Curriculum Romeo Beccherelli

Romeo BECCHERELLI has built his international reputation in the liquid crystal display technologies during his Ph.D. at the Department of Electronic Engineering - University of Rome "La Sapienza", as a Research Assistant at the department of Engineering Science – University of Oxford and as a Visiting Research Fellow at the Department of Electronics and Information Systems University of Ghent (BE) and, repeatedly, at the Department of Physics - Division of Microelectronics and Nanoscience - Chalmers University of Technology", Gothemburg (SE).
Among the main scientific achievements in this field:

•Driving and construction techniques for ferroelectric liquid crystal displays, subject of his Ph.D. thesis. This was awarded the International Otto Lehman Prize 1999 by the University of Karlsruhe (Germany) and the Otto Ltehmann Foundation.
Identification of the reasons of poor quality alignment and low contrast in antiferroelectric liquid crystal displays. Identification of an alignment method to greatly increase the contrast.
•A special waveform generator for the response of the display system to the applied waveforms in real matrix addressing conditions, now a commercial product from FLC Electronics AB (Sweden) and a versatile driving system for non-root-mean-square responding matrix liquid crystal displays.
•A large scale chemical sensor array for testing biological olfaction concepts with up to 64K sensing elements.
While a postdoctoral fellow with the University of Rome "La Sapienza" (2000-2001) he initiated a pioneering and independent line of research on liquid crystal display with integrated organic electroluminescent backlight partially funded by "Young Researcher Project 2000" after a competitive call by the University of Rome "La Sapienza". This resulted in a patent having Dr. Beccherelli as one and only inventor.
In 2001 he obtained a permanent post as Researcher at CNR-IMM in Rome (CNR-IMM-Rome). Here, his initial statuary duties were related to Sensors and Microsystems technology. However while at CNR-IMM, he has managed to attract increasing level of funding to maintain his collaborations and keep his know-up to date with the state of the art in the liquid crystal field, extending this for the display into a novel tunable photonics field. At the same time he has developed expertise in sensors science and silicon microsystem technology while being in charge for CNR-IMM-Rome of a nation-wide research project.
In 2006 he was promoted to the rank of Senior Researcher. Since then, he has promoted several research projects and raised significant funding to develop his original lines of research. His most significant roles are:

•coordinator of a "Great Relevance" bilateral research projects between with Italy and Greece (ongoing, Funded by the Italian Ministry of Foreign Affairs), investigating and developing photonic crystals for optical communications based on silicon and liquid crystals;
•coordinator of a "Great Relevance" bilateral research projects and between Italy and Turkey (ongoing, funded by the Italian Ministry of Education and by Turkish Tübitak), investigating microphotonic resonators on silicon for optical communications and sensing;
•workpackage leader in the EU funded FP6-IST-NoE "GOSPEL"
•workpackage leader in the EU funded FP7-ICT-STREP "NEUROCHEM" investigating and developing large gas sensor arrays and their specialized electronics. He maintains several scientific collaborations, which involve exchange of material, devices and personnel with universities in Europe, as it may be inferred from active participation to European and bilateral project as well as from joint scientific publications

•project Coordinator of the EU funded FP7-PEOPLE-IEF “ALLOPLASM” investigating tunable surface plasmon polaritons devices.
His current scientific interests span from micromachined tunable photonic devices for telecommunication and sensing, to large sensor arrays for gases, volatiles, humidity and pressure.