

# Università di Pavia (UNIPV)

## Optoelectronics Group

The Optoelectronics Group of the Department of Electronics, Faculty of Engineering at University of Pavia was created in 1980 by Professor Donati. The Group has an average staff of ten researchers and is devoted to applications of Electro-Optics to engineering, including Devices and Instrumentation. The Group has a long record of contributions to photodetection and photodetectors. In particular, noise and timing issues, and specialty optics have been studied extensively and were the strong points on which important contributions have been given through the years.

UNIPV has a long record of achievement in photodetectors with milestone contributions to several topics such as scintillation detectors [C-11], avalanche photodiodes [C-8], CCDs [C-12], coherent injection detection [C-13], and squeezed-state detection [C-14]. More specific to the present program, it has gained considerable experience on non-imaging optics with high efficiency photovoltaic cells operating in the regime of solar concentration, and has recently carried out research on ultra-fast photodiodes for photomixing applications [C-9].

The Optoelectronics Group is headed by Professor Silvano Donati, an IEEE and OSA Fellow and Meritorious Member of AEI, the National Electronics Engineers Association. Prof. Donati has authored two books with Prentice Hall (Photodetectors, 1999, and Electro-Optical Instrumentation, 2004), has chaired a dozen of Intl. and National Conferences, authored or co-authored more than 200 papers. He has been the Editor of ten Special Issues of Intl. Journals, and holds a dozen patents. Of particular relevance to this proposal is Prof. Donati's work on optical concentrators and brilliance issues (see his book [C-2]), and the seminal study on APD noise [C-8]. More recent is the Special Issue [C-9] on Photodetectors.