IDIAP COMMUNICATION

Activity Report 2005

Stripped version for internal use

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IDIAP Research Institute **www.idiap.ch**
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IDIAP Research Institute

FOREWORD

This document is a subset of the usual IDIAP annual activity report for internal usage. It contains the sections about the IDIAP staff, educational and scientific activities, and the publication list.

The full, public annual activity report is also available from the IDIAP web site, www.idiap.ch.

Contents

1 Staff

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Internet: http://www.idiap.ch/

1.1 Scientific Staff

Mr	Guillermo Aradilla Guillermo.Aradilla@idiap.ch	Research Assistant +41 27 721 77 52	
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Mr	Marc Barnard	Research Assistant	→ 30.11.05
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Mr	Mohamed F. Benzeghiba	Research Assistant	→ 31.03.05
Mr	Olivier Bornet Olivier.Bornet@idiap.ch	Senior development engineer +41 27 721 77 38	
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Mr	Fabien Cardinaux	Research Assistant	→ 31.12.05
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Mr	Nabil Daddaoua	Research Assistant	→ 31.08.05
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Mr	Frantisek Grezl	Research Assistant	→ 31.08.05
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Mr	Hamed Ketabdar Hamed.Ketabdar@idiap.ch	Research Assistant +41 27 721 77 48	
Mr	Guillaume Lathoud Guillaume.Lathoud@idiap.ch	Research Assistant +41 27 721 77 63	
Ms	Eileen Lew Yi Lee Eileen.LewYiLee@idiap.ch	Research Assistant +41 27 721 77 59	01.09.05 →
Mr	Mathew Magimai Doss Mathew@idiap.ch	Research Assistant +41 27 721 77 51	
Dr	Sebastien Marcel Sebastien.Marcel@idiap.ch	Senior Research Scientist +41 27 721 77 27	
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Mr	Bertrand Mesot Bertrand.mesot@idiap.ch	Research Assistant +41 27 721 77 82	
Prof.	José del R. Millán Jose.Millan@idiap.ch	Senior Research Scientist +41 27 721 77 70	
Mr	Hemant Misra Hemant.Misra@idiap.ch	Research Assistant +41 27 721 77 57	
Mr	Florent Monay Florent.Monay@idiap.ch	Research Assistant +41 27 721 77 69	
Mr	Darren Moore	Development engineer	→ 31.01.05
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Mr	Jean-François Paiement Jean-Francois.Paiement@idiap.ch	Research Assistant +41 27 721 77 11	
Mr	Artem Peregoudov Artem.Peregoudov@idiap.ch	Research Assistant +41 27 721 77 84	01.01.05 →
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Mr	Joel Praveen Pinto Joel.Pinto@idiap.ch	Research Assistant +41 27 721 77 56	01.09.05 →
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Mr	Yann Rodriguez Yann.Rodriguez@idiap.ch	Research Assistant +41 27 721 77 72	
Mr	Kevin Smith Kevin.Smith@idiap.ch	Research Assistant +41 27 721 77 67	
Dr	Fabio Valente Fabio.Valente@idiap.ch	Research Scientist +41 27 721 77 90	01.10..05 →
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Mr	Nanne Wams	Research Assistant	→ 31.01.05
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Mr	Dong Zhang Dong.Zhang@idiap.ch	Research Assistant +41 27 721 77 76	

1.2 Students

Mr	Cuong Huy To	01.03.04 → 31.01.05
Mr	Guillaume Heusch	01.09.04 → 28.02.05
Mr	Maganti Hari Krishna	01.10.04 → 30.09.05
Mr	Siew Yeung Wong	01.01.05 → 30.06.05
Mr	Jean-Yves Parfait	01.02.05 → 30.06.05
Mr	David Vandromme	01.02.05 → 30.06.05
Mr	Mikko Lethonen	01.03.05 → 31.08.05
Mr	Tiffany Sauquet	01.03.05 → 31.08.05
Mr	Dhiraj Joshi	01.07.05 → 30.09.05
Mr	Jonathan Rey	01.07.05 → 30.06.06
Mr	Coralie Hemptine	01.07.05 → 31.08.05
Mr	Gustavo De Almeida	01.07.05 → 30.09.05
Mr	Gerwin Van Dorn	01.09.05 → 31.03.06
Mr	Ferran Galan	01.09.05 → 28.02.06
Mr	Octavian Cheng	01.10.05 → 31.03.06
Mr	Jean Keomany	01.11.05 → 28.02.06
Mr	Xavier Perrin	01.11.05 → 28.02.06

