

# MOBIO

## Mobile Biometry

<http://www.mobioproject.org/>

Funded under the 7th FP (Seventh Framework Programme)  
Theme ICT-2007.1.4  
[Secure, dependable and trusted Infrastructure]

### D7.3: First report on dissemination activities

**Due date:** 28/02/2009

**Submission date:** 11/03/2009

**Project start date:** 01/01/2008

**Duration:** 36 months

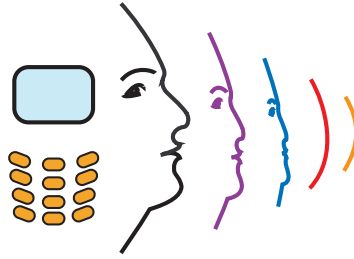
**WP Manager:** Jan “Honza” Černocký

**Revision:** 3

**Author(s):** Jan “Honza” Černocký (BUT)

Project funded by the European Commission in the 7th Framework Programme (2008-2010)		
Dissemination Level		
PU	Public	Yes
RE	Restricted to a group specified by the consortium (includes Commission Services)	No
CO	Confidential, only for members of the consortium (includes Commission Services)	No

---



## D7.3: First report on dissemination activities

### **Abstract:**

This report addresses MOBIO dissemination activities from the beginning of the project till Month 14 (February 2009). It covers scientific publications, dissemination to general public, evaluations, Web pages, Community of Interest (CoI) with related MOBIO newsletter, trade fairs and projects related to MOBIO.

---

## Contents

<b>1</b>	<b>Scientific Dissemination</b>	<b>7</b>
1.1	Scientific publications . . . . .	7
1.2	Scientific workshops . . . . .	7
1.3	Invited talks . . . . .	7
<b>2</b>	<b>Dissemination to general public</b>	<b>8</b>
2.1	Newspapers, magazines . . . . .	8
2.2	TV, radio . . . . .	8
2.3	Seminars . . . . .	8
<b>3</b>	<b>Evaluations</b>	<b>9</b>
3.1	ICB2009 face verification competition . . . . .	9
3.2	NIST speaker recognition evaluations . . . . .	10
3.3	Multimodal Biometric Grand Challenge . . . . .	10
<b>4</b>	<b>Web pages</b>	<b>10</b>
<b>5</b>	<b>Dissemination to the industry</b>	<b>10</b>
5.1	Community of Interest (CoI) . . . . .	10
5.2	MOBIO newsletter . . . . .	11
5.3	Companies outside CoI . . . . .	13
5.4	Trade fairs . . . . .	13
<b>6</b>	<b>Related projects</b>	<b>13</b>
<b>7</b>	<b>Summary</b>	<b>14</b>



# 1 Scientific Dissemination

## 1.1 Scientific publications

The research results related to the project were presented at international conferences and in journals. In total, 13 conference papers and 1 journal paper (Springer LNCS) were supported by MOBIO in 2008. Several journal papers are under review and several were already accepted to events held in 2009. Several publications (both presented and accepted for 2009) are related to invited talks. The list of 2008 publications can be found in the last section “References”.

The updated list of MOBIO publications is maintained in the “Publication” section of MOBIO web pages<sup>1</sup>.

## 1.2 Scientific workshops

MOBIO was tightly linked with Johns Hopkins University 2008 summer workshop where Lukas Burget (BUT) headed work-group Robust Speaker Recognition Over Varying Channels<sup>2</sup>. The world’s best researchers in the area of speaker recognition:

- Niko Brummer (DataVoice, now Agnitio)
- Patrick Kenny (Centre de Recherche en Informatique de Montreal)
- Jason Pelecanos (IBM)
- Douglas Reynolds (MIT Lincoln Labs)
- Robbie Vogt (Queensland University of Technology)

were present 6 weeks in Baltimore to work together on the robustness issues. The team was completed with graduate and undergraduate students of which 2 were from BUT. Furthermore, Pavel Matejka supported the JHU team from BUT, and most of the computing was done on BUT’s computing cluster.

## 1.3 Invited talks

- In June 2008, project coordinator, Dr. Sebastien Marcel from IDIAP, gave a tutorial on face detection and recognition at Gjøvik University, Norway,
- On December 12, 2008, Prof. Matti Pietikäinen from UOULU gave an invited talk on spatio-temporal local binary patterns at the University of Maryland Institute for Advanced Computer Studies (UMIACS), USA.

