Barry Cooke: Among the top sixty: others coloured Blue was also at AIT in 1980.

Professor Kader Asmal

As chairman of the World Commission on Dams, Professor Asmal headed a multi-stakeholder global review of the development effectiveness of dams. As part of its conclusions in November 2000, the Commission proposed a new framework for decision making in the water and energy sector. This proved highly controversial, sparking a further six years of dialogue that was hosted by the United Nations, culminating in the UN withholding its full endorsement of the WCD report. Nonetheless, the report has had a profound influence on policy and directives at the international level, increasing sensitivities in both environmental and social dimensions.

Professor Jose Antonio Baztan de Granda
Over the past 40 years, Professor Baztan de Granda has designed some of the most important dams in Spain, while also teaching about the subject at the Polytechnical Univerity of Madrid. He has been referred to as one of the most influential dam engineers in Europe.

Geoffrey Binnie (1908-1989)
Geoffrey Binnie was the third generation to head up UK-based Binnie & Partners – the firm started by his Grandfather Sir Alexander Binnie in 1901. He was instrumental in launching the firm into the international large dam business, and worked on a number of important projects such as Gorge dam in Hong Kong, Dokan dam in Iraq and Mangla dam in Pakistan.

Hermod Brekke
Hermod Brekke is Professor Emeritus Dr. Tech at the Norwegian University of Science and Technology in Department for Thermal Energy and Hydropower. His focus of research, for both industry and academia, has been on hydro turbine design, high-head hydraulic systems, and renewables integration for small and large hydropower particularly in developing country contexts. A founding and honorary member of the International Hydropower Association, Brekke has made a considerable contribution to the advancement of hydro power technology.

Dr Roy W Carlson (d 1990)
Dr Carlson is internationally renowned for his research in concrete technology and for the invention of several widely used instruments for gauging the behaviour of concrete. He played a vital role in the construction and testing of dams worldwide.

Linda Church Ciocci
After assuming her position as executive director of the National Hydropower Association in 1991, Linda Church Ciocci helped the organisation double its membership, strengthen its fiscal position, and significantly increase its political stature and public voice in North America.

Professor Ray W Clough
From 1950-1995 Professor Ray W. Clough significantly contributed to the field of earthquake engineering through teaching, research and consulting. His most important research contribution in structural engineering was as a co-developer in the "Finite Element Method" (beginning with a classic paper in 1956 that he co-authored), which forever revolutionized the field of structural analysis and design, as well as many other disciplines that now uses this method for analysis.

A K Chopra
Professor Chopra's research activities have included studies of structural dynamics and earthquake analysis and design of concrete dams. He has authored more than 300 published papers on this work, a monograph, Earthquake Dynamics of Structures, A Primer, 2005, and a textbook, Dynamics of Structures: Theory and Applications to Earthquake Engineering, 1995, 2001, and 2007.

J Barry Cooke (2005)
Often referred to as the 'father' of the concrete faced rockfill dam (CFRD), J Barry Cooke is recognised as one of the industry's most important, and respected, civil engineers. Cooke was co-editor of the one of the dam designer's most important reference books – Concrete Face Rockfill Dams - Design, Construction and Performance.

Ronald A. Corso
Corso was one of the principal players in developing the US Federal Energy Regulatory Commission's (FERC) licensing regulations and polices, and was the principal architect of its dam and public safety regulations. An author of more than 75 presentations, he is a sought-after expert on hydro power issues.

Dr. Andre Coyne (1891-1960)
French dam engineer Dr Andre Coyne designed 70 dams in 14 countries, including the Daniel Johnson multiple arch dam on the Manicouagan River in Quebec, and the Malpasset Dam in Southern France. Unfortunately, Malpassaet dam failed in 1959, deeply affecting Coyne, although a later study found that the design of the dam was probably not the reason for its failure. Coyne is also credited with inventing acoustic monitoring procedures and the technique of anchoring structures using pretensioned steel ties.

Paulo T Cruz
Paulo T Cruz's first work with dams was in the historical Tres Marias Dam and in the past 50 years of his professional life he has worked on countless dams all over Brazil including the Itaipu and Tucurui dams. He is the author of 100 Brazilian Dams – history cases, material, construction and design (1996), consolidating the Brazilian know-how in dam design and construction.

