

Papers presented at the “International Conference on Fatigue and Fracture of Glasses, Ceramics and Composites”, Materials Research Society of India, Kolkata, September 1999

FOREWORD

The unique properties of glasses, ceramics and composites such as corrosion resistance, high specific strength, transport behaviours ranging from those of insulators to superconductors, etc have made these materials very attractive for a wide variety of applications like in automobiles, prosthetics, sports goods, electronics and aerospace structures etc. Yet their potential has not been fully realized primarily due to their brittle nature and susceptibility to sudden catastrophic failure under stress (single or repeated) due to the absence of dislocation assisted plasticity. The brittle behaviour arises more due to the nature of the consolidation processes and this limitation has shifted the attention of designers away from these materials since they cannot accept these materials with full confidence. While great strides have been made in investigations of brittle phenomena, complete understanding of it has remained elusive. Therefore much attention is being given by the scientists and the area is attracting heavy research funding. The growing importance of the subject has induced several Indian (materials) scientists to undertake fatigue and fracture related studies of such materials in their laboratories. The MRSI Kolkata Chapter, felt that a conference on this subject area be organized in the dawn of the new millennium and should assemble members of the scientific community both from India and abroad to enable them to share their experiences and give a purposeful direction for further investigations. As chairman of the organizing committee it was my responsibility to organize the two-day conference and to ensure participation from industry, research and academic institutions. But for the unstinted support from members of the organizing committee and the chapter the objective stated above could not have been met.

I am particularly thankful to the Editorial Board of BMS for having kindly agreed to publish papers presented at this conference as a special issue. My sincere thanks to all authors for their interest and contributions that had made my task more gratifying.

B K Sarkar
Guest Editor