



[PicoQuant is partner of the European BabyLux project for premature babies](#)

Nine organizations from Italy, Spain, Germany and Denmark have launched an innovative technique that accurately detects oxygen in the brain

Nine European partners have started the initiative “BabyLux”, a partially funded project by the European Commission that aims to reduce the risk of brain damage of babies born prematurely. The group of researchers, clinicians, and SME's (small and medium enterprises) from Italy, Spain, Germany, and Denmark pursue the goal to develop an optical neuro-monitor that controls the oxygenation of the baby's brain with a high level of accuracy. The German company PicoQuant, a leading provider of instrumentation for single photon counting applications, based in the science and technology park WISTA in Berlin-Adlershof, will provide the necessary core opto-electronic components to develop and build this novel instrument.

The project, partially funded by the European Commission under the ICT Policy Support Programme (ICT PSP) as part of the Competitiveness and Innovation Framework Program, has started in January 2014 and will last three years. A six-month trial period will follow at the Mangiagalli Hospital in Milan, Italy and at the Rigshospitalet in Copenhagen, Denmark. The nine partners – involving Politecnico di Milano, Fondazione Politecnico di Milano, ICFO-Institute of Photonic Sciences, Fraunhofer Institute for Production Technology IPT, Hemophotonics SL, PicoQuant GmbH, Competitive Network SL, Capital Region, and Fondazione IRCCS Ca ' Granda Ospedale Maggiore Policlinico – have the strong goal to reduce the risk of brain damage in extremely preterm babies from 25% to 20%. This can eventually decrease the number of children with disabilities by more than 1,000 per year in Europe alone.

“PicoQuant is very happy to join a project dedicated to baby health. We will provide our class leading opto-electronic components and support the development of a complete and userfriendly device for the medical market,” says Rainer Erdmann, Managing Director at PicoQuant. The optical neuro-monitor is based on the measurement of optical signals using Near Infrared Spectroscopy (NIRS). It enables neonatologists to measure the blood flow to the brain and its oxygenation non-invasively. In case of a problem they can intervene promptly so as to avoid serious clinical complications leading to brain damage, permanent physical damage, and cognitive disabilities. The new neuro-monitor is portable and can be brought to the bedside. Measurements can be done in a few minutes or repeatedly if the condition is critical. According to the Global Action Report published by The World Health Organization in 2012, preterm births are 15 million every year and rising. About 1.1 million babies die from preterm birth complications. 5% to 18% is the range of preterm birth rates across 184 countries of the world. More than 80% of preterm births occur between

32 and 37 weeks of gestation and most of these babies can survive with essential newborn care. More than 75% of deaths of preterm births can be prevented without intensive care.

The extremely preterm infants, born at less than 28 weeks of gestation, represent 0.5% of all births which when translated into numbers is equivalent to more than 25,000 cases per year in Europe. These children have a higher risk of death, approximately 20%. They usually remain in intensive care for several weeks and then in the hospital for 2 to 3 months before going home. Furthermore, one in four grows up with some kind of disability, mainly due to brain injury. The BabyLux project aims to reduce this problem.

"We are very proud to present a European project of this magnitude," says the project coordinator, Alessandro Torricelli, Associate Professor in the Department of Physics at Politecnico di Milano. "Our goal is to fill a void in the neonatal intensive care, where there aren't any reliable tools to assess the brain blood flow and oxygenation in infants born prematurely. With the synergy and joint work of researchers, clinicians and SME's from 4 European countries at the end of three years, we aim to have a significant step forward in this important area – improving the future of our smallest children."

About PicoQuant

PicoQuant GmbH is a research and development company in the field of optoelectronics. The company was founded in 1996 and is based in the science and technology park Berlin-Adlershof, Germany. The company is a worldwide leader in the field of single photon counting applications. The product line includes pulsed diode lasers and LEDs, photon counting instrumentation, fluorescence lifetime spectrometers and time-resolved confocal microscopes. PicoQuant employs currently around 60 people. Since April 2008 Sales and Support in North America is handled by PicoQuant Photonics North America Inc.

Contact

Nicole Bornemann

Team Leader Marketing

Tel.: +49-30-6392-6568

mkt@picoquant.com

www.picoquant.com