

# IM2 Newsletter

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## News

2006-04-11

Press Coverage : Un chercheur lève le voile sur les logiciels qui allient reconnaissance faciale et vocale  
*Le Temps*

2006-04-30

The 37<sup>th</sup> issue of the IM2 Newsletter is online.

### MLMI'06

The 3rd Joint Workshop on Multimodal Interaction and Related Machine Learning Algorithms (MLMI'06), jointly sponsored by AMI, Swiss NSF, and several other related EU projects will be held in Washington DC, USA, 1-3 May 2006.

#### Additional information:

<http://groups.inf.ed.ac.uk/mlmi06>

### AMR'2006

The Viper/CVML group of University of Geneva will organise this summer the 4th International Workshop on Adaptive Multimedia Retrieval.

<http://viper.unige.ch/amr2006>

Cover Story

## New management structure and new Deputy Director

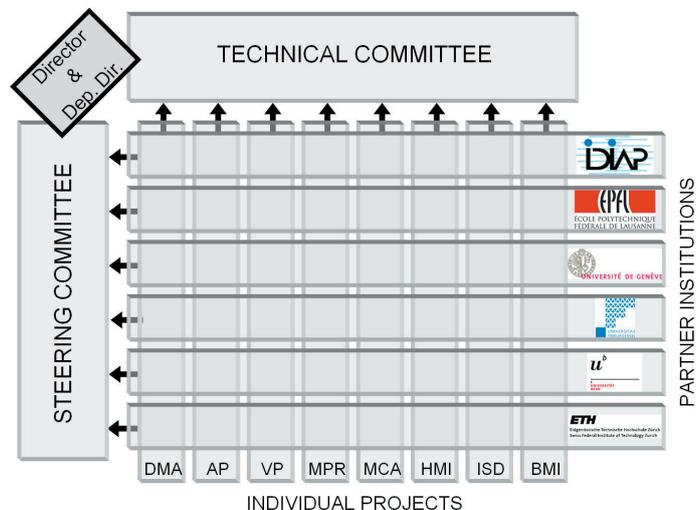
In January began the second phase (2006-2009) of the IM2 NCCR. With the main goal of improving the management of the NCCR, while also maximizing its potential for structural impact, the start of this new phase represented a good opportunity to revisit the NCCR management structure, encouraging a larger involvement of the IM2 institution representatives, and assigning more responsibilities to younger senior researchers. In addition, due to the departure of Prof. Siegwart (first phase Deputy Director) to ETHZ, the President of EPFL decided to nominate Prof. Touradj Ebrahimi to become the new IM2 Deputy Director (see presentation on page 2).

### Technical Committee

First of all, a Technical Committee which is responsible for the day-to-day scientific management was set up last year. The IM2 Director (Prof. Hervé Bourlard), the new Deputy Director (Prof. Touradj Ebrahimi) and the new IP heads team, formed by the eight young senior researchers nominated in 2005 (See newsletter May 2005), compose this committee. The meetings are organized every two months. The first two meetings took place in January and March.

### Steering Committee

Through this implementation, the IM2 management was however concerned with the eventuality to loose contact with the "decision makers" who could have a structural impact on IM2 through the advertisement of the project inside and outside their institutions. Therefore, a Steering Committee, composed of high level representative of each partner institution, has been set up. This committee will supervise all non-scientific issues and provide guidance on overall strategic direction. More specifically, the IM2 Steering Committee will have to discuss and to treat the following subjects: structural impact, education, exchange programs, knowledge and technology transfer, advancement of women, events and marketing.



Scheme of the structure

## New Deputy Director

PROF. TOURADJ EBRAHIMI

**Touradj EBRAHIMI** received his M.Sc. and Ph.D., both in Electrical Engineering, from EPFL. He was a research engineer at the Corporate Research Laboratories of Sony Corporation in Tokyo, where he conducted research on advanced video compression techniques for storage applications, and served as a research consultant at AT&T Bell Laboratories working on very low bitrate video coding. He is currently a professor at EPFL involved in research and teaching of multimedia signal processing. He has been the recipient of various distinctions such as the IEEE Swiss chapter in Communications, and Swiss national ASE award, the SNF-PROFILE grant for advanced researchers, Three ISO-Certificates for key contributions to MPEG-4 and JPEG 2000, and the best paper award in 2001 on IEEE Trans. on Consumer Electronics. He became a Fellow of the international society for optical engineering (SPIE) in 2003. Prof. Ebrahimi has initiated more than two dozen National, European and International cooperation projects with leading companies and research institutes around the world. He is also the head of the Swiss delegation to MPEG, JPEG and SC29, and acts as the Chairman of Advisory Group on Management in SC29. In 2002, he founded Emitall SA, a research company active in the area of media technologies. In 2005, he founded EMITALL Surveillance S.A. active in intelligent video surveillance, which was recipient



