
Molecular Crystals and Liquid Crystals Science and Technology. Section A. Molecular Crystals and Liquid Crystals

Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/gmcl19

# In Memoriam

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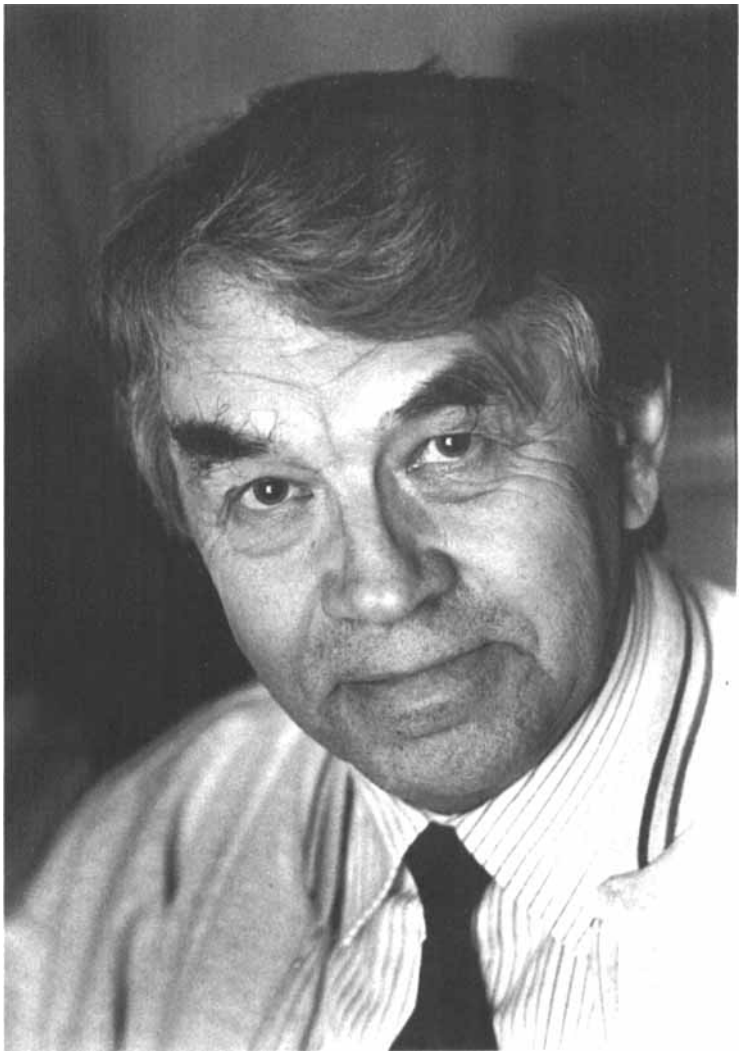
Version of record first published: 24 Sep 2006

To cite this article: Prof. Joseph Eiduss (2001): In Memoriam, Molecular Crystals and Liquid Crystals Science and Technology. Section A. Molecular Crystals and Liquid Crystals, 355:1, 3-7

To link to this article: http://dx.doi.org/10.1080/10587250108023649

# In Memoriam — Edgar A.Silinsh

(March 21, 1927 — May 26, 1998)



## In memoriam

The scientific world of Latvia, and, one may rightly say, of world science has suffered a great loss through the sudden death of professor Edgar A.Silinsh, an outstanding physicist working in the field of organic solids, a scientist of an exceptionally high international rating, and an extremely high citation index to his credit.

He was in the prime of his creative abilities, full of plans for further work, full of expectance about his latest book about to appear, in which he sums up his philosophical views on science and society, and into which he has put all his wide erudition, force of expression, and nobility of mind.

He was born as a fourth child in a family of Latvian peasants in Ligatne, a district of the Riga region, one of the beauty spots of Latvia. This may have been the source of his acute sense of beauty and closeness to nature, which may have been the basis of his later pantheistic world outlook, approaching, at a later stage of his life, Oriental philosophical concepts of Taoism and Zen-Buddhism.

The hard times of Second World War and occupation of Latvia enabled him to start studies at the Department of Chemistry of the Latvian State University only in 1948, working at the same time as lab assistant at the Laboratory of Optics and Spectroscopy of the Faculty of Physics and Mathematics. However, under the existing political conditions, he soon had to abandon work at the University, being the son of a land-owning peasant. For 12 years he worked at the laboratory of an industrial plant, where he also started his scientific work, presenting a number of reports on atomic spectroscopy and spectral analysis of metals and alloys at All-Union conferences.

Only in 1957, during the "Khrushchov Thaw" could he reenter the University, now the Faculty of Physics and Mathematics, graduating with distinction in 1961. His graduation paper was devoted to a biophysical problem, which paved his way to molecular spectroscopy of organic compounds, which, in one way or the other determined his further interests.

In 1965 he defended his candidate's thesis (equivalent to PhD) at the Leningrad Optical Institute. In his 12 years of work at the industrial laboratory he had published 26 scientific and technical papers in atomic spectroscopy and spectral analysis, as well as taking part in the evolution of new technological devices, which were introduced into production.

From 1963 he headed a research group at the Latvian State University, from 1967 a laboratory at the Institute of Physical Energetics of the Latvian Academy of Sciences, where he continued working till his death in May 1998.

During these last 30 years of his life his basic interests were in the field of organic solid state physics. These years brought him this greatest scientific suc-

cess and world fame. The first important achievement (1969-1975) was the creation of a model of the physical nature of local structure-determined trapping centres of charge carriers in organic molecular crystals - a result that is most frequently cited up to our days. It became one of the highlights at the VII Symposium on molecular crystals in Nikko (Japan).

