Many promising areas for petroleum development lie under the Arctic seas. A few of them are already in production. The sea is covered by ice for much of the year, and moving ice can impose very large forces, sometimes hundreds of thousands of tonnes. This can pose design challenges when building facilities for petroleum development. However, sea ice is an extremely brittle substance, with a fracture toughness one-tenth that of glass, and has a complex internal structure. Fracture is a factor that limits the force that ice can apply, and it is therefore important to understand repeated fracture. The lecture will describe the mixture of laboratory-scale experiments, field-scale measurements and fracture analysis that has been applied to this highly controversial subject.

Professor Andrew Palmer is a Fellow of the Royal Society, a Fellow of the Royal Academy of Engineering, a Fellow of the Institution of Civil Engineers, and a Chartered Engineer. He has divided his career equally between practice as a consulting engineer and university teaching. In 1975 he joined R.J. Brown and Associates, at that time the leading consultant in this field. In 1985 he founded Andrew Palmer and Associates, a company of consulting engineers who specialise in marine pipelines, and have been engaged in projects in almost every part of the world. In 1996 he returned to research and university teaching as Research Professor of Petroleum Engineering at Cambridge University in England. He was a Visiting Professor in the Division of Engineering and Applied Sciences at Harvard University, 2002-03, and is currently Professor in the Department of Civil Engineering, National University of Singapore. He is the author of two books and more than 175 papers on pipelines, offshore engineering, geotechnics and ice. He has an active consulting practice.

Registration is free but pre-registration is required. Please confirm with Ms Tracey Yeoh by Wednesday, 30 May 2007 via the reply slip. Email: cveygk@nus.edu.sg; Tel: 6516 2149; Fax: 6779 1635
5th Keppel Offshore & Marine Lecture 2007

Arctic Offshore Structures, Ice Engineering and Ice Mechanics

on Wednesday, 6 June, 7pm
at the Engineering Auditorium
Faculty of Engineering, National University of Singapore
21 Lower Kent Ridge Road, Singapore 119077

☐ Yes, I would like to attend the lecture.

☐ No, I will not be attending the lecture.

Name : __________________________
Organization : __________________________
Contact No : __________________________
Email Address: __________________________