**PETER H. MORCOMBE**

**Title:** Physicist and Electrical Engineer
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## EDUCATION

Master of Arts degree from Cambridge University, in Electrical Engineering (Honors), and Physics (Class II. I). TEMA award 1962. Some Latin, French and Spanish. MIEEE & MIEE.

## CAREER HISTORY

**RETIRED (2018 – Present)**

Volunteer work connected with K-12 education, fund raising for the Unity Global Academy due to open in August 2023. This will be a CA (Cambridge Assessment) school.

**PLUSCOMM INC. (2003 – 2017)**

Delivered fiber optics courses at universities (e.g. UCF and NCSU), community colleges and corporations such as Verizon.

**CARTER COMMUNITY SCHOOL (2002)**

This is one of the charter schools that Peter founded. As "Reading Coach" he won a $600,000 reading grant based on Science Based Reading Research (SBRR).

**DUKE UNIVERSITY (1990 -2002)**

Chief Electrical Engineer at the Duke University Free Electron Laser Laboratory. This included the construction of the High Intensity Gamma Source (HIGS) that is the world's brightest in the 10 to 100 MeV spectrum. John Madey was the laboratory director and the principal investigator.

**FREELANCE CONSULTANT (1987 -1990)**

High technology factory reorganizations and start ups in ten states from Maine to California.

**ITT CORPORATION (1978 – 1987)**

Director of Business Operations, Asia, Pacific, and Latin America. 1982-1987.

General Manager of the Optical Communications Division of STC Ltd. 1978-1982. This factory was built under the guidance of Charles Kao, Nobel laureate (2009).

**SELF EMPLOYED / FREELANCE CONSULTANT (1970 – 1978)**

High technology factory reorganizations, start ups, and product development in the UK. During this time Peter managed a start up called Electro-Photonics making dye lasers and streak cameras. Two Nobel laureates bought lasers from this company (Denis Gabor and Charles Kao).

**ITT CORPORATION (1966 – 1970)**

Technical Director, STC Telephone Switching Group, London, England. 1969-1970.

Chief Engineer, STC Switching Division, Belfast, Northern Ireland. 1966-1969.

**GEC (TELECOMMS) LTD. (1958 – 1966)**

Chief Engineer, Telephone Division, Newton Aycliffe, England. 1964-1966.

Various Engineering Positions. 1958-1964.

## EDUCATION, ENERGY & ENVIRONMENT

**Education (K-12).** For 46 years Peter had at least one child in a K-12 school. Over time, concerns about declining education standards prompted him to help create eight charter schools in North Carolina and one in Florida. One school remains a "Work In Progress".

**Energy.** Since retiring in 2002 Peter studied "Climate Science" and its effect on Energy policies. Initially his interest was in temperature changes at high latitudes such as Greenland and Antarctica. Then a model for airless bodies based on Finite Element Analysis was developed that matches the Diviner Lunar Radiometer Experiment with an RMS error of less than 1 K.

In order to better understand the effect of burning fossil fuels Peter developed an analytical model based on papers by Robinson & Catling. The model suggests that the effect of CO2 on temperature is much less than predicted by the IPCC's Global Circulation Models (GCMs).

Peter visited electric power generating plants to learn from the people who run them. This included visits lasting several weeks at nuclear, combined cycle, steam turbine, solar and other power generating facilities. Peter is qualified in nuclear safety issues and was a member of the Duke university radiation safety committee for many years.

**Environment.** In the 1950s Peter experienced extreme pollution at first hand in London, UK. In addition to atmospheric pollution (Smog) the lower reaches of the river Thames were a stinking sewer with no vertebrate life forms. It got so bad that the House of Commons had to suspend its sessions owing to the stench! That got the Parliament's attention so strong legislation was enacted covering the discharge of untreated waste into the river.

In the late 1970s to early 80s Peter had an opportunity to improve Thames water quality while working on the world's first inter-continental fiber optic submarine cable system (TAT-8). He was asked to manage an experimental fish farm in Greenwich based on fourteen 500 tonne cable storage tanks. The farm produced large quantities of rainbow trout as well as smaller quantities of carp and eels. When STC started growing rainbow trout using river water the Thames Water Authority begged the company to stop as they were sure we would fail and thereby hand them some horrible publicity.

When Peter left London to work in ITT's New York HQ in 1981, there were over 80 species of fish in the tidal reaches of the Thames. Today the salmon are back along with ~115 other species. See http://www.riverthamessociety.org.uk. This shows that even appalling levels of pollution can be reversed!

In 1988, Peter bought a share of Sea Street Salmon in Eastport, Maine. The company was set up to raise salmon smolts in an insulated building using the technology developed at STC.

**Leisure.** Peter played Rugby football for the Cambridge LX club and for Coventry, Durham City and the North of Ireland Football Club. Later he took up golf but never managed to break par for 18 holes.