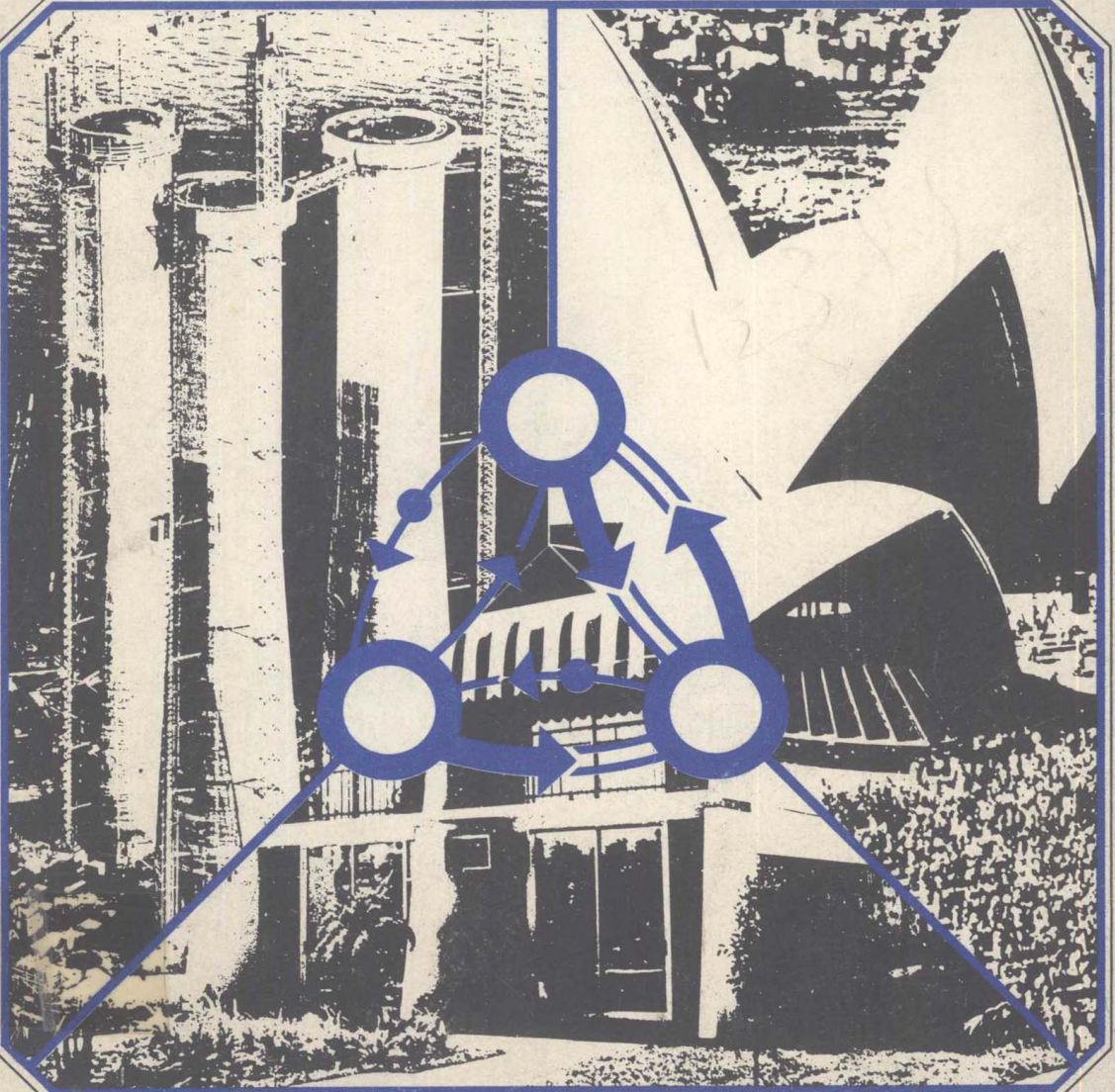


SIGNIFICANT DEVELOPMENTS IN ENGINEERING PRACTICE AND RESEARCH

A Tribute to Chester P. Siess



Publication SP-72

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Mete A. Sozen
Editor



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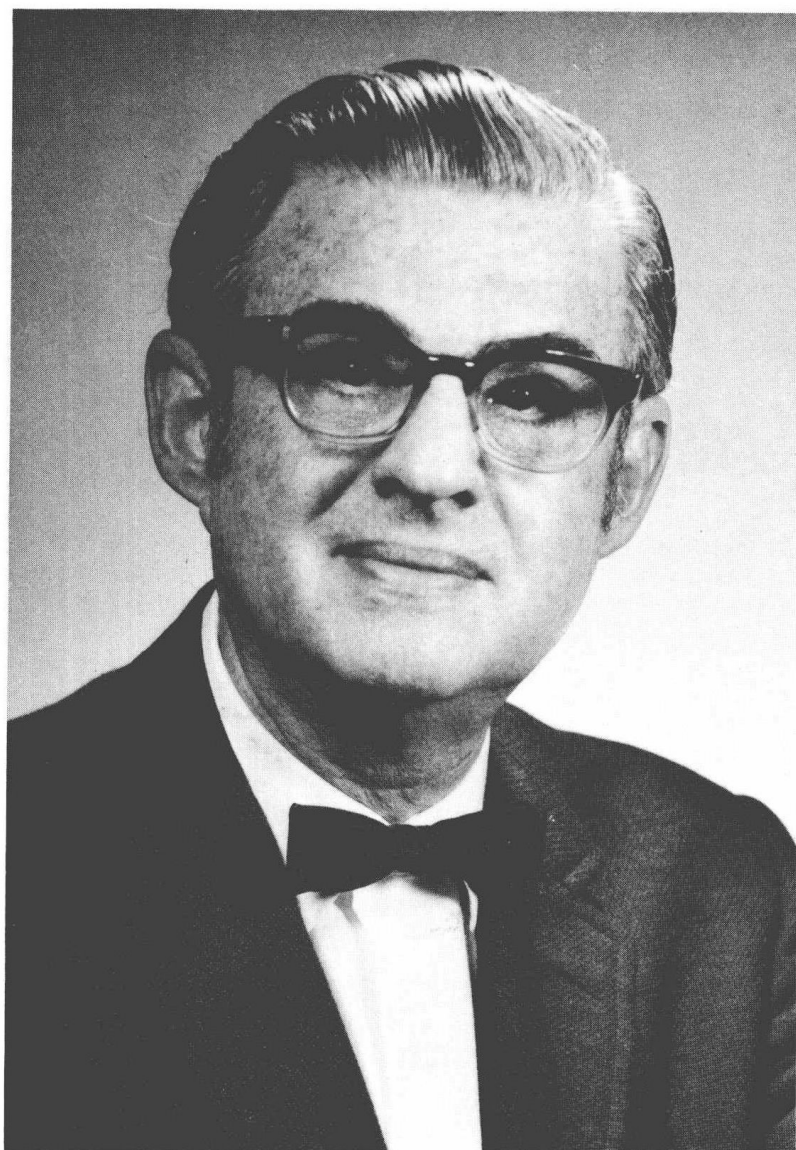
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PREFACE

The "Three Sessions to Celebrate C. P. Siess' Contributions to Research, Education, and Practice," were organized at the request of Dr. Siess' students and friends by a committee on which J. H. Appleton, Eivind Hognestad, Armas Laupa, and M. A. Sozen served. The task of the committee was made much easier because of the enthusiastic and generous support of the American Concrete Institute staff, the Board, and the Technical Activities Committee as well as all those who participated in the event on 1 November 1979 in Washington, D.C.

Appreciation is due the session chairmen who were Dr. E. Zwoyer, Dr. Armas Laupa, Professor C. E. Kesler, Dr. E. O. Pfrang and Mr. J. R. Gaston. Because of the topical contents of their presentations, Dr. R. Woodring and Dr. R. D. de Cossio considered their material to be of temporal interest and elected not to have them included in the proceedings. Their contributions to the success of the session on education are gratefully acknowledged. Dr. Hognestad deserves praise for his penetrating as well as entertaining review of Dr. Siess' career. It is a pity the warmth, wit, and nuances of his delivery cannot be captured on paper. All participants are indebted to James Barry for the memorable party he organized for "friends and enemies of C. P. Siess" to top the day's activities.

Mete A. Sozen



***Dedicated to
Chester P. Siess***

CHESTER P. SIESS

Dr. Chester Paul Siess was born in Alexandria, Louisiana, to Leo Chester and Adele Liebreich Siess. He attended Rosenthal Grammar School and Bolton High School in Alexandria, where his father was a pharmacist. He continued his education at Louisiana State University in Baton Rouge and was a member of the ROTC. Huey Long was still an active patron of the LSU campus at that time. Siess had the highest scholastic record in the engineering school at the time of his graduation in 1936 with a bachelor of science degree in civil engineering. He was named the Outstanding Civil Engineering Graduate by the Louisiana Section of the American Society of Civil Engineers.

Joining the profession in a depression year, Dr. Siess's first job was that of Party Chief in the Rural Road Inventory program of the Louisiana Highway Commission. For almost half a year he documented the layout and condition of roads in several parishes. Organization of a soil testing laboratory within the Highway Commission brought him there as a Soils Engineer.

