ICFO

BabyLux European Project

ICFO will participate in a multimillion euro project to improve quality of life for critically ill newborns.

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The arrival of a new baby is a happy and momentous occasion for families. But things don?t always go according to plan and babies are not always carried to term. What starts as a dream come true can become a nightmare for the families and caregivers involved. Pre-term births have risen in the Western hemisphere by 20% in the past two decades and currently account for a significant portion of children with cerebral palsy and cognitive, visual and hearing impairments resulting from injuries from lack of blood flow and oxygen delivery during the early stages of brain development. Today ICFO announces its participation in a new European Project called "BabyLux" which aims to provide much needed support for these most vulnerable patients.

BabyLux is a ?4 million euro project funded by the European Commission. The Babylux consortium which includes ICFO, Politecnico di Milano (project leaders), and members of European institutions from Denmark, and Germany, will develop an optical neuro-monitor of cerebral oxygen metabolism and blood flow for neonatology. This new technology aims at providing the possibility of immediate, continuous and non-invasive monitoring of critically ill newborns, allowing doctors to act in real time to avoid severe consequences for the baby?s future health. The device will be tested in public hospitals in two different countries during the year 2014-2015.

The Medical Optics Group at ICFO, led by Prof. Turgut Durduran, is uniquely positioned to contribute to this project. Dr. Durduran came to ICFO from the University of Pennsylvania (UPenn), an international front-runner in this field of research, and maintains collaborations with UPenn, the Hospital of UPENN and the Children?s Hospital of Philadelphia (CHOP) as well as with Hospital Clinic, Hospital Vall d?Hebron and Santa Creu i Sant Pau in Barcelona. With the generous support of Fundacio Cellex, the Medical Optics group has demonstrated that biophotonics could be a key component for real-time monitoring and has developed and tested a prototype for monitoring blood flow and oxygen levels in adult patients using photonic technologies. The department of Economy and Knowledge, through the Prova?t program of the Research Centres of Catalonia (CERCA), has also provided important support to bring this state-of-the-art technical innovation closer to the market. This technology "made @ ICFO" is being commercialized by Hemophotonics, an ICFO spin-off company also involved in the BabyLux project.

ICFO, along with the BabyLux consortium of physicists and engineers for biophotonic applications, professional end-users (neonatologists), and SMEs (photonic components producer, medical device manufacturer), is optimistic about the possibility of dramatically increasingly the quality of life for these families through its participation in this ambitious project.