1.3 Visitors

Dr	Robert Van Kommer	Swisscom	01.12.05 → 31.03.06
Dr	Joseph Keshet	Hebrew University of Jerusalem	11.10.05 → 02.11.05
Dr	Luc Berthouze	AIST (Japan)	01.03.05 → 15.04.05
Mr	Friedrich Meyer	AIST (Japan)	01.03.05 → 15.04.05
Dr	Yves Grandvalet	Université de Technologie de Compiègne	01.02.05 → 30.04.05
Dr	Hélène Paugmam-Moisy	Université Lumière Lyon 2	01.04.05 → 31.05.05

1.4 System and Development Staff

Mr	Sébastien BOURBAN Sebastien.Bourban@idiap.ch	Development engineer +41 27 721 77 58	
Mr	Tristan CARRON Tristan.Carron@idiap.ch	System administrator +41 27 721 77 77	
Mr	Norbert CRETTOL Norbert.Crettol@idiap.ch	System administrator +41 27 721 77 25	
Mr	Bastien CRETTOL Bastien.Crettol@idiap.ch	System administrator +41 27 721 77 32	01.05.05 →
Mr	Frank FORMAZ Frank.Formaz@idiap.ch	System manager +41 27 721 77 28	
Mr	Vincent SPANO Vincent.Spano@idiap.ch	Webmaster +41 27 721 77 42	

1.5 Administrative Staff

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Mrs	Nadine ROUSSEAU Nadine.Rousseau@idiap.ch	Secretary +41 27 721 77 22	
Mrs	Joanne SCHULZ (MOORE)	HR assistant	→ 31.01.05
Mr	Edward Lee GREGG Ed.Gregg@idiap.ch	Financial assistant +41 27 721 77 54	
Mr	Michel SALAMIN	French teacher	

2 Educational Activities

2.1 Current PhD Theses

The list of current IDIAP PhD students with their supervisors and key dates is given in the table on next page.

2.2 IDIAP PhD Defenses

- **Ph.D. candidate:** Mohammed F. Benzeghiba
  Supervisor: Hervé Bourlard
  Examiners: Prof. Ch. Wellekens, Prof. Th. Dutoit, Dr B. Pfister
  University: EPFL
  Date: 08.04.05
  Title: On the use of connectionist / generative models for joint speech and speaker recognition
- **Ph.D. candidate:** Mathew Magimai Doss
  Supervisor: Hervé Bourlard
  Examiners: Prof. S. Renals, Prof. R. De Mori
  University: EPFL
  Date: 08.07.05
  Title: Using Auxiliary Sources of Knowledge for Automatic Speech Recognition
- **Ph.D. candidate:** Marc Barnard
  Supervisor: Jean-Marc Odobez
  Examiners: Prof. P. Bouthemy, Prof. G. Rigoll
  University: EPFL
  Date: 24.11.05
  Title: Multimedia Event Modelling and Recognition
- **Ph.D. candidate:** Fabien Cardinaux
  Supervisor: Sébastien Marcel
  Examiners: Prof. J. Kittler, Prof. T. Cootes, Prof. J.-Ph. Thiran
  University: EPFL
  Date: 16.12.05
  Title: Face authentication based on local features and generative models