of 2006 Frost & Sullivan Technology Innovation Award in the Homeland Security and European Seal of Excellence in Multimedia (Gold) during CeBIT 2006. He is or has been associate Editor with various IEEE, SPIE, and EURASIP journals, such as IEEE Signal Processing Magazine, IEEE Trans. on Image Processing, IEEE Trans. on Multimedia, EURASIP Image Communication Journal, EURASIP Journal of Applied Signal Processing, and SPIE Optical Engineering Magazine. He is a member of the IEEE Technical Committee on Image and Multidimensional Signal Processing, and IEEE Technical Committee on Multimedia Signal Processing, as well as co-founder of International Conference on Video and Image Processing (ICVIP), and Digital Media Project (DMP). Prof. Ebrahimi is a member of Scientific Advisory Board of various start-up and established companies in the general field of Information Technology. He has served as Scientific Expert and Evaluator for Research Funding Agencies such as those of European Commission, The Greek Ministry of Development, The Austrian National Foundation for Scientific Research, The Portuguese Science Foundation, as well as a number of Venture Capital Companies active in the field of Information Technologies and Communication Systems. His research activities include still, moving, and 3D image processing and coding, visual information security (rights protection, watermarking, authentication, data integrity, steganography), new media, and human machine interfaces (smart vision, brain computer interface). He is author or co-author of more than 150 research publications, 3 books, and holds 15 patents. <http://itswww.epfl.ch/~ebrahimi/>

## Steering Committee

MEMBERS & MISSIONS

Early 2006, the partner institutions were invited to nominate their representatives to the new IM2 Steering Committee. It is currently composed of:

1. Prof. Hervé Boulard, IM2 Director, IDIAP Director, professor at EPFL
2. Prof. Touradj Ebrahimi, IM2 Deputy Director, professor at EPFL
3. Prof. Thierry Pun, professor at the University of Geneva, Head of the Computer Vision and Multimedia Laboratory
4. Prof. Luc van Gool, professor, head of non-medical vision activities at ETHZ and professor at the Katholieke Universiteit Leuven
5. Prof. Guido Vergauwen, professor and vice-rector of the University of Fribourg, in charge of education & international relations.

The IM2 Steering Committee missions are :

- Structural Impact (creation of new positions, new labs, institutes, tenure)
- Education (recognition of courses, credits, diploma by other partners)
- Exchange programs
  - Internal (mobility of PhD across IM2 partners)
  - External (ICSI in phase 2, other non Swiss partners, link with NoEs)
- Technology transfer (link with institutions, transfer technology policy)
- Advancement of women (fellowship, events, links with events organized by institutions, other initiatives)
- Events (PhD Integration week, summer institute, workshops (MLMI, ...))
- Marketing (impact on media, production of brochure, content of website)

The Steering Committee will meet once or twice a year, as needed. In addition, the Committee members will be associated with any specific operation involving their own institution. While the Committee sets the general objectives and strategies of IM2 in the areas above, it can rely on the IM2 and IDIAP admin staff to implement all actions and initiatives.



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## IDIAP'BioLogin, Showcased at CeBIT

As announced in the last IM2 newsletter, the IDIAP biometric authentication system BioLogin has been nominated for the Swiss Technology Award 2006 and invited by OSEC (Swiss Office for Commercial Expansion) to be demonstrated as part of the Swiss Pavillon at CeBIT in Hannover, March 9-15, 2006.

CeBIT is amongst the largest technology fairs in the world. At this event four people from IDIAP staffed the booth and met, during the show, a number of companies mainly active in security that showed a high interest for this technology. Moreover this type of event gives an excellent perception of the market needs in specific domain. For instance, we perceived that, in biometric security, only the fingerprints seem to have really penetrated the market. An important amount of companies propose this biometry for security solution, while a few are active in face authentication/identification (2D or 3D), retina or voice recognition. This is probably due to the maturity of the fingerprints (this measure is used for criminal identification for more than a century) compared to the others, in terms of reliability, production costs of the sensors, and particularly the public acceptance. Nevertheless, in the near future, it is quite obvious that all these technologies will be applied and exploited.

