

CENTRE UNIVERSITAIRE D'INFORMATIQUE

ACTIVITY REPORT

2005



**UNIVERSITÉ
DE GENÈVE**

CENTRE UNIVERSITAIRE
D'INFORMATIQUE

UNIVERSITY OF GENEVA

Centre Universitaire d'Informatique

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cui.unige.ch

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Foreword

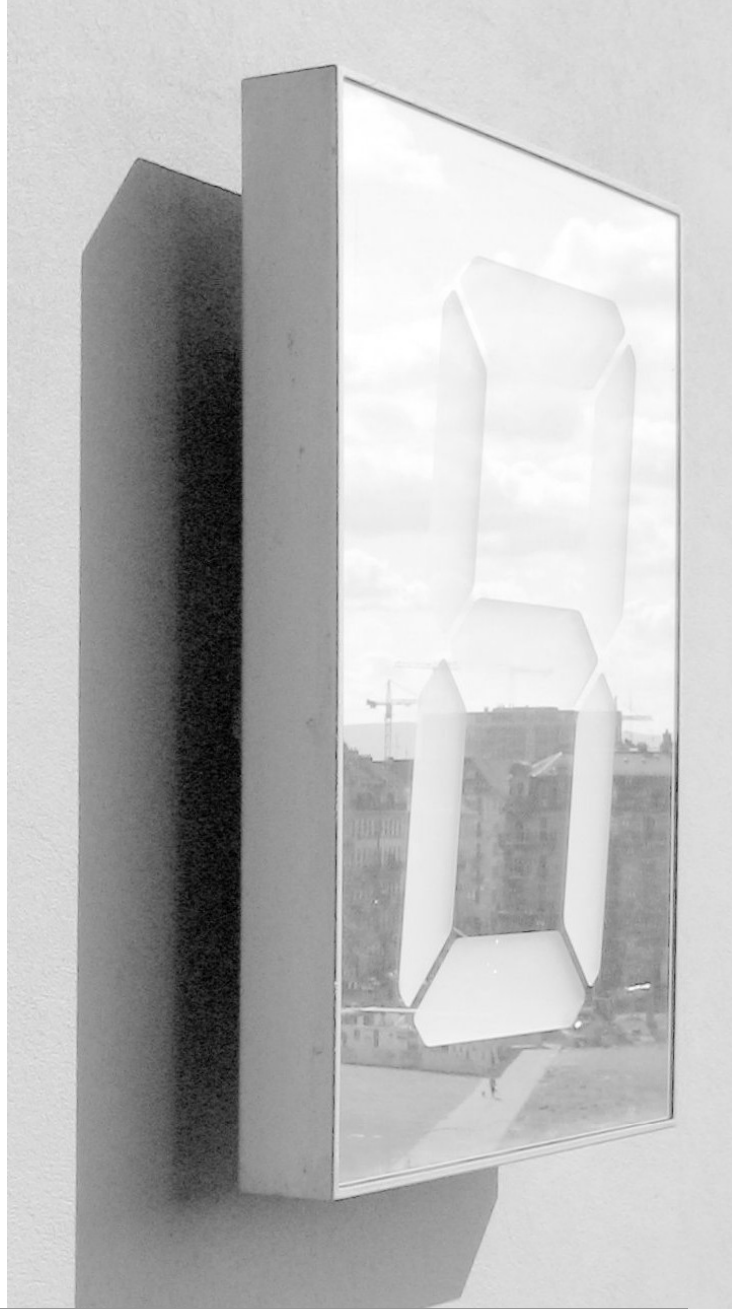
The **Centre Universitaire d'Informatique**, located in the Uni Dufour building at the University of Geneva, is one of the oldest computer research centres in the world. Professor Bernard Levrat created the Centre in 1973, where the Mathematics and Physics departments were the only ones to use computers. Since the Centre's creation, and through the effort of its members, it has developed very early innovative applications such as a word processing application, a portable operating system for mini-computers, a touch-screen, to mention a few; overall the Centre has had many significant students, such as Daniel Borel who created the company LOGITECH.

Since then, the Centre has continued to develop an interdisciplinary program working in all kinds of fields and applications, such as Virtual Humans, Augmented and Virtual Reality, Cellular Automata Approach, Complex Simulation of Flows and Information Systems Theory. There are several new projects in Bioinformatics and Functional Proteomics, along with the Swiss Institute of Bioinformatics, which have been developed, as well as Watermarking Techniques, Stochastic Image Processing and Multimodal Interactions.

As you will discover in reading this activity report, the range and depth of our interests are extensive and respond to rapid changes in computing and information technologies. It is my pleasure to encourage you to read this activity report and to appreciate the excitement and academic excellence enjoyed in our Research and Teaching Centre.



