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Professor Anthony P. F. Turner: An innovative educator and pioneer of biosensors in the 21st century (On his 60th birth anniversary)

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A new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die, and a new generation grows up that is familiar with it (**Max Planck**, 1920).

Professor Anthony P. F. Turner, PhD, DSc, FRSC

The biosensors community would like to take this opportunity to pay rich tributes to Professor Anthony P. F. Turner for his pioneering research and notable contributions to this branch of science. Professor Turner, who is celebrating his 60th birthday on June 5, 2010, is a distinguished professor, scientist and academician with an illustrious scientific career that spans more than 30 years. He has contributed extensively to various aspects of biosensors and biomimetic sensors.

Professor Turner was born in United Kingdom on June 5, 1950. At 23 years of age, he graduated in Applied Biology at the University of East London, UK and later masters in Biochemistry from the University of Kent, Canterbury, UK. In 1980, he received his PhD in Microbiology at the University of Portsmouth, UK. He joined the Cranfield University, UK in year 1981 to start the Biotechnology centre with the honor of UK's first professor of Biotechnology and founded here the Biosensors group as a group leader to design and development of the world's most successful type of biosensor, e.g., the hand-held mediated amperometric glucose sensor for people with diabetes. He served as a head of school and senior executive of the Cranfield University for 15 years from 1992. Here, he have been founded and led the institute of bio-science & technology and the Cranfield postgraduate medical school, proposed the faculty of medicine & biosciences and also created the institute of water & environment and the national soil resources institute. He became principal of the Cranfield University at Silsoe, UK for 7 years from 1999 with responsibility for all aspects of the management and running of a University campus. He designed a wide range of robust analytical instruments for health care, food and process control, environmental monitoring and defense, furnishing the basis of market-leading designs for clients of the University. He introduced the screen-printing techniques for the production of biosensors, which became an industry standard for the production of diagnostics. He is pioneered of several patented aspects of biomimetic sensing including work on disease detection using the electronic nose, combinatorial chemistry for the discovery of novel ligands, computational design of ligands and the rational design of self-assembled systems such as molecularly-imprinted polymers viz. the latter in collaboration with Prof Sergey Piletsky. He has experience of running and financing several start ups including representing HBM BioVentures, Cayman Islands on the board and helping raise a total of $114 million venture capital for Pelikan Technologies Inc., USA in two rounds in 2004-05 and 2007. He served as an expert witness in patent litigations on three continents involving major diagnostics companies.

His contribution to the field of biosensors during the period 1980-2010 has been as an educator, a reviewer and editor, a developer of commercial devices and a researcher. He received DSc from University of Kent, Canterbury, UK in 2001 and honorary DSc from University of Bedfordshire, UK in 2008 for his great contribution in the field, cf., he has over 600 publications and patents in the field of biosensors and biomimetic sensors and has presented well over 400 keynote and plenary lectures. In about 600 publications including 145 full research papers in high impact journals, 147 peer-reviewed reviews, 22 books, i.e., including the first and most cited text in this field and 292 proceedings. He is editor-in-chief of the principal international journal of biosensors, 'Biosensors & Bioelectronics' and also chair of World Congress on Biosensors from 1990-2010. Professor Turner is foreign associate of the USA Academy of Engineering for his outstanding contribution to glucose sensors, environmental monitoring and the design of synthetic receptors. He elected Fellow of the Royal Society of Chemistry in 1996 and invited to Fellowship of the Institute of Biology and to Fellowship of the Institute of Physics from 1996. He won a number of prestigious scientific awards including East of England development agency business/University collaboration award; Mid Beds innovation award for contribution to the quality of life; ATB Milano award, Italy for his outstanding contribution to diagnostic technology; Hewlett Packard, USA instrument innovation prize, DTI-SMART award for technology, National Physical Laboratory award for measurement Science, British Diabetic Association Senior Fellowship BP Energy Prize,

etc. and successfully supervised more than 50 PhD students till now. From 30 years, he is teaching Life Sciences at all levels in both FE and HE. He is visiting professor at the Tokyo Institute of Technology and the University of Florence.

Professor Tony Turner growing Acinetobacter calcoaceticus to produce PQQ GDH for glucose sensors, 1981.

Professor Tony Turner discusses MediSense glucose sensor with HRH Prince Charles, Cranfield, 1984.

Professor Tony Turner at YSI workshop with Profs Lee Clark, Ted Kuwana, Bill Heineman etc Yellow Springs, 1988.

Professor Tony is admitted to the USA National Academy of Engineering, 2006, for his work on medical and environmental sensors and synthetic receptors.

Professor Turner is a pioneer and a continuous source of inspiration to the biosensors research in the world. The scientific community of biosensors offers salutations to Professor Turner for his continuous services is rendered in the promotion of modern education as well as research in UK and abroad. On special occasion of his 60th birth anniversary, 1st issue of **Advanced Materials Letters** are being to publish in tribute to Professor Anthony P. F. Turner, a distinguished professor, scientist, educationist, academician and researcher whose achievements will continue to inspire and guide the biosensors community for a long time to come.