PhD Students		Expected PhD	At IDIAP since	PhD Status	PhD Area	IDIAP Thesis Supervisor(s)	Thesis Director
Aradilla Zapata	Guillermo	2008	01.04.04	2nd year	SP	J. Vepa	Prof. H. Bourlard, EPFL
Barnard	Marc	2005	15.03.01	Completed	VI,IR	J.M. Odobez + S. Bengio	Prof. H. Bourlard, EPFL
Ba	Silèye	2006	01.10.02	4th year	VI	J.M. Odobez + S. Bengio	Prof. H. Bourlard, EPFL
Benzeghiba	Mohammed F.	2005	01.08.00	Completed	BA	H. Bourlard	Prof. H. Bourlard, EPFL
Buttfield	Anna	2008	01.09.04	2nd year	MI	J. Millan	Prof. J. Millan, EPFL
Cardinaux	Fabien	2005	01.10.01	Completed	VI,BA	S. Marcel	Prof. J.-Ph. Thiran, EPFL
Chiappa	Silvia	2006	01.11.01	4th year	ML,MI	D. Barber	Prof. H. Bourlard, EPFL
Dimitrakakis	Christos	2006	01.10.01	4th year	ML	S. Bengio	Prof. H. Bourlard, EPFL
Ferrez	Pierre	2008	01.02.04	2nd year	MI	J. Millan	Prof. J. Millan, EPFL
Grangier	David	2007	01.10.03	3rd year	IR	S. Bengio	Prof. H. Bourlard, EPFL
Hari Krishna	Maganti	2009	01.10.05	1st year	SP	H. Bourlard	Prof. H. Bourlard, EPFL
Heusch	Guillaume	2009	01.07.05	1st year	VI	S. Marcel	Prof. H. Bourlard, EPFL
Just	Agnès	2006	01.10.02	4th year	VI	S. Marcel + S. Bengio	Prof. H. Bourlard, EPFL
Keller	Mikaela	2006	01.12.02	4th year	ML	S. Bengio	Prof. H. Bourlard, EPFL
Ketabdar	Hamed	2008	01.09.04	2nd year	SP	H. Bourlard	Not decided yet
Lathoud	Guillaume	2006	01.03.02	4th year	SP	H. Bourlard	Prof. H. Bourlard, EPFL
Lew Yi Lee	Eileen	2009	01.09.05	1st year	MI	J. Millan	Prof. J. Millan, EPFL
Magimai Doss	Mathew	2005	25.10.99	Completed	SP	H. Bourlard	Prof. H. Bourlard, EPFL
McGreevy	Michael	2006	15.01.03	4th year	SP	H. Bourlard	Prof. Sridharan, QUT
Mesot	Bertrand	2008	01.03.04	2nd year	ML,SP	D. Barber	Prof. H. Bourlard, EPFL
Misra	Hemant	2006	24.07.01	4th year	SP	H. Bourlard	Prof. H. Bourlard, EPFL
Monay	Florent	2006	01.08.02	4th year	VI,IR	D. Gatica-Perez + S. Bengio	Prof. H. Bourlard, EPFL
Paiement	Jean-François	2007	01.01.04	3rd year	ML	S. Bengio	Prof. H. Bourlard, EPFL
Peregoudov	Artem	2008	01.01.05	2nd year	SP	H. Bourlard	Prof. H. Bourlard, EPFL
Perrow	Mike	2008	01.12.04	2nd year	IR	D. Barber	Prof. H. Bourlard, EPFL
Pinto	Joel	2009	01.09.05	1st year	SP	H. Hermansky	Prof. H. Hermansky, EPFL
Poh Hoon Thian	Norman	2006	01.08.02	4th year	BA	S. Bengio	Prof. H. Bourlard, EPFL
Pozdnoukhov	Alexei	2006	01.01.03	4th year	ML	S. Bengio	Prof. H. Bourlard, EPFL
Quelhas	Pedro	2006	01.11.02	4th year	VI,IR	J.M. Odobez + S. Bengio	Prof. H. Bourlard, EPFL
Rodriguez	Yann	2006	01.09.02	4th year	VI,BA	S. Marcel + S. Bengio	Prof. H. Bourlard, EPFL
Smith	Kevin	2006	01.11.02	4th year	VI	D. Gatica-Perez + S. Bengio	Prof. H. Bourlard, EPFL
Zhang	Dong	2007	01.08.03	3rd year	VI	D. Gatica-Perez + S. Bengio	Prof. H. Bourlard, EPFL

ML: Machine Learning; SP: Speech Processing; VI: Computer Vision; BA: Biometric Authentication; IR: Information Retrieval; MI: Multimodal Interaction

2.3 Participation in PhD Thesis Committees

- **Ph.D. candidate:** Xiang Li

  Thesis Superviser: Prof. Richard M. Stern

  University: Carnegie Mellon University

  Date: February 2005

  Title: Combination and Generation of Parallel Feature Streams for Improved Speech Recognition

  Committe Members Tsuhan Chen, Rita Sigh, Hynek Hermansky

- **HDR ("habilitation à diriger des recherches") candidate:** Christophe Ambroise

  Thesis Superviser: Gerard Govaert

  University: Universite Technologique de Compiègne

  Date: June 24, 2005

  Title: Modèles pour l'apprentissage statistique à partir de données complexes

  Committe Members Samy Bengio (IDIAP), Stéphane Canu (INSA, Rouen), Anne Guerin (IMAG, France), Jean-Michel Jolion (INSA, Lyon), Gilles Celeux (INRIA, France), Gerard Govaert (Universite Technologique de Rouen)

- **Ph.D. candidate:** Onno Zoeter

  Thesis Superviser: Tom Heskes

  University: Radboud University Nijmegen

  Date: 6.10.2005

  Title: Monitoring non-linear and switching dynamical systems

  Committe Members: David Barber, Tom Heskes, Hilbert Kappen, Stan Gielen

- **Ph.D. candidate:** Nicolas Moënne-Loccoz

  Thesis Superviser: T. Pun

  University: Geneva University

  Date: 12.12.2006

  Title: Dynamics of visual components for content-based video management

  Committe Members T. Pun, S. Marchand-Maillet, C. Schmit, J-M. Odobez and P. Joly.