The next stage of research conducted by Prof. E. A.Silinsh with his collaborators dealt with another fundamental problem of the physics of organic solids, namely the energetics of electronic states in organic solids. This work resulted in a large and widely quoted monograph "Electronic states in organic molecular crystals" (1979 in Russian, the updated and extended version in English appeared in 1980 in the Springer-Verlag under the title "Organic molecular crystals. Their electronic states"). This gave him the degree of Doctor of Physical Sciences (Something like the Western DSc). This book aroused much interest among the scientific world and may be found in the libraries of many universities.

A third line of fundamental research conducted at the laboratory headed by Prof. E. Silinsh concerns the mechanism of photogeneration in organic molecular crystals. Part of the work was conducted by Prof. E.Silinsh in Japan together with Prof. H.Inokuchi, yielding a brilliant publication.

In 1985 the now widely known polaron model in polyacene crystals was proposed at the XI Symposium on Molecular Crystals at Lugano, Switzerland and elaborated in a number of publications, leading to the creation of yet another fundamental monograph in collaboration with the theoretician Prof. Vladislav Èápek from the Charles University in Prague. The highly appreciated book appeared at the American Institute of Physics Publishing house in 1994.

At the end of the eighties work started in another field of science and technology at the laboratory headed by Prof. E.Silinsh, namely that of molecular electronics, a highly promising direction in, connected with the design and study of self-organizing molecular assemblies with promising applications in modern molecular electronics and non-linear optics.

Summing up the work of Prof. Edgar A.Silinsh in the field of solid state physics, we get an impressive picture. Six monographs, 36 review and fundamental papers, 150 publications, as well as participation in a large number of international conferences. His citation in E. Garfield's "Science Citation Index" exceeds 600.

The key to the scientific achievements of Prof. Edgar A.Silinsh lies not only in his extremely high personal qualification as a scientist, but also in his capacity as an organizer, who managed to form an efficient and talented set of collaborators, in his ability to look ahead and to choose promising directions in science and to motivate convincingly the basic principles of his scientific activities.

The physics of organic solids cannot develop without chemical support. Successful co-operation with the leading chemists of Riga formed the basis for a new integrated direction in science, the science of modern organic materials. It is most symptomatic that the most important papers of Silinsh and his group appeared (and continue appearing) in such journals as "Chemical Physics'' and "Advanced Materials for Optics and Electronics".

Prof. E.Silinsh managed to effect a successful cooperation with leading specialists in the field, both in Eastern, as well as in Western universities and scientific centres, in Russia, Ukraine, Czech, Poland, UK, France, Japan, the USA, China, working at different scientific centres, reading lectures at universities, and taking part in prestigious conferences and symposia.

A special place in his scientific and personal interests is due to Japan, which he had visited 7 times since 1975, ranging from several weeks to several months. His visits resulted not only in the appearance of important common publications and monographs, but played also a great part in the formation of his world outlook, largely influenced by Oriental philosophy (Taoism and Zen-Buddhism), as well as of the sacral and aesthetic traditions of Japanese culture.

One ought to mention the active role played by Prof. E. A.Silinsh as a university professor and scientific adviser of many young scientists in Latvia. He was also the initiator of various scientific social ventures. One might mention here his role in starting a series of monographs in Latvia "Solid State Physics", his work on the editorial board of the international journal "Molecular Materials''.

He was elected full member of the Latvian Academy of Sciences, as well as being a member of various scientific and cultural councils and the initiator of renewing the activities of the Rotary Club in Latvia. He received a number of awards and honorary titles, among which was the Large Medal of the Latvian Academy of Sciences.

His last most important work is the book "Search for the Great Truths", a voluminous collection of philosophical essays containing his views on science in its various aspects, but also on a very wide range of humanities, problems of art, ethics, religion, social problems, with a profound historical approach and very clearly formulated world outlook. The book is a summary of his most intimate and deep-felt thoughts and meditations. He had worked at it for the last seven years of his life. It represents his life's credo, his spiritual testament. Written in Latvian, beautifully illustrated, it is being translated into English at present and may thus become accessible to the international readership. It is rather tragic that the author did not live to see the appearance of his life's perhaps personally most significant work.

Those who have worked with him and under his guidance for many years, loved and respected him for his interest in the work of each one, for his support

and advice and sympathetic attitude towards everybody. It is thanks to these qualities that the people working for him felt more like people working with him. He had managed to create an atmosphere of friendship and understanding among his group of collaborators. He was strict only in his demands for high scientific standards, for absolute reliability of results, and absolutely uncompromising in questions of ethical standards in scientific work.

Many people among his carefully selected circle of friends and nearest surroundings will remember his genial and generous mind, his sympathy and assistance.

One ought to mention, last, but by no means least, his happy and pure family life. He was a good and loving husband and father of two extremely nice, clever, and most attractive children, to whom he has given an excellent education and whom he has launched on a successful career.

His sudden and so untimely death was a great tragedy to everybody. However, looking back at his life as a whole, there may appear also silver a lining to the dark cloud of sorrow. After the first difficulties at the beginning of his career, his whole course of life was a steady path of hard, yet successful work taking him up and up in his career. He managed to fulfill himself in his scientific achievements. He also managed to say his most important, most essential, most deep-felt word, express his spiritual ego in his last great work, in his Search for the Great Truths, which, in a way, put a crown on his life's work and activities. And just, as one cannot but appreciate the general beauty of his life, one may feel a great awe before his sudden death after having fulfilled the basic task of his life, closing the door quietly after himself, without saying good bye, without a slow and painful decline, gradually sliding into suffering and oblivion before the inevitable end.

He has left an indelible trace in the hearts of his colleagues, his friends, and admirers.

Prof. Joseph Eiduss