

# FATIGUE AND FRACTURE MECHANICS

30TH VOLUME

KENNETH L. JERINA AND  
PAUL C. PARIS, EDITORS



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# ***Fatigue and Fracture Mechanics: 30th Volume***

*Kenneth L. Jerina and Paul C. Paris,  
editors*

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# Dedication

This volume of proceedings of the 30th National Symposium is dedicated to Edward T. Wessel for his long-standing support of the Symposium series and for his leadership associated with ASTM committee activities.

Mr. Wessel began his activities with the E-8 Committee through its predecessor E-24 when it was an ASTM special committee investigating fracture problems associated with the Polaris rocket motor cases in the late 1950s. During that time and to the present, he and the group he led at Westinghouse Research Laboratories made many monumental contributions to fracture mechanics. Scores of outstanding research papers from individuals in his research group have been published in the National Symposium volumes. The hallmark of his leadership was a spirited team effort to understand and advance many aspects of fracture mechanics. Therefore, this dedication is a well-deserved “thank you” to Edward T. Wessel and is enthusiastically endorsed by all associated with the National Symposium series.



*Edward Wessel (left) with E-8 Chairman Stephen W. Hopkins at the 30th National Symposium banquet.*

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# Foreword

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The 30th National Symposium on Fatigue and Fracture Mechanics was held at Washington University in St. Louis 23–25 June 1998. The technical session presentations were in the “Moot Court Room” of the Anheuser-Busch Hall, and the conference banquet was held in Holmes Lounge, a recently renovated room in Ridgley Hall that dates back to the 1904 World’s Fair. Professors Kenneth L. Jerina and Paul C. Paris hosted and co-chaired the festivities (Fig. 1).

It is of special interest to note that Dr. George R. Irwin, a founder of this symposium series and 91-years-old attended these sessions. His arrival at the technical sessions was greeted with a standing ovation. Whereupon he proceeded to a front row seat and participated in discussions of the technical presentations. Sadly, a few months later, in October 1998, Dr. Irwin passed away. Figure 2 shows him at the banquet surrounded by many friends.

The banquet for the 30th National Symposium took on a “belle epoch” theme from the 1904 World’s Fair Holmes Lounge venue, the classic cuisine provided by Cafe de France and the entertainment provided by the Ragtimers, a ragtime musical group associated with Washington University. In addition, the banquet provided an elegant forum for Stephen W. Hopkins, Chairman of the ASTM E-8 sponsoring committee, to present several awards and honors. The first was to announce and congratulate Edward T. Wessel for being chosen for a special award of ASTM for his many years of leadership within E-8. Next, Professor John D. Landes was honored with a plaque acknowledging his presentation of The Swedlow Memorial Lecture at this symposium, as depicted in Fig. 3.

Mr. Hopkins also surprised Professor Paris by presenting him with the ASTM Dudley Medal for co-founding the symposium series and his contributions to these symposia. Professor Paris was also



FIG. 1—Co-chairmen Professors Jerina (left) and Paris.





FIG. 2—*Dr. George R. Irwin (center) and friends.*

designated as the National Symposium subcommittee “honorary chairman” and keeper of the “symposium bell” by E-8 Chairman Hopkins. Figure 4 shows this presentation.

Another award associated with this symposium was that for the best presentation of a paper. This award was presented to Professor Richard W. Hertzberg at the November 1998 meeting of ASTM Committee E-8 by Chairman Hopkins. This presentation is shown in Fig. 5.



FIG. 3—*Professor John D. Landes (left) receiving his award from E-8 Chairman Hopkins.*



FIG. 4—*Professor Paris receiving the ASTM Dudley Medal.*

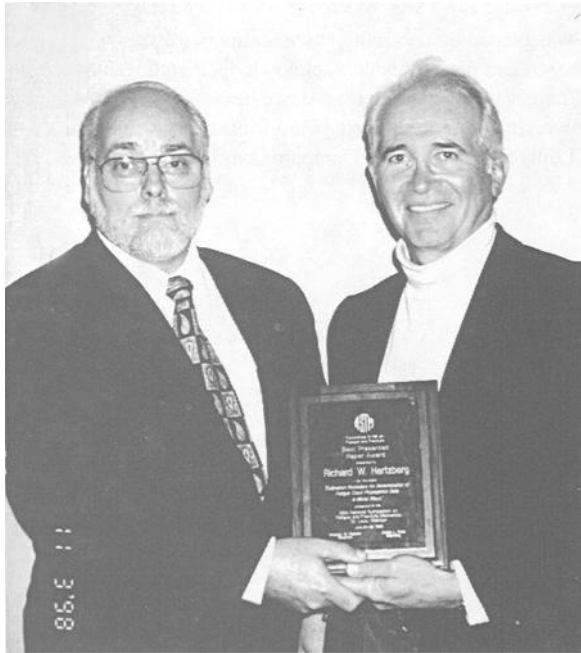


FIG. 5—*Professor Hertzberg receiving the best presentation award.*



FIG. 6—*Ms. S. TerMaath cited for the best student presentation by Mr. J. Schiele.*

Special emphasis was placed on receiving student papers for this symposium, of which nine were presented. Each of the student presenters was acknowledged at the banquet with a certificate for their meritorious efforts. Plaques were awarded for the two best papers. Figure 6 shows Ms. Stephanie TerMaath of Cornell University receiving a cash award for the best student presentation from Mr. James Schiele, CEO of St. Louis Screw and Bolt Company, who donated the award.

*Kenneth L. Jerina*  
Materials Research Laboratory  
Washington University,  
St. Louis, MO

*Paul C. Paris*  
Mechanical Engineering  
Washington University  
St. Louis, MO

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