In conclusion, if a technology is sufficiently close to a commercial application, taking part in CeBIT or an equivalent event is without any doubt a valuable experience. It allows to apprehend the trends in a given market and to understand the needs of end users and potential partners.



From left to right: Olivier Borne, Frank Crittin, Yann Rodriguez and Sébastien Marcel

## Cinetis awarded the European Seals of Excellence 2006 in Multimedia



their valuable family memories.

IDIAP has the privilege of hosting in its facilities Cinetis, a start-up developing innovative technologies for the digitization of argentic films. It offers affordable film digitalization services to private customers who wish to save

In the framework of a CTI (Innovation Promotion Agency) project, Cinetis, HEVs (University of Applied Sciences in Valais) and IDIAP collaborate to develop a semi-automatic film scanner integrating technologies from the photonics, electronics and mechanicals, as well as cutting-edge image processing algorithms

On March 10, Cinetis SA was awarded the European Seal of Excellence in Multimedia at CeBIT, in Hanover, in recognition for its innovative film digitization technology and its ambitious

marketing plan. This prize distinguishes ICT & digital media companies with an excellent track record in innovation marketing. It is bestowed yearly by the European Multimedia Associations Convention (EMMAC).



It should be noted that another Swiss Company, Emitall, has also been awarded the European Label of Excellence at CeBIT.

## Convention of collaboration between HEVs and IDIAP

In April 2006, HEVs (University of Applied Sciences in Valais) and the IDIAP Research Institute have signed a convention of collaboration for a successful exploitation of their research results. They intend to reinforce their collaboration by creating the contractual basis to set up more easily joint projects

The complementarities of competences, know-how and infrastructures of IDIAP and HEVs allows them, through closer cooperation, to offer industrial partners the full range of services from fundamental research to the development of new technologies or technological applications.



From left to right: Jean-Albert Ferrez, IDIAP Deputy Director - Hervé Bourlard, IDIAP Director - Jean-Daniel Antille, IDIAP Vice-President - Olivier Dumas, IDIAP President - Claude Roch, President of the Gouvernement of Valais ans Minister of Education - Dominik Albrecht, HEVs Director - Jean-Claude Villettaz, HEVs Deputy Director

## Upcoming Events

### Rich Transcription 2006 Spring Meeting Recognition Evaluation 3-4.5.06

The Rich Transcription 2006 Spring Meeting Recognition evaluation will be the fourth NIST sponsored evaluation of speech technologies within the meeting domain. This year's evaluation will build on the success of the RT-04 Spring and RT-05 Spring. The evaluation is related to the Classification of Events, Activities and Relationships (CLEAR) Evaluation in that both communities work on multimodal signals and sensor fusion experiments in the meeting domain. The RT-06S evaluation workshop will be held May 3-4, 2006 and will immediately follow the MLMI 2006 Workshop.

<http://www.nist.gov/speech/tests/rt/rt2006/spring/>

## Partner News

### Multimatch 10-11.2.05

Multimatch is a FP6-IST STREP  in the Strategic Objective «Access and Preservation of Cultural and Scientific Resources». It's a 30 months project beginning 1st of May 2006.

The contribution of Viper group, CVMLab (University of Geneva) will essentially focus on the aspect of multimodal fusion for heterogeneous (multimedia/multilingual) sources. The Viper group will also be active in the aspect of enhancing user interaction. This project is by many aspects compatible with the activities of IM2 and the Viper group will do its best to link the two communities.

#### Abstract

Our shared cultural heritage (CH) is an essential part of our European identity, transcending cultural and language barriers. The MultiMATCH project will enable users to explore and interact with online CH content, across media types and language boundaries, in ways that do justice to the multitude of existing perspectives. The MultiMATCH search engine will combine the advantages of both generic and specialised search facilities: it will be automatically updated via regular focused crawling of relevant web sites, and does not involve costly maintenance for manual indexing, classification or annotation of data. The system will be designed to support diverse user classes but also to assist CH institutions to disseminate their content widely and raise their visibility.

