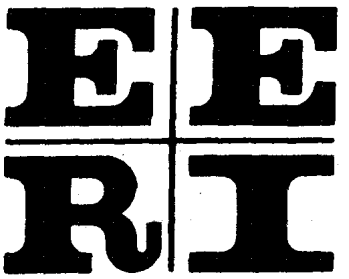
Proceedings of the 2nd U.S. National Conference on Earthquake Engineering



Earthquake Engineering Research Institute

August 22-24, 1979
Stanford University
Stanford, California

Sponsored by the
Earthquake Engineering Research Institute

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2nd U.S. NATIONAL CONFERENCE ON EARTHQUAKE ENGINEERING

August 22-24, 1979
Stanford University

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CONFERENCE SESSION CHAIRPERSONS

Session 1 OPENING SESSION (Wednesday, 9:00 am to 10:15 am)

James M. Gere, Stanford University

Session 2 GENERAL REPORTS (Wednesday, 10:45 am to 12:00 noon)

Henry J. Degenkolb, H. J. Degenkolb and Associates,
San Francisco, California

Session 3A RISK ANALYSIS (Wednesday, 1:30 pm to 3:00 pm)

Anne S. Kiremidjian, Stanford University

Session 3B INDUSTRIAL FACILITIES (Wednesday, 1:30 pm to 3:00 pm)

C. Martin Duke, University of California, Los Angeles, California

Session 4A SEISMOLOGY AND GEOLOGY (Wednesday, 3:30 pm to 5:00 pm)

Lloyd S. Cluff, Woodward-Clyde Consultants, San Francisco, California

Session 4B STRUCTURAL ENGINEERING -- EXPERIMENTAL STUDIES
(Wednesday, 3:30 pm to 5:00 pm)

R. B. Matthiesen, U.S. Geological Survey, Menlo Park, California

Special Session EARTHQUAKE ENGINEERING IN RUSSIA
(Wednesday, 5:00 pm to 6:00 pm)

Charles C. Thiel, Office of Science and Technology Policy,
Executive Office of the President, Washington, D.C.

Session 5A THE MIYAGI-KEN-OKI EARTHQUAKE OF JUNE 12, 1978
(Thursday, 9:00 am to 10:15 am)

Peter I. Yanev, URS/John A. Blume and Associates,
San Francisco, California

Session 5B STRUCTURAL ENGINEERING (Thursday, 9:00 am to 10:15 am)

Thomas D. Wosser, H. J. Degenkolb and Associates,
San Francisco, California

Session 6A PUBLIC POLICY AND ECONOMIC STUDIES
(Thursday, 10:45 am to 12:00 noon)

Karl V. Steinbrugge, Insurance Services Office,
San Francisco, California

Session 6B STRUCTURAL ENGINEERING -- DYNAMICS
(Thursday, 10:45 am to 12:00 noon)

Erik H. Van Marcke, Massachusetts Institute of Technology,
Cambridge, Massachusetts

Session 7A GEOTECHNICAL ENGINEERING -- ANALYTICAL PROCEDURES
(Thursday, 1:30 pm to 3:00 pm)

T. Leslie Youd, U.S. Geological Survey, Menlo Park, California

Session 7B LIFELINE ENGINEERING (Thursday, 1:30 pm to 3:00 pm)

Otto W. Steinhardt, Pacific Gas and Electric Company,
San Francisco, California

Session 8A RISK ANALYSIS (Thursday, 3:30 pm to 5:00 pm)

Joseph Penzien, University of California, Berkeley, California

Session 8B EARTHQUAKE ENGINEERING REPORTS FROM SEVERAL COUNTRIES
(Thursday, 3:30 pm to 5:00 pm)

John B. Scalzi, National Science Foundation, Washington, D.C.

Special Session EARTHQUAKE ENGINEERING IN CHINA
(Thursday, 5:00 pm to 6:00 pm)

S. C. Liu, National Science Foundation, Washington, D.C.

Session 9 GENERAL REPORTS (Friday, 9:00 am to 10:15 am)

Robert D. Hanson, University of Michigan, Ann Arbor, Michigan

Session 10 GENERAL REPORTS (Friday, 10:45 am to 12:00 noon)

Roland L. Sharpe, Engineering Decision Analysis Company,
Palo Alto, California

Session 11A STRUCTURAL DESIGN (Friday, 1:30 pm to 3:00 pm)

John W. Reed, Jack R. Benjamin and Assoc., Palo Alto, California

Session 11B GEOTECHNICAL ENGINEERING -- STABILITY CONSIDERATIONS
(Friday, 1:30 pm to 3:00 pm)

H. Bolton Seed, University of California, Berkeley, California

Session 12A STRUCTURAL DESIGN (Friday, 3:30 pm to 5:00 pm)

Richard V. Bettinger, Pacific Gas and Electric Company,
San Francisco, California

Session 12B SEISMOLOGY AND GEOLOGY (Friday, 3:30 pm to 5:00 pm)

