Foreword

This special edition of “Microscopy, Microanalysis, Microstructures” marks the 20th anniversary of the meetings of the French section of the “International Society for Stereology” (I.S.S.) which have taken place every year since February 1977.

This section is probably the most dynamic of the I.S.S.. The informal nature of our meetings enabled not only discussions of specific points, but stimulated numerous discussions between research workers from different disciplines - agronomists, those from fine arts, astronomes, biologists, botanists, electronic engineers, geologists, informaticians, material scientists, mathematicians, mechanical engineers, physicians, ... These discussions treated fundamental as well as applied aspects and considered also the development of possible new subjects.

The French School of Mathematical Morphology is the most well known world wide. One now finds mathematical morphology used daily as a simple yet powerful tool in a large number of laboratories, not only in France but throughout the world. This development is due to many factors, but particularly to the progress in information technology. In France the dynamism of the research workers has led to the creation of reputed centres such as the Centre de Morphologie Mathématique (Centre of Mathematical Morphology) of the School of Mines at Fontainebleau, the Pôle Traitement et Analyse d’Images, TAI, (Centre for Image Treatment and Analysis) in Normandy, which has been recognized in the Plan-Etat-Region (State-Country-Plan) with the CNRS, the research Group GDR ISIS (Information-Signal-Image) under the auspices of CNRS and MENESR, ...

In this special issue, a selection of activities, related to automatic image analysis, mathematical morphology and stereology are presented together. Obviously it cannot be a comprehensive exposition of the work undertaken over the last ten years, following the tenth anniversary publication (in *J. Microsc. Spectrosc. Electron.* **12** (1987) 1-200). It demonstrates, nevertheless, the various facets of the subject and the vitality of our group. The reader will note the diversity and scientific value of the contributions selected, which present a general view of the work carried out in a laboratory over the last ten years, or the results of a new subject of research, or in any other words a topic which the laboratory considers to have been important.

After a brief introduction into image analysis, mathematical morphology and stereology, this issue focusses upon papers on 3D analysis and industrial control, size and dispersion, shape, non planar surfaces and flow properties, and on modelling.

I thank all those who have contributed to this volume - authors, technicians and laboratory assistants, secretaries, and referees - and above all the Journal Editor who has agreed to publish a double issue to mark this occasion. Finally we thank the École Nationale Supérieure des Mines de Paris (National High School of Mines) for being host for the annual meetings of the French section of the International Society for Stereology, every year in February.

Jean-Louis CHERMANT
Past ISS President
Caen, February 6, 1997

20th Anniversary of the French Section
of the International Society for Stereology