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	☒
PP	Restricted to other programme participants (including the Commission Services)	☐
RE	Restricted to a group specified by the consortium (including Commission Services)	☐
CO	Confidential, only for members of the consortium (including Commission Services)	☐

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Responsible Partner for this Deliverable:

Biosensia
TATAA
PWR

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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 Göteburg, 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 particpants 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

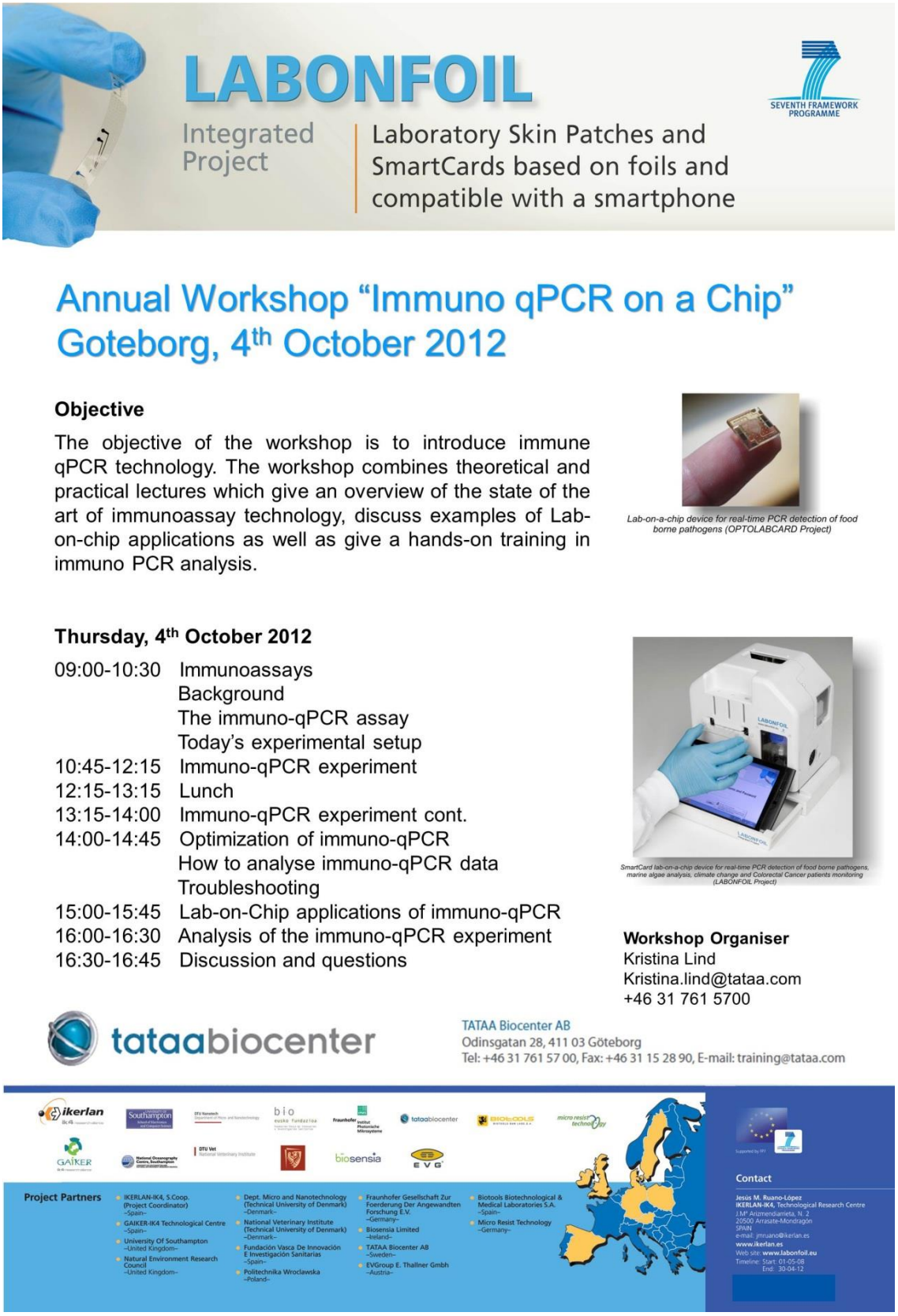


Figure 1. Poster of the 5th Annual LABONFOIL Workshop.