Calvin V Davis (1897-1980)
Calvin V Davis was President of Harza Engineering Company (now MWH) and editor and contributor to the Handbook of Applied Hydraulics, a comprehensive reference for the dam and hydro power design industry. The book was considered a 'first tier' reference by the American Association of Dam Safety Officials as late as the year 2000.

Dr Victor De Mello (1926-2009)
The research and developments proposed by Dr Victor De Mello on the behaviour of compacted saprolites and residual soils have influenced dam engineering throughout the world. He participated on the design and construction of some major engineering projects worldwide, including the Tucurui and Yacyreta projects in Brazil.

Mr. Zho Dongru
Mr Zho Dongru is Senior Engineer and Project Manager of China Gezhouba (Group) Corporation (CGGC). Some of his achievements include Gezhouba dam and Three Gorges in China, and Yeywa RCC dam in Myanmar. Mr Zho has spent a lifetime dedicated to dam and hydro power projects in China and Southeast Asia.

Dr Malcolm Dunstan
Dr M.R.H. Dunstan is recognised as one of the industry's foremost experts on roller compacted concrete dams. Dr Dunstan has been involved in the majority of large RCC dams in the western world, and with the fastest RCC dams built to date, including Longtan (placement rate 145,000m^3/month), Upper Stillwater (125,000m^3/month), Olivenhain, (121,000m^3/month) and Beni Haroun, (103,000m^3/month).

Paul Fischer (d 2009)
Paul Fischer was Colenco Power Engineering Ltd's Chief Resident Engineer for the Yeywa hydro power project in Myanmar. He had almost 40 years experience in the design and construction of hydro projects including being project manager for the design and construction of the 1000MW Mosul dam in Iraq, and site manager for Singkarak project in Indonesia.

Brian Forbes
Brian Forbes is currently Australia-based GHD's Manager for major dam projects. He has 43 years of international experience in the investigation, spillway modelling, design, documentation and construction of all types of dams for hydroelectric, water supply and irrigation projects involving over 100 major dams. He has an international reputation for his expertise in RCC dams, having been closely involved in over 40 projects in 19 countries.

Richard K Fisher Jr
Before his retirement in May 2009, Fischer was senior vice president of the Voith Hydro Engineering Center in York, Pennsylvania. He was responsible for research and development, turbine technology, new product development, and technical marketing support for Voith Hydro. Fisher's team led the hydraulic design for modernizing the Kaplan turbines at the 1076.6-MW Bonneville project, which were the prototypes for the company's environmentally friendly turbine designs.

Sir Alexander Gibb (1872-1958)
A Scottish Civil Engineer, Alexander Gibb was the founder of Sir Alexander Gibb & Partners, which was to become the largest consulting civil engineering firm in the UK.

Henri Gicot (1897-1982)
The late Henri Gicot was in demand all over the world as a consulting engineer, with a particular focus on arch dams. He designed a number of dams including the Rossens dam in Switzerland – the first large arch dam in the country and the first to be constructed on soft sandstone of the 'molasse' type. His last design was the twin arch dam at Hongrin, completed in 1968. These two elliptical arch dams reach a height of 126m and are separated by rock outcrop.

B Gilg
Bernard E. Gilg was Vice Director the former Electro-Watt Engineering Services Ltd., Zurich as well as a member of the Swiss National Committee on Large Dams. Working as a dam engineer and researcher in Switzerland, his work has influenced the hydro power industry particularly with his research and expertise in the field of foundations and dam stability.

James L Gordon
Jim Gordon has authored or co-authored 90 papers and 44 articles on a large variety of subjects ranging from submergence at intakes to powerhouse concrete volume, cavitation in turbines, generator inertia and costing of hydropower projects. He has worked on the design of over 45 hydro projects, and was awarded the Rickey medal by the ASCE. As an independent consultant, his work assignments have ranged from investigating turbine foundation micro-movements to acting on review boards for major Canadian utilities. He has also developed software for RETScreen and HydroHelp.

Ken Hansen
Recently retired from Schnabel Engineering, Mr Hansen is one of the most recognized authors, lecturers and consultants on RCC. One of his main contributions to the development of RCC has been to take education to the construction site. He has organized and taught at 16 PCA sponsored RCC dam short course/tours in ten US states.

Leroy Harza (1882-1953)
Leroy Harza was founder of Harza Engineering Company (now MWH), an internationally known designer of dam and hydropower projects. Mr Harza is the holder of several US patents relating to the hydro power industry including the patent for the straight flow turbine and rim generator.

