

# Trends in Collagen

## Foreword

A Satellite Symposium on Trends in Collagen held at the Triple Helix Auditorium in Chennai, named after the structure of collagen, and organized on the occasion of the commemoration of the Golden Jubilee of the Central Leather Research Institute (CLRI), India, presented a forum to revisit and resavour exciting research in an important area of protein science. The symposium was organised on the occasion of the XXV Congress of the International Union of Leather Technologists and Chemists Societies held at Chennai during 27–30 January 1999.

Among the connective tissues, collagen has remained an all pervasive protein. In the early 1950s, the elucidation of the structure of collagen provided an intellectual challenge. Some important groups addressed issues relating to the structure of the protein. There has been healthy cross-fertilization of ideas. The Madras triple-helical structure of collagen brought an important perspective to the study of this protein. A special issue edited by the late N Ramanathan of CLRI in 1962 related the R & D outcome in collagen during an important period of structural investigations on the protein. The symposium on collagen held at CLRI during 1960 has been an important landmark.

During the last four decades, there have been significant advances in our understanding of structural and molecular biology of the protein. The heterogeneity of collagens has been identified. The importance of molecular assemblies has been recognized. Some important genetic disorders relating to the biosynthesis and structural alternations of collagen have been better understood. Collagen-related biomaterials have found valuable and significant applications. Collagen gene expression and collagen degradation are areas of contemporary investigations. Research on the protein has been vibrant.

Leather being a product of a stabilized collagenous matrix, leather technologists and chemists have remained strongly interested in the trends in collagen research. It has been professionally satisfying and stimulating that as many as twenty eight active groups carrying out frontline research in collagen the worldover contributed articles to this special issue being brought out by the Indian Academy of Sciences.

Structural studies on collagen have been revisited and contemporary advances in the area documented. As many as seven professional colleagues have addressed contemporary issues relating to the structure of collagen. Molecular assembly and evolution have attracted significant interest. A total of nine contributions in this area have been included. Molecular organization and assembly processes have had a large bearing on the stability and the function of the protein. Collagen gene expression and degradation have been addressed by seven authors contributing to this volume. Connective tissue disorders relating to the maturation and aging processes of the protein are diseases of significance and five professional colleagues have discussed these issues. Molecular interactions have also been articulated. On the whole, this special issue being

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brought out by the Indian Academy of Sciences on Trends in Collagen contains a treasure of knowledge and information.

The issue is dedicated to the outstanding efforts of Prof G N Ramachandran, who stimulated collagen research in India, and we record here the very great appreciation of the scientific community for the scientific spirit and professional honour of Prof G N Ramachandran.

We wish to express our gratitude to all the authors for their contributions to this special issue. The professional help of Dr M D Naresh, Dr P Sivakumar and Dr N Anilkumar in the compiling of this issue is gratefully acknowledged.

February 1999

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