Nadia Magnenat-Thalmann
Director of the CUI
University of Geneva



Geneva Artificial Intelligence Laboratory

Prof. Christian Pellegrini

GAIL

cui.unige.ch/Al-group

Geneva Artificial Intelligence Laboratory

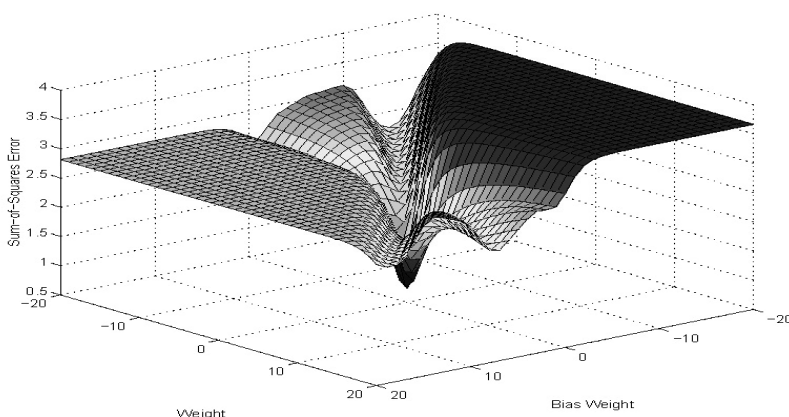
Prof. Christian Pellegrini

DOMAIN ACTIVITIES

The Geneva Artificial Intelligence Laboratory (GAIL) was established in 1980 to conduct research in both theoretical and applied artificial intelligence. Past research projects have dealt with the theory of knowledge representation and reasoning mechanisms, theoretical aspects of hybrid neuro-symbolic systems, knowledge representation and interpretation for various artificial neural network (ANN) architectures, new learning algorithms for ANNs, and meta-learning for algorithm and model selection.

Current research activities focus on advanced machine learning and data mining techniques (e.g., relational kernel-based learning for complex structures), natural language processing and text mining, information retrieval and information extraction. Research results have been applied to various problems in the life sciences (bioinformatics), such as the processing and classification of mass spectra, disease biomarker discovery, and biological text mining for proteomics database annotation.

Web: <http://cui.unige.ch/AI-group/>



TEAM

Director

Christian Pellegrini

Full professor



Members

Dr. Mélanie Hilario, MER

Dr. Alexandros Kalousis, MA

Phd students

Frédéric Ehrler

Jee-Hyub Kim

Julien Prados

Ivan Titov

Adam Woznica

Antonio Jimeno Yepes

PhD THESIS

- Gilles Cohen, Application des machines à vecteurs supports au domaine médical: sélection de modèles et de variables, August 2005

LIST OF PUBLICATIONS

Refereed papers in international journals

- [1] Gilles Cohen, Mélanie Hilario, Hugo Sax, Stéphane Hugonnet, Antoine Geissbuhler “Learning from imbalanced data in surveillance of nosocomial infection”, *Artificial Intelligence in Medicine*, Elsevier, E-publication doi:10.1016/j.artmed.2005.03.002, October 2005
- [2] Gilles Cohen, Mélanie Hilario, Christian Pellegrini, Antoine Geissbuhler, “SVM Modeling via a Hybrid Genetic Strategy. A Health Care Application”, *Studies in Health Technology and Informatics*, IOS Press, Volume 116, pages 193-198, 2005
- [3] Frédéric Ehrler, Antoine Geissbuhler, Antonio Jimeno, Patrick Ruch, “Data-poor categorization and passage retrieval for Gene Ontology Annotation in Swiss-Prot”, *BMC Bioinformatics*, Vol. 6(Suppl 1), October 2005
- [4] Alex L. Mitchell, Anna Divoli, Jee-Hyub Kim, Mélanie Hilario, Ioannis Selimas, Terri K. Attwood, “METIS: multiple extraction techniques for informative sentences”, *Bioinformatics*, Oxford University Press, Vol. 21 No. 22, pages 4196-4197, November 2005

Full refereed papers in Conference Proceedings

- [5] Gilles Cohen, Patrick Ruch, Mélanie Hilario, “Model selection for support vector classifiers via a direct simplex search method”, *Proceedings of the 18th International FLAIRS Conference*, Clearwater Beach, Florida, USA, AAAI Press, pages 431-435, May 2005
- [6] James Henderson, Ivan Titov, “Data-Defined Kernels for Parse Reranking Derived from Probabilistic Models”, 43rd Meeting of Association for Computational Linguistics (ACL-05), Ann Arbor, MI, pages 181-188, June 2005
- [7] Alexandros Kalousis, Julien Prados, Mélanie Hilario, “Stability of Feature Selection Algorithms”, *Proc. 5th IEEE International Conference on Data Mining (ICDM-2005)*, Houston, Texas, USA, IEEE Computer Society, pages 218-225, November 2005
- [8] Alexandros Kalousis, Julien Prados, Elton Rexhepaj, Mélanie Hilario, “Feature Extraction from mass spectral data for the classification of pathological states”, *Proceedings of the Ninth European Confer-*

ence on Principles of Data Mining and Knowledge Discovery (PKDD-2005), Porto, Portugal, Springer, LNCS, Vol. 3721, pages 536-543, October 2005