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 particpants from Sweden, Norway, Denmark and Switzerland. Feedback questionaires handed out to particpants 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

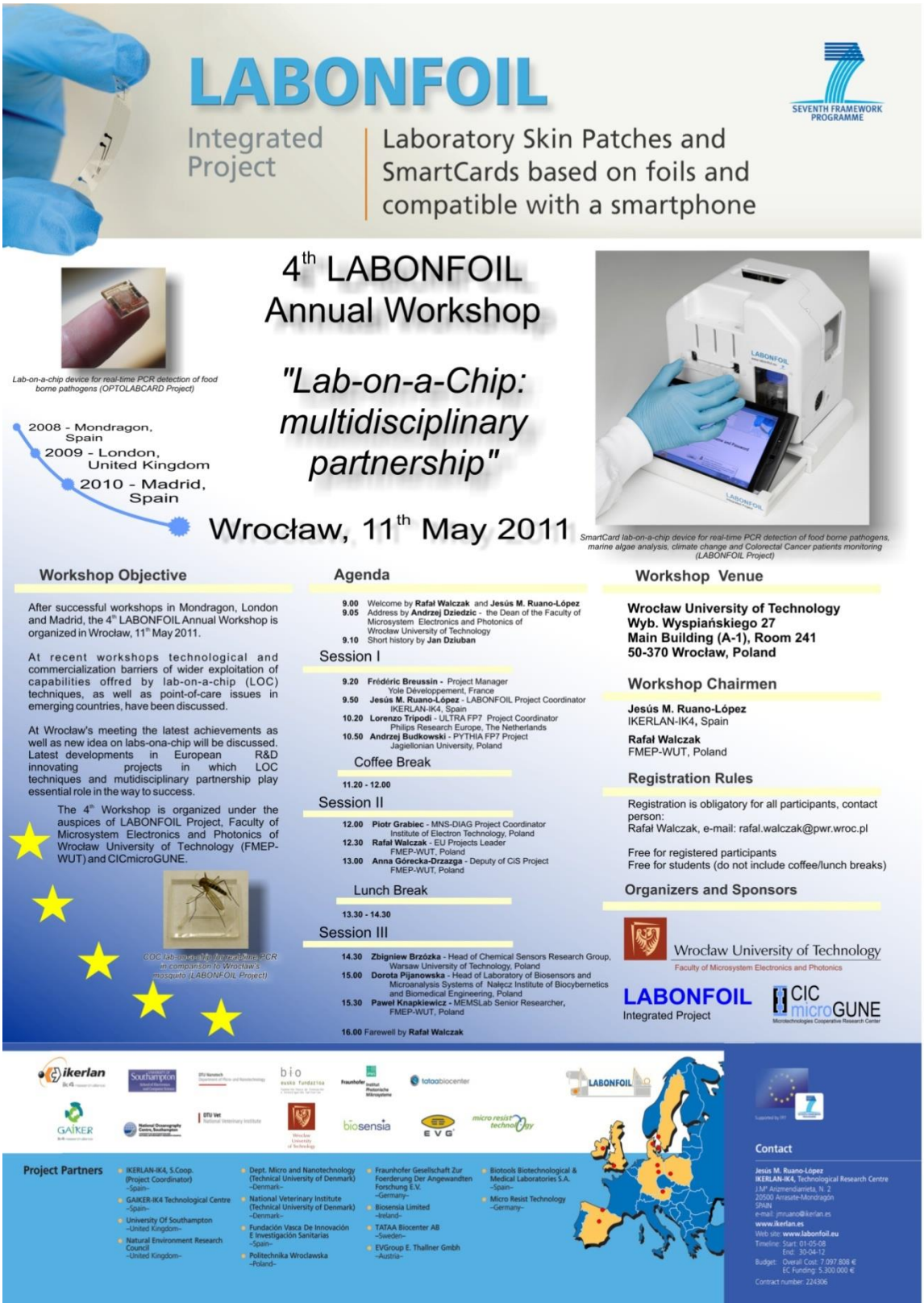
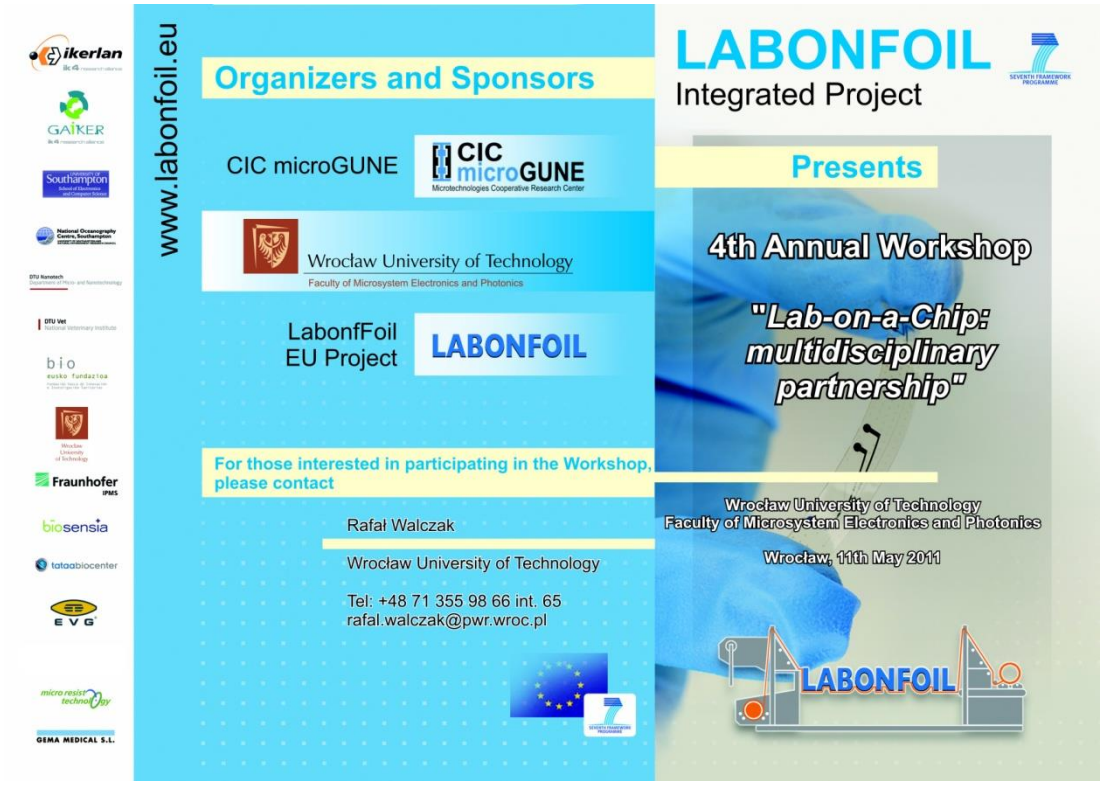


