



## Professor Emeritus Harry Orville Phelps (1929-2018): A Memorial

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**Professor Emeritus Harry Orville Phelps** was an engineering icon of Trinidad and Tobago who contributed immeasurably to the development of the field of Engineering. He lived a multifaceted life as an accomplished scholar, academic, sportsman and most of all a perfect gentleman. He served the engineering profession, The University of the West Indies and his country with distinction.

He was born on 4th February, 1929 in Belmont, Trinidad. He received his primary education at Belmont Intermediate School and won a College Exhibition to Queen's Royal College (QRC) in 1940. At QRC, Phelps excelled at football and track. In 1947, he was the champion sprinter at QRC and a member of the QRC relay team that won the National Under-19 Championship that year. He was a member of the QRC football team and represented Trinidad and Tobago in 1948 on the under-19 football team against Haiti.

### Authors' Biographical Notes:

Gyan Shrivastava is a retired Professor of Civil and Environmental Engineering of The University of the West Indies. As stated below Professor Shrivastava was a student, colleague and friend of Professor Phelps.

Clément A.C. Imbert is a Professor Emeritus of the Faculty of Engineering of The University of the West Indies. He was a student, colleague and friend of Professor Phelps whom he knew since 1964.

At QRC, he graduated at the top of his class in the Science Group of the Higher School Certificate Examinations, earning a Colonial Development and Welfare Scholarship to pursue a degree in Civil Engineering at the University of Wales, Swansea, United Kingdom, in 1949. He continued his sporting activities representing the University in football. He graduated with First Class Honours in 1953 and returned to Trinidad, joining the Ministry of Works. At the Ministry he held the position of Assistant Drainage Engineer and rose to the rank of Chief Drainage Engineer in 1961.



The Queens's Royal College (QRC) Football Team in the mid to late 1940s. Harry Phelps is in the front row, far right. He went on to represent Trinidad and Tobago in 1948 on the Under-19 football National Team of Trinidad and Tobago

In 1961 Phelps joined the fledgling Faculty of Engineering of the University College of the West Indies, as it was then. He was one of its first appointees to the Faculty and proved invaluable during its formative years, heavily involved with the construction of the faculty's buildings and the formulation and direction of its academic programmes. He later completed his PhD under the supervision of J.R.D. Francis, a distinguished Professor in Fluid Mechanics who was the author of the standard university text "A Textbook of Fluid Mechanics for Engineering Students". He was promoted to Senior Lecturer in 1970 and later to Professor in 1974. He was Head of the Department of Civil Engineering for 12 years, from 1972 to 1984 and after his retirement in 1994 he was conferred with the title of Professor Emeritus in 1995. He accepted a post-retirement contract from 1994 to 1997 and continued to teach part-time in the MSc Environmental Engineering programme until 2009.

Professor Phelps lectured in Fluid Mechanics and Water Resources as well as Introduction to Engineering, a course he pioneered in the Faculty of Engineering. Throughout his career in The University of the West Indies he made contributions beyond his role as a Lecturer and Professor of Civil Engineering. He was Vice Dean, acted as Dean on a few occasions and served on the University Academic Committee, the University Senate, the St. Augustine Campus Council and as Chairman of the Publication Board of the West Indian Journal of Engineering. He served as the Public Orator of the St. Augustine Campus for 20 years, from 1974 to 1994, and wrote a short history of the Faculty of Engineering. He worked very closely with Professors Kenneth Julien and I.D.C. Imbert on the major expansion of the Faculty in the late 1970s and 1980s.

Professor Phelps served on several national committees and statutory boards, including Chairman of the Institute of Marine Affairs and the Bureau of Standards. He was Deputy Chairman of the Water and Sewerage Authority and a Member of the Board of the Trinidad and Tobago Electricity Commission and the Working Group to Streamline Procedures for the Civil Service. He was a Foundation Member of the Association of Professional Engineers of Trinidad and Tobago, serving as President from 1975 to 1976, and is a Fellow of the Association and of the Institution of Civil Engineers in the United Kingdom. He also served as the Deputy Chairman of the Board of Engineering of Trinidad and Tobago from 1987 to 1993.

Professor Phelps received many accolades for his work and service, including the award for Career of Excellence in Engineering from the Association of Professional Engineers of Trinidad and Tobago, the Cooper Bronze Medal from the Institution of Civil Engineers for research in fluid mechanics and in 1979 he was awarded the Chaconia Medal (Gold) for long and meritorious service to the Republic of Trinidad and

Tobago in the Sphere of Engineering. His accomplishments earned him a place amongst the Caribbean Icons profiled by the National Institution of Higher Education, Research, Science and Technology (NIHERST)<sup>[1]</sup>.

His children<sup>[2]</sup> have very fond memories of him as a model father, committed to family life despite a relentless work schedule. He set high standards and values of behaviour, excellence and a sound work ethic, balanced by a keen sense of fun with an infectious laugh.

