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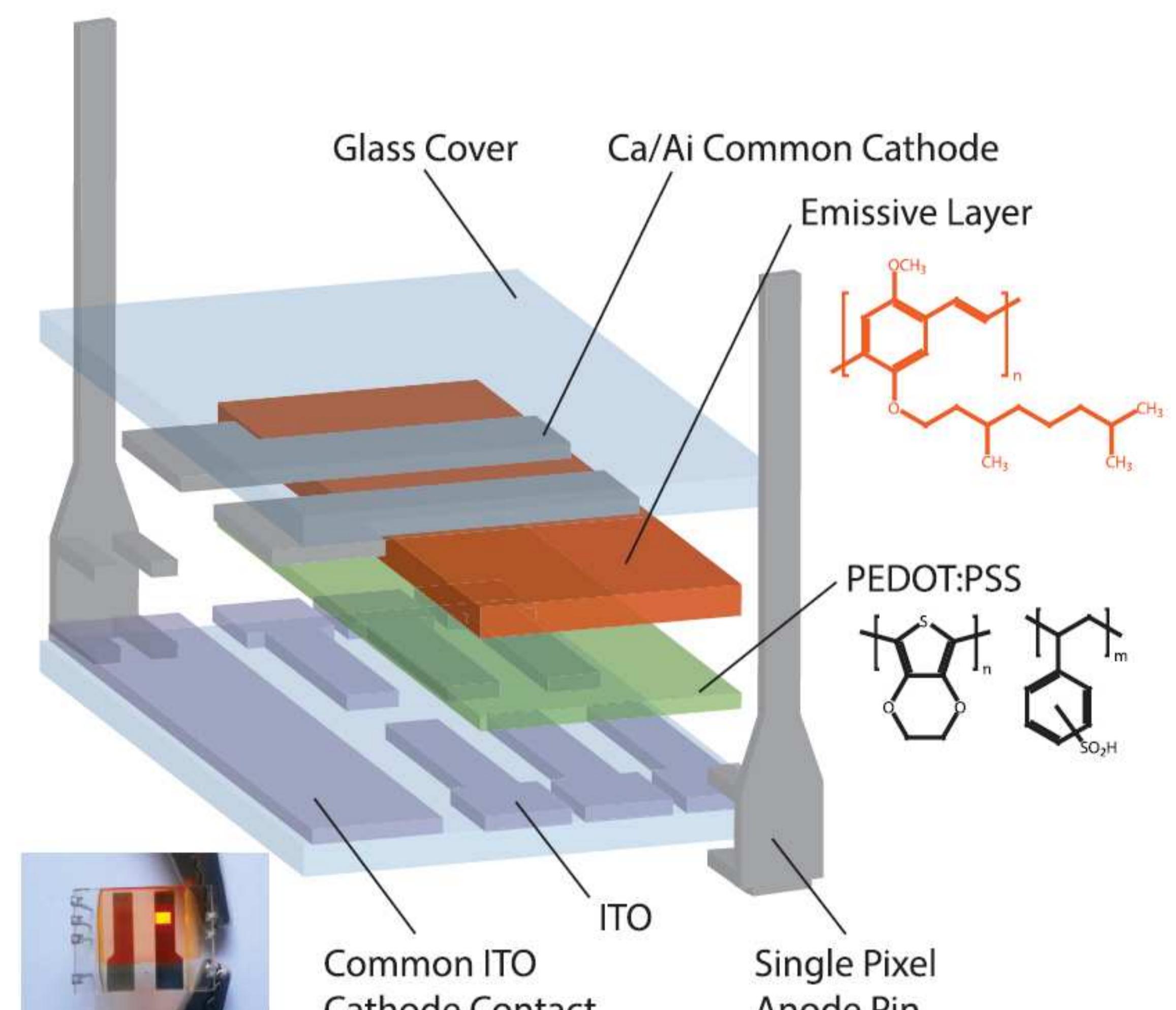
prof. Zabih Ghassemlooy

Future Smart Lighting and Data Communications all in one Technology

when: 8th December 2014 at 14:30
where: Technicka 2, Praha 6, room no. 80

There is currently a global trend throughout the developed and developing world to be more energy efficient, and increasingly consumers demand energy efficient and environmentally friendly technologies. The lighting systems that we currently use at homes/offices/street/cars etc are based on very old technologies, which are very inefficient. Light emitting diodes (LEDs) and organic LEDs (OLED) base lighting devices are set to replace the existing lighting infrastructure over the coming decade offering a much higher efficiency, a longer life span and lower power consumption. In addition to illumination, the visible spectrum of these devices can be used for indoor as well as outdoor optical wireless data communications, i.e. visible light communications, where LEDs and OLEDs are used as the source for data transmission. Visible light LEDs and OLEDs can be switched at sub-micro-seconds rate, which is too fast for the human eye to react but not for a special sensor on our portable digital devices. Thus, opening the way for dual use of visible light sources for illumination and data communications in homes, offices, cars, airplane, trains, etc. This talk will give

an overview of this emerging technology highlighting technical challenges and solutions for the LED and OLED lighting and data communications techniques.



prof. Zabih Ghassemlooy Professor Zabih Ghassemlooy, CEng, Fellow of IET, Senior Member of IEEE: Received his BSc (Hons) degree in Electrical and Electronics Engineering from the Manchester Metropolitan University in 1981, and his MSc and PhD in Optical Communications from the University of Manchester Institute of Science and Technology (UMIST) with scholarships from the Engineering Research Council (UK), in 1984 and 1987, respectively. From 1986-87 worked in UMIST and from 1987 to 1988 was a Post-doctoral Research Fellow at the City University, London. 1988 he joined Sheffield Hallam University as a Lecturer, becoming a Reader in 1995 and a Professor in Optical Communications in 1997. 2004 - 2012 was an Associate Dean for Research in the School of Computing, Engineering, 2012-2014 was an Associate Dean for Research and Innovation in the Faculty of Engineering and Environment, at Northumbria University at Newcastle, UK. He currently heads the Northumbria Communications Research Laboratories within the Faculty. 2001 he was a recipient of the Tan Chin Tuan Fellowship in Engineering from the Nanyang Technological University in Singapore. He has been a visiting professor at a number of institutions and currently is at University Tun Hussein Onn Malaysia, Malaysia. He is the Editor-in-Chief of the International Journal of Optics and Applications, British Journal of Applied Science & Technology, and The Mediterranean Journal Electronics and Communications, also is editor of the IEEE Transaction on Wireless Communications. He is also associate editor and a member of the editorial board for a number of journals.