---

<sup>1</sup><http://publications.mobioproject.org/>

<sup>2</sup><http://www.clsp.jhu.edu/workshops/ws08/groups/rsrovc/>

- On November 25, 2008, Dr. Abdenour Hadid from UOULU presented a tutorial on Local Binary Pattern Approach and its Applications to Face Analysis at the international Workshops on Image Processing Theory, Tools and Applications (IPTA'08) which was held in Sousse, Tunisia<sup>3</sup>.
- On August 5-6, 2008, Prof. Josef Kittler from UNIS visited UOULU and gave an intensive course on Multiple Classifier Systems<sup>4</sup>.

## 2 Dissemination to general public

We have also presented MOBIO results to non-scientific community in different forms:

### 2.1 Newspapers, magazines

- BUT's activities in speaker and language identification were presented in a 2-page paper "Halo, tady Usama" ("Hello, this is Ossama") in a respected economic magazine "Euro" (number 9/2009, 25th February 2009)<sup>5</sup>.
- UOULU prepared a press release about the MOBIO project on July 4, 2008, just before the project meeting in Oulu. After this, some newspapers and net magazines published short articles about the project<sup>67</sup>.

### 2.2 TV, radio

BUT speaker identification activities were presented in the science magazine PORT in a report broadcast on 12th November 2008 on the 2nd channel of Czech state TV. The Czech TV even provided data from several speakers that were tested with the BUT system, the results were presented in the report. The broadcast is available on-line on the Czech TV pages.<sup>8</sup> Pavel Matejka was available for chat with TV spectators, and received several interesting questions. Full text of the chat is available in PORT's archive<sup>9</sup> (Figure 1).

### 2.3 Seminars

BUT representative was invited to a seminar "Actual results of research useful for security community" organized jointly by company T-Soft and Ministry of Interior of Czech Re-

---

<sup>3</sup><http://ipta08.ibisc.univ-evry.fr/index.php?categoryid=6&designP=1>

<sup>4</sup><http://www.infotech.oulu.fi/GraduateSchool/ICourses/2008/kittler.html>

<sup>5</sup><http://speech.fit.vutbr.cz/en/media/clanek-v-casopise-euro-09-2008>

<sup>6</sup>[http://www.puhelinvertailu.com/uutiset.cfm/2008/07/07/matkapuhelin\\_tunnistaa\\_kayttajansa\\_videokuvasta](http://www.puhelinvertailu.com/uutiset.cfm/2008/07/07/matkapuhelin_tunnistaa_kayttajansa_videokuvasta)

<sup>7</sup><http://www.itviikko.fi/teknologia/2008/07/07/matkapuhelin-tunnistaa-kayttajan-kasvot/200817919/7>

<sup>8</sup><http://www.ceskatelevize.cz/program/port/12.11.2008-17:15-2/>

<sup>9</sup><http://www.ceskatelevize.cz/program/port/chat/791-ing-pavel-matejka/>





Figure 1: Pavel Matejka in the chat with Czech TV spectators on the pages of PORT science mag.

public. The seminar took place on 27th November in Prague and was attended by more than 50 officials and decision makers from Police, Army and intelligence services. Among other topics, Honza Cernocky presented BUT's results in speaker verification.

### 3 Evaluations

MOBIO partners organized and were present in several international technology evaluations which greatly increased their international visibility.

#### 3.1 ICB2009 face verification competition

UNIS has coordinated the first known effort in assessing *video-to-video* face matching under unconstrained environment (with mobile devices): ICB2009 face verification competition<sup>10</sup>. The result of the competition has been drafted and will be presented in the International Conference on Biometrics 2009 to be held in Sardinia, Italy. Six academic institutes have participated, including IDIAP (which contributed to a significant number of system submissions).

<sup>10</sup><http://face.ee.surrey.ac.uk/>

### 3.2 NIST speaker recognition evaluations

BUT and LIA participated in 2008 NIST Speaker recognition evaluation<sup>11</sup> which was a part of an ongoing series of evaluations conducted by NIST. These evaluations provide an important contribution to the direction of research efforts and the calibration of technical capabilities. They are intended to be of interest to all researchers working on the general problem of text independent speaker recognition.

BUT and LIA's systems were very successful in the evaluation and received significant attention at the post-evaluation workshop held in Montreal, Canada.

### 3.3 Multimodal Biometric Grand Challenge

As part of benchmarking effort, UNIS participated in the Multimodal Biometric Grand Challenge (MBGC)<sup>12</sup> organized by NIST. One component of the competition that is relevant to MOBIO is still-to-video face verification (enrollment with still images; query with video sequences). This work is in collaboration with University of Cambridge.

