National Academy of Sciences Leopoldina (1960). He was awarded Honorary Doctorates from universities the world over, including universities in Cape Town, South Africa (1929), Uppsala, Sweden (1945), Copenhagen, Denmark (1948), Gent, Belgium, and Freiburg im Breisgau, Germany (1949), Sao Paulo, Brazil (1951), Rio de Janeiro, Brazil (1952), Torino, Italy (1957), Liège, Belgium (1959) and London, UK (1960).

About Georg Karl von Hevesy

The son of Privy Councillor Lajos Bischoitz de Heves and his wife Eugenie, née Baroness Schossberger, Georg (born György) von Hevesy was born on 1 August 1895 in Budapest, Hungary. He was the fifth of eight children. While his grandparents were of Jewish descent, Hevesy was raised a Catholic. In 1903, he graduated from the *Gymnasium des Piaristenordens* grammar school in Budapest. Born Hevesy-Bischoitz, Georg von Hevesy later changed his surname. In 1924, he married Pia Riis, with whom he had one son and three daughters.

Hevesy also rose to prominence for being able to apply his specialist knowledge in a practical way. For example, during the Third Reich, Germans had been banned from accepting Nobel Prizes, which is why the laureates Max von Laue and James Franck had given their medals to Niels Bohr in Copenhagen for safekeeping, so they would not fall into the hands of the Nazis. When German troops attacked Denmark in 1940, Hevesy – who was working in Copenhagen at the time – dissolved the Nobel Prize medals in so-called Aqua regia (a mixture of concentrated nitric acid and hydrochloric acid), which is able to dissolve noble metals. When the war ended, he recovered the dissolved noble metal, enabling the Royal Swedish Academy of Sciences to make new medals for von Laue and Franck.

Since 1968, the German Society of Nuclear Medicine has been awarding the Hevesy Medal for outstanding achievements in the fields of radiochemistry and nuclear chemistry. In 2009, the International Astronomical Union (IAU) named a lunar crater after Georg von Hevesy. In Freiburg, a “Stolperstein” commemorative brass plaque was laid for him and his wife in 2014.

Georg von Hevesy died on 5 July 1966 in Freiburg im Breisgau and was laid to rest in Budapest.