Evald Holmén
Evald Holmén is a well recognised turbine designer and consultant in all aspects of design and engineering for hydro power plants. Throughout his distinguished career he has undertaken several thorough assessments of the technological ability of manufacturers for insurance companies and clients, and has served as an expert in disputes between clients and suppliers.

Sir William Hudson (1896-1978)
Appointed on 1 August 1949, Hudson was manager of the Snowy Mountains scheme, and was responsible for the biggest civil engineering project ever undertaken in Australia and one which the American Society of Civil Engineers would call an engineering wonder of the world.

Charles Hutton
Mr Hutton has worked on over 40 dams and water resource projects worldwide. He started his career in the 1970's with the US Bureau of Reclamation and dedicated twenty years of his life to projects in the US including a stability analysis for upgrades at the world famous Hoover Dam project on the Colorado river.

Dr. Charles Jaeger (1901-1989)
Dr Charles Jaeger was involved in various dam problems as and expert and also gave advice for complex designs all over Europe as a consulting engineer. His specialities included water hammer and surge tank analysis, pressure tunnels and rock mechanics. He published a number of books including the classical textbook Technische Hydraulik (1949) of which French and English translations were published in the mid fifties, the noteworthy Rock Mechanics and Engineering (1970) and Fluid Transients (1977).

Eric B. Kollgaard
From his early work on Brownlee and Oxbow Hydroelectric Projects in Idaho in 1955, to his recent contributions to the San Vicente Dam Raise Project in San Diego, Kollgaard has worked on more than 400 dam projects in nearly every US state and on four continents. Since retiring from Morrison-Knudsen Corporation as Chief Engineer in 1993, he has been actively engaged in a private consulting practice.

Masatane Kokubu (2004)
Professor Emeritus of the University of Tokyo. Presented with a number of awards including the 1986 International Award of Merit in Structural Engineering from the International Association for Bridge and Structural Engineering.

Raymond Lafitte
Professor Raymond Lafitte teaches at the Swiss Federal Institute of Technology of Lausanne (EPFL) on the subjects of Electrical power plants and water resources development. He has produced a number of expert reports on dams and is a former expert for the Swiss Government for dam safety.

F. Lempérière
F. Lempérière is chairman of the HYDROCOOP organization and an active member of the International Commission on Large Dams. He has authored and co-authored many publications on hydro power development, dam design and water resources management in developed and developing countries. He is an expert on present and future energy needs and advocates the importance of storage in meeting the world's freshwater needs.

Brian Leyland
An electrical and mechanical engineer with wide experience in power generation, power systems and transmission, Brian Leyland is a recognized expert on all aspects of the design, construction and operation of small hydro schemes with wide experience on large schemes. He has been employed by the Asian Development Bank as a staff consultant for the appraisal of projects in the Philippines, Thailand, Western Samoa and Bangladesh.

Jack Linard

Jack Linard is a Civil Engineer with 35 years of international experience, covering all aspects of hydroelectric and water resources projects, including studies, final designs, tender documents and construction. He has worked in over 20 countries in five continents, with geographical emphasis on Southeast Asia and technical emphasis on RCC dams in recent years.

Dr Giovanni Lombardi

A Swiss engineer, Dr Lombardi specialises in civil works and tunnel construction. He has contributed significantly to new theoretical developments in the field of civil engineering hydraulic structures (especially arch dam design and a very solid understanding for their performance and the interaction with grouting measures). Throughout his engineering life as consultant he influenced the construction of numerous structures. He is a past president of the International Commission on Large Dams.

Pierre Londe

Pierre Londe is a past president of the International Commission on Large Dams. He is author of "Rock mechanics and dam foundation design" (1982) and has authored and co-authored publications on dam design in developed and developing countries. At the technical level, Londe achieved recognition worldwide as an expert on dam safety and foundation engineering. Notwithstanding this achievement, he also had a special interest in encouraging others to develop their expertise in the field of hydro power and dams.

Mr. A Marulanda

President of Ingetec in Colombia, Alberto Marulanda is very active in the International Commission on Large Dams, and at the forefront of the design of large CFRD's, where there have been serious problems with cracking in the concrete face on the higher dams. He also works on hydrofracturing in tunnels.

Bayardo Materon

Since the completion of Alto Anchicaya CFRD in 1974, Bayardo Materon has been involved with many leading engineering organisations on design and construction or rockfill dams and hydro projects. Member of several boards of consultants for different projects under construction. Mr Materon is the actual President of the CFRD International Society. He has participated in the design and construction of the world's highest CFRDs.