- **Ph.D. candidate:** Serhiy Kosinov

  Thesis Superviser: Thierry Pun

  University: University of Geneva

  Date: December 12, 2005

  Title: Machine Learning Approach to Semantic Augmentation of Multimedia Documents for Efficient Access and Retrieval

  Committe Members Samy Bengio (IDIAP), Matthieu Cord (ENSEA, France), Eric Bruno (University of Geneva), Stéphane Marchand-Maillet (University of Geneva), Thierry Pun (University of Geneva)

2.4 Courses

- **Title:** Speech Processing
  Lecturer: Prof. H Bourlard
  School: EPFL, Undergraduate (2nd cycle)
- **Title:** Statistical Pattern Recognition with applications to ASR
  Lecturer: Prof. H Bourlard
  School: EPFL, I&C Doctoral School
- **Title:** Statistical Machine Learning from Data
  Lecturer: Samy Bengio
  School: EPFL, Doctoral School
- **Title:** Tutorial on Statistical Machine Learning, with application to Multimodal Interactions
  Lecturer: Samy Bengio
  School: International Conference on Multimodal Interaction (ICMI), October 2005, Trento, Italy.
- **Title:** Speech Processing by Humans and by Machines (One week intensive graduate course)
  Lecturer: Hynek Hermansky
  School: Brno University of Technology
- **Title:** Speech Recognition by Machine
  Lecturer: Hynek Hermansky
  School: Telluride Summer School on Neuromorphic Engineering
- **Title:** Cerveau, Technologie, Invalidité
  Lecturer: José del R. Millán
  School: HES, Sion
- **Title:** Emerging Technologies in Artificial Intelligence and Pattern Recognition
  Lecturer: A. Vinciarelli and J-M. Odobez
  School: Haute école d'ingénierie et de gestion du canton de Vaud (HEIG-VD)

2.5 Short term student projects

- **Trainee:** Cuong Huy To
  Supervisor: Prof. H. Hermansky
  University/School: Hanoi University of Technology, Vietnam
- **Trainee:** Guillaume Heusch
  Supervisor: Dr S. Marcel
  University/School: EPFL
- **Trainee:** Maganti Hari Krishna
  Supervisor: Prof. H. Bourlard
  University/School: Ulm University, Germany

- **Trainee:** Jean-Yves Parfait
  Supervisor: Dr J. Vepa
  University/School: Faculté Polytechnique de Mons, Belgium
- **Trainee:** David Vandromme
  Supervisor: Dr A. Vinciarelli
  University/School: Faculté Polytechnique de Mons, Belgium
- **Trainee:** Mikko Lethonen
  Supervisor: Prof. H. Hermansky
  University/School: EURECOM, France
- **Trainee:** Tiffany Sauquet
  Supervisor: Dr S. Marcel
  University/School: EURECOM, France
- **Trainee:** Coralie Hemptine
  Supervisor: Prof. H. Bourlard
  University/School: Faculté Polytechnique de Mons, Belgium

2.6 Other student projects

- **Trainee:** Jonathan Rey
  Supervisor: Frank Formaz
  University/School: Ecole des Métiers

3 Scientific Activities

3.1 Editorship

Prof. Hervé Bourlard is

- Member of the Editorial Board, Speech Communication
- Member of the Editorial Board, Intl. Journal of Pattern Recognition and Artificial Intelligence
- Member of the Editorial Board, Journal of Negative Results in Speech and Audio, http://journal.speech.cs.cmu.edu/
- Editor of the Special Issue on Biometric Signal Processing of Eurasip Journal on Applied Signal Processing (April 2004)

Prof. Hynek Hermansky is

- Member of the Editorial Board, Speech Communication
- Member of the Editorial Board, Phonetica
- Member of the Editorial Board, Journal of Negative Results in Speech and Audio, http://journal.speech.cs.cmu.edu/
- Editor of Special Issue of EURASIP JASP on Anthropomorphic processing of audio and speech

Dr David Barber is

- Associate Editor for Neurocomputing

Dr Samy Bengio is

- Associate Editor for the Journal of Computational Statistics

3.2 Scientific and Technical Committees

Prof. Hervé Bourlard is:

- Member of the Board of Trustees, Intl. Computer Science Institute, Berkeley, CA, USA
- Member of the European Information Society Technology Advisory Group (ISTAG)
- Fellow of the Engineering and Physical Sciences Research Council (EPSRC), UK
- Member of the Advisory Council of ISCA (International Speech Communication Association)
- Member of the Scientific Committee and area chair for Interspeech'05, Lisbon, September 2005.
- Member of the Scientific committee of MLMI'05, Edinburgh
- Member of the Scientific committee of European Symposium on Artificial Neural Networks, ESANN'05, Brugges
- Expert for several European projects

Prof. Hynek Hermansky is:

- Executive Chairman, 2005 International Conference on Text, Speech and Dialogue, Czech Republic