Figure 2. Poster of the 4th Annual LABONFOIL Workshop.

3.3 LabonChip Workshop Leaflet



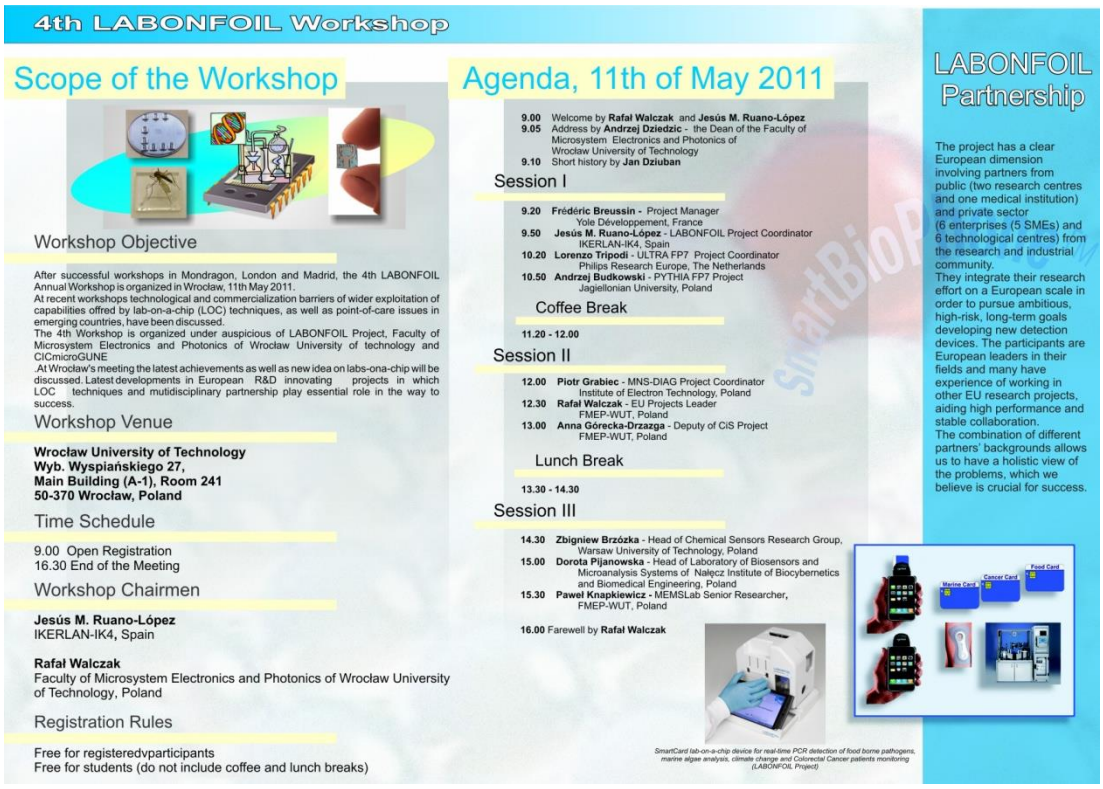


Figure 3. Brochure of the 4th Annual LABONFOIL Workshop.

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 Dziedzic - 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 session. 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 project co-financed by European founding 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 (Rzeszow). 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 wokshops since it was crucial to diffuse the results.

This deliverable only contain 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.