- [9] Jee-Hyub Kim, Melanie Hilario, “Learning Information Extraction Rules for Protein Annotation from Unannotated Corpora”, *Sixth International Conference on Intelligent Text Processing and Computational Linguistics (CICLing-2005 Best Paper Award, 3rd place)*, Springer (LNCS), LNCS, Vol. 3406, pages 522-534, 2005
- [10] Serhiy Kosinov, Ivan Titov, Stephane Marchand-Maillet, “Large Margin Multiple Hyperplane Classification for Content-Based Multimedia Retrieval”, *ICML-05 Workshop on Machine Learning Techniques for Processing Multimedia Content*, Bonn, Germany, pages 60-63, August 2005
- [11] Ivan Titov, James Henderson, “Deriving Kernels from MLP Probability Estimators for Large Categorization Problems”, *International Joint Conference on Neural Networks (IJCNN-05)*, Montreal, Canada, pages 937-942, August 2005
- [12] Ivan Titov, James Henderson, “Parsing with Kernels Induced from Probabilistic Models”, *International Conference on Computational Linguistics and Intelligent Technologies (Dialog-2005)*, Moscow, Russia, pages 131-135, June 2005
- [13] Adam Woznica, Alexandros Kalousis, Mélanie Hilario, “Distance-based learning over extended relational algebra structures”, *Proceedings of the 15th International Conference on Inductive Logic Programming (ILP-2005) (late breaking papers)*, Bonn, Germany, August 2005
- [14] Adam Woznica, Alexandros Kalousis, Mélanie Hilario, “Kernels over relational algebra structures”, *The Ninth Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD-2005 Best Student Paper Award)*, Hanoi, Vietnam, Springer, LNCS, Vol. 3518, pages 588-598, May 2005

INTERNATIONAL AND NATIONAL ADVISORY COMMITTEES

- Christian Pellegrini, 1998 — present, Member of the Foundation Council, Swiss Institute of Bioinformatics, Geneva
- Christian Pellegrini, 2003 – present, Member of the Foundation Council, IDIAP research Institute, Geneva

- Christian Pellegrini, 1987—present, Member of the Scientific Committee of the « Diplôme Universitaire en Information Documentaire (CESID) », University of Geneva

Partners: University of Manchester (UK), University of Antwerp (B), Austrian Research Institute for Artificial Intelligence (A), University of Geneva, Swiss Institute of Bioinformatics (CH), PharmaDM NV (B).

Website: <http://www.biomint.org>

MEMBER OF CONFERENCE PROGRAM COMMITTEES AND REVIEWING PANELS

- Mélanie Hilario, European Conference on Machine Learning (ECML-05), Porto, Portugal, October 2005
- Mélanie Hilario, International Conference on Machine Learning (ICML-05), Bonn, Germany, August 2005
- Mélanie Hilario, International Conference on Principles and Practice of Knowledge Discovery in Databases (PKDD-05), Porto, Portugal, October 2005
- Mélanie Hilario, International and Interdisciplinary Conference on Adaptive Knowledge Representation and Reasoning (AKRR-05), Espoo, Finland, June 2005
- Mélanie Hilario, International FLAIRS Conference. Special Track on Integrated Intelligent Systems (FLAIRS-2005), Florida, USA, May 2005
- Mélanie Hilario, ICML Workshop on Meta-Learning, Bonn, Germany, August 2005
- Mélanie Hilario, Learning Language in Logic Challenge: Extracting Relations from Biomedical Text, co-located with ICML-05. (LLL Challenge-05), Bonn, Germany, August 2005
- Mélanie Hilario, EPIA-2005 Workshop on Extraction of Knowledge from Data Bases and Warehouses (EKDB&W-05), Covilha, Portugal, December 2005
- Mélanie Hilario, 5th ACM SIGKDD Workshop on Data Mining in Bioinformatics (BIOKDD-2005), Chicago, Illinois, August 2005
- Alexandros Kalousis, European Conference on Machine Learning (ECML-05), Porto, Portugal, October 2005
- Alexandros Kalousis, EPIA-2005 Workshop on Extraction of Knowledge from Data Bases and Warehouses (EKDB&W-05), Covilha, Portugal, December 2005

FUNDED RESEARCH PROJECTS

Participation to European projects

BioMint

Biological Text Mining (European project QLRI-CT-2002-02770, FP5, OFES No. 02.0126-2)