## 4 Web pages

The web pages of the project<sup>13</sup> (Figure 2) maintained by IDIAP are fully operational. The private section serves for exchange of documents and is completed by wiki pages. The server also features bibliography system Aigaion to manage information on papers supported by MOBIO.

## 5 Dissemination to the industry

### 5.1 Community of Interest (CoI)

CoI<sup>14</sup> is the key channel for communication of MOBIO with industrial partners. In 2009, CoI was launched by Ideark with the help of personal contacts of project members. Around 75 direct and indirect contacts were asked for CoI participation. CoI so far attracted interest of 14 industrial partners:

- ACTIBIO (EU FP7 project)
- atracsys (Switzerland)
- BIOMETRY.com AG (Switzerland)
- Cnoté (Switzerland)

---

<sup>11</sup><http://www.nist.gov/speech/tests/sre/2008/index.html>

<sup>12</sup><http://face.nist.gov/mbgc>

<sup>13</sup><http://www.mobioproject.org/>

<sup>14</sup><http://www.mobioproject.org/community-of-interest/>

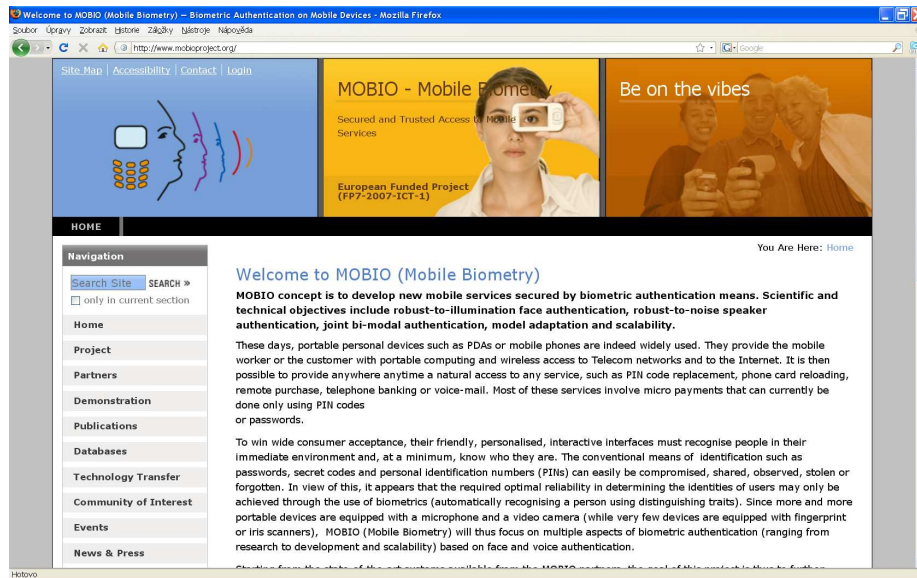



Figure 2: MOBIO home-page.

- Daon (USA)
- GREYC (France)
- Extol (Malaysia)
- KeyLemon (Switzerland)
- Mi-Pay (UK)
- ReallaeR (USA)
- Retia (Czech Republic)
- SeMarket (Spain)
- United Kingdom Biometrics Institute (University of Kent, UK)
- Visidon (Finland)

with several other expressions of interest that are being processed.

## 5.2 MOBIO newsletter

The first CoI newsletter was sent out in the end of 2008, the goal is to send one each quarter. The title page can be seen in Figure 3, and the newsletter is available for MOBIO CoI members from private section of MOBIO's web pages.



**MOBIO - Mobile Biometry (IST 214 324)**  
Contact: Sébastien MARCEL, Project Coordinator,  
Sebastien.Marcel@idiap.ch

### MOBIO Baseline Systems

Baseline systems have just been released by MOBIO academic partners:

- 4 baseline face detection/localisation systems from University of Manchester (UMAN), Idiap Research Institute (IDIAP) and University of Oulu (UOULU)
- 3 baseline face verification systems from IDIAP and University of Surrey (UNIS)
- 2 baseline speaker verification systems from Université d'Avignon et des Pays de Vaucluse (UAPV) and Brno University of Technology (BUT)

The report on the description and the evaluation of the above algorithms is publiclz available on <http://www.mobioproject.org/Public>