- Member of the Scientific and Technical Committee, SPECOM 2005, Patras, Greece
- Member of the Scientific and Technical Committee, IEEE Workshop ASRU-2005

Prof. José del R. Millán is

- Member of the Scientific American ThinkBank panel.
- Program Committee Member: 16th European Conf. on Machine Learning, IEEE/RSJ Int. Conf. on Intelligent Robots and Systems 2005, IEEE Int. Conf. on Robotics and Automation 2005, Robotics and Neurobiology Workshop (IWINAC'05 Conference), 8th Catalan Conference on Aritifical Intelligence, Ubiquitous Computing and Ambient Intelligence 2005.
- Co-organizer, "Brain-Computer Interface" International Competition III.
- Expert for the European IST Programme.
- Member of the review panel for AGAUR, Catalonia (Spain).

Dr David Barber is

- Member of the review panel for the EPSRC, UK
- Member of the Research Review committee for the STW, The Netherlands

Dr Samy Bengio is

- General Chair: Joint AMI/PASCAL/IM2/M4 Workshop on Multimodal Interaction and Related Machine Learning Algorithms, Edinburgh, Scotland, July 2005, (MLMI'2005)
- Program Committee member: NIPS Workshop on Machine Learning for Implicit Feedback and User Modeling (NIPS'2005)
- Program Committee member: International Joint Conference on Artificial Intelligence (IJCAI'2005), Poster Track
- Program Committee member: International Workshop on Biometric Recognition Systems (IWBRS'2005)
- Program Committee member: IEEE Workshop on Machine Learning for Signal Processing, (MLSP'2005)
- Scientific Committee member: European Symposium on Artificial Neural Networks (ESANN'2005)

Dr Daniel Gatica-Perez is

- Co-Chair, IEEE ICCV Workshop of Modeling People and Human Interaction (PHI), 2005.
- Organizing Committee Member, Int. Conf. on Image and Video Retrieval (CIVR), 2006.
- Technical Program Committee Member
  - IEEE Int. Conf. on Computer Vision (ICCV), 2005.
  - ACM Int. Conf. on Multimedia (MM), 2006.
  - IEEE Int. Conf. on Multimedia (ICME), 2005
  - IEEE Int. Conf. on Image Processing (ICIP), 2005.
  - Int. Conf. on Image and Video Retrieval (CIVR), 2006.

  - Joint Workshop on Multimodal Interaction and Related Machine Learning Algorithms (MLMI), 2006.
  - IEEE Int. Workshop on Technology for Education in Developing Countries (TEDC), 2005.

Dr Jean-Marc Odobez is

- Co-organizer: workshop on Multimodal Multiparty Meeting Processing, at 7th ACM ICMI 2005 conference.
- Program Committee Member:
  - IAPR Int. Conference Pattern Recognition Workshop : Learning for Adaptable Visual Systems, 2004.
  - IEEE CVPR Workshop on Object Tracking and Classification in and Beyond the Visible Spectrum, 2006.
- Technical Program Committee Member:
  - IEEE Int. Conf. Multimedia and Expo: 2004,2005
  - Inter. Conf. Pattern Recognition (ICPR): 2004
  - IEEE Int. Conf.on Computer Vision (ICCV): 2005
  - NIPS 2005
  - IEEE Int. Conf. on Computer Vision and Pattern Recognition (CVPR): 2006

Dr Alessandro Vinciarelli is

- Co-organizer of the International Workshop on Multimodal Multiparty Meeting Processing held in conjunction with International Conference on Multimodal Interfaces (October 2005).

Dr Pierre Wellner is

- Program Committee member: ACM Conference on User Interface Software Technology (UIST 2005).
- Demonstrations co-chair: UIST 2004.
- Program Committee member: MLMI 04.
- Conference Chair: UIST 2006.
- Editorial Board: Personal and Ubiquitous Computing.

3.3 Scientific Presentations (other than conferences)

In this section, we brielfy list the scientific events and external (e.g., invited) talks, other than conferences, and which did not necessarily result in a publication.

- **Event:** Saarbrucken University

  Date: Januray 13, 2005

  Speaker: Hervé Bourlard

  Title: Multi-channel modeling and integration with applications in speech and multimodal processing

- **Event:** Dept. of Computer Science, Università di Verona (Italy)

  Date: January 25, 2005

Speaker: José del R. Millán

Title: Brain-Controlled Robots

- **Event:** Invited talk, Benelearn'2005, Fourteenth Dutch-Belgian Conference on Machine Learning. University of Twente. Enschede, Holland.

