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ICFO and OCE team-up...

Research Collaboration between Catalonia and Ontario in the area of Photonics – the science and technology of light...

The Institute of Photonic Sciences (ICFO) in Barcelona and the Ontario Centres of Excellence Announce the Outcome of their first Research Collaboration.

ICFO and OCE's Centre for Photonics are pleased to announce the following projects will be jointly funded, giving Catalonian and Ontario researchers the opportunity to work together in photonics – a science and technology that promises many exciting outcomes:

- Drs. Morgan Mitchell and Aephraim Steinberg will develop new sources of light with specially tailored quantum properties to create a new generation of tools for secure information transmission, storage, and processing.
- Drs. Jens Biegert and Paul Corkum will use new attosecond (10^{-18} second) laser methods to create photonics technologies based on the unusual properties of transparent materials at these very fast timescales.
- Drs. Valerio Pruneri and Jianping Yao will develop innovative photonic systems for applications in broadband wireless access networks, sensor networks, and biomedical systems.
- Drs. Gonçal Badenes and Rafael Kleiman will develop a more powerful platform for lab-on-a-chip applications, based upon the convergence of photonics and microfluidics that has the potential to revolutionize environmental, pharmaceutical and medical testing.
- Drs. Majid Ebrahim-Zadeh, Amr Helmy, Stewart Aitchison will develop compact, low-cost, nanomaterial infrared sources with applications ranging from food monitoring to environmental sensing and security.
- Drs. Juan P. Torres, John Sipe and Amr Helmy will develop new sources for quantum information processing that have the potential to bring quantum information processing out of the lab into our everyday lives.

Exchange collaborations have also been established between Drs. Maciej Lewenstein, Antonio Acín and Norbert Lütkenhaus in the area of quantum cryptography for optical networks, and between Drs. Jordi Martorell and Sajeev John in light generation and conversion in photonic crystals.

These projects significantly strengthen collaboration between Ontario and Catalonia and we wish the collaborators and their students every success – we hope it will expand their horizons, broaden their vision and help to bring commercial benefits to both regions.

Don Wilford and Lluís Torner

Ontario Centres of Excellence (OCE) Inc. drives the commercialization of cutting-edge research across key market sectors to build the economy of tomorrow and secure Ontario's global competitiveness. In doing this, OCE fosters the training and development of the next generation of innovators and entrepreneurs and is a key partner with Ontario's industry, universities, colleges, research hospitals, investors and governments. Celebrating 20 years of innovation in 2007, OCE's five Centres work in communications and information technology, earth and environmental technologies, energy, materials and manufacturing and photonics.

ICFO is a young, fast growing research institution that aims at advancing the limits of scientific and technological knowledge in optical sciences. ICFO's mission is to conduct basic and applied research with the broadest possible scope in Photonics. ICFO promotes curiosity-driven research, powered by ingenuity and creativity, aimed at advancing the very frontier of optical sciences and at providing break-through conceptual and technological innovation. ICFO is proactive in promoting entrepreneurship, technology and knowledge transfer, and commercialization of photonics, establishing partnerships with industrial corporations, and fostering spin-off creation.