Period: January 2003 – March 2006

Cost282 – KnowEst

Cost Action 282 on Knowledge Exploration in Science and Technology (no SER: CO2.0014)

Period: 2002 – December 2005

Partners: Österreichisches Institut für Künstliche Intelligenz, Wien (A); Plant Systems Biology, Ghent University (B); University of Tartu (EE); Université Claude Bernard - Lyon 1 (F); INRIA Sophia Antipolis (F); Forschungszentrum Jülich (D); Max-Planck-Institut für Astrophysik, Garching (D); Trinity College, Dublin (IRL); Dept Electronica e Informazione del Politecnico de Milano (I); Dell' Institut si Piecerche Farmacologiche Mario Negri, Milano (I); University of Pavia (I); Norwegian University of Science and Technology, Trondheim (N); University of Bialystok (PL); Institute of Biocybernetics and Biomedical Engineering, Warsaw (PL); University of Coimbra (P); Consejo Superior de Investigaciones Científicas, Madrid (E); Universidad Complutense de Madrid (E); Universitat Pompeu Fabra, Barcelona (E); Imperial College, London (GB); City University, London (GB); University of Edinburgh (GB); University of Ulster, Coleraine, Northern Ireland (GB)

Website: <http://www.mpa-garching.mpg.de/~opmolsrv/COST282/>

FUNDED RESEARCH PROJECTS

Participation to National projects

FunProt

Knowledge Discovery in Functional Proteomics (local project funded by OFES No. Co2.0014 in the framework of COST action 282)

Period: July 2002 – December 2005

Partners: University of Geneva, University Hospitals of Geneva

Website: <http://www.cui.unige.ch/AI-group>

PREMS

Preprocessing Mass Spectral Data for Knowledge Discovery (local project funded by OFES No. Co4.0107 in the framework of COST action 282)

Period: October 2004 – December 2005

Partners: University of Geneva, Geneva University Hospital - LCCC

GAP

Bridging the Gap between Propositional and First-Order Learners (21-68040.02/1)

Period: October 2002 – March 2005

NNStructParse

Neural Networks for Structure Processing Applied to Broad Coverage Natural Language Parsing (200021-100005/1)

Period: November 2003 – October 2005

KernRel

Local, Global and Statistical Approaches for Kernels on Relational Structures (FN 200020-107926/1)

Period: April 2005 – March 2007

Partners: Clinical Chemistry Central Laboratory, Geneva University Hospital

ProDoTT

Learning Probabilistic First-Order Domain Theories from Text (FN 20021-109500/1)

Period: October 2005 – May 2007

Partners: Clinical Chemistry Central Laboratory, Geneva University Hospital

KernelStructParse

Kernel-Based Structure Processing for Natural Language Parsing (FN 200020-109685/1)

