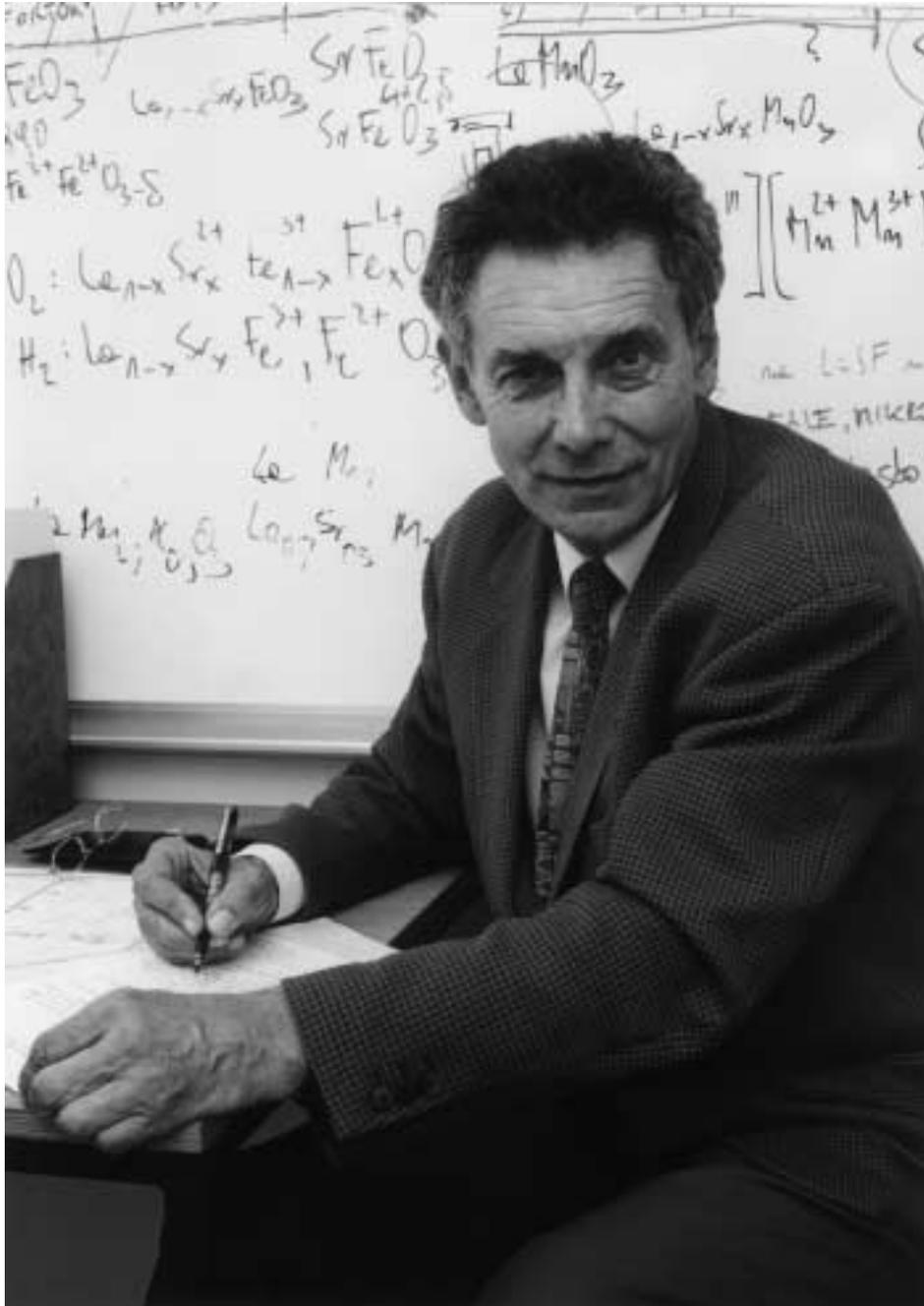


In memoriam



Professor Dr. Drago Kolar

(September 15, 1932 – February 14, 2000)

On Monday morning of February 14, 2000 Drago Kolar died from a heart attack, suddenly and unexpectedly to all of us. He is survived by his wife Majda and his children Jana and Aleš.

Drago Kolar left in the middle of his creative life, full of ideas and plans for new activities. Our sadness can be best expressed with this touching little poem:

Ob slovesu

Trdni koraki se izgublajo v temi.

*Ugasnjena luč.
Na mizi odprta knjiga in listek za jutri.
Koledar, skrit spodaj,
pod kupom papirjev,
ne sluti, da jutri ne bo.*

*Koraki zamrejo,
ura okleva.*

Obstane.

*V topotu današnjega dne
neslišen a trden korak odmeva.*

Farewell

Firm steps are vanishing into the dark.

*The light switched off.
A book on the table and a note for tomorrow.
The calendar, mislaid under books
Doesn't suspect there is no tomorrow.*

*Steps die away,
The clock hesitates.*

Then stops.

*In the din of today
Inaudible but firm steps echo.*

These words were written by the day Drago passed away by Saša Novak, a close colleague and friend. Consolation and sympathy are in these words and the certainty of a last farewell.

Drago Kolar has been a brilliant scientist and teacher, who has achieved much. During his life he remained ever true to his own self, and as such is an inspiration to all of us.

