

## Foreword

### *Cyclodextrins: Perseverance Pays Off*

This issue of the *Journal of Inclusion Phenomena* is dedicated to Dr. József Szejtli on the occasion of his 60th birthday. It is intended in a small way to recognize Dr. Szejtli's outstanding contributions to the scientific research and technical developments that have resulted in the industrial implementation of novel techniques associated with molecular encapsulation of substances by cyclodextrin (CD). Dr. Szejtli and his coworkers have pioneered techniques leading to the industrial applications of CDs. Without Dr. Szejtli the feasible production of CDs on an industrial scale probably would not be as advanced as it is today.

Having graduated from the Technical University of Budapest, Dr. Szejtli concentrated on the field of polysaccharide chemistry at the same university between 1957 and 1963. He received his Ph.D. in Starch Chemistry in 1961. Subsequently he received an appointment as a postdoctoral fellow at the Seaweed Research Institute at the University of Trondheim in Norway in 1963.

Between 1965 and 1966 at the Institute of Nutrition of the German Academy of Sciences in Potsdam Dr. Szejtli's scientific interest turned toward the molecular structure of amylose and its inclusion complexes, moving him a step closer to cyclic oligosaccharides, an area that will forever be in debt to his scientific and industrial perseverance.

Having spent considerable time in rather cold and foggy climates, Dr. Szejtli decided to accept a professorship at the University of Havana in Cuba, a decidedly warmer venue. Dr. Szejtli often alluded to the importance of the sun to polysaccharide scientists, saying "*as long as the sun shines photosynthesis will provide starch, the inexpensive raw material for polysaccharide scientists*". He was there from 1967 to 1970.

Returning to his beloved Hungary, Dr. Szejtli succeeded in persuading Chinoin Pharmaceutical and Chemical Works to organize the Biochemical Research Laboratory (BRL) in 1971. This research group was to investigate every possible field of application for CDs and their inclusion complexes (pharmaceuticals, pesticides, foods, cosmetics, analytical chemistry, etc.). Not only did Dr. Szejtli recruit scientists and oversee the research at BRL, he also travelled extensively to convince everyone from University graduate students to chief executives of industrial companies that these cyclic oligosaccharides held great commercial promise; not even family members were exempt from his convincing arguments. Dr. Szejtli began

this crusade in 1973. Dare we imagine how much better off society would be if Dr. Szejtli's concepts had been seized and developed in 10 years instead of 20 years?

Instilling into his carefully selected coworkers his own enthusiasm for the usefulness of CDs is probably the greatest single reason for Dr. Szejtli's ultimately successful introduction of CDs into commercially useful applications. This enthusiasm helped retain the best of his coworkers in the early days of BRL when this CD product development project was in its early childhood and so much unappreciated. Dr. Szejtli often told his earliest coworkers at BRL, "*if you want to be an expert in a field, you must write a book on it*". He believed that consolidation of the information on CDs in the technical literature was a way to more efficiently move research applications to commercial applications. Thus, he wrote his first book on CDs, entitled *Cyclodextrins and Their Inclusion Complexes*. The book was published in 1982 after the First International Symposium on Cyclodextrins was organized by him and held in Budapest in 1981. It is still one of the most frequently cited texts in the field of CDs (as of 1993, *Citation Index* lists more than 1500 citations from this seminal text).

Dr. Szejtli has received much recognition for his work, but two of the most prestigious acknowledgements of his contributions are the *Academy Award* from the Hungarian Academy of Sciences, received in 1986, and the internationally awarded *Moët-Hennessy prize, 'Science of Art'*, awarded in 1991.

Dr. Szejtli's contributions to the field of CDs are even more noteworthy because he has successfully taken research ideas and produced useful products that can improve the quality of life for people everywhere in the world. He succeeded at the greatest challenge a research scientist can accept – he created commercial products from his ideas. The vehicle for these products was first BRL in 1971 as a wholly owned subsidiary of Chinoin and then the late BRL (Cyclodextrin Research Laboratory) as a financially independent subsidiary of Chinoin from 1988 to 1991, and finally as *Cyclolab Ltd.*, the financially independent, employee-owned partnership with Chinoin/Sanofi since December of 1991. Dr. Szejtli is the General Manager and Research Mentor of Cyclolab Ltd.

Under Dr. Szejtli's leadership Cyclolab has built and continues to expand a production facility in Budapest, Hungary, for the production of cyclodextrin complexes from 100 kilograms to one ton. Cyclolab is also able to provide scale-up technology and product characterisation/studies, besides the basic research in the CD field.

Through his perseverance, business acumen, and tireless efforts Dr. Szejtli has created a financially independent and self-sustaining place of business where his coworkers can prosper and study, and which will certainly become the spawning grounds for future CD scientists/entrepreneurs.

In an effort to make the information concerning CDs and CD applications more available to interested researchers Dr. Szejtli with his English friend James Pagington founded, in 1986, the scientific monthly newsletter, *Cyclodextrin News*,

a publication which he edits and is probably considered to be the most up-to-date and comprehensive source of information on CDs.

Dr. Szejtli has authored or co-authored more than 300 scientific papers, 6 books and over 70 patents; he has also supervised more than 30 Ph.D. dissertations.

As research scientist, pioneer, motivator, entrepreneur and mentor for future CD discoveries, Dr. Szejtli has done it all. He richly deserves the recognition of his peers on this the occasion of his 60th birthday. We all look forward to many more years of the indomitable enthusiasm that has marked his distinguished career.

Boldog születésnapot, Jóska !!!  
Happy Birthday József !!!

*Budapest, May 19, 1994.*

on behalf of the international CD family,

LAJOS SZENTE