### MOBIO A/V Database

Short specifications

- English only
- Recorded in 5 sites (4 countries): Finland (UOULU), France (UAPV), Switzerland (IDIAP), UK (UMAN, UNIS)
- From mobile – Nokia N93
- From laptop (enrolment sessions only)

Planning

- 40% completion by June 2009
- 100% completion by August 2010

Current status

- Already 40 hours of Audio/Video recordings – 120 GB

### High-level Timeline & Contacts

**Timeline**

- December 2008    implementation of the Col area on the website
- January 2009    project meeting with presentation to the project members of the list of Col members
- March 2009      newsletter 2

**MOBIO Academic Partners and Contacts**

University of Manchester  
Idiap Research Institute  
University of Oulu  
University of Surrey  
University of Twente  
University of Warwick  
University of York  
University of Zurich  
University of Cambridge  
University of Edinburgh  
University of Glasgow  
University of Hull  
University of Leeds  
University of Liverpool  
University of Nottingham  
University of Oxford  
University of Southampton  
University of Stirling  
University of Strathclyde  
University of Sussex  
University of Warwick  
University of York

**MOBIO Project Partners and Contacts**

Idiap Research Institute  
University of Manchester  
University of Oulu  
University of Surrey  
University of Twente  
University of Warwick  
University of York  
University of Zurich  
University of Cambridge  
University of Edinburgh  
University of Glasgow  
University of Hull  
University of Leeds  
University of Liverpool  
University of Nottingham  
University of Oxford  
University of Southampton  
University of Stirling  
University of Strathclyde  
University of Sussex  
University of Warwick  
University of York

/2
MOBIO, c/o Idiap research institute, Centre du Parc, Rue Marconi 19, P.O. Box 592, CH-1920 Martigny, Switzerland

Figure 3: Title page of MOBIO newsletter No. 1.

### 5.3 Companies outside CoI

In addition to CoI, MOBIO partners held consultations with several ventures and companies that are active in the sectors of biometry, mobile communication, speaker and face verification, and related areas, namely:

- Agnitio (Spain)
- Alsop Louie Partners (San Francisco, USA)
- ANF Data (Czech Republic)
- Phonexia (spin-off of BUT, Czech Republic)
- Yahoo! JAPAN Research, Yahoo Japan Corporation

### 5.4 Trade fairs

IdeArk participated on the IDIAP stand at ICT 2008 in Lyon in order to advertise the MOBIO CoI and link with potential partners. Useful contacts were derived from these contacts.

## 6 Related projects

There are several synergies between MOBIO and projects running at different levels (EU, national):

- BUT team participates in a large faculty-wide research project “Security-Oriented Research in Information Technology”<sup>15</sup> sponsored by Czech Ministry of Education under No. MSM0021630528, running from 2007-2013. BUT’s principal investigator Honza Cernocky, is heading work-group “Recognition and analysis of natural languages”, which includes also speaker verification and identification. The project mainly supports basic research in this area.
- BUT, together with two other Czech speech groups (University of West Bohemia in Plzen and Technical University of Liberec) is working on project “Overcoming the language barrier complicating investigation into financing terrorism and serious financial crimes” sponsored by Czech Ministry of Interior under No. VD20072010B16. The project runs from 2007-2010. While in 2007 and 2008, the main goal was data collection and keyword spotting, in 2009, the main target is speaker identification and verification to meet defense and security needs.

---

<sup>15</sup><http://www.fit.vutbr.cz/research/vzamer/np>

- UOULU team has a collaborative project “Joint Research in Face Analysis and Visual Surveillance” with Prof. Stan Z. Li, Institute of Automation, Chinese Academy of Sciences. The research of UOULU is funded by the European Regional Development Fund (ERDF), the Finnish Funding Agency for Technology and Innovation (Tekes), and four companies.
- UOULU team has research projects funded by Nokia in areas of image & video processing and computer vision.
- The MOBIO project also coincides with N. Poh’s (UNIS) personal research funding, awarded by the Swiss NSF advanced researcher fellowship grant PA0022\_121477, to carry out research on complex adaptive multiple classifier systems. The aim of this project is to design a multiple classifier system, e.g., the bimodal biometric system used in MOBIO, that is capable of adapting its parameters over time, in order to maintain the system performance.
- IDIAP was actively networking for possible collaborations with French clusters:
  - SYSTEM@TIC PARIS-REGION<sup>16</sup>
  - Secured Communications<sup>17</sup>

## 7 Summary

This report addressed MOBIO dissemination activities from the beginning of the project till Month 14 (February 2009). It covers scientific publications, dissemination to general public, evaluations, Web pages, Community of Interest (CoI) with related MOBIO newsletter, trade fairs and projects related to MOBIO.