Drago Kolar was born in Ljubljana, where he went to school and later studied chemical engineering at the University of Ljubljana. He obtained his master degree in 1957. Directly thereafter he joined the Jožef Stefan Institute as a Research Assistant and began at the same time to work on his PhD thesis, which he very successfully finished. It was in 1964, when the doctor's degree of science in chemistry was confirmed on him. At that time it was a *must* for a young and ambitious scientist to go for a research stay in a top laboratory in the USA. Drago Kolar became a research participant of the International Institute for Nuclear Science and Engineering of Argonne National Laboratory, Illinois. He was in the age of 28 then and really enjoyed the stimulating atmosphere in a famous and renowned laboratory in which well experienced, well-known scientists co-operated with highly motivated young colleagues from all over the world.

Drago Kolar became involved in investigations on kinetic processes in solid materials. A topic of great fascination to him which he took up again and again during his further research work; of course always with improved methods and on the basis of an advanced knowledge. His special interest preferably directed to high performance ceramics which at that time became a research topic of highest actua-

ality; it was the time of the beginning of the so-called „ceramics fever“.

It was in 1961, when Drago Kolar came back home to the Jožef Stefan Institute, where he then ran through a remarkable career from a Research Assistant to a Senior Research Associate and finally, already in 1965, to the Head of the new founded Ceramics Department, which under his leadership had grown up to be among the top ceramic research facilities in the world.

Drago Kolar published his first article 1962 in the March issue of the Journal of the American Ceramic Society, the leading journal in the field. In this paper entitled „Influence of Gas Flow on DTA curves of UO₂“ he described the use of differential thermal analysis to study the oxidation behaviour of UO₂. The resultant conclusions he gave in regard to the oxidation kinetics are still relevant today. Numerous other publications followed. More than 200 papers are on his list of publications and another more than 200 are published in proceedings, monographies and encyclopaedias. He held 8 patents, has written two fine textbooks on ceramics and was editor of 5 proceeding volumes of international conferences. To underline Dr. Kolar's great scientific potential, one should also mention the high number of invited and plenary lectures on conferences and at universities and institutes abroad; lectures of impressive precision and lucidity.

Drago Kolar's first scientific actions have fallen in a prosperous time for the field of materials science, which flourished, and consequently have a strong influx of students and scientists from traditional disciplines, mainly from physics and chemistry. In those days generous support to all

fields of science was the rule but the outstanding contributions were given to nuclear research and development. Accordingly, nuclear materials have been investigated with preference. This has also influenced Drago Kolar's work. Synthesis, processing and properties of uranium-containing materials have been mainly his study objects. However, the period of nuclear euphoria was short and even changed to serious non-acceptance by many people. And as a consequence, many of the reactor research centers, which have grown up very fast, had to take into account the changing situation and to look for other research topics.

No doubt Drago Kolar was among those, who have easily foreseen this development. As a consequence he fixed another aim for the research activities in his department and himself. He decided for advanced materials, and more specifically for functional ceramics. BaTiO₃-based materials became his favourite. These materials are multifunctional with many facets and suitable for several applications. Drago Kolar contributed excellent results on the structure and properties of BaTiO₃ materials; he discovered several ternary compounds with perovskite-like structures which exhibit good dielectric properties and high temperature stabilities. And he is among those who gave the most solid results in the field. With the same exactness he studied the exaggerated grain growth, twin formation, processing, and sintering of BaTiO₃-based materials with the aim of dense materials of excellent quality.

But BaTiO₃ was not the only material investigated by Dr. Kolar. More or less all oxide-, nitride- and carbide-based advanced ceramics have been object of his sophisticated studies. His main scientific interest was always directed to the interrelation between processing, microstructure and properties.

It was an extraordinary merit of Drago Kolar that he in all his scientific efforts has never lost the view for the requirements of application. Drago Kolar took a scientific curiosity and turned it into an engineering material, whose economic utilisation he significantly influenced. Doubtless he belongs to those pioneers who built bridges from basic research to application, seeking close cooperation with industrial partners.

Teaching and research were always an inseparable unity to Drago Kolar and it was his ongoing concern that his knowledge and research skills have been passed on to future generations. Numerous diploma and doctoral candidates

have contributed to his scientific work. Here, it was Dr. Kolar, who must be credited for defining the problems, setting quality standards and providing critical guidance to his co-workers.

It is indeed impressive how engaged Drago Kolar took over all the pleasure and burden of an academic teacher beside his extensive duties as Head of the Ceramics Department of the Jožef Stefan Institute. Since 1972 he was teaching at the Faculty of Chemistry and Chemical Technology at the University of Ljubljana. After being Assistant Professor first, he became a Full Professor of ceramics and materials science in 1977.

Beyond research and teaching he maintained contacts with many universities and research institutions around the world and succeeded in bridging research and applications in a most impressive manner. The high reputation of Drago Kolar's creative power is underlined by the many awards he has received. 25 in total, but only one should be mentioned here, the one which represents his life-work best. That is the distinction as an ambassador of science of the Republic of Slovenia. And indeed he was a bright ambassador of science. His recognition among peers has led to his engagement in numerous extra curricular activities which he took on: 16 memberships in workshops, topical committees, editorial boards, review committees, advisory boards, executive councils, and others. In all of these bodies he was never just a member but an active participant in word and deed who got noticed by his crisp language and his spirited involvement in discussions. As only one example the Slovene-German bilateral cooperation on Engineering Materials Science and Technology should be mentioned. This cooperation started 1992 in continuation of the Yugoslav-German cooperation. No doubt, Drago Kolar was the main driving force behind this stimulating and successful partnership.

The performance of Drago Kolar can only be explained by personal effort beyond the call of duty, a sovereign command of the scientific field and the joy of creative work. It goes without saying that one's work environment must be supportive, providing outstanding co-workers, a good infrastructure and a peaceful home.

With Drago Kolar a most valuable member of our scientific community has left. His inspiring ideas and his warm friendship will be missed.

Günter Petzow, Stuttgart