

PARTNER SEARCH NMP7-EU-SMCP-6, Lussemburgo

01 dicembre 2017

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ricerca partner proveniente da un centro di ricerca di Lussemburgo e finalizzata alla partecipazione al 7PQ, Tema Nanoscienze, Nanotecnologie, Materiali e Nuove Tecnologie di Produzione, topic NMP-2008-1.1-1 "Converging sciences and technologies" (nano, bio, info, cogni).

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<Reference n.: NMP7-EU-SMCP-6>
<Deadline: 22/02/2008>
<Programme: NMP>
<Project Title: Biosensors based on porous silicon for cancer diagnostics.>
<Financial Scheme: SMALL OR MEDIUM - FOCUSED RESEARCH PROJECTS>

<Description: This project aims to use porous silicon for elaboration of biosensor dedicated to cancer diagnostics. Porous silicon has several advantages due to the nanometer size of its silicon skeleton: emission of light in the visible spectrum and very large specific area. Moreover it is a biocompatible material. The first objective of this project is to improve the photoluminescence of the porous silicon by implantation or deposition of Se or rare earth elements in order to improve the sensor sensitivity. The second objective is to functionalise the porous silicon with biological molecules to get a necessary selectivity to the detection of the molecules linked with cancer diagnostics. Plasma and chemical functionalisation will be studied and compared for their efficiency to detect the specific researched molecules. The development of the most appropriated devices

using optical components will constitute the third objective. The sensor should permit the detection in blood or other biological media of several molecules linked with the cancer. These molecules could be molecules directly linked with cancer development (telomerase, ras gene, nitrosamine), carcinogenic toxin from food (aflatoxin) or even concentration of anticancer molecules (C and E vitamins, lycopene, catechin) for a complete diagnostics. The last part of the project consists in testing the sensor in real conditions with cancer specialists and to implement it on portable Lab-on-Chip diagnostic devices.>

<Organisation Type: Centro di Ricerca>

<Partner Sought: Partners sought for: - Elaboration of porous silicon for enhanced photoluminescence properties - Development of sensor based on porous silicon - Functionalization for grafting of biological molecules - Detection of molecules linked with cancer development - Development of biosensors for medical applications - End-user for manufacturing biosensors and portable Lab-on-Chip Diagnostic devices, development of products with cancer diagnostics features - Company interested by the market of Point-of-Care (PoC) Diagnostics.>