

## The Honorary Graduand: Robert Channon

**Robert Channon is to be awarded the Honorary Degree of Doctor of Engineering.**

Robert Channon has an unusual background for someone who has made a significant contribution to the care and management of people suffering from Type 1 Diabetes.

Robert qualified as a Marine Engineering designer, and as an Officer in the Merchant Navy he was more familiar with the massive engines of steam ships than medical devices, when he was diagnosed with Type 1 diabetes.

He was referred to Guys Hospital under the care of Professor Keen who postulated that he may benefit from a continuous insulin infusion pump which might improve the control of his diabetes.

From an early age in the streets of post war bomb ravaged Bristol, Robert had learned at his father's elbow how to tune the engine of an old car and make model ships, and so it was natural progression for Robert when faced with this prospect, to design an insulin infusion pump. His post HND academic work in the study of corrosive science stood him in good stead when he later considered the feasibility of a blood glucose sensor.

Robert set to work on an old lathe in his garden shed where he designed and built an insulin pump driven by a small compression spring that had the ability to deliver different rates of insulin, therefore, providing a background bolus regime of insulin that could be increased or decreased depending on blood glucose levels, often as a function of carbo-hydrate intake.

This concept was unique, the prototype of which is now part of Bristol Museums Collection.

He tested the device on himself whilst travelling between Bath and Guys Hospital in London researching different infusion systems. His second-generation insulin infusion pump with the attachment of an interstitial sensor demonstrated the feasibility of a closed loop insulin delivery system, or artificial pancreas.

He was released from his lecturing role at City of Bath Technical College and seconded to Guys Hospital.

To enable deaf/ blind diabetics to retain their independence he also developed an insulin syringe with an audible and tactile click so that they could safely inject the required dose of insulin.

In the 1980's Channon moved to Bristol Royal Infirmary where he designed and tested in conjunction with Drs Martin Hartog and Richard Paisley the precursor to the Novapen (so familiar today). Once again Channon built a device (known as the Portajet) this was the first device to allow convenient repeated of injections of insulin to suit carbohydrate intake. Along with a twenty-four-hour background insulin this had the benefit of improved glycemic control and in consequence a reduction in co morbidity. The regime known as background/bolus has been in use since the early 1980s and has proved to have extended the lives of millions of insulin dependent diabetics worldwide.

His innate ability to analytically appraise and his insatiable desire to solve problems or improve situations for his fellow humans has led to several other inventions. Whether it be unmanned helicopters for the military to detect landmines or robots to save the lives of sewage workers, Channon has contributed.