



# Preface

## Materials Division Diamond Jubilee Special Issue

In 1920, ASME started forming various divisions and the Materials Division was one of the seven Divisions founded in that year. This early recognition speaks for the long-standing history of materials activities in our Society, and, especially in recent years with the rapid progress of materials technology, it is playing an ever-increasing role in the practice of mechanical engineering. The year 1995 marks its 75th anniversary. To commemorate this occasion, the Materials Division decided to publish a special issue of JEMT to give an assessment on some of the contemporary issues of engineering materials and technology that are pertinent to our profession.

To plan for this Diamond Jubilee issue, a committee consisting of the current members of the MD Executive Committee, Chairmen of the Technical Committees of MD, Chairman of the Nadai Award Committee, and all members of the JEMT Editorial Board, was established in the summer of 1994, to recommend the potential contributors of this issue. From the outset it was decided that these invited individuals must be distinguished scientists or engineers working in the fields closely related to both mechanics and materials, and that the nature of the article could be either an original contribution or a broad critical review, which will have a lasting interest to the reader of JEMT. While some articles can be more closely identified with the mechanics issues and others with the materials issues, all carry the interdisciplinary flavor of mechanical properties of materials.

The reader will find that the topics covered in this issue are sufficiently broad; they include principles of the micro-macro transition, elastic behavior, plastic behavior, high-temperature creep, fatigue, and fracture. Specific issues involving metals, polymers, ceramics, intermetallics, and their composites have also been addressed. While the limitation of the volume did not permit us to invite more willing participants and to give an even wider coverage, it is our hope that this collection of papers will provide sufficient insights into the contemporary issues of engineering materials and technology.

Finally, I would like to take this opportunity to thank all authors for making this contribution.

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**New Brunswick, NJ**