  Date: February 2005

  Speaker: Samy Bengio

  Title: Challenges in Multi-Channel Sequence Processing

- **Event:** Invited talk, Signal Theory and Communications Department, Technical University of Catalonia, Barcelona

  Date: Feb. 2005

  Speaker: Daniel Gatica-Perez

  Title: Recognizing human interaction in meetings

- **Event:** Invited talk, Signal Theory and Communications Department, Technical University of Catalonia, Barcelona

  Date: Feb. 2005

  Speaker: Daniel Gatica-Perez

  Title: Audio-visual tracking with sequential Monte Carlo methods

- **Event:** CMU Graduate Seminar

  Date: February 2005

  Speaker: Hynek Hermansky

  Title: Title: Towards a "Primal Sketch" of Speech

- **Event:** EURON Annual Meeting, Neurobotics Workshop, Warsaw (Poland)

  Date: February 17, 2005

  Speaker: José del R. Millán

  Title: Non-Invasive Brain-Controlled Robots

- **Event:** Ciclo "Ciencia y Tecnología", Ministerio de Educación y Ciencia & Universidad de Oviedo, Gijón (Spain)

  Date: February 25, 2005

  Speaker: José del R. Millán

  Title: Posibilidades de Interacción Cerebro-Ordenador

- **Event:** Seminar Cognition, Université Lumière Lyon 2, Lyon, France

  Date: March 2005

  Speaker: Samy Bengio

  Title: Statistical Machine Learning Applied to Multi-Channel Sequence Processing

- **Event:** NBIC (Nano-Bio-Info-Cogno) Converging Technologies Forum. Barcelona (Spain)

  Date: March 1, 2005

  Speaker: José del R. Millán

  Title: Brain-Actuated Interaction

- **Event:** Neurology Clinic and Neuroscience Dept., Geneva University (Switzerland)
  Date: March 2, 2005
  Speaker: José del R. Millán
  Title: Brain-Computer Interfaces for Communication and Control
- **Event:** Urbanna-Champaign UNiversity
  Date: March 28, 205
  Speaker: Hervé Bourlard
  Title: Multi-channel modeling and integration with applications in speech and multimodal processing
- **Event:** Irvine University
  Date: April 1, 2005
  Speaker: Hervé Bourlard
  Title: Multi-channel modeling and integration with applications in speech and multimodal processing
- **Event:** Bristol University Engineering Department
  Date: April 4, 2005
  Speaker: David Barber
  Title: Inference methods in machine learning
- **Event:** Florida Tech
  Date: April 4, 2005
  Speaker: Hervé Bourlard
  Title: Multi-channel modeling and integration with applications in speech and multimodal processing
- **Event:** Edinburgh University Informatics Department
  Date: May 9, 2005
  Speaker: David Barber
  Title: Expectation Correction for Switching Linear Gaussian Dynamical Systems
- **Event:** Forum Engelberg, Lucerne
  Date: May 22-25, 2005
  Speaker: Hervé Bourlard
  Title: Invited speaker (2 talks): Computer Enhanced Group Communication in Meetings; A Few (Technical and Operational) Challenges in the Evolution of the IST 7th FWP
- **Event:** Société Valaisanne de Physique, Sion (Switzerland)
  Date: June 10, 2005
  Speaker: José del R. Millán
  Title: Interfaces Cérébrales: De la Pensée à l'Action
- **Event:** Ulm University
  Date: June 27, 2005
  Speaker: Hervé Bourlard

Title: Multi-channel modeling and integration with applications in speech and multimodal processing

- **Event:** EU - INI Workshop: Integration of neuromorphic systems for sensory-motor processing, ETH Zurich

  Date: July 2005

  Speaker: Hynek Hermansky

  Title: Human-Like Speech Information Processing

- **Event:** SNN Radboud University Nijmegen

  Date: October 5, 2005

  Speaker: David Barber

  Title: Kernelized Information theoretic Clustering

- **Event:** International Conference on Multimodal interfaces Trento

  Date: October 5, 2005

  Speaker: Hervé Bourlard

  Title: Invited panel discussion on: Multinational Cooperation on Multimodal Interaction

- **Event:** University of Amsterdam, Informatics Institute

  Date: October 7, 2005

  Speaker: David Barber

  Title: New Information theoretic approaches to Clustering

- **Event:** Swiss Summit on ICT Next Generation Networks and Services, Fribourg

  Date: 31 October 2005

  Speaker: Hervé Bourlard

  Title: Some ICT trends in multimodal processing at IDIAP and the EU

- **Event:** Institute for Neuroinformatics, ETH Zurich

  Date: November 2005

  Speaker: Hynek Hermansky

  Title: Towards bio-consistent processing of accoustic signals

- **Event:** Invited talk, School of Computer Engineering, Nanyang Technological University, Singapore