Professor Emil Mosonyi (1910-2009)

A member of the Hungarian Academy of Sciences, Professor Mosonyi was well known for his documentation of European hydro design in his many papers the reference text Water Power Development. He held many leading positions in organizations such as the Hungarian National Authority for Irrigation, and the Hungarian National Bureau for Water Power Development, the Hungarian National Authority for Water Management, while lecturing in various Universities. He has also worked as a Consultant in hydro power and water resources projects in Europe, Asia, Africa, South and Central America and Australasia. He is the founding president of the International Hydropower Association.

Dr. P. S. Nigam
Dr Nigam is author of the Handbook of Hydroelectric Engineering and a University of Roorkee and international Asian consultant.

Alessandro Palmieri
Alessandro Palmieri graduated in Civil Engineering in Rome 1974. After working 22 years in the private sector, he joined the World Bank in 1997 as Lead Dam Specialist where he has Bank-wide responsibility for quality assurance of large water infrastructure projects (dams and hydro power). He also acts as the World Bank spokesperson on dams. Over his professional career, he has worked in over 40 countries worldwide.

Dr. Ralph B. Peck (1912-2008)
Dr. Ralph Brazelton Peck was an eminent civil engineer specializing in soil mechanics. He was awarded the National Medal of Science in 1975 for his development of the science and art of subsurface engineering, combining the contributions of the sciences of geology and soil mechanics with the practical art of foundation design. During his career Peck authored over 200 publications, and served as president of the International Society of Soil Mechanics and Foundation Engineering from 1969 to 1973.

A D M Penman (1922-2008)
Arthur D M Penman was a recognised authority on embankment dams. An author of more than 146 publications, Mr Penman was sought as an expert on dams under construction throughout the world. In the UK he worked on many of the large dams built during 1950-1980 and adjusted his research – which had initially focused on strength properties of silt – to include rockfill and tailings dams.

Dr Wolfgang Pircher
Dr Pircher gained experience in the field of hydro power worldwide with projects in Switzerland, Greece, Venezuela, Guatemala, Indonesia and Turkey. During his time as head of an Austrian Utility he contributed significantly to hydro power development in Austria. He is a former president of the International Commission on Large Dams.

Max Ritter (1884-1964)
Max Ritter is considered one of the pioneers of the theory of arch dams in Switzerland and the use of physical models for this type of construction. He contributed to the field of statics and reinforced concrete structures, and was involved in building numerous arch bridges.

Gerald G. Runyan
Gerald Runyan has been influential in the development and adaptation of hydro governing systems for over 50 years. The majority of his expertise comes from his 42 years at Woodward Governor Company. After mastering mechanical governors in his early years, he expanded his knowledge through technical classes and self-training to become an expert in analog governing systems, and in particular, joint load control. He devised several new methods for joint load control in the 1960's and 1970's. When digital governors came along in the 1980's, he helped guide Woodward in their application of digital systems to hydro governing.

Professor Joaquim Laginha Serafim (1921-1994)
In 1962, Prof. J. L. Serafim was a founding member of COBA -Consultores de Engenharia e Ambiente (consultancy on engineering and environment) and, in 1963 and 1968, he founded the companies CONSULPRESA and ERN in Spain and in Brazil. From 1972 to 1990, he was professor of civil engineering at the Faculty of Sciences and Technology of the University of Coimbra in Portugal. During 1988 to 1991, he served as Vice-President of the International Commission on Large Dams, of which he had been a member since 1948.

Dr. Hans Peter Schiffer
Hans Peter Schiffer is Managing Director of the Hydro Equipment Association. He has worked in the hydro power industry for more than two decades, managing the hydro business of a major supplier as President and CEO for 16 of those years.

Professor H.B. Seed, (1922-1989)
Professor Harry Bolton Seed was the father of the important new area of geotechnical earthquake engineering. He undertook research that led to an understanding of soil behavior and ground response during earthquakes that is the basis for present-day seismic design around the world. Concurrently he built the program in geotechnical engineering at the University of California, Berkeley, into one of the best in the world. He will be remembered as one of the foremost civil engineers of any generation.

