



Contract no. 224306

LABONFOIL

Laboratory Skin Patches and SmartCards based on foils and compatible with a Smartbiophone

INSTRUMENT: Large-scale integrating project (IP)

D14.1 Yearly workshop

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PU	Public	<input checked="" type="checkbox"/>
PP	Restricted to other programme participants (including the Commission Services)	<input type="checkbox"/>
RE	Restricted to a group specified by the consortium (including Commission Services)	<input type="checkbox"/>
CO	Confidential, only for members of the consortium (including Commission Services)	<input type="checkbox"/>



Project coordinator: IK4-IKERLAN

Responsible Partner for this Deliverable:

Biosensia
TATAA
PWR

Table of contents

1. INTRODUCTION.....	4
2. IMMUNO QPCR ON CHIP WORKSHOP	4
2.1 INTRODUCTION	4
2.2 IMMUNO QPCR POSTER	5
2.3 IMMUNO QPCR AGENDA	6
2.4 IMMUNO QPCR WORKSHOP CONCLUSIONS	6
3. LABONACHIP WORKSHOP.....	7
3.1 INTRODUCTION	7
3.2 LABAONCHIP WORKSHOP POSTER	8
3.3 LABONCHIP WORKSHOP LEAFLET.....	9
3.4 LABONACHIP WORKSHOP AGENDA.....	10
3.5 LABONACHIP WORKSHOP CONCLUSIONS	11
4. CONCLUSIONS.....	11

1. INTRODUCTION

In this last period, we have organised two LABONFOIL Workshops.

1. The 5th Annual Workshop run under the theme of “Immuno qPCR on Chip” took place in Göteborg, 4th October 2011 (or 9th of November 2012). It was organised and promoted by TATAA Biocenter. The one day workshop introduced the audience to immuno qPCR technology, combining theoretical and practical lectures describing the state of the art of immunoassay technology, discussing examples of Lab-on-chip applications as well as giving a hands-on training in immuno PCR analysis. The practical seminars showed how real-time PCR can be used to quantify proteins. An experimental session allowed the participants to run an immuno-qPCR experiment to quantify a protein. Invited participants came from both industrial and academic institutions, with beginners to advanced qPCR experience.
2. The 4th LABONFOIL Annual Workshop took place in Wrocław, 11th May. The driving idea of the meeting was “Lab-on-a-chip: multidisciplinary partnership”. At recent workshops technological and commercialization barriers of wider exploitation of capabilities offered by lab-on-a-chip (LOC) techniques, as well as point-of-care issues in emerging countries have been discussed. At Wrocław's meeting the latest achievements as well as new idea on labs-ona-chip will be discussed. Latest developments in European R&D innovating projects in which LOC techniques and multidisciplinary partnership play essential role in the way to success.

2. IMMUNO QPCR ON CHIP WORKSHOP

2.1 Introduction

This workshop was organized and promoted by TATAA Biocenter with the financial support of LABONFOIL project. A workshop poster and brochure (Figure 1) were designed, printed and distributed in hard copies and electronic form for the announcement and promotion of this event. The documents described the objective of the event as an open meeting for all interested in immuno qPCR LOC technologies with special attention paid to promote LABONFOIL.

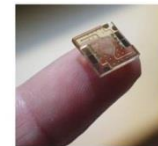
2.2 Immuno qPCR Poster

LABONFOIL
Integrated Project | Laboratory Skin Patches and SmartCards based on foils and compatible with a smartphone

Annual Workshop “Immuno qPCR on a Chip” Goteborg, 4th October 2012

Objective

The objective of the workshop is to introduce immune qPCR technology. The workshop combines theoretical and practical lectures which give an overview of the state of the art of immunoassay technology, discuss examples of Lab-on-chip applications as well as give a hands-on training in immuno PCR analysis.



