

## LEEVI MÖLDER 90



Photo: private collection

A former member of the Editorial Board of the Oil Shale, grand old man of oil shale chemistry, researcher and scientist, professor *emeritus* of the Tallinn University of Technology **Leevi Mölder** celebrated his 90th birthday on 4 July 2023.

Leevi Mölder was born in Ida-Viru County, the oil shale region of Estonia. All his life has been connected with and dedicated to this natural resource of his home country.

In 1957 Leevi Mölder graduated from the Tallinn University of Technology as an engineer of fuel chemistry and stayed with his *alma mater*, starting as the head of laboratory (1957–1959). In 1963 he defended the Ph.D. thesis ‘Characteristics and Application of Molecular Complexes of Phenols for Shale Oil Separation’. In 1964 he became a docent, in 1973–1985 he was

a professor and head of the Chair of Organic Chemistry, and in 1992–2000 again a professor. In 1983–1988 he headed the laboratory and in 1988–1994 the Department of Oil Shales and Shale Oil at the Institute of Chemistry of the Estonian Academy of Sciences. Since 2000 Mölder is a professor *emeritus*.

The main part of his life's work has been devoted to technical education. He has succeeded in coupling his intense pedagogical and organizational activities with successful research. Oil shale processing and oil shale chemistry are the key spheres of his scientific interests.

Leevi Mölder's research has focused on the thermodynamic properties of non-electrolyte solutions and their applications in technological processes, especially in the processing of oil shale liquids and the separation of phenols from oil shale. He has improved methods for separating resorcinol derivatives from oil and water, as well as procedures for synthesizing biodiesel. Additionally, he has developed methods for predicting the properties of petroleum product mixtures and for identifying fuel additives.

Mölder's scientific contribution is more than two hundred scientific publications, including textbooks on organic chemistry and fuels. He is a co-author of the Russian-Estonian and English-Estonian-Russian dictionaries of chemistry, as well as numerous popular science works. Professor Mölder has been awarded many honors for his professional achievements, such as *Mente et Manu* (1983, 1993) of the Tallinn University of Technology, Paul Kogerman Memorial Medal (1987) of the Estonian Academy of Sciences, 2000 Outstanding Scientists of the 20th Century (1999) and Outstanding People of the 20th Century (2000) issued by the IBC, Cambridge, the American Medal of Honor (2002) and the Order of the White Star, 4th Class (2004).

Recently, Leevi Mölder published an essay titled 'Gens una sumus'. The following is an excerpt from the essay that reveals Mölder's dedication to his profession as an educator and researcher. The essay appeared in *Mente et Manu*, the journal of Tallinn University of Technology.

*Gens una sumus* – we are one family. This guiding principle adopted by the chess community should be respected also among the academic staff at the university. Among all those who have dedicated themselves to teaching and conducting research, regardless of age and job title. A good educator cannot exist without being a researcher, just as a good researcher cannot do without teaching.

Being a teacher, a university lecturer, with all its charms and pains, is perhaps one of the most challenging professions. It requires not only a broad perspective, knowledge of the subject, communication skills, balance, and empathy but often also the patience and perseverance of a plow ox.

Yet, there is nothing more pleasant than teaching those who want to learn. Then, teaching becomes an intellectual and emotional pleasure – the enthusiasm of young minds inspires the educator, adding freshness of thought and joy of life. Teaching requires the ability to articulate the essence of problems in a clear and smooth language. Therefore, teaching contributes significantly to thinking in science. Indeed, teaching and research are inseparable, like duality.

Teaching requires innate qualities and a unique talent from the educator. One does not learn to be a teacher; one is born a teacher. The absence of this talent cannot be compensated for by dull work. Yet, talent alone does not exempt one from hard work. Knowledge acquired earlier quickly becomes outdated. Thus, an educator must continue learning throughout life, discovering new things. Those who fail to do so, inevitably fall behind in life. Teaching is a process with long-term effects. The teacher influences the future without knowing how far-reaching their impact is.

Research requires persistence and analytical ability from the practitioner. And it also requires emotion and passion. Research demands a million other qualities. Without them, there is no research.

The Editorial Board of the Oil Shale and other colleagues wish Leevi Mölder good health, happiness, and many more years of successful and creative accomplishments.