

## Professor Dr. Teresa Kowalska – In Honor of Her Birthday



(Photographer:  
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so-called “Recovered Territories” in Silesia. She is born in Gliwice just after that journey, and her entire life is connected with Silesia, the beautiful region with an interesting history, culture and (despite industrial pollution) beautiful nature.

In 1963, she starts to study chemistry at the Higher Pedagogical School in Katowice, graduating in 1968. In the same year, the University of Silesia is formed by merging the pedagogical school with the Katowice branch of the Jagiellonian University in Kraków. She works for the Institute of Chemistry which becomes her second home, allowing her to fulfill many scientific dreams and to climb all the possible steps of a scientific career.

The first years of her research are quite far from chromatography and separation science. She works on autoxidation processes of *cis*-9-octadecene derivatives, defending her PhD thesis on the topic in 1972. Her scientific interest in chromatography develops in later years (after a post-doctoral scholarship at the Faculty of Chemistry, The University of Salford, Lancashire, UK), when she studies the theory of chromatographic separation. This results in her habilitation in 1988 upon the dissertation entitled “A new thermodynamic model of the chromato-

“Life really does begin at forty. Up until then, you are just doing research.” This quote is believed to be said by Carl Gustav Jung, the Swiss psychiatrist and psychotherapist. The biography of Prof. Dr. Teresa Kowalska is a proof that one can go far beyond this model – it is possible to perform a valuable research during one’s whole life and still live it to the full.

The story starts just after the Second World War, when the parents of Prof. Kowalska move, during Polish population transfers, from Lwów (now Lviv, Ukraine) to the

graphic process and its applications”. The habilitation was proceeded at the Maria Skłodowska-Curie University in Lublin, Poland, which visibly connects Prof. Teresa Kowalska with the Alma Mater of Prof. Edward Soczewiński and Prof. Andrzej Waksmundzki, the creators of the research circle of their disciples, called the “Lublin School of Chromatography,” including (among many others) Prof. Monika Waksmundzka-Hajnos, Prof. Tadeusz Dzido, and Prof. Jan Różyło.

In 1999, the President of the Republic of Poland granted the title of full professor to Teresa Kowalska, and since 2004, she has been the head of the chromatographic department in her institute (Department of the Physicochemical Basis of Chromatography, renamed in 2006 to Department of General Chemistry and Chromatography).

During her scientific career, Prof. Kowalska authored and coauthored more than 200 scientific papers with summary IF slightly less than 300 and h-index equal to 17, in internationally recognized chemistry journals (Journal of Liquid Chromatography and Related Technologies, Acta Chromatographica, Chromatographia, Microchemical Journal, Journal of Chromatographic Science, Journal of AOAC International, Journal of Chromatography A, Monatshefte Fur Chemie, and among others, especially JPC). Her research was presented more than 300 times at various conferences as posters and lectures.

She regularly acts as a referee for the numerous chemistry journals. Eight doctorates were finalized under her supervision, and further are in progress. She acts as a member of the advisory editorial boards in JPC, Bulgarian Chemical Communications, Acta Universitatis Cibinensis, Series F – Chemistry, and Advances in Chromatography, Electrophoresis and Related Separation Methods (ACE). She is appointed to the Katowice Branch of the Polish Academy of Sciences (Chemistry Section) and Board of the Trace Organic Analysis of the Polish Academy of Sciences.

Her expertise in chromatography resulted in coediting of four books published under “Chromatographic Science Series”: Preparative Layer Chromatography (T. Kowalska and J. Sherma, 2006), Thin Layer Chromatography in Chiral Separations and Analysis (T. Kowalska and J. Sherma, 2007), Thin Layer Chromatography in Phytochemistry (M. Waksmundzka-Hajnos,

J. Sherma, and T. Kowalska, 2008), and Planar Chromatography–Mass Spectrometry (T. Kowalska, M. Sajewicz, and J. Sherma, 2015). She is an author or coauthor of 16 chapters in the above and other book projects, including the famous “Theory and mechanism of thin-layer chromatography” chapter, published in several versions in all editions of the Handbook of Thin-Layer Chromatography (J. Sherma and B. Fried) and Encyclopedia of Chromatography (J. Cazes). For the aforementioned encyclopedia, she also wrote a chapter entitled “Optimization of thin-layer chromatography” and “Analyte–analyte interactions, effect on TLC band formation”.