  Date: Nov. 2005

  Speaker: Daniel Gatica-Perez

  Title: Modeling group interaction in meetings

- **Event:** Computer Science Faculty, Univ. of Karlsruhe (Germany). *Distinguished Lecture*

  Date: November 28, 2005

  Speaker: José del R. Millán

  Title: Non-Invasive Brain-Controlled Robots

- **Event:** ASRU'05, San Juan, Puerto Rico

  Date: Nov.28-Dec.1, 2005

  Speaker: Hervé Bourlard

  Title: 3 invited panel discussions: ASR Funding: Successes and Pitfalls; What about large scale unsupervised learning ? ; Next ASR challenges: Computer Enhanced Group Communication in Meetings

4 Publications (2004 and 2005)

4.1 Articles in International Journals

[1] A.Vinciarelli, *Application of information retrieval techniques to single writer documents*, Pattern Recognition Letters, to appear, (2005).

[2] A.Vinciarelli, S.Bengio, and H.Bunke, *Offline recognition of unconstrained handwritten texts using HMMs and statistical language models*, IEEE Transactions on Pattern Analysis and Machine Intelligence, 26 (2004), pp. 709–720.

[3] S. Bengio, *Multimodal speech processing using asynchronous hidden markov models*, Information Fusion, 5 (2004), pp. 81–89.

[4] A. T. Cemgil, B. Kappen, and D. Barber, *A Generative Model for Music Transcription*, IEEE Transactions on Speech and Audio Processing, (2004).

[5] D. Chen and J.-M. Odobez, *Video Text Recognition using Sequential Monte Carlo and Error Voting Methods*, Pattern Recognition Letters, 26 (2005), pp. 1386–1403.

[6] D. Chen, J.-M. Odobez, and H. Bourlard, *Text Detection and Recognition in Images and Videos*, Pattern Recognition, 37 (2004), pp. 595–609.

[7] D. Chen, J.-M. Odobez, and J.-P. Thiran, *A localization/verification scheme for finding text in images and video frames based on contrast independent features and machine learning methods*, Signal Processing: Image Communication, 19 (2004), pp. 205–217.

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[10] Conrad Sanderson and Kuldip K. Paliwal, *Identity verification using speech and face information*, Digital Signal Processing, 14 (2004), pp. 449–480.

[11] Conrad Sanderson, Samy Bengio, and Yongsheng Gao, *On transforming statistical models for non-frontal face verification*, Pattern Recognition (in press), (2005).

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[14] R. Grave de Peralta Menendez, S. Gonzalez Andino, L. Perez, P. Ferrez, and J. Millán, *Non-invasive estimation of local field potentials for neuroprosthesis control*, Cognitive Processing, Special Issue on Motor Planning in Humans and Neuroprosthesis Control, (2005).

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[16] I. McCowan, D. Gatica-Perez, S. Bengio, G. Lathoud, M. Barnard, and D. Zhang, *Automatic analysis of multimodal group actions in meetings*, IEEE Transactions on Pattern Analysis and Machine Intelligence (to appear), (2004).

[17] J. Millán, *Interfaces cerebrales*, Mente y Cerebro, (2005).

[18] J. Millán, F. Renkens, J. Mouriño, and W. Gerstner, *Brain-actuated interaction*, Artificial Intelligence, (2004).

[19] J. Millán, F. Renkens, J. Mouriño, and W. Gerstner, *Non-invasive brain-actuated control of a mobile robot by human EEG*, IEEE Trans. on Biomedical Engineering, Special Issue on Brain-Machine Interfaces, (2004).

[20] J.-M. Odobez, D. Gatica-Perez, and S. Ba, *Embedding motion in model-based stochastic tracking*, IEEE Trans. on Image Processing, accepted for publication, (2005).

[21] J.-P. Pfister, T. Toyoizumi, D. Barber, and W. Gerstner, *Optimal Spike-Timing Dependent Plasticity for Precise Action Potential Firing in Supervised Learing*, (2005).

[22] N. Poh and S. Bengio, *Database, protocol and tools for evaluating score-level fusion algorithms in biometric authentication*, Pattern Recognition Journal, (2005).

[23] N. Poh and S. Bengio, *How do correlation and variance of base-experts affect fusion in biometric authentication tasks?*, IEEE Trans. on Signal Processing, (2005).

[24] T. A. Stephenson, M. Magimai-Doss, and H. Bourlard, *Speech recognition with auxiliary information*, IEEE Trans. on Speech and Audio Processing, 4 (2004), pp. 189–203.

[25] A. Vinciarelli, *Noisy text categorization*, IEEE Transactions on Pattern Analysis and Machine Intelligence, to appear., (2005).

[26] A. Vinciarelli and J.-M. Odobez, *Application of information retrieval technologies to presentation slides*, IEEE Transactions on Multimedia, to appear, (2005).