Lab-on-a-chip device for real-time PCR detection of food borne pathogens (OPTOLABCARD Project)

Thursday, 4th October 2012

- 09:00-10:30 Immunoassays
Background
The immuno-qPCR assay
Today's experimental setup
- 10:45-12:15 Immuno-qPCR experiment
- 12:15-13:15 Lunch
- 13:15-14:00 Immuno-qPCR experiment cont.
- 14:00-14:45 Optimization of immuno-qPCR
How to analyse immuno-qPCR data
Troubleshooting
- 15:00-15:45 Lab-on-Chip applications of immuno-qPCR
- 16:00-16:30 Analysis of the immuno-qPCR experiment
- 16:30-16:45 Discussion and questions



SmartCard lab-on-a-chip device for real-time PCR detection of food borne pathogens, marine algae analysis, climate change and Colorectal Cancer patients monitoring (LABONFOIL Project)

Workshop Organiser
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Project Partners

- IKERLAN-IK4, S.Coop. (Project Coordinator) -Spain-
- GAIKER-IK4 Technological Centre -Spain-
- University Of Southampton -United Kingdom-
- Natural Environment Research Council -United Kingdom-
- Dept. Micro and Nanotechnology (Technical University of Denmark) -Denmark-
- National Veterinary Institute (Technical University of Denmark) -Denmark-
- Fundación Vasca De Innovación E Investigación Sanitarias -Spain-
- Politechnika Wroclawska -Poland-
- Fraunhofer Gesellschaft Zur Foerderung Der Angewandten Forschung E.V. -Germany-
- Biosensia Limited -Ireland-
- TATAA Biocenter AB -Sweden-
- EVGroup E. Thallner GmbH -Austria-
- Biotech Biotechnological & Medical Laboratories S.A. -Spain-
- Micro Resist Technology -Germany-

Contact

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www.ikerlan.es
www.labonfoil.eu
Timeline: Start: 01-05-08
End: 30-04-12

Figure 1. Poster of the 5th Annual LABONFOIL Workshop.

2.3 Immuno qPCR Agenda

The final programme of the workshop is presented below. The agenda was printed and distributed among the meeting participants.

Morning Session

- 08.45 Welcome by Kristina Lind
- 09.00 Immunoassays
- 09.20 Background
- 09.40 The immuno-qPCR assay
- 10:00 Today's experimental setup
- 10:30 Coffee break
- 10:45 Immuno-qPCR experiment
- 12:15 Lunch

Afternoon Session

- 13:15 Immuno-qPCR experiment cont.
- 14:00 Optimization of immuno-qPCR
- 14:15 How to analyse immuno-qPCR data
- 14:30 Troubleshooting
- 15:00 Lab-on-Chip applications of immuno-qPCR
- 16:00 Analysis of the immuno-qPCR experiment
- 16:30 Discussion and questions
- 16.45 Farewell by Kristina Lind

The workshop was divided in two session. After the introduction and welcoming by Kristina Lind, the first session was devoted to an overview of Immuno and Immuno qPCR assays technologies and examples of lab-on-a-chip applications. The next session comprised of hands-on seminars, during which qPCR experiments were run and optimisation and analysis methods were demonstrated. The final lecture discussed selected application of immuno qPCR and the future use of Lab-on-Foil technology.

2.4 Immuno qPCR Workshop Conclusions

The event had 13 registered participants from Sweden, Norway, Denmark and Switzerland. Feedback questionnaires handed out to participants at the end of the workshop were very positive. On a scale of 1-5 the course was graded 4.7. A quote from one of the participants was "A very instructive workshop held by highly skilled and motivated scientists. Very recommendable!"



3. LABONACHIP WORKSHOP

3.1 Introduction

Invited speakers came from both industrial and academic institutions. Thus, a wide spectrum of lab-on-a-chip points-of-view were presented and discussed. Due to academic character of PWR as hosting institution, the workshop was addressed to students of PWR. Additionally, guests from Polish R&D institutions were also present.

This workshop was organized and promoted by Wrocław University of Technology with the financial support of LABONFOIL project and CICmicroGUNE. Thanks to support of the Wrocław University of Technology the workshop participation was free of charge.

A workshop poster (Figure 1) and brochure (Figure 2) were designed, printed and distributed in hard copies and electronic form for the announcement and promotion of this event. The documents described the objective of the event as an open meeting for all interested in LOC technologies with special attention paid to promote LABONFOIL and other European projects in the field. Moreover general information of LABONFOIL project and partners were recorded.

Representatives of some 7. FP projects – LABONFOIL, PYTHIA and ULTRA - involved in development of new technical solutions applicable to LOC and microfluidic detection techniques were invited to give a talk.

