Læs magasinet online

Få nyhedsbrevet

- Forside
- Artikler
- Nye job (0)
- Tilmeld nyhedsbrev
- Kontakt
- Om Elek-Data.dk

Seneste nyt om:

- Analog, mixed-signal
- Boards og moduler
- Branche & teknologi
- Display, opto, LEDs
- Distribution
- DSP
- EDA-værktøjer
- Elektronik-2010 - Nyheder
- Embedded software
- EMC og ESD
- EMS og elektronikudvikling
- FPGA og CPLD
- Konnektorer, elmech, passiv
- MCU & A/D, D/A konvertere
- Memory
- Power & strømforsyning
- Produktionsudstyr
- Seminarer og konferencer
- Sensorer og transducere
- Tele & datakommunikation
- Test & måleudstyr
- Trykte kredsløb (PCB)
- Video & Audio
- Wireless

Læs magasinet online

Elektronik & Data > Artikler > Lab-on-chip skal hjælpe cancerdiagnose

Søg i artikler...

6/9 2010 kl. 11:51

Send til en ven Udskriv

Lab-on-chip skal hjælpe cancerdiagnose

Europæisk samarbejde om udvikling af lab-on-chip system til billigere og hurtigere diagnose af cancer (in english).

At the Engineering in Medicine and Biology Conference (EMBC) in Buenos Aires (Argentina), imec and its project partners announce the launch of the European Seventh Framework Project MIRACLE. The MIRACLE project aims at developing an operational lab-on-chip for the isolation and detection of circulating and disseminated tumor cells (CTCs and DTCs) in blood. The new lab-on-chip is an essential step towards faster and cost-efficient diagnosis of cancer.

Detection of circulating and disseminated tumor cells in blood is a promising methodology to diagnose cancer dissemination or to follow up cancer patients during therapy. Today, the detection analyses of these cells are performed in medical laboratories requiring labor intensive, expensive and time-consuming sample processing and cell isolation steps.

A full tumor cell detection analysis can take more than a day. A lab-on-chip, integrating the many processing steps, would enable a faster, easy-to-use, cost-effective detection of tumor cells in blood. They are therefore labor-saving and minimally invasive, increasing the patient's comfort and the efficiency of today's healthcare.

In a preceding joint project by some of the partners (MASCOT FP6-027652), individual microfluidic modules for cell isolation, cell counting, DNA amplification and detection have been developed. Based on this expertise and strengthened by additional partners, the development of a fully automated, lab-on-chip platform to isolate, count and genotype CTCs is envisaged within the framework of the MIRACLE project.

For genotyping, genetic material (i.e. the mRNA) will be extracted from the cells and multiple cancer related markers will be amplified based on multiplex ligation dependent probe amplification (MLPA) followed by their detection using an array of electrochemical sensors. Full integration of all steps requires innovative research and processing
steps that need a combination of the multidisciplinary and unique expertise of the different project partners (ranging from microfluidics to interfacing, miniaturization, and integration

Seneste nyheder

- Mr. 'Hard To Find' fejrer 30 års jubilæum
- Nye image-sensorer kan modstå ekstreme temperaturer
- RFID smart cards 10-dobler datahastigheden
- 100W-forsyninger med PFC
- Intersil er nu hos Avnet Memec
- Assembléon introducerer europæisk webshop
- On-line værktøj hjælper med valg IGBT
- Nye kompakte medico-forsyninger
- Platform baner vej for 40 Gb/s mutipath kommunikation
- Nye DIL switche sparer plads på boardet
- 15W højttalersystem kan forsynes via USB
- Remote controller med sikker RF-kommunikation
- Dialog-teknologi i Renesas-platform
- Kapacitiv touch controller gør det let at erstatte traditionelle knapper
- Digitale tv-chips understøtter alle de nyeste teknologier
- Intel køber Infineon’s wireless-aktiviteter
- Ti lancerer unik LDO-løsning
- Ny generation af populært programmeringssystem
- Nye prototypeservice fra PCB-POOL
- Power-management af high-power Li-Ion systemer
- AAU og Thailands Telestyrelse indgår partnerskab
- EMS'erne har rod i forsyningskæden
- Forskere demonstrerer 3-D film via Internet og satellit
- Kondensatorer er et stort smertensbarn
- Diatom holder elektronikken kold

- Om magasinet
- Abonnér på magasinet
- Adresseændring
- Medieplan 2010 DK
- Mediaplan 2010 UK

skills).

The resulting lab-on-chip tumor detection system will be well ahead of the current
state-of-the-art, revolutionizing cancer diagnostics and individualized theranostics.

Within the framework of the MIRACLE project, imec as project coordinator, collaborates with the Universitat Rovira I Virgili (Spain), the Institut für Mikrotechnik Mainz, AdnaGen, ThinXXs and Consultech (Germany), MRC Holland (The Netherlands), the Oslo University Hospital (Norway), the KTH Royal Institute of Technology, Multi-D and Fujirebio
Diagnostics (Sweden), ECCO - the European CanCer Organisation and ICsense (Belgium) and Labman (UK). The project aims at developing a fully automated and integrated microsystem providing the genotype (gene expression profile) of CTCs and DTCs starting from clinical samples.

MIRACLE is partly funded by the European Commission (FP7-ICT-2009.3.9). More information on the project is available on the web: www.miracle-fp7.eu

Relaterede nyheder

. Dialog-teknologi i Renesas-platform
. Intel køber Infineon's wireless-aktiviteter
. AAU og Thailands Telestyrelse indgår partnerskab
. Brugeren er chefen i ny generation af bil-infotainmentsystemer
. Intel og Nokia åbner første fælles forskningscenter
. Amerikansk virksomhed køber TPAC
. Weibel Scientific lancerer ny radarteknologi
. NXP skal levere chip til tysk identitetskort
. Intel køber TI's kabelmodem aktiviteter
. Microprocessorer med integreret grafik erobrer notebook markedet
. Datalogi og software et hit blandt nye AAU-studerende
. Android vi overhale Apples iOS
. Halvledermarkedet er på steroider
. DELTA styrker mikroelektronik aktiviteter
. TI leder markedet for power IC'er