Period: November 2005 – October 2007

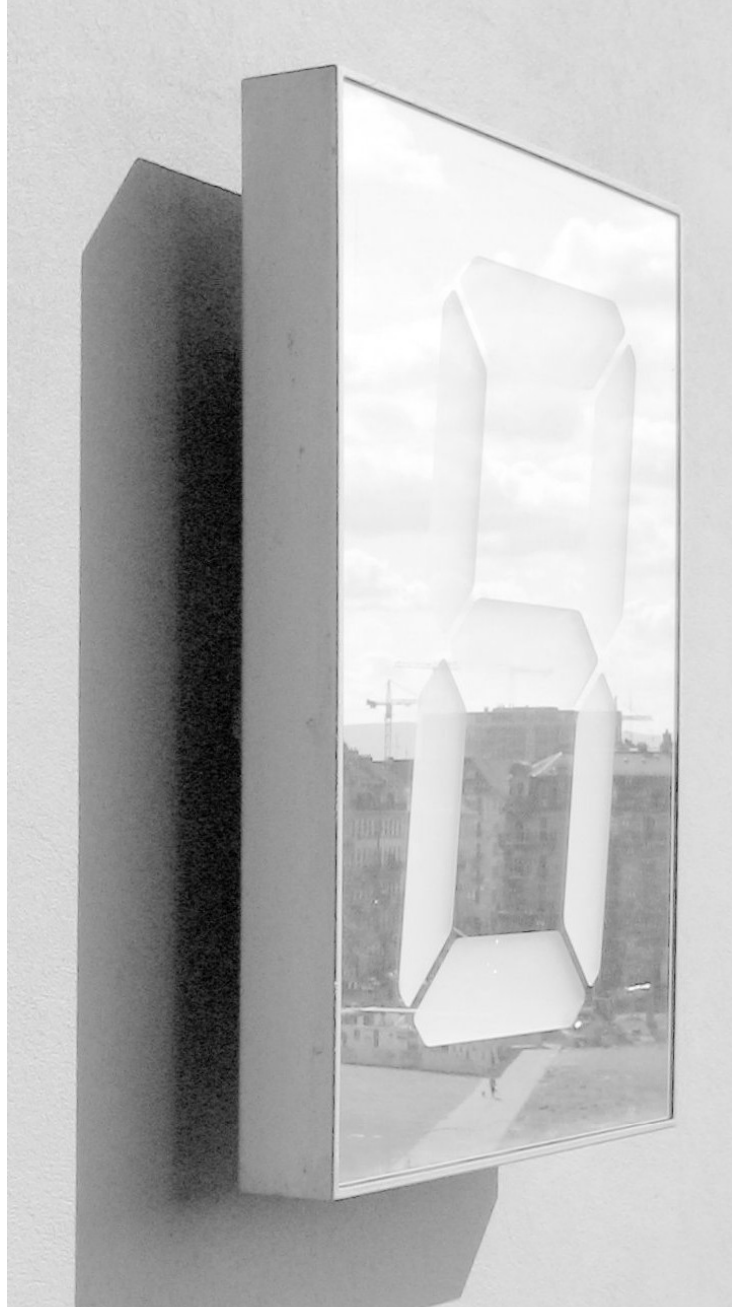
OTHERS

Refereeing

- Mélanie Hilario: Journals - Proteomics.
- Alexandros Kalousis: Journals - Machine Learning, Intelligent Data Analysis, Proteomics, Data and Knowledge Engineering, Ecological Modelling. Conferences - ICML-2005
- Jee-Hyub Kim: Conferences: ICML-2005
- Ivan Titov: Conferences: ECML-2005
- Adam Woznica: Conferences: ECML-2005

Editorial responsibilities

- Mélanie Hilario, Associate Editor of the International Journal on Artificial Intelligence Tools (IJAIT), World Scientific Publishing.



Computer Vision and Multimedia Laboratory

Prof. Thierry Pun

CVML

Computer Vision and Multimedia Laboratory

Prof. Thierry Pun

DOMAIN ACTIVITIES

The Computer Vision and Multimedia Laboratory (CVML, <http://vision.unige.ch>), divided into three groups, carries out research in computer vision, multimedia data processing, management and security, as well as in multimodal human-machine interaction. Research applies to visual media such as text, audio, images and videos, to sounds, and to physiological signals.

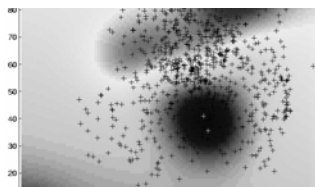
Content-based Visual Indexing and Retrieval group (Viper, Prof. S. Marchand-Maillet, <http://viper.unige.ch>): develops strategies for the efficient indexing retrieval and exploration of large multimedia databases. The group studies the complete chain of multimedia management from multimedia processing to content modeling, description and storage and interactive retrieval.

Stochastic Image Processing group (SIP, Prof. S. Voloshynovskiy, <http://sip.unige.ch>): studies various aspects of information theory and statistical (stochastic) visual data analysis and processing. Applications cover image compression, restoration and denoising, segmentation. A related research axis concerns analog and digital watermarking, authentication, tamper proofing. Current research also concerns brand protection using portable devices and wireless communications.

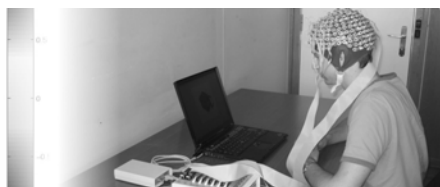
Multimodal Interaction group (MMI, Prof. T. Pun, <http://vision.unige.ch/MMI>): studies various forms of multimodal interaction between humans, computers, and environment. Some considered interaction modalities are haptic, auditory, and based on physiological signals such as EEG's. Current developments concern brain-computer interaction, brain imaging, emotions recognition, and mobility aids for sight handicapped people.

Web: <http://vision.unige.ch>

Learning relevance function
in a multimodal space



Brain-computer interaction
by EEG analysis



TEAM

Director

Thierry Pun
Full professor



Sviatoslav Voloshynovskiy
Associate professor



Stéphane Marchand-Maillet
Assistant professor



Members

Dr. Eric Bruno
Dr. Frédéric Deguillaume
Dr. Oleksiy Koval
Dr. Romana Rytsar (since Oct. 2005)
Dr. Yuriy Rytsar

Phd students

Teodor Iulian Alecu
Guillaume Chanel
Benoit Deville (since Oct. 2005)
Bruno Janvier
Serge Kosinov
Julien Kronegg
Nicolas Moenne-Loccoz
Emre Topak
José Vila Forcen
Renato Villan

