

## **UAM Excellence Visiting Professors**



# **Prof. Ifor D. W. Samuel**

### "Organic Semiconductor Optoelectronics: Communications, Medicine and Lasers"

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godz. 12:30

sala 2.57, Wydział Chemii UAM

#### Wykład w formie tradycyjnej

Abstract: Organic semiconductors are remarkable carbon-based materials that combine novel semiconducting optoelectronic properties with simple processing. They can be used to make printed and flexible electronics, and their properties (e.g. colour) can be tuned by changing their chemical structure. Organic light-emitting diodes (OLEDs) are compact visible light sources that are now found across the world in mobile phone displays and televisions. This talk will give introduction to organic an semiconductors and optoelectronic devices made from them.

#### WYKŁAD ODBYWA SIĘ W RAMACH PROJEKTU

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It will then explore two emerging fields of application. The first is photodynamic therapy (PDT). In PDT light in combination with a light-activated chemical leads to the generation of reactive oxygen species. OLEDs are very attractive light sources for PDT because they emit over an area, are thin and potentially flexible. We have shown that PDT with OLEDs can kill skin cancer, parasites and bacteria. Another emerging application is in visible light communication (or Li-Fi) in which light is modulated to encode information to supplement Wi-Fi. Finally a new organic optoelectronic device – a laser electrically driven by an OLED will be presented.





Uniwersytet im. Adama Mickiewicza w Poznaniu