He had a great talent and love for music, learning to play the piano at an early age. With the encouragement of his mother he mastered many difficult pieces, including the classics, and could transpose music that he had heard. As a teenager, he spent time with a jazz musician, the result of which improved his skills tremendously. His love of music and performance were carried throughout his life and he practised every day after work or for a short spell after lunch. His children remembered being exposed to all genres of music and were all encouraged to take up an instrument, two opting for the piano and the other two for the guitar and cuatro. He was also an all-round athlete, football and sprinting being his favourites, but he also had a passion for boxing and tennis which he often played with his children on the UWI tennis courts after school. His children looked forward to the Fathers' Race on Sports Day as he was always first. He would also encourage and coach them before their sprints.

He kept a variety of books in his study and amongst the academic books and journals were classics by authors such as W. Somerset Maugham and John Steinbeck, romantic novels, poems, West Indian literature, history and others. He was also very interested in architecture and Japanese garden design.

The great architect Frank Lloyd Wright moved him to such a degree that in 1977, he commissioned Hayden Franco, a well-known architect in Trinidad, to design a house with similar flair which was nestled on a prime piece of land in Valley View, Maracas Valley, St. Joseph in Trinidad. This house overlooks the lush green hills of the valley which become studded with yellow Poui trees in the dry season. He and his devoted wife, Olga, would sit on the porch every afternoon either sipping tea or rum, relaxing and chatting, gazing at the hills, the greenery and the birds.

They met at University in Swansea, Wales and together they formed a very strong family unit. They enjoyed entertaining and the children remember the great excitement of preparing for the large dinner parties that they held for their friends. Olga was a superb cook and she executed the menus that they planned together. Although she was 'Head Chef', he could cook a mean Stewed Chicken and Crab Back. His Rum Punch and Ponche de Crème were also second to none.

The lead author of this article, Gyan Shrivastava, has the following remembrance of Professor Phelps:

*“In 1972, I came to The UWI St. Augustine as his first doctoral student. His remembrance reminds me that for a research student the commitment, compassion and calibre of his/her supervisor surpasses everything else in a university. Over the decades, I came to know him as a teacher, a colleague and a friend. From such a vantage point, it is a privilege to portray some less known aspects of his life.*

*He took great care with his writing. To him, good writing meant rewriting until there were no superfluous words. He wrote in pencil in his cursive handwriting, deliberated over his words, and made amendments with an eraser in hand. Thus, his letters of recommendation, which he wrote only occasionally, were such that it was difficult for a selection panel to overlook the power of his words.*

*He strived for excellence in the preparation of examination questions. His questions were always innovative and did not lack any essential information. Further, his solutions and marking schemes were clear and precise. Besides, his yardstick for a suitable undergraduate question, to be answered within thirty minutes, was that if its solution exceeds a letter-sized sheet of paper, it is too long. It brings to mind the words of Alec Skempton<sup>[3]</sup>: Winston Churchill wouldn't read a memo unless it was less than one page. Terzaghi's drawings were the same. He said if you couldn't get it down on one letter-sized sheet, you weren't thinking clearly*

*Needless to say, Professor Phelps was self-disciplined. He lived his life like a laminar flow around a grain of sand<sup>[4,5]</sup>, unaffected by turbulence around him. His life exemplified Primo Levi's words - in “If This Is a Man (The Bodley Head, 1965)” - that we must preserve our physical and moral scaffolding under all circumstances.*

*There is an inscription above a tomb in the crypt of the St. Paul's Cathedral in London. The tomb is of Sir Christopher Wren, this cathedral's architect, and the inscription reads: “Lector, si monumentum requiris, circumspice” – Reader, if you seek his monument, look around. Professor Phelps, over the years, mentored many civil engineers, who have built and maintained lifeline infrastructural works in the Commonwealth Caribbean and beyond. Looking at the accomplishments of these men and women, the same can be said of him.”*



Professor Phelps receiving his award for Career of Excellence in Engineering from His Excellency Noor Hassanali, President of the Republic of Trinidad and Tobago at the 1994 Awards Dinner of the Association of Professional Engineers of Trinidad and Tobago

### Acknowledgements:

The authors would like to thank the children of Professor Phelps, Sarah, Susan, Vivian and Sonja, for providing a personal insight into his life as a devoted husband and father.

### Notes:

- [1] NIHERST (2007), *Trinidad and Tobago Icons in Science and Technology*, Vol. II, the National Institute of Higher Education - Research, Science and Technology, Trinidad and Tobago
- [2] Norton, S., and Brudenell, S. (2018), Personal Communication (Daughters of Professor Phelps)
- [3] Alec Skempton (1914-2001) was a pioneering British Engineer in Soil Mechanics and a professor at Imperial College in London. Karl Terzaghi was an Austrian-American Geotechnical Engineer, and a widely acknowledged expert in Soil Mechanics. The quotation is from “Karl Terzaghi - The Engineer as Artist”, Richard E. Goodman, ASCE Press, 1999.
- [4] Phelps H.O. (1966), *Laminar Flow over Rough Granular Surfaces*, PhD Thesis, University of Manchester Institute of Science and Technology, Manchester, UK.
- [5] Phelps H.O. (1975), “Shallow laminar flows over rough granular surfaces”, *Journal of the Hydraulics Division*, ASCE 101 (HY3), pp.367-384.

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