S. T. Algermissen, U.S. Geological Survey, Denver, Colorado

SPEAKERS AT THE OPENING SESSION

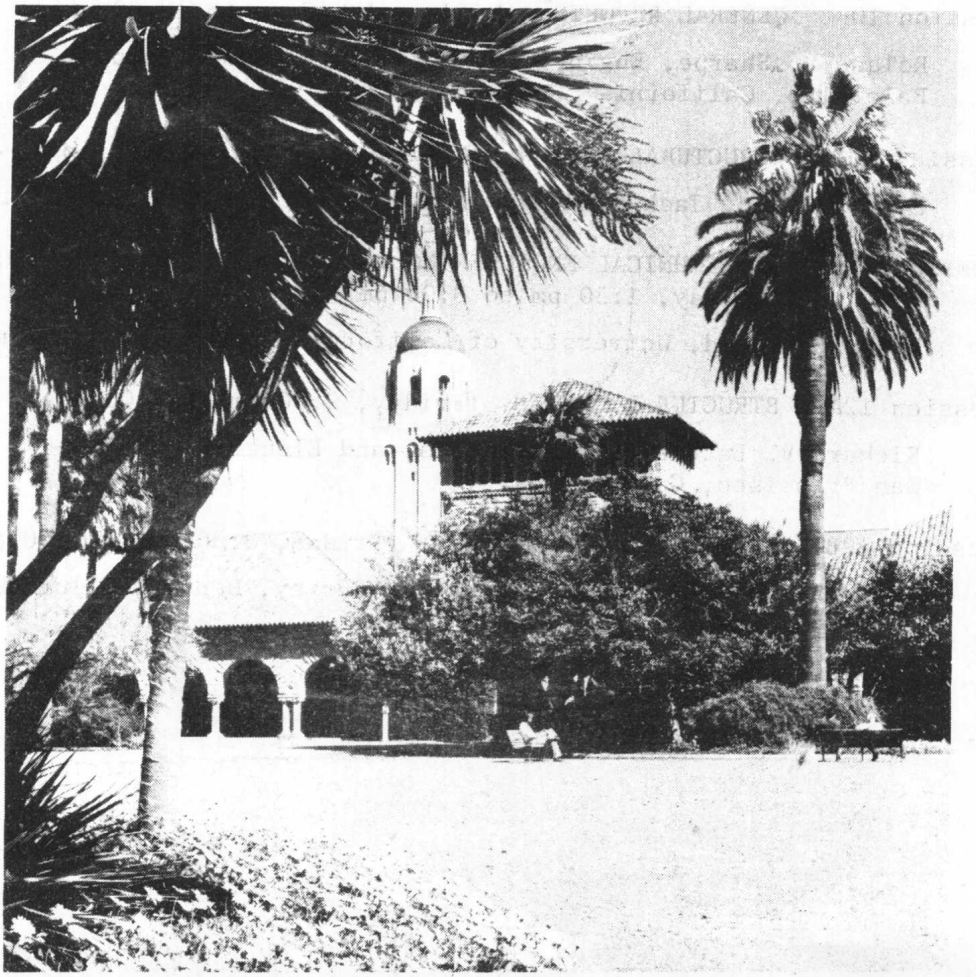
Welcome to Stanford University

Greetings from EERI
John A. Blume, President, Earthquake Engineering Research Institute

Earthquake Engineering Research and Engineering Practice
Jai Krishna, President, International Association for Earthquake Engineering, and Professor Emeritus, University of Roorkee, India

Earthquake Hazards Reduction -- A National Perspective on a Local Problem
Charles C. Thiel, Office of Science and Technology Policy, Executive Office of the President, Washington, D.C.

Right Thinking in Earthquake Engineering
George W. Housner, California Institute of Technology, Pasadena, California



INTRODUCTION

Earthquake engineering has become an increasingly important branch of engineering and so it is not surprising that this 2nd U.S. National Conference has attracted much attention. In response to the Call for Papers, over 350 abstracts of papers were submitted to the Program Committee for review. From these abstracts the final program for the Conference was selected. Most of the papers were presented orally at the Conference, but some could not be fitted conveniently into the daily schedule. These papers nevertheless appear in the Proceedings because of their importance to the engineering profession.

These Proceedings were published prior to the Conference in the hope that copies would be available to registrants during the time of the Conference itself. Thus, it is possible that a few differences may exist between the program as it appears in these Proceedings and as it actually occurred.

We would like to thank the many people who assisted in the plans and preparations for the Conference. Our thanks go to the Steering Committee members for their advice in the early stages of planning, to the Program Committee for many hours spent in reviewing both abstracts and final manuscripts, to the Session Chairpersons for agreeing to serve in this important role at the Conference, to our colleagues at Stanford who assisted with many of the arrangements, and to our students who also helped in numerous ways. Special thanks are due Dr. John A. Blume, President of EERI, who did a great deal of organizing for the Conference and kept us from making too many mistakes. We would also like to acknowledge the invaluable work done by Susan Newman, Administrative Director for EERI, and Laura Selby and Nancy Goodman, our secretaries at Stanford. Finally, we would like to recognize the most important people of all, the 224 authors and coauthors whose papers appear in these Proceedings.

Haresh C. Shah
James M. Gere
Department of Civil Engineering
Stanford University

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