This talk will cover the research that I have carried out in my 40 years as a staff member in the Engineering Dept of the University of Cambridge. It will begin with a brief description of Cambridge University and will be followed by a discussion of work on amorphous silicon thin film transistors (some of which was carried out in collaboration with Prof Masakiyo Matsumura of Tokyo Tech). This work directly led to my interest in other amorphous materials, specifically amorphous carbon where I concentrated on the growth and application of a particular form of that material known as tetrahedrally bonded amorphous carbon (ta-C). This began my interest in carbon based electronics and the following parts of the talk will concentrate on the manufacture and applications of carbon nanotubes and graphene. It will conclude with a description of some of my most recent work on sensors for biological and gas sensing. Inter alia I will also discuss 3 of the start–up companies with which I have been involved and how these were initiated and funded.