

# Fondazione Bruno Kessler

## Integrated Optical Sensor Group

The Integrated Optical Sensor (IOS) Group is part of the Microsystems Division of the Fondazione Bruno Kessler (formerly "Istituto Trentino di Cultura - Istituto per la Ricerca Scientifica e Tecnologica" (ITC-irst), until 28.2.2007), in Trento (Italy). The group is well balanced covering both research and development activities. The main research activities of the group are in the field of "Sensors for Special Imaging" and range from the development of devices for 3D measurements and vision to digital cameras with high dynamic range for security and automotive applications, and from pixel arrays for optical position sensors to linear arrays for spectro-photometry. The activity is focused on the study, design and test of sensors in CMOS and MEMS technologies.

FBK has extensive experience in the design of analogue and mixed-signal circuits. It has designed and successfully tested a number of high-speed CMOS optical sensors. It has a recognised expertise on design and development of high dynamic range cameras [C-18] based on non-logarithmic pixel response. Related to the present project, FBK can account for a large experience in designing integrated 3D cameras based on TOF using fast gating circuits [C-19,C-20], photomixing devices [C-21], and, more recently, CMOS SPADs [C-22].

Dr. David Stoppa received the Laurea degree in Electronics Engineering from the Politecnico of Milan, in 1998, and the Ph.D. in Microelectronics from the University of Trento, in 2002. Since March 2000 he has been working as an Assistant Professor at the Telecommunications Engineering faculty of the University of Trento, teaching courses of Analogue Electronics and Microelectronics. He is author or co-author of more than 30 scientific and technical papers and 2 patents on sensors. He has been Reviewer for several journals and international conferences.