



## *Magne Espedal Memorial Issue*

### *Preface by editors*

The unexpected death of Prof Magne Espedal on travel to Germany to plan new research collaborations stunned many people including colleagues, friends and family. This special issue has been put together in his memory through contributions from many people across the globe that have felt the warmth and importance of Magne Espedal's academic presence.

Magne Espedal was born in a small village on the west coast of Norway in 1942. He came to the University of Bergen as a student in 1963, where he made fast progress through the undergraduate and graduate level programs. He defended his PhD thesis in 1974 with the title "An Approach to Electrostatic Wave-phenomena". He held positions in the Department of Mathematics from 1971, and was promoted to full professor in 1990.

Theoretical plasma physics was the key research area for Magne Espedal in his early career, where he delivered several solid contributions. However, it was within petroleum research that Espedal gave the outstanding contributions as a lecturer, tutor, and researcher. In particular, Espedal had great influence in the creation and development of petroleum research and education in Norway, and in particular at the University of Bergen. Until the early part of the 1980's, there was no organized education at the university in the field of petroleum or reservoir mechanics. Espedal took the initiative to establish a study program in reservoir mechanics, and, at the same time, he was a driving force behind the establishment of a multi-disciplinary committee to coordinate education and research in petroleum at The

Faculty of Mathematics and Natural Sciences. These efforts laid the foundation for the Norwegian Centre of Excellence in Petroleum Technology that was awarded to the University of Bergen in 2003 (CIPR - Centre for Integrated Petroleum Research). Espedal played a central role in the development and management of this centre.

Magne Espedal's scientific work covered a broad range of topics. Most of his work was conducted in close collaboration with students and colleagues in the US and Europe. He wrote influential papers on many topics related to the modeling of flow in porous media, including operator splitting methods, domain decomposition methods, and upscaling. More recently, he was working on modeling microbes used for enhanced oil recovery.

Magne Espedal had many leading roles in Norwegian research. From the late 1970's, Espedal became strongly engaged in research policy. He held key positions at several national research organizations, and when the Research Council of Norway was established in 1993 he became the first chairman for the board of Natural Sciences and Technology. He was also active in establishing cooperation between academia and industry, for example through his role in VISTA, a research collaboration between Statoil and the Norwegian Academy of Sciences and Letters. He also served two terms on the board of the University of Bergen. Through his work, Espedal achieved a unique position as an advocate for our scientific community. His personal charisma, strong commitment, unswerving integrity, and professional ambitions led him to become widely respected. He was the undisputed leader and spokesperson for applied mathematics in Norway. He had the strength to support other communities and set aside personal and geographic interests.

Even with this truly illustrious career as a leader in the porous media research community, many of us will remember Espedal even more as a great mentor and friend. He was the most popular advisor within the Department of Mathematics in Bergen, educating 60 master degree students and 36 doctoral students during his career. Equally significantly, he was generous with his time whenever colleagues came to him for insights and wisdom. Magne Espedal always believed in providing the best possible environment for education and research, especially for young scientists to whom he always provided opportunities to grow and become independent researchers. Many of us owe Magne Espedal a deep debt of gratitude, and we miss him very much.

Magne Espedal's contribution to science, education and scientific policy are widely recognized internationally. However, perhaps more importantly, Magne Espedal inspired and supported many people throughout the world with his kind personality, enthusiasm and hunger for excellent in research. All of us valued his unique personality and we will continue to benefit from his long-time engagements in science and education. We dedicate this issue to Professor Magne Espedal.

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