

Presentation of the Mineralogical Society of America Award for 1976 to Friedrich A. Seifert

H. S. YODER, JR.

*Geophysical Laboratory
Carnegie Institution of Washington
Washington, D. C. 20008*

Mr. President, Fellows and Members of The Mineralogical Society of America, and Guests:

Rarely does a young man come to the Geophysical Laboratory with such a capacity for hard work, a determination to solve difficult problems, and a willingness to learn new approaches. Professor Friedrich A. Seifert, the youngest full professor and head of department among earth scientists in the German university system, developed these traits under Professor Werner Schreyer at Kiel University. His Ph.D. thesis was on the synthesis and stability of micas in the system K_2O - MgO - SiO_2 - H_2O , but, as you know, the Ph.D. in Germany is only a license to begin a gruelling period of intense work called the habilitation. Professor Seifert's habilitation thesis was *The petrogenetic grid of the system MgO - Al_2O_3 - SiO_2 - H_2O in the range 0-7 kbar and 400-1250°C*. It is on the basis of this work, and his numerous publications and insights into the geobarometry and geothermometry of the metamorphic rocks, that he is singled out for the Mineralogical Society of America Award. In that system alone he resolved the problems of the lower stability limit of cordierite, studied the solubility

of Al_2O_3 in enstatite, confirmed the cordierite-cordierite-cordierite join, worked out the stability relations of sapphirine and boron-free kornerupine, related the order-disorder in anthophyllite to cooling rates, and evolved the entire network of univariant curves for the system up to 30 kbar. Those of you who are experimentalists realize that this incomplete recitation is a list of difficult problems on which many of us have struggled unsuccessfully for years. He obviously has that special insight that brings success to whatever important problem he tackles.

Professor Seifert's achievements were in part the result of an intensive work schedule; however, he has recently taken a step that may lead to moderation of his addiction to work. On the 19th of March he was married to Solvig Lodemann, and we regret his wife could not be here to witness the high praise his colleagues have for him.

Mr. President, it is a special honor for me to present Professor Friedrich A. Seifert as the twenty-sixth recipient of the Mineralogical Society of America Award.

American Mineralogist, Volume 62, pages 606-607, 1977

Acceptance of the Mineralogical Society of America Award for 1976

FRIEDRICH A. SEIFERT

*Mineralogisch-Petrographisches Institut und Museum
der Universitat Kiel, Kiel, Germany*

Mr. President, Hat, Dear Colleagues and Friends,

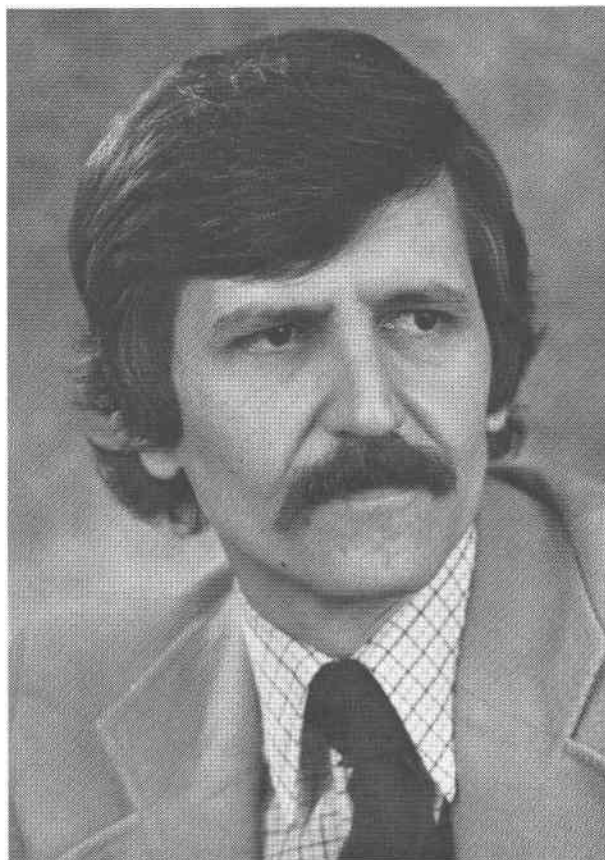
The young people's award of the Mineralogical Society is highly prized among the students of mineralogy all over the world, and I, therefore, could hardly believe my good fortune when Dr. Zen informed me about a year ago that this award would be

given to me. Thinking about my own contribution to mineralogy and comparing it to that of my colleagues I got quite absent-minded and was caught leaving the departmental library with my books unchecked. Fortunately I was just going to get married to the librarian, so I didn't run into serious problems. Even today

it is hard to imagine that I should be so highly rewarded for work that, in itself, has been sheer pleasure from the beginning to the end.

I take the opportunity to tell you something about my education, teachers and colleagues. I started with geology at Kiel University and did my thesis under Professor Werner Schreyer. Werner had then just returned from an appointment to the Geophysical Laboratory and was enthusiastic about studying high-pressure phase relations in simple systems. This approach was then not widely known in Germany. I consider it one of the great achievements of the Geophysical Lab and of other institutions in this country that they have dissipated new and fruitful ideas all over the world through the training of their fellows. From 1966 on we had the great opportunity to build up a new high-pressure laboratory at Ruhr-University Bochum, with adequate funds and laboratory space. From the many friends of that productive period I would like to name K. Abraham, N. D. Chatterjee, and K. Langer, who were inspiring and critical colleagues. In 1973 I was fortunate again to spend nearly a year at the Geophysical Lab myself. I planned to study the stability of gedrites, and everything looked like routine work in the beginning. However, I found it rather difficult to do routine work at a place like the Lab because everybody is focussed on the basic aspects of earth science rather than on the problems of the day. Due to this the planned study took an entirely different course, and Dave Virgo and I eventually found out that Mother Earth tries to tell us something about rock cooling histories by the kinetics of the intracrystalline cation exchange in these amphiboles. Possibly this kind of information will turn out to be more important than just another stability limit in the spider web of metamorphic reactions.

I have been using mostly rather simple systems and models for my studies in experimental petrology and have again and again been fascinated by the complexity of even a three- or four-component system.



Although I am fully aware of the serious limitations of this kind of approach when the results are applied to natural rocks, the method offers the unique chance to test rigorously for equilibrium. In a time when emphasis is put more and more on the dynamics of petrogenesis, the attainment and proof of equilibrium becomes even more important than it was before, because we can interpret time-dependent processes only in terms of departure from equilibrium.

I accept the award with deep humility and great pride. The honour you have bestowed on me will be a challenge for future work.

Thank you all.