<http://www.multimatch.org>

## Partner News

### Advancement of women, Summer Intership

To promote young women in physics and for the third year, The National Centre of Competence in Research, MANEP (Materials with Novel Electronic Properties), offers to 3rd and 4th year female students in Physics the possibility to spend one month - between July and September - in a top research teams. The applications must be submitted by May 31st 2006 to the MANEP's Project leaders of your University or institute.

### Advancement of women, IM2 Website

A new link (<http://www.im2.ch/women/>) has been added giving information for the advancement of women in the technical and scientific sector.

## Major publications



This book published by Springer in the «Lecture Notes in Computer Science» series contains a selection of refereed papers presented at the 2nd Workshop on Machine Learning for Multimodal Interaction (MLMI 2005), held in Edinburgh, UK, in July 2005. The workshop was organized and sponsored jointly by IM2 and three European projects, AMI, PASCAL and M4.

#### This book includes the following papers.

Multimodal Integration for Meeting Group Action Segmentation and Recognition

*M. Al-Hames, A. Dielmann, D. Gatica-Perez, S. Reiter, S. Renals, G. Rigoll and D. Zhang*

Detection and Resolution of References to Meeting Documents

*Popescu-Belis A. & Lalanne D.*

Can Chimeric Persons Be Used in Multimodal Biometric Authentication Experiments ?

*N. Poh and S. Bengio*

Browsing Multimedia Archives Through Intra- and Multimodal Cross-Documents Links

*M. Rigamonti, D. Lalanne, F. Evéquo and R. Ingold*

Toward Joint Segmentation and Classification of Dialog Acts in Multiparty Meetings

*M. Zimmermann, Y. Liu, E. Shriberg and A. Stolcke*

Hierarchical Multi-stream Posterior Based

Speech Recognition System

*H. Ketabdar, H. Boullard and S. Bengio*

#### Other selected Publications

Face Authentication Using Adapted Local Binary Pattern

*Y. Rodriguez and S. Marcel*  
Histograms, ECCV06

Distributed SVM applied to Image Classification

*E. Kokiopoulou and P. Frossard*  
to appear in IEEE Int. Conf. on Multimedia & Expo (ICME), Toronto, Canada, 2006

Writer Identification for Smart Meeting Room Systems

*Liwicki, M. Schlapbach, A and Bunke, H. and Bengio, S. and Mariéthoz, J. and Richiardi, J.*

Proc. 7th IAPR Workshop on Document Analysis Systems, Springer, LNCS, Volume 3872, 2006, pp. 186-195

Visual object categorization with indefinite kernels in discriminant analysis framework

*S. Kosinov and S. Marchand-Maillet*  
In Proceedings of SPIE Electronic Imaging 2006, Multimedia Content Analysis, Management, and Retrieval 2006 (EI122), San Jose, USA, January 15-19 2006.

Interactive Museum Guide: Fast and Robust Recognition of Museum Objects

*H. Bay, B. Fasel, L. Van Gool*  
Proceedings of the first international workshop on mobile vision, May 2006, in press

SURF: Speeded Up Robust Features

*H. Bay, T. Tuytelaars, L. Van Gool*  
Proceedings of the ninth European Conference on Computer Vision, May 2006, in press

Towards a Robust BCI: Error Recognition and Online Learning

*Buttfield, A., Ferrez, P.W., and Millán, J. del R.*  
IEEE Trans. on Neural Systems and Rehabilitation Engineering. Special Issue on "Brain-Computer Interface Technology", 2006

Very high frequency oscillations (VHFO) as a predictor of movement intentions

*Gonzalez Andino, S., Grave de Peralta, R., Thut, G., Millán, J. del R., Morier, P., and Landis, T.*  
Neuroimage, 2006

Error-related EEG potentials in brain-computer interfaces

*Ferrez, P.W. and Millán, J. del R.*  
In G. Dornhege et al. (eds.), Towards Brain-Computing Interfacing. Cambridge, MA: MIT Press, 2006

Non-invasive estimates of local field potentials for brain-computer interfaces

*Grave de Peralta, R., Gonzalez Andino, S. Ferrez, P.W., and Millán, J. del R.*  
In G. Dornhege et al. (eds.), Towards Brain-Computing Interfacing. Cambridge, MA: MIT Press, 2006