PhD THESIS

- Serge Kosinov, "Machine learning approach to semantic augmentation of multimedia databases for efficient access and retrieval", December 2005
- Nicolas Moëgne-Loccoz, "Dynamique des composantes visuelles pour la gestion de documents vidéo par le contenu", December 2005
- Teodor Iulian Alecu, "Robust focalized brain activity reconstruction using electroencephalograms", December 2005

LIST OF PUBLICATIONS

Refereed papers in international journals

- [1] T. I. Alecu, S. Voloshynovskiy, T. Pun, "The Gaussian transform of distributions: definition, computation and application", IEEE Trans. on Signal Processing, accepted for publication (Oct. 2005)
- [2] S. Voloshynovskiy, F. Deguillaume, O. Koval and Thierry Pun, Information-theoretic data-hiding: Recent achievements and open problems, International Journal of Image and Graphics, 5, 1, pp. 1-31, 2005
- [3] E. Topak, S. Voloshynovskiy, O. Koval, K. Mihcak, T. Pun, Towards geometrically robust data-hiding with structured codebooks, ACM Multimedia System Journal, Special issue on Multimedia and Security, Volume 11, Number 2 (December 2005), pp. 121-132
- [4] S. Voloshynovskiy, O. Koval, T. Pun, Image denoising based on the edge process model, Signal Processing, Volume 85, Issue 10, October 2005, pages 1950-1969
- [5] O. Koval, S. Voloshynovskiy, F. Perez-Gonzalez and T. Pun, Robustness improvement of known-host-state watermarking using host statistics, Elsevier Science, Signal Processing, (accepted for publication August 2005).
- [6] J. Vila, S. Voloshynovskiy, O. Koval and T. Pun, Facial Image Compression Using Overcomplete Transforms, Subm. to JASP 2004 (accepted for publication August 2005)
- [7] S. Voloshynovskiy, O. Koval, M. Kivanc Mihcak and T. Pun, The Edge Process model and its application to information hiding capacity analysis, IEEE Trans. on Signal Processing, 2005. (accepted for publication Sept. 2005)

Full refereed papers in Conference Proceedings

- [8] T. I. Alecu, P. Missonnier, S. Voloshynovskiy, P. Gianakopoulos, and T. Pun, "Soft/hard focalization in

the EEG inverse problem", IEEE Workshop on Statistical Signal Processing (SSP '05), Bordeaux, France, July 17-20, 2005

- [9] T. Alecu, S. Voloshynovskiy, T. Pun, "The Gaussian transform", Eusipco 2005, 13th. Eur. Signal Proc. Conf., Sept. 4-8, 2005, Antalya, Turkey.
- [10] T. Alecu, S. Voloshynovskiy, T. Pun, "Denoising with infinite mixture of Gaussians", Eusipco 2005, 13th. Eur. Signal Proc. Conf., Sept. 4-8, 2005, Antalya, Turkey
- [11] J. Kronegg, T. Pun, "Measuring the performance of brain-computer interfaces using the information transfer rate", BCI 2005, Brain-Computer Interface Technology: Third International Meeting, June 14-19, 2005, Rensselaerville, NY, USA
- [12] J. Kronegg, S. Voloshynovskiy, T. Pun, "Analysis of bit-rate definitions for Brain-computer Interfaces", The 2005 International Conference on Human-Computer Interaction (HCI'05), June 20-23, 2005, Las Vegas, USA
- [13] J. Kronegg, T. Alecu, G. Chanel, S. Voloshynovskiy, T. Pun, "Analyse des mesures de débit pour interfaces cerveau-ordinateur", TAIMA'05, Traitement et Analyse de l'Information : Méthodes et Applications, Hammamet, Tunisie, 26 sep - 1 oct, 2005
- [14] N. Moëgne-Loccoz, E. Bruno and S. Marchand-Maillet, "Interactive Partial Matching of Video Sequences in Large Collections", In IEEE International Conference on Image Processing (ICIP'05), Genova, Italy, 11-14 September 2005
- [15] Nicolas Moëgne-Loccoz, Eric Bruno, and Stéphane Marchand Maillet. Interactive retrieval of video sequences from local feature dynamics. In Proceedings of the 3rd International Workshop on Adaptive Multimedia Retrieval, AMR'05, Glasgow, UK, July 2005
- [16] S. Voloshynovskiy, O. Koval, F. Deguillaume, T. Pun, Multimedia Security: open problems and solutions, NATO/OTAN Network Security and Intrusion Detection, Erevan, Armenia, October 1-12, 2005. (2 hour tutorial)
- [17] Y. Rytsar, F. Deguillaume, S. Voloshynovskiy, E. Rivera and T. Pun, Text document data-hiding: security and multimedia perspectives, In proc. 5th International Conference on Computer Science and Information Technologies CSIT 2005, Yerevan, Armenia, September 19-23, 2005