3.2 LabaonChip Workshop Poster



LABONFOIL

Integrated Project

Laboratory Skin Patches and SmartCards based on foils and compatible with a smartphone





Lab-on-a-chip device for real-time PCR detection of food borne pathogens (OPTOLABCARD Project)

4th LABONFOIL Annual Workshop

"Lab-on-a-Chip: multidisciplinary partnership"

Wrocław, 11th May 2011



SmartCard lab-on-a-chip device for real-time PCR detection of food borne pathogens, marine algae analysis, climate change and Colorectal Cancer patients monitoring (LABONFOIL Project)

2008 - Mondragon, Spain
 2009 - London, United Kingdom
 2010 - Madrid, Spain

Workshop Objective

After successful workshops in Mondragon, London and Madrid, the 4th LABONFOIL Annual Workshop is organized in Wrocław, 11th May 2011.

At recent workshops technological and commercial barriers of wider exploitation of capabilities offered by lab-on-a-chip (LOC) techniques, as well as point-of-care issues in emerging countries, have been discussed.

At Wrocław's meeting the latest achievements as well as new idea on labs-on-a-chip will be discussed. Latest developments in European R&D innovating projects in which LOC techniques and multidisciplinary partnership play essential role in the way to success.

The 4th Workshop is organized under the auspices of LABONFOIL Project, Faculty of Microsystem Electronics and Photonics of Wrocław University of Technology (FMEP-WUT) and CICmicroGUNE.



GOC Lab-on-a-chip for Hsp90alpha PCR in companion to Wrocław's mosquito (LABONFOIL Project)

Agenda

9.00 Welcome by **Rafal Walczak** and **Jesús M. Ruano-López**
 9.05 Address by **Andrzej Dzedzic** - the Dean of the Faculty of Microsystem Electronics and Photonics of Wrocław University of Technology
 9.10 Short history by **Jan Dziuban**

Session I

9.20 **Frédéric Breussin** - Project Manager
Yole Développement, France
 9.50 **Jesús M. Ruano-López** - LABONFOIL Project Coordinator
IKERLAN-IK4, Spain
 10.20 **Lorenzo Tripodi** - ULTRA FP7 Project Coordinator
Philips Research Europe, The Netherlands
 10.50 **Andrzej Budkowski** - PYTHIA FP7 Project
Jagiellonian University, Poland

Coffee Break

11.20 - 12.00

Session II

12.00 **Piotr Grabiec** - MNS-DIAG Project Coordinator
Institute of Electron Technology, Poland
 12.30 **Rafal Walczak** - EU Projects Leader
FMEP-WUT, Poland
 13.00 **Anna Górecka-Drzazga** - Deputy of CIS Project
FMEP-WUT, Poland

Lunch Break

13.30 - 14.30

Session III

14.30 **Zbigniew Brzózka** - Head of Chemical Sensors Research Group,
Warsaw University of Technology, Poland
 15.00 **Dorota Pijanowska** - Head of Laboratory of Biosensors and
Microanalysis Systems of Nalecz Institute of Biocybernetics
and Biomedical Engineering, Poland
 15.30 **Paweł Knapkiewicz** - MEMSLab Senior Researcher,
FMEP-WUT, Poland

16.00 Farewell by **Rafal Walczak**

Workshop Venue

Wrocław University of Technology
Wyb. Wyspiańskiego 27
Main Building (A-1), Room 241
50-370 Wrocław, Poland

Workshop Chairmen

Jesús M. Ruano-López
IKERLAN-IK4, Spain
Rafal Walczak
FMEP-WUT, Poland

Registration Rules

Registration is obligatory for all participants, contact person:
Rafal Walczak, e-mail: rafal.walczak@pwr.wroc.pl

Free for registered participants
 Free for students (do not include coffee/lunch breaks)

Organizers and Sponsors



Wrocław University of Technology
Faculty of Microsystem Electronics and Photonics





















Project Partners

- IKERLAN-IK4, S.Coop. (Project Coordinator) -Spain-
- GAIKER-IK4 Technological Centre -Spain-
- University of Southampton -United Kingdom-
- Natural Environment Research Council -United Kingdom-
- Dept. Micro and Nanotechnology (Technical University of Denmark) -Denmark-
- National Veterinary Institute (Technical University of Denmark) -Denmark-
- Fundación Vasca De Innovación E Investigación Sanitarias -Spain-
- Politechnika Wroclawska -Poland-
- Fraunhofer Gesellschaft Zur Foerderung Der Angewandten Forschung E.V. -Germany-
- Biosensia Limited -Ireland-
- TATAA Biocenter AB -Sweden-
- EVGroup E. Thaliner GmbH -Austria-
- Biotech Biotechnological & Medical Laboratories S.A. -Spain-
- Micro Resist Technology -Germany-

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 Web site: www.labonfoil.eu
 Timeline: Start: 01-05-08
 End: 30-04-12
 Budget: Overall Cost: 7.097.838 €
 EC Funding: 3.300.000 €
 Contract number: 224306

Figure 2. Poster of the 4th Annual LABONFOIL Workshop.