It is obvious that MOBIO partners fully exploit their dissemination potential and that they demonstrate excellence in all sorts of dissemination activities, targeted both at scientific community and general public. CoI started an important dissemination channel towards the industry.

In future, MOBIO partners will continue in all above mentioned areas.

## Acknowledgments

We would like to thank the following partners for their significant contributions to this deliverable:

- Norman Poh (UNIS)
- Stephane Rey (IdeArk)

---

<sup>16</sup><http://www.systematic-paris-region.org/en/index.html>

<sup>17</sup><http://www.pole-scs.org/index.en.htm>

- Sebastien Marcel (IDIAP)
- Abdenour Hadid (UOULU)

## References

- [AROH08] T. Ahonen, E. Rahtu, V. Ojansivu, and J. Heikkilä. Recognition of blurred faces using local phase quantization. In *Proc. 19th International Conference on Pattern Recognition (ICPR 2008), Tampa, FL, 4 p*, 2008.
- [BFH<sup>+</sup>08] L. Burget, M. Fapso, V. Hubeika, O. Glembek, M. Karafiat, M. Kockmann, P. Matejka, P. Schwarz, and J. Cernocky. BUT system description: Nist sre 2008. In *Proc. 2008 NIST Speaker Recognition Evaluation Workshop*, 2008.
- [GMBM08] O. Glembek, P. Matejka, L. Burget, and T. Mikolov. Advances in phonotactic language recognition. In *Proc. Interspeech 2008*, 2008.
- [HAP08] J. Holappa, T. Ahonen, and M. Pietikäinen. An optimized illumination normalization method for face recognition. In *Proc. IEEE Second International Conference on Biometrics: Theory, Applications and Systems (BTAS 08), Washington DC, 6 p*, 2008.
- [HBMS08] V. Hubeika, L. Burget, P. Matejka, and P. Schwarz. Discriminative training and channel compensation for acoustic language recognition. In *Proc. Interspeech 2008*, 2008.
- [KB08a] M. Kockmann and L. Burget. Contour modeling of prosodic and acoustic features for speaker recognition. In *Proc. 2008 IEEE Workshop on Spoken Language Technology*, 2008.
- [KB08b] M. Kockmann and L. Burget. Syllable based feature-contours for speaker recognition. In *Proc. 14th International Workshop on Advances in Speech Technology*, 2008.
- [MBF<sup>+</sup>08] D. Matrouf, J-F. Bonastre, C. Fredouille, A. Larcher, S. Mezaache, M. McLaren, and F. Huenupan. Lia gmm-svm system description: Nist sre 2008. In *Proc. 2008 NIST Speaker Recognition Evaluation Workshop*, 2008.
- [MBG<sup>+</sup>08] P. Matejka, L. Burget, O. Glembek, P. Schwarz, V. Hubeika, M. Fapso, T. Mikolov, O. Plchot, and J. Cernocky. BUT language recognition system for nist 2007 evaluations. In *Proc. Interspeech 2008*, 2008.
- [MBM08] D. Matrouf, J-F. Bonastre, and S. Mezaache. Factor analysis multi-session training constraint in session compensation for speaker verification. In *Proc. Interspeech 2008*, 2008.

- [PHB<sup>+</sup>08] O. Plchot, V. Hubeika, L. Burget, P. Schwarz, and P. Matejka. Acquisition of telephone data from radio broadcasts with applications to language recognition. *Lecture Notes in Computer Science*, 2008(5246):477–483, 2008.
- [PK08a] N. Poh and J. Kittler. A Family of Methods for Quality-based Multimodal Biometric Fusion using Generative Classifiers. In *IEEE 10th International Conference on Control, Automation, Robotics and Vision (ICARCV)*, pages 1162–1167, Hanoi, 2008.
- [PK08b] N. Poh and J. Kittler. A Methodology for Separating Sheep from Goats for Controlled Enrollment and Multimodal Fusion. In *Proc. of the 6th Biometrics Symposium*, pages 17–22, Tampa, 2008.
- [PK08c] N. Poh and J. Kittler. On Using Error Bounds to Optimize Cost-sensitive Multimodal Biometric Authentication. In *Proc. 19th Int’l Conf. Pattern Recognition (ICPR)*, 2008.