



**KEITH MACKIE**

**Consulting Coastal & Harbour Engineer**

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SOUTH AFRICA

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## **GENERAL CURRICULUM VITAE**

**K.P. MACKIE**

### **PERSONAL DETAILS**

Name	Keith Patrick Mackie
Date of Birth	6.2.38
Place of Birth	Cape Town, South Africa
Nationality	Dual: South African, British

### **BIOPIC**

Keith Mackie was born in Cape Town and his earliest years, during WWII were spent on the beach at Clifton, living in a corrugated iron shack. After the war, the family moved to the highveld in the interior and he only finally returned to live and work at the sea in 1970. He is married with two daughters and lives with his wife in a house in Llandudno that they designed and built themselves.

After an initial 10 years on very large construction projects, he has spent the remainder of his working career building the South African suite of fishing harbours and he has been strongly influenced both by the marine environment in which he has worked and by the way these harbours, as was intended, have influenced the lives of the communities living on the coast



Currently his professional interests are moving towards training in this field for both professional engineers who do not normally work in the field and for non-technical people, planners, urban and environmental managers, etc., who are at times confronted with the marine environment. He is also exploring the recreational aspects of the seashore, of beach dynamics and its relevance to the quality of the beach experience for the general population, the quality of surfing on the beaches and to the environmentally relevant approach of using skill, not concrete, for the management of beaches.

### **AWARDS**

<b>Gold Medal</b>	S A Institution of Civil Engineers, Basil Read Award for Outstanding Achievement in Civil Engineering Construction in 1987
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## **CONSULTING COASTAL AND HARBOUR ENGINEERING PRACTICE**

Keith Mackie established his practice in 1996 to specialize in this field of engineering and, in particular, in dry-docking.

It is his mission to make available to both public and private sectors the unique and enormous expertise he has acquired in a lifetime building and maintaining the suite of fishing harbours on the inhospitable coasts of Southern Africa. He has also, one way or another, been involved with most of the dry docking facilities in Africa south of the equator from Gabon in the west to the Seychelles in the east.

He has a special interest in the sort of pragmatic solutions needed for a fishing industry and, in particular, in achieving an economic approach to small projects on exposed coasts.

Keith's particular interest lies in Dry Docking. He has developed a coherent theory of Dry Docking that allows significant improvements in the design of dry docks and he has made considerable advances in the practical techniques of constructing these systems. He was awarded the SA Institution of Civil Engineers Gold Medal for Construction for this work. He is also involved in ongoing research into the subject of Dry Docking.

As a service to industry, Keith has published textbooks on the operation of dry docks, and on basic coastal and harbour engineering.

## **EDUCATION**

1989	Post-Grad course in Marine Law (UCT)
1987	Certificate of Practical Techniques in Environmental Impact Assessment (UCT)
1980	Graduate Diploma in Industrial Administration (UCT)
1979	<b>M.Sc.</b> (Civil Engineering) (UCT). Thesis topic: Mechanical Systems of Dry Docking
1960	<b>B.Sc.</b> (Civil Engineering) (UCT)
1955	Matriculated 1st Class from St Andrew's School, Bloemfontein

## **CAREER**

1996 - Present	Principal - Keith Mackie, Consulting Coastal & Harbour Engineers.
1991 - 1995	Bergman-Ingerop – Consultant
1970 - 1991	Fisheries Development Corporation (FDC) (later Coastal Structures Unit, CPA). (Small Harbours and Dry Docks)
1965 - 1970	Stewart, Sviridov and Oliver, Johannesburg (Dams, Hydraulic Works and Oil Pipelines)
1961 - 1964	Post Graduate Apprenticeship with Sir Alexander Gibb and Partners, London. (Training in heavy industrial structures).

## **COMMITTEES**

Present:	Trustee, Hout Bay and Llandudno Heritage Trust.
Previous:	Committee, Western Cape Branch, Wildlife and Environment Society of South Africa Committee, Llandudno Ratepayers Association

## **PROFESSIONAL SOCIETIES**

2004	Subscribing Member, International Navigation Association, PIANC
1979	Fellow S A Institute of Marine Engineers and Naval Architects
1976	Registered Professional Engineer
1969	Member S A Institution of Civil Engineers

## **TEXT BOOKS**

Dry Dock Manual                      A 250 page manual on Dry Docking for Dockmasters. ISBN 0-620-24423-2

Basic Coastal and Harbour Engineering                      A 420 page text book on Coastal & Harbour Engineering prepared under the aegis of the South African Institution of Civil Engineers for a nationwide series of lectures on the subject.

The book is unique in that it not only presents a simplified, easy to understand approach to the subject, but it covers the whole field. It covers water wave theory, beaches and estuaries, breakwaters and revetments, ships, construction practice and dredging, dry-docking, recreation, environment and legal aspects.

These two books form the basis of training courses he offers in dry-docking for dockmasters and in basic coastal & harbour engineering.

## **PAPERS**

Keith has published numerous technical papers both locally and internationally on subjects to do with coastal & harbour engineering, on dry docking, corrosion, dredging, on the administrative disaster of the South African fishing harbours, the use of fractal geometry to characterise coastlines and a paper on the use of coastal engineering to assess the Late Bronze Age in the Eastern Mediterranean

## **RESEARCH**

In the course of his work in dry-docking, he has pioneered a rational and coherent theory of the subject. Aspects of this have been the subject of many of his technical papers. The chapter on this subject in his book on Basic Coastal & Harbour Engineering is the only text available that provides a comprehensive presentation of this rational, rather than empirical, approach to the subject.

## **COMMUNITY**

Keith acts as consulting engineer to the Hout Bay & Llandudno Heritage Trust on the restoration of the historic 1781 gun batteries in Hout Bay. He is also, on behalf of the Trust, in the process of starting a movement to preserve the memory of the wooden fishing vessels that created the South African Inshore Fishing Industry by encouraging the building of models of these vessels.

Currently he is working with Life Saving SA to bring the Australian Beach Safety and Management program to South Africa