Prof. Teresa Kowalska can be perceived as a person with a great sense of time. In the early 1990s, together with Prof. Józef Śliwiok, she noticed a lack of wide-topic chromatography journals in central Europe and founded a new journal “Acta Chromatographica”. This unique moment and her simple decision resulted in a noncommercial project, running smoothly only due to her enormous time contribution, earning impact factor and becoming one of most important journals on the chromatographic scene (for several years published by Akadémiai Kiadó and coedited with Prof. Mieczysław Sajewicz).

Besides the theory and molecular mechanism of chromatography, Prof. Kowalska is deeply involved in phytochemical research, and it can be unknown to the wider audience that her phytochemistry interest can be traced back to her MSc thesis about spontaneous biosynthesis of vitamin C in plant material. Her phytochemistry projects are done mainly in cooperation with her close friend Prof. Monika Waksmundzka-Hajnos, and besides research papers, they coedited together a phytochemistry book (mentioned earlier).

The gentle and warm personality of Prof. Kowalska allows her to gather chromatographers together every year for Chromatographic Methods of Investigating the Organic Compounds Symposia Series in Szczyrk, Poland, where she has been the chairperson (and main mentor) since 2002. It has been a great honor to me to participate in the event every year since 2009, and while writing this preface, I am very happy sitting on a packed bag ready to leave for the current (39th) edition of the conference. The unique familiar atmosphere and the beautiful nature of Beskid Mountains make the meetings unforgettable, and many current (as well as already finished) scientific projects were born at the conference.

The inner profile of Prof. Kowalska is very deep and cannot be characterized in a straightforward manner. Although chem-

istry is quite away from the humanities, she is a humanist and a poet in the full sense of the word. Her almost addictive love of poetry, as well as subtle and balanced sense of life and reality, allows her to translate English and German poetry into Polish. She is known in Polish poetic circles as a translator of Christian Morgenstern, Joachim Ringelnatz, Frank Wedekind, and Han Suyin. Her renditions of their poetry were published several times, and the books were very well received. She also enjoys Serbian literature (knowing Serbian language very well), and her cooperation with researchers from the University of Belgrade helps her to widen these interests.

In such a unique moment of Prof. Kowalska’s birthday, it is a great honor to us all – contributors, friends, and disciples – to participate in this Chemometric Special Issue, graciously provided by Prof. Bernd Spangenberg as the host. As chemometric methods play an increasingly important role in chromatography (and, to be honest, they are still slightly underestimated in TLC research), the aim was to collect various original contributions containing chemometric approaches to TLC.

In the eleven papers included in this issue, the reader will find all main TLC applications of chemometrics, which will be (we hope!) an adequate gift for our dear birthday person:

- the proper experimental design and optimization of quantitative TLC method (*Obradović et al.*);
- unsupervised multivariate analysis of retention data and separation quality (*Dolowy et al.*);
- multivariate analysis in fingerprinting (*Hawrył et al.*);
- multivariate comparison of factors affecting drug decomposition (*Dąbrowska et al., Starek et al.*);
- quantitative structure–retention modelling (*Djaković Sekulić et al.*) and structure–activity approach (*Sobańska et al.*);
- various approaches for image processing of TLC plates (*Casoni et al., Danciu et al., Ristivojević et al., and Humpert et al.*).

Dear Teresa, may all the years ahead bring you health, joy, everlasting happiness, and new successes in deciphering the universe and humanity which is the main vocation and honor of all scientists and poets.

In the name of all Contributors,  
*Łukasz Komsta*  
 Editor of the Special Issue