3.3 LabonChip Workshop Leaflet

LABONFOIL
Integrated Project

Organizers and Sponsors

www.labonfoil.eu

Presenters

4th Annual Workshop

"Lab-on-a-Chip: multidisciplinary partnership"

For those interested in participating in the Workshop, please contact

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Wroclaw University of Technology
Faculty of Microsystem Electronics and Photonics
Wroclaw, 11th May 2011

4th LABONFOIL Workshop

Scope of the Workshop

Workshop Objective

After successful workshops in Mondragon, London and Madrid, the 4th LABONFOIL Annual Workshop is organized in Wroclaw, 11th May 2011. At recent workshops technological and commercialization barriers of wider exploitation of capabilities offered by lab-on-a-chip (LOC) techniques, as well as point-of-care issues in emerging countries, have been discussed. The 4th Workshop is organized under auspicious of LABONFOIL Project, Faculty of Microsystem Electronics and Photonics of Wroclaw University of technology and CiCmicroGUNE. At Wroclaw's meeting the latest achievements as well as new idea on labs-on-a-chip will be discussed. Latest developments in European R&D innovating projects in which LOC techniques and multidisciplinary partnership play essential role in the way to success.

Workshop Venue

Wroclaw University of Technology
Wyb. Wyspińskiego 27,
Main Building (A-1), Room 241
50-370 Wroclaw, Poland

Time Schedule

9.00 Open Registration
16.30 End of the Meeting

Workshop Chairmen

Jesús M. Ruano-López
IKERLAN-IK4, Spain

Rafal Walczak
Faculty of Microsystem Electronics and Photonics of Wroclaw University of Technology, Poland

Registration Rules

Free for registered participants
Free for students (do not include coffee and lunch breaks)

Agenda, 11th of May 2011

9.00 Welcome by **Rafal Walczak** and **Jesús M. Ruano-López**
Address by **Andrzej Dzedzic** - the Dean of the Faculty of Microsystem Electronics and Photonics of Wroclaw University of Technology

9.10 Short history by **Jan Dziuban**

Session I

9.20 **Frédéric Breussin** - Project Manager
Voie Développement, France

9.50 **Jesús M. Ruano-López** - LABONFOIL Project Coordinator
IKERLAN-IK4, Spain

10.20 **Lorenzo Tripodi** - ULTRA FP7 Project Coordinator
Philos Research Europe, The Netherlands

10.50 **Andrzej Budkowski** - PYTHIA FP7 Project
Jagiellonian University, Poland

Coffee Break

11.20 - 12.00

Session II

12.00 **Piotr Grabiec** - MNS-DIAG Project Coordinator
Institute of Electron Technology, Poland

12.30 **Rafal Walczak** - EU Projects Leader
FMEP-WUT, Poland

13.00 **Anna Górecka-Drzażga** - Deputy of CIS Project
FMEP-WUT, Poland

Lunch Break

13.30 - 14.30

Session III

14.30 **Zbigniew Brzóška** - Head of Chemical Sensors Research Group,
Warsaw University of Technology, Poland

15.00 **Dorota Pijanowska** - Head of Laboratory of Biosensors and
Microanalysis Systems of Nalecz Institute of Biocybernetics
and Biomedical Engineering, Poland

15.30 **Pawel Knapkiewicz** - MEMS Lab Senior Researcher,
FMEP-WUT, Poland

16.00 Farewell by **Rafal Walczak**

LABONFOIL Partnership

The project has a clear European dimension involving partners from public (two research centres and one medical institution) and private sector (6 enterprises (5 SMEs) and 6 technological centres) from the research and industrial community. They integrate their research effort on a European scale in order to pursue ambitious, high-risk, long-term goals developing new detection devices. The participants are European leaders in their fields and many have experience of working in other EU research projects, aiding high performance and stable collaboration. The combination of different partners' backgrounds allows us to have a holistic view of the problems, which we believe is crucial for success.

