

Massimo Gottardi Short CV

CONTACT INFORMATION	Smart Optical Sensors and Interfaces	<i>Office:</i> +39 0461 314535 <i>Fax:</i> +39 0461 302040 <i>e-mail:</i> gottardi@fbk.eu
MAIN RESEARCH INTERESTS	Design, analysis, fabrication and characterization of CMOS integrated circuits mainly devoted to image sensors for advanced applications: <ul style="list-style-type: none">• High dynamic range cameras;• Ultra-low power vision sensors;• Energy harvesting.	
CURRICULUM STUDIORUM	1987: Laurea degree in Electronics Engineering from University of Bologna, Bologna, Italy.	
CURRENT POSITION	Senior researcher at Smart Optical Sensors and Interfaces Research Unit at Fondazione Bruno Kessler , Trento, Italy.	
SELECTED REFEREED JOURNAL PUBLICATIONS	<p>N. Cottini, M. Gottardi, N. Massari, and R. Passerone, "A Bio-Inspired APS for Selective Visual Attention," IEEE Sensor Journal, vol. 13, no. 9, Sept. 2013.</p> <p>N. Cottini, M. Gottardi, N. Massari, R. Passerone, and S. A. Jawed, "A 33μW 64x64 Pixel Vision Sensor Embedding Robust Dynamic Background Subtraction for Event Detection and Scene Interpretation," IEEE Journal of Solid State Circuits, vol. 44, no. 3, pp. 850–863, March 2013.</p> <p>N. Cottini, L. Gasparini, M. D. Nicola, N. Massari, and M. Gottardi, "A CMOS ultra-low power vision sensor with image compression and embedded event-driven energy-management," IEEE Trans. Circuits and Systems—Emerging Technologies, vol. 1, no. 2, pp. 1–10, Oct. 2011.</p> <p>Gottardi, M.; Massari, N.; Jawed, S.A., "A 100μW 128 x 64 Pixels Contrast-Based Asynchronous Binary Vision Sensor for Sensor Networks Applications ", IEEE Journal of Solid-State Circuits, vol. 44, pp. 1582 – 1592, May 2009.</p> <p>F. De Nisi, F. Comper, L. Gonzo, M. Gottardi, D. Stoppa, A. Simoni, J. A. Beraldin, "A CMOS sensor optimized for laser spot position detection", IEEE Journal of Sensors, vol. 5(6), pp. 1296-1304, Dec. 2005.</p> <p>N. Massari, M. Gottardi, L. Gonzo, D. Stoppa, A. Simoni, "A CMOS image sensor with programmable pixel-level analog processing", IEEE Transaction on Neural Networks, vol. 16(6), pp. 1673-1684, Nov. 2005.</p> <p>L. Viarani, D. Stoppa, L. Gonzo, M. Gottardi, A. Simoni, "A CMOS smart pixel for active 3-D vision applications", IEEE Sensors Journal, vol. 4(1), pp. 145-152, Feb. 2004.</p> <p>L. Gonzo, A. Simoni, M. Gottardi, D. Stoppa, A. J. Beraldin, "Sensors optimized for 3-D digitization", IEEE Transaction on Instrumentation and</p>	

	Measurement, vol. 52(3), pp. 903-908, June 2003.
	D. Stoppa, A. Simoni, L. Gonzo, M. Gottardi, G.-F. Dalla Betta, "Novel CMOS image sensor with a 132-dB dynamic range", IEEE Journal of Solid-State Circuits, vol. 37(12), pp. 1846-1852, Dec. 2002.
SELECTED CONFERENCE PUBLICATIONS	<p>M. Gottardi, "Ultra-low power vision sensors for battery-powered applications," in PROCEEDINGS OF SPIE, International Symposium on Photoelectronic Detection and Imaging 2013, 25-27 June 2013, Beijing (Invited Talk).</p> <p>J. Iannacci, Gottardi, E. Serra, R. Di Criscienzo, A. Borrielli, M. Bonaldi, "Multi-modal vibration based MEMS energy harvesters for ultra-low power wireless functional nodes," in PROCEEDINGS OF SPIE, THE INTERNATIONAL SOCIETY FOR OPTICAL ENGINEERING, SPIE 8763, SPIE, vol.8763, 2013, pp. 87630X-1-87630X-12, (SPIE Smart Sensors, Actuators, and MEMS VI, Grenoble, France, 24-26/04/2013).</p> <p>N. Cottini, M. Gottardi, N. Massari, R. Passerone, and Z. Smilansky, "A $32\mu\text{W}$ 42 GOPS/W 64x64 pixels vision sensor with dynamic background subtraction for scene interpretation," in Proc. Int. Symp. Low Power Electronics and Design, Jul. 30–Aug. 1 2012, pp. 315–320.</p> <p>N. Massari, M. De Nicola, M. Gottardi, "A $30\mu\text{W}$ 100dB Contrast Vision Sensor with Sync-Async Readout and Data Compression," ESSCIRC European Solid-State Circuits Conference 2010, pp. 138-141, Seville, Spain, 9-14 September 2010.</p> <p>N. Massari, M. Gottardi, and S. A. Jawed, "A $100\mu\text{W}$ 64x128 pixels contrast-based asynchronous binary vision sensor for wireless sensor networks," in IEEE ISSCC Dig. Tech. Papers, 2008, pp. 588–589.</p>
REFeree SERVICE	<p>IEEE Journal of Solid State Circuits</p> <p>IEEE Transaction of Circuits and Systems</p> <p>IEEE Transactions on Biomedical Circuits and Systems</p> <p>IEEE Journal of Microelectromechanical Systems</p> <p>IEEE Sensors Journal</p> <p>IEEE Transactions on Circuits and Systems for Video Technology</p> <p>IEEE Transactions on Instrumentation and Measurements</p> <p>Analog Integrated Circuits and Signal Processing</p>
AWARDS	Best Paper Award at International Symposium on Low Power Electronics and Design 2012 for the paper "A $32\mu\text{W}$ 42 GOPS/W 64x64 pixels vision sensor with dynamic background subtraction for scene interpretation."
PATENTS	M. Gottardi and Z. Smilansky, "Pixel design with temporal analysis capabilities for scene interpretation", WO 2012093387 A3, Dec 29, 2011.