

Professor Pat McKeown, OBE FREng.

### **Abstract**

Pat McKeown was one of the pioneers of modern high precision engineering with particular emphasis on research, design, development and manufacture of ultraprecision machine tools and associated metrology equipment. His talk outlines the most important developments in this field as applied primarily to the machining of large and micro-optics leading up to the manufacturing challenges now presented by Extra Large Telescopes (ELTs) such as the proposed European Southern Observatory "OWL" telescope with its 100 metre primary mirror, needing more than 3000 large (2m) hexagonal mirror segments. Principles and techniques for achieving machining accuracies from sub-micrometer down to a few nanometres are highlighted for each example machine tool system.