Obituary

Professor Bengt B. Broms President of ISSMGE (1984-1989)

Professor Bengt Baltzar Broms, Stockholm, Sweden, passed away at the age of 95. He is survived by his wife Carina and children Erik, Karin, and Peter.

Bengt Broms was a leading figure in Swedish and International Geotechnology and Foundation Engineering. He is mourned by many colleagues around the world, especially his former doctoral students, whom he mentored with exceptional expertise and generous advice.

During his long career, Broms authored nearly 500 scientific publications and textbooks in Geotechnics, Foundation Engineering, and Soil Dynamics. Broms showed a great interest in the history of Soil Mechanics and Geotechnical Engineering, publishing several papers on the subject. He had also presented keynote addresses, special lectures, and short courses in more than 40 countries.

Born on June 17, 1928, in Örebro, Sweden, Broms graduated in 1952 with a Civil Engineering degree from Chalmers University, Gothenburg, where he earned outstanding grades. Subsequently, he pursued an academic career at the University of Illinois, Urbana-Champaign, and received a Master of Science in 1954 and a PhD in 1956. The primary focus of his thesis was Structural Engineering. With the mentorship and counsel of the late Prof. R. B. Peck, he changed his interest towards soil mechanics. In the three years following his PhD, Broms worked as a research engineer at Shell Development Company in Houston, Texas. He then joined Cornell University, Ithaca, New York, as an Associate Professor. Between 1964 - 1974, he was Director General of the Swedish Geotechnical Institute (SGI). In 1974, Broms was awarded the Professorship of Soil and Rock Mechanics at the Royal Institute of Technology (KTH) in Stockholm, Sweden. In 1983, he moved to Singapore to serve as Professor of the Geotechnical Department responsible for building up a new Geotechnical group at Nanyang Technological University (NTU), after which he retired in 1995.

Broms served as Vice-President for Europe (1977-1981) and President (1985-1989) of the International Society of Soil Mechanics and Foundation Engineering (ISSMFE). His innovative thinking and simplicity helped to enhance international cooperation within the society.

Broms' dedication was seen in his Chairmanship of the Royal Swedish Commission on Pile Research, which is a unique collaborative effort between industry, academia, and government agencies. He was an honorary member of the Swedish Geotechnical Society (SGF). In 1970, he was elected a member of the Royal Academy of Engineering Sciences (IVA) and in 1976 Broms initiated the creation of the Swedish Vibration Society (SVIB), which today encompasses the Nordic region. To honor his contributions in the area of Soil Dynamics, the Swedish Geotechnical Society created the "Bengt Broms lecture", held in connection with the reoccurring Nordic Ground Vibration Day.

Broms showed great interest in promoting international collaboration. While in Stockholm, many internationally eminent Geotechnical engineers visited and shared their experiences. This was seen especially stimulating for young engineers, some of whom formed long-lasting relations. He also encouraged the standardization of in-situ tests and organized the European Symposium on Penetration Testing (ESOPT) in Stockholm, Sweden in 1974. As a result of this effort, different penetration tests were subsequently standardized. Broms also played an active role in developing and practically applying dynamic methods of pile testing. He initiated the first two International conferences on "Application of Stress Wave Theory to Piles" in Stockholm in 1980 and 1984, respectively.

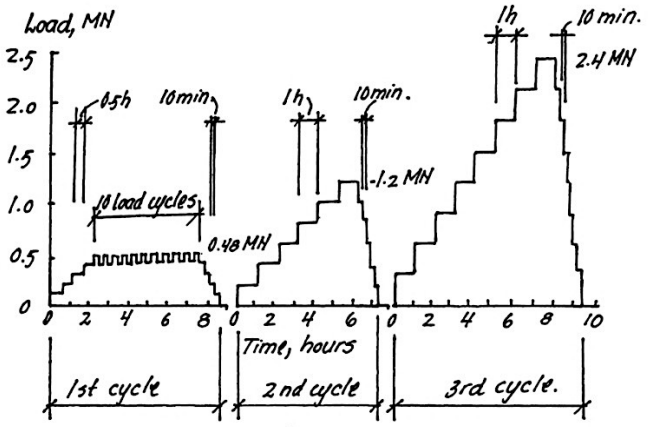
At NTU, Broms actively organized a series of International Geotechnical seminars and symposia, attracting Geotechnical engineers from around the world. The Bengt B. Broms Symposium on Geotechnical Engineering was held in Singapore in 1995. This was basically a retirement symposium, which also recognized Broms' many outstanding contributions and achievements in Geotechnical Engineering.

Few Swedish researchers have had such a significant influence on the development of Geotechnical know-how and its practical application in the construction industry. Broms had achieved an exceptional record in Civil Engineering practice. He pioneered research in several areas, including Cracking in Reinforced Concrete Members, but more so in Lateral Resistance and Buckling of Piles. His studies on horizontally loaded piles have been ground-breaking, particularly in the development of Offshore Technology in the Gulf of Mexico. New concepts in relation to Geosynthetic-reinforced earth structures, and Landslide stabilization were also introduced by him.

Broms had participated in developing several internationally-used foundation methods, such as Stabilizing soft clays with drains, Lime-cement columns, and the more effective use of Prefabricated concrete piles. At SGI, he initiated research on the long-term response of Piled foundations to general subsidence. His work on the effect of Soil compaction on horizontal earth pressure against retaining structures is widely referenced, and he made pioneering contributions to the study of soil dynamic problems, such as Vibratory compaction and dynamic methods of testing piles.

Clients around the world have always valued his extensive knowledge. This was due to Broms' unique ability to find practical solutions to complex problems and apply theoretical knowledge to engineering practice. His record as a specialist consultant in more than 30 countries is impressive. During his time in Singapore, he actively participated in many local and regional projects.

Professor Broms was widely known a dynamic educator, having taught at various universities spanning three continents. As a teacher and lecturer, Broms was able to skillfully simplify even the most complicated problems — sometimes with hand-drawn sketches and diagrams, typical of the many facets of Broms' personality. Students at all levels valued his teaching.



His exceptional intellectual capacity and calm disposition helped forge strong relationships among his many students and team members.

This obituary was prepared on behalf of his former students and collaborators to recognize the immense influence he had on their professional development and their personal lives.

K. Rainer Massarsch, Sweden
Bengt H. Fellenius, Canada
Robert D. Holtz, USA