In September 1937 he started his graduate studies at the University of Illinois, Urbana, having been awarded a half-time appointment as a Special Research Graduate Assistant in the department of Theoretical and Applied Mechanics, working on a research project with Dr. N. M. Newmark, Dr. V. P. Jensen, and Prof. F. E. Richart. His M. S. thesis, which he completed in 1939, formed the nucleus of the University of Illinois Engineering Experiment Station Bulletin No. 336, "Moments in I-Beam Bridges," published with him and N. M. Newmark as the authors.

In June 1939 he joined Dr. R. B. Peck in the Chicago Subway Soils Laboratory. When the subway construction was completed in April 1941 he started working for the New York Central Railroad in Chicago where he was an engineer-draftsman in the Bridge Office. In Chicago he met Miss Helen Kranson from Marshall, Texas, who had gone there to work after a year's stint as a Freshman in Urbana.

In September 1941, Dr. Siess returned to Urbana as a Special Research Associate in Theoretical and Applied Mechanics. He was put in charge of experimental work, replacing Prof. Ralph Kluge who had taken a position at the University of Florida. He married Miss Kranson on 5 October 1941. Having completed his doctoral dissertation in 1948, in the course of which he developed a moment distribution procedure for two-way slabs, he joined the department of Civil Engineering in Urbana in 1949. By that time Judy, their daughter was born.

In the 1950's, the Structural Engineering Laboratory of the Department of Civil Engineering in Urbana was the scene of a number of new thrusts in experimental research on reinforced concrete. The fundamental research on prestressed concrete and reinforced concrete not only helped transform the basis of design in these materials but also helped train the professionals who would provide leadership for further developments and applications in the use of prestressed and reinforced concrete as a structural medium. The profession has recognized Dr. Siess's stewardship of this strong stream of research through a series of awards. His ASCE Ernest E. Howard Award (1968) citation reads, "Through his extensive research in reinforced concrete and prestressed concrete, the translation of his research results, his informative writings, his effective teaching and stimulation of students and coworkers, Chester P. Siess has made significant contributions to Structural Engineering, with worldwide influence."

In 1949 he received, jointly with N. M. Newmark, the ACI Wason Medal for their paper on Reinforced Concrete Slabs. For his contributions on the same subject ASCE awarded him the Research Prize (1956) and the R. C. Reese Award. His achievements on research related to understanding behavior toward design brought him honors from the Concrete Reinforcing Steel Institute (the CRSI Award 1956), the American Concrete Institute (the Turner Medal, 1964), the Reinforced Concrete Research Council (A. J. Boase Award, 1975), and the National Academy of Engineering (elected to the Academy in 1967). He is an honorary member of the American Concrete Institute (elected in 1969) and the American Society of Civil Engineers (elected in 1970).

He has served the American Concrete Institute in a series of technical-committee assignments and as its president (1974-75). He was the Chairman of the Reinforced Concrete Research Council of the American Society of Civil Engineers during the period 1968-1981.

Since 1968 he has been a member of the Advisory Committee on Reactor Safeguards (U.S. Nuclear Regulatory Commission) which he served as Chairman in 1972.

He is currently Chairman of ACI Committee 318 which is charged with the task of preparing the next version of the Standard Building Code.

The University of Illinois has been blessed with a number of great teacher-researchers in structural engineering over the years. The shadows that men like Cross, Newmark, Richart, Wilson, Westergaard and Talbot cast are awesome. The most important recognition Chester Paul Siess has received is the firm belief of those students who have known him in the classroom and in endless discussions in his office (where if the proverbial pistol of his argument missed fire he beat you down with its butt end) that he belongs in that select class.

OPENING REMARKS

By Joseph H. Appleton

A tribute to Chester Siess could take many forms--a recitation of his accomplishments, a discussion of his teaching and research methods, a look at his participation in technical committee work, or an examination of his interaction with his students and associates. The tribute that we are mounting today will be recognized as one only if the papers presented are judged to be up to Chester's standards. For the papers are principally concerned with work performed by the authors who were students or associates of his. Unless they digress from their topics, they will not touch on many of the more important things we experienced with Chester. Students quickly learned that they were a part of his family--being with Helen and Judy was particularly enjoyable. They found that ways were found for them to attend ACI meetings. How many of us have followed through on that point? Both associates and students found Chester to be open, inquisitive, and receptive. No development of his ever seemed new; because he had tried the ideas out on his students and associates long before they were published or formally presented. You couldn't steal one of his ideas, because he would give it to you if you would pursue it. I could go on and on with glimpses of my 32 years of knowing and associating with Chester. But most of what I would say would be the same that most of you have experienced another day, another time. Thank you for coming to share this day with Chester. He probably feels that it is not so much his day, but your day and my day.

SESSION 1

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