Dr J. L. Sherard, (1925-1987)
Dr. James L Sherard made many contributions to the field of dam engineering. He worked on over 220 dam and reservoir projects throughout the world, being a consultant to many private firms and government agencies. He also involved himself with innovative research with the Soil Conservation Service on failures of dams by piping of dispersive clays and research on filter criteria for dams. He authored and published over 40 papers and was the principal researcher and co-author of the 725-page technical book Earth and Earth-Rock Dams.

Mr W B 'Bill' Smith
Mr. Smith is President of Hydropower International Services. He was educated as a hydrologist, and has used this expertise to be involved in floodplain management, hydrological analyses, floodplain mapping, hydraulic analyses for over 30 years in Oklahoma.

A Stucky, (1892-1969)
Alfred Stucky was one of the early pioneers of the double curvature arch dam theory and, in 1926, he founded Stucky Consulting Engineers. He started his career as Professor in Hydrometry and Hydraulic works at the School of Engineers of Lausanne. At the same time, he was a manager, a professor and in-demand expert.

Hiroshi Tanaka
Mr. Tanaka graduated from the University of Tokyo, Japan, in Mechanical Engineering in 1956, and served with Toshiba Corporation since his graduation. During his first 20 years of service, he worked in Research & Development of both conventional turbines and reversible pump-turbines. He became the Chief Engineer in charge of hydraulic machinery in 1987, supervising all R&D, design and

manufacturing of hydraulic turbines. He is an honorary member of the International Hydropower Association.

Richard M. Taylor
Richard Taylor has been involved in numerous studies on water and energy resource projects (including Africa, Asia and Latin America) since 1986, writing numerous papers and editing three journals in the fields of dam engineering and hydropower development. In 1995, in collaboration with the International Hydrological Programme of UNESCO, Taylor became a founding Board Member of the International Hydropower Association (IHA), and since 2001 he has worked as the Association's Executive Director. He has been, or is currently, engaged in various international programmes, including United Nations initiatives on water (WWDR and UNEP), energy (UNIDO and UNDESA) and climate change (UNESCO and IPCC).

CVJ Varma, Council of Power Utilities, India
Mr. C.V.J.Varma is the President & CEO of the Council of Power Utilities, India. He started his career with Government of Andhra Pradesh, and worked in the construction of the Tungabhadra Dam and Hydro Electric Power House. Thereafter he was involved in the design of hydroelectric projects in Andhra Pradesh Electricity Board, such as Lower Sileru, Srisailam etc. He is Hon. President, ICOLD, Hon, Member, CIGRE , President, AESIEAP.

J. Gavin Warnock
Since 1988, Gavin Warnock has been Chairman and Managing Director of Monitor (International) Ltd., a hydro power consultancy with focus on environmental aspects and long term benefits of hydro power projects. He graduated as a Mechanical Engineer from the University of Glasgow in 1945 and completed a Post Graduate DIC in Hydropower at the Imperial College in London in 1947. Warnock has been Chairman and Managing Director of several companies: Himalayan Power Consultants (1984-88), LE Energy Ltd (1988-91) and Scotia Energy Limited (1997-99).

J. C. Roger Warren
As founder of Montreal-based engineering company Rousseau Sauvé Warren Inc (known today as RSW) Mr. Warren was responsible for numerous projects in Canada. In 1970, his team presented a report proving the enormous hydroelectric potential of the Bay-James region, and was entrusted the mandate to develop the La Grande River project (LG-2). RSW received the Shreyer Award (1982) for the project, the most prestigious engineering award in Canada.

David J Youlen
A licensed professional engineer Youlen has spent more than 35 years working on the development, management, and operation of hydro power facilities and other renewable energy resources. He served as president of NHA from 2006 to 2007 at a point when both industry leaders and policy makers were just beginning to understand the role hydro power must play in an integrated approach to energy, climate, and economic policy. Youlen was awarded the NHA's prestigious Dr. Kenneth Henwood Award in 2009.

O.C. Zienkiewicz, UK 1929-2009

Professor Olgierd "Olek" Zienkiewicz is one of the originators of the finite element technique and had since the early 1960s dominated the finite element field internationally. In 1967 Olek published The Finite Element Method in Structural and Continuum Mechanics, the first book on the subject. Five subsequent editions followed, the last consisting of three volumes devoted to basics, solid and structural applications and fluid dynamics. At the time of his death, he was working on the seventh edition.

To comment on this list, or to suggest candidates for future listings, please contact the editor, Carrieann Stocks, via email: carrieannstocks@globaltrademedia.com.