SmartCard lab-on-a-chip device for real-time PCR detection of food borne pathogens, marine algae analysis, climate change and Colorectal Cancer patients monitoring (LABONFOIL Project)

Figure 3. Brochure of the 4th Annual LABONFOIL Workshop.

3.4 LabonaChip Workshop Agenda

The final programme of the workshop is presented below. The agenda was printed and distributed among the meeting participants.

- 9.00 Welcome by Rafał Walczak and Jesús M. Ruano-López
- 9.05 Address by Andrzej Dziejczak - the Dean of the Faculty of Microsystem Electronics and Photonics of Wrocław University of Technology
- 9.10 Short history by Jan Dziuban (Wrocław University of Technology, Faculty of Microsystem Electronics and Photonics, Poland)

Session I

- 9.20 Frédéric Breussin (Yole Développement, France)
Market and Trends for Microfluidic Point of Care Technologies.
- 9.50 Jesús M. Ruano- López (IKERLAN-IK4, Spain)
Laboratory Skin Patches and SmartCards Based on Foils and Compatible with a Smartphone.
- 10.20 Lorenzo Tripodi (Philips Research Europe, The Netherlands)
THz Microsystems for Imaging and Spectroscopy Applications.
- 10.50 Andrzej Budkowski (Jagiellonian University, Poland)
Spectro(micro)scopic Characterization of Biosensor Surfaces: the Case Study of PYTHIA Biochips.
- 11.20 – 12.00 Coffee Break

Session II

- 12.00 Rafał Walczak (Wrocław University of Technology, Faculty of Microsystem Electronics and Photonics, Poland)
Labs-on-a-Chip with Optical Detection: Chosen Examples of MEMSLab Works.
- 12.30 Anna Górecka-Drzazga (Wrocław University of Technology, Faculty of Microsystem Electronics and Photonics, Poland)
Biological Sensor Based on LTCC PCR Bioreactor.
- 13.00 Piotr Grabiec, Paweł Janus (Institute of Electron Technology, Poland)
Heterogenous Microsystem Technologies for Biomedical Applications.
- 13.30 – 14.30 Lunch Break

Session III

- 14.30 Dorota Pijanowska (Institute of Biocybernetics and Biomedical Engineering, Poland)
Biosensors and Microsystems for Biochemical Analysis and Tissue Engineering
- 15.00 Zbigniew Brzózka, Michał Chudy (Warsaw University of Technology, Faculty of Chemistry, Poland)
Hybrid Microdevices for Cells' Based Assays.
- 15.30 Paweł Knapkiewicz (Wrocław University of Technology, Faculty of Microsystem Electronics and Photonics, Poland)
Microchemical Systems.
- 16.00 Farewell by Rafał Walczak

3.5 LabonaChip workshop Conclusions

The workshop was divided in three sessions. After the introduction and welcoming by the Dean of the Faculty of Microsystem Electronics and Photonics of Wrocław University of Technology, the first session was devoted to presentation of the world LOC market and recent achievements in European 7. FP projects involved in development of LOC and new detection technologies applicable to microfluidic solutions. During the second session, Polish projects co-financed by European funding were presented. The last session was a presentation of Polish R&D institutions involved in the development of labs-on-a-chip.

The event had a good audience with 60 registrations and active discussion after each presentation. Among LABONFOIL project partners and invited speakers, the audience came from the leading Polish R&D institutions – Institute of Electron Technology (Warsaw), Polish Academy of Science (Warsaw), Jagiellonian University (Kraków), Warsaw Technical University (Warsaw) and Rzeszów Technical University (Rzeszów). Over 50% of the audience were students of the Wrocław University of Technology.

The main goals of the meeting – dissemination of the project and platform for discussion and new contacts creation – have been fulfilled.

The short article describing the workshop and LABONFOIL project will be published in June 2011 edition of PRYZMAT University journal.

4. CONCLUSIONS

Although we envisioned one workshop per year, in this last period we have carried out two workshops since it was crucial to diffuse the results.

This deliverable only contains the diffusion based on these two workshops. The rest of this last period diffusion actions will be collected in D14.3 Final report on dissemination activities.