- [18] S. Voloshynovskiy, O. Koval, E. Topak, J. E. Vila Forcen, P. Comesana and T. Pun, On reversibility of random binning techniques, *Lecture Notes in Computer Science: Communications and Multimedia Security*, Volume 3677, Proceedings of 9th IFIP TC-6 TC-11 Conference on Communications and Multimedia Security CMS 2005, Salzburg, Austria, September 19-21, 2005, Pages 108-118
- [19] T. Holotyak, J. Fridrich and S. Voloshynovskiy, Blind Statistical Steganalysis of Additive Steganography Using Wavelet Higher Order Statistics, *Lecture Notes in Computer Science: Communications and Multimedia Security*, Volume 3677, Proceedings of 9th IFIP TC-6 TC-11 Conference on Communications and Multimedia Security CMS 2005, Salzburg, Austria, September 19-21, 2005, Pages 273-274
- [20] R. Villan, S. Voloshynovskiy, F. Deguillaume, Y. Rytzar, O. Koval, E. Topak, E. Rivera, T. Pun, A Theoretical Framework for Data-Hiding in Digital Text Documents, *Lecture Notes in Computer Science: Communications and Multimedia Security*, Volume 3677, Proceedings of 9th IFIP TC-6 TC-11 Conference on Communications and Multimedia Security CMS 2005, Salzburg, Austria, September 19-21, 2005, Pages 280-281
- [21] J.E. Vila-Forcén, S. Voloshynovskiy, O. Koval, F. Pérez-González and T. Pun, Practical Data-Hiding: Additive Attacks Performance Analysis, *Lecture Notes in Computer Science*, Vol. LNCS 3710, Proc. of International Workshop on Digital Watermarking, Springer Verlag, Siena, Italy, September 15-17, 2005, pp. 244-259. (invited tutorial)
- [22] E. Topak, S. Voloshynovskiy, O. Koval, J. E. Vila Forcen and T. Pun, On Security of Robust Data-Hiding, WIAMIS 2005, 6th International Workshop on Image Analysis for Multimedia Interactive Services, Montreux, Switzerland, April 13-15, 2005. (invited presentation)
- [23] J.E. Vila-Forcen, S. Voloshynovskiy, O. Koval and Thierry Pun, Asymmetric spread spectrum data-hiding for Laplacian host data, In IEEE International Conference on Image Processing, Genova, Italy, 11-14 September 2005
- [24] E. Topak, S. Voloshynovskiy, O. Koval and T. Pun, Joint Achievable Rate-Complexity Analysis of Geometrically Robust Data-Hiding Codes in Asymptotic Set-ups, EUSIPCO-2005, Antalya, Turkey, September 4-8, 2005
- [25] S. Voloshynovskiy, O. Koval, F. Perez-Gonzalez, M. Kivanc Mihcak, J. E. Vila-Forcen and T. Pun, Data-hiding with asymmetrically available side information at encoder and decoder, EUSIPCO-2005, Antalya, Turkey, September 4-8, 2005
- [26] F. Deguillaume, Y. Rytsar, S. Voloshynovskiy and T. Pun, Data-hiding based text document security and automatic processing, IEEE International Conference on Multimedia & Expo (ICME) 2005, 2005, July 6-8, Amsterdam, The Netherlands
- [27] Serhiy Kosinov, Stéphane Marchand-Maillet and Thierry Pun, Countering the false positive projection effect in nonlinear asymmetric classification, In The IEEE Symposium on Signal Processing and Information Technology (ISSPIT'05), Athens, Greece, December, 18-21 2005
- [28] Bruno Janvier, Eric Bruno, Stéphane Marchand Maillet, and Thierry Pun. A contextual model for semantic video structuring. In 13th European Signal Processing Conference, EUSIPCO'05, Antalya, Turkey, September 2005
- [29] Eric Bruno and Nicolas Moenne-Loccoz and Stéphane Marchand Maillet, Interactive Video Retrieval based on Multimodal Dissimilarity Representation, in Proceedings of the 1st Workshop on Machine Learning Techniques for Processing Multimedia Content, MLMM'05, Bonn, Germany, August, 2005
- [30] Eric Bruno, Nicolas Moenne-Loccoz, and Stéphane Marchand-Maillet. Learning user queries in multimodal dissimilarity spaces. In Proceedings of the 3rd International Workshop on Adaptive Multimedia Retrieval, AMR'05, Glasgow, UK, July 2005
- [31] B. Janvier, E. Bruno, S. Marchand-Maillet, and T. Pun, "Semantic Segmentation of Video Collections using Boosted Random Fields", MLM'05, 2nd Joint Workshop on Multimodal Interaction and Related Machine Learning Algorithms, 11-13 July 2005, Edinburgh, UK
- [32] S. Kosinov, I. Titov and S. Marchand Maillet, "Large Margin Multiple Hyperplane Classification for Content-based Multimedia Retrieval", Proceedings of the 1st Workshop on Machine Learning Techniques for Processing Multimedia Content, MLMM'05, Bonn, Germany, August 2005
- [33] S. Marchand-Maillet and E. Bruno, "Collection Guiding: A new framework for handling large multimedia collections", Proceedings of the First Workshop on Audio-visual Content And Information Visualization In Digital Libraries, AVIVDiLibo5, Cortona, Italy, 2005