4.2 Articles in Conference Proceedings

[1] *Machine learning for multimodal interaction: First international workshop, MLMI'2004*, vol. 3361 of Lecture Notes in Computer Science, Springer-Verlag Heidelberg, 2005.

[2] J. Ajmera, G. Lathoud, and I. McCowan, *Clustering and segmenting speakers and their locations in meetings*, in ICASSP, 2004.

[3] J. Ajmera, I. McCowan, and H. Bourlard, *An online audio indexing system*, 2004.

[4] M. Al-Hames, A. Dielmann, D. Gatica-Perez, S. Reiter, S. Renals, and D. Zhang, *Multimodal Integration for Meeting Group Action Segmentation and Recognition*, in MLMI, 2005.

[5] G. Aradilla, J. Dines, and S. Sivadas, *Using rasta in task independent tandem feature extraction*, in Proceedings of ICSLP, 2004, no. 22, Martigny, Switzerland, 2004.

[6] G. Aradilla, J. Vepa, and H. Bourlard, *Improving speech recognition using a data-driven approach*, in Proceedings of Interspeech, 2005, no. 66, Martigny, Switzerland, 2005.

[7] M. Athineos, H. Hermansky, and D. P. Ellis, *Lp-trap: Linear predictive temporal patterns*, 2004.

[8] M. Athineos, H. Hermansky, and D. P. Ellis, *Plp*^{2}*: Autoregressive modeling of auditory-like 2-d spectro-temporal patterns*, 2004.

[9] S. Ba and J.-M. Odobez, *A probabilistic framework for joint head tracking and pose estimation*, in 17th Int. Conf. Pattern Recognition (ICPR), vol. 4, Cambridge, UK, Aug. 2004.

[10] S. O. Ba and J. M. Odobez, *Evaluation of multiple cues head pose tracking algorithm in indoor environments*, in International Conference on Multimedia & Expo ICME 2005, 2005.

[11] S. O. Ba and J.-M. Odobez, *A rao-blackwellized mixed state particle filter for head pose tracking*, in ACM ICMI Workshop on Multimodal Multiparty Meeting Processing (MMMP), 2005.

[12] M. Barnard and J.-M. Odobez, *Robust playfield segmentation using map adaptation*, in Proc. 17th International Conference on Pattern Recognition (ICPR 2004), Cambridge, United Kingdom, August 2004.

[13] S. Bengio and J. Mariéthoz, *The expected performance curve: a new assessment measure for person authentication*, in Proceedings of Odyssey 2004: The Speaker and Language Recognition Workshop, 2004.

[14] S. Bengio and J. Mariéthoz, *A statistical significance test for person authentication*, in Proceedings of Odyssey 2004: The Speaker and Language Recognition Workshop, 2004.

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[16] M. F. BenZeghiba and H. Bourlard, *Confidence Measures in Multiple pronunciations Modeling For Speaker Verification*, in Proceedings of the 2004 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP-04), 2004.

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[19] J. Carletta, S. Ashby, S. Bourban, M. Flynn, M. Guillemot, T. Hain, J. Kadlec, V. Karaiskos, W. Kraaij, M. Kronenthal, G. Lathoud, M. Lincoln, A. Lisowska, I. McCowan, W. Post, D. Reidsma, and P. Wellner, *The ami meeting corpus: a pre-announcement*, in Machine Learning for Multimodal Interaction: Second International Workshop, MLMI'2005, 2005.

[20] S. Chiappa and D. Barber, *Generative independent component analysis for eeg classification*, in European Symposium on Artificial Neural Networks ESANN, 2005.

[21] S. Chiappa and D. Barber, *Generative temporal ica for classification in asynchronous bci systems*, in The 2nd International IEEE EMBS Conference On Neural Engineering, 2005.

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[25] Conrad Sanderson and Samy Bengio, *Statistical Transformations of Frontal Models for Non-Frontal Face Verification*, in Proceedings of the IEEE International Conference on Image Processing (ICIP), Singapore, October 2004.

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[34] D. Gatica-Perez, J.-M. Odobez, S. Ba, K. Smith, and G. Lathoud, *Tracking people in meetings with particles*, in Proc. Int. Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS), invited paper, 2005.

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[36] D. Gatica-Perez, D. Zhang, and S. Bengio, *Extracting Information from Multimedia Meeting Collections*, in 7th ACM SIGMM International Workshop on Multimedia Information Retrieval, 2005.

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[38] D. Grangier and S. Bengio, *Exploiting hyperlinks to learn a retrieval model*, in NIPS Workshop on Learning to Rank, Whistler, Canada, December 2005.

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4.3 IDIAP Research Reports

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