

Obituary Professor Dr. Marcel J. Golay (1902-1989)

Citation for published version (APA):

Cramers, C. A. (1989). Obituary Professor Dr. Marcel J. Golay (1902-1989). *Journal of High Resolution Chromatography*, 12(5), 269-269. <https://doi.org/10.1002/jhrc.1240120502>

DOI:

[10.1002/jhrc.1240120502](https://doi.org/10.1002/jhrc.1240120502)

Document status and date:

Published: 01/01/1989

Document Version:

Publisher's PDF, also known as Version of Record (includes final page, issue and volume numbers)

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
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Obituary

With deep regret we learned of the sudden death in the night of April 28 to 29, 1989 of *Professor Dr. Marcel Golay* in his native country of Switzerland at the age of 86.

Marcel Golay was born on May 3, 1902 in Neuchâtel, Switzerland. After completing his secondary education he studied at the E.T.H. in Zürich where he graduated in 1924 with a degree in electrical engineering. In 1931 he received his Ph. D. from the Department of Physics of the University of Chicago with a thesis in atomic physics. He then joined the U.S. Signal Corps in New Jersey, where during a period of almost 25 years, he worked on the development of early radar systems. An important invention made of that time was the so-called *Golay* infrared detector, originally used for aircraft detection and later as a detector in infrared spectroscopy.

In 1955 he became consultant to the Perkin Elmer Company, and a few years later he joined this company as a senior research scientist.

He has been associated with Perkin Elmer ever since, apart from a two-year period as professor of the Theory of Analogies in our laboratory of Instrumental Analysis at Eindhoven University of Technology, The Netherlands.

It was there that I had the privilege of working for him as a student. Subjects studied in that period were; porous layer open tubular columns; sample introduction ($\Sigma\sigma^2$ -rule) and the *Golay* infrared detector. Our laboratory maintained intensive and personal contacts with him ever since. Recently we conducted a joint study on turbulent gas chromatography. Due to contradicting theory in the literature on this subject I contacted *Dr. Golay* to invite his expert opinion. Although he immediately expressed his disbelief in the possibilities of turbulent flow gas chromatography, he became extremely interested in the subject of

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turbulence itself. Starting from our experimental data, he developed a theory of turbulence which was intended for presentation at the 10th Symposium on Capillary Chromatography, Riva del Garda, May 22-25, 1989. During the final period we had very intensive contacts by telephone, often twice a day, until his unexpected death. In order to test the theory he developed, we are carrying out the additional experiments he proposed.

Professor Golay not only contributed to the field of chromatography. His work on data smoothing together with *Savitzky* is one of the most cited papers in analytical chemistry. He developed NMR coils for orthogonal degaussing. Besides, he was awarded the J. Hamilton Award from the American Society of Naval Engineers for his paper "Underwater Arctic Oil Transport". His most excellent contribution to science, however, deals with capillary gas chromatography. In Dallas, Texas in 1956, he presented a lecture entitled "Vapor Phase Chromatography and the Telegrapher's Equation". In it a

mathematical relationship was derived between a GC column and transmission lines used in communication. This represented the start of an evolution culminating in the development of capillary gas chromatography. Two very important papers followed. In East Lansing in 1957 "Theory and Practice of Gas-Liquid Partition Chromatography with Coated Capillaries" was presented. *Golay's* paper in Amsterdam 1958 represented the real start of capillary gas chromatography: "Theory of Chromatography in Open and Coated Tubular Columns with Round and Rectangular Cross-Sections".

Later followed many more papers on theory and experiments in this field: The performance index, porous layer columns, and the UTE (Utility of Theoretical best Efficiency).

On behalf of the Scientific Committee of the Series of International Symposia on Capillary Chromatography, I am indebted to our honorary committee member *Professor Golay*. He allowed us to use his name for our Jubilee Medal to be presented for the first time in Riva this year. During this meeting we will commemorate the founder of capillary chromatography.

Professor Golay was a stimulating person to his colleagues, co-workers, students, and friends. Apart from making important scientific contributions, he possessed a warm personality that will ever live in our memories.

The chromatographic community has lost one of its important exponents; we convey our deep-felt sympathy to the *Golay* family.

Karel Cramers

Eindhoven University of Technology