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## Bio-inspired Polarization Imaging – making the invisible visible

Dr. Jan Van der Spiegel

### Abstract

The talk will discuss our recent work on CMOS vision sensors for polarization imaging. We will review briefly the concepts of polarization and how it is used by various species in nature to enhance their vision or to aid with navigation and communication. Inspired by the biology we have used polarization for a variety of applications to detect features that are hard to see or even invisible to the human eye. Motivated by the potential advantages of polarization imaging, we have developed a novel CMOS imager that combines the pixel array with micropolarizers. The talk will discuss our recent work on CMOS vision sensors for polarization imaging. We will review briefly the concepts of polarization and how it is used by various species in nature to enhance their vision to aid with navigation and communication. Inspired by the biology we have used polarization for a variety of applications to detect features that are hard to see or even invisible to the human eye. Motivated by the potential advantages of polarization imaging, we have developed a novel CMOS imager that combines the pixel array with micropolarizers.