- [34] S. Marchand-Maillet and E. Bruno, "Characterising optimal structures in multimedia collections for enhanced exploration", MLMI'05, 2nd Joint Workshop on Multimodal Interaction and Related Machine Learning Algorithms, 11-13 July 2005, Edinburgh, UK.

Books and book chapters

- [35] Nicolas Moenne-Loccoz, Bruno Janvier, Stéphane Marchand-Maillet, and Éric Bruno. An integrating framework for the management of video collections. Volume MLMI'04, Lecture Notes in Computer Science 3361, Martigny, Switzerland, 2005.

MEMBER OF CONFERENCE PROGRAM COMMITTEES

- MLMI 05 - Machine Learning for Multimodal Interfaces, Edinburgh, Scotland, July 2005
- ISSPA 2005, Sidney, Australia, Aug. 2005
- ICIP 2005, Genova, Italy, Sept. 2005
- TAIMA 2005 - Trait. Anal. Inform. Méthodes & Appl., Hammamet, Tunisie, Oct. 2005
- CORESA 2005, Rennes, France, Nov. 2005
- ACM Multimedia and Security Workshop 2005, New York, USA, August, 2005
- IWDW2005, International Workshop on Digital Watermarking 2005
- Siena, Italy, September 15 – September 17, 2005
- The Seventh IASTED International Conference on SIGNAL AND IMAGE PROCESSING SIP 2005, Honolulu, Hawaii, August 15-17, 2005, USA
- IEEE International Conference on Multimedia and Expo (ICME2005), July 6-8, 2005, Amsterdam, The Netherlands
- International Conference on Content-based Image and Video retrieval (CIVR2005), School of Computing, National University of Singapore (Singapore), 20 - 22 July 2005
- International Workshop on Adaptive Multimedia Retrieval (AMR2005), University of Glasgow, UK, July 2005 (also session chair)
- ACM SIGIR2005, August 15-19, 2005, in Salvador, Brazil (papers and posters)

INVITED TALKS

- J. Kronegg, "Goals, Problems and Solutions in Brain-Computer Interfaces", Tutorial, SIMILAR WP6&9 workshop, November 9 - 10, 2005, UPC Barcelona,

Spain

J.E. Vila-Forcén, S. Voloshynovskiy, O. Koval, F. Pérez-González and T. Pun, Practical Data-Hiding: Additive Attacks Performance Analysis, Lecture Notes in Computer Science, Vol. LNCS 3710, Proc. of International Workshop on Digital Watermarking, Springer Verlag, Siena, Italy, September 15-17, 2005, pp. 244-259. (invited tutorial)

E. Topak, S. Voloshynovskiy, O. Koval, J. E. Vila Forcen and T. Pun, On Security of Robust Data-Hiding, WIAMIS 2005, 6th International Workshop on Image Analysis for Multimedia Interactive Services, Montreux, Switzerland, April 13-15, 2005. (invited presentation)

S. Voloshynovskiy, O. Koval, F. Deguillaume, T. Pun, Multimedia Security: open problems and solutions, NATO/OTAN Network Security and Intrusion Detection, Erevan, Armenia, October 1-12, 2005. (tutorial)

FUNDED RESEARCH PROJECTS

Participation to European projects

Similar

Seamless integrated multimodal interfaces for learning and augmenting communication in the real world: The European taskforce in future human-machine interfaces research, FP6 - IST Priority Call 1 2002-2.3.1.6 "Multimodal interfaces", No. IST-2002-507.602 (No. OFES 03.0249-1)

Period: December 2003 – November 2007

Website: <http://www.similar.cc/>

ECRYPT

European network of excellence in cryptology, FP6 - IST Priority Call 1 2002-2.3.1.5 "Toward a global dependability and security framework", No. IST-2002-507.932 (No. OFES 03.0154-1)

Period: February 2004 – January 2008

Website: <http://www.ecrypt.eu.org/>

M4

Multimodal meeting manager, IST Program, Nr. 2001-34485 (OFES 01.0411-3)

Period: March 2002 – February 2005

Website: <http://www.m4project.org/>

Participation to National projects

SeeColor (Hasler Foundation)

Seeing colors with an orchestra, No. MMI - 1968. Principal investigator: Prof. M. Vinckenbosch, Univ. of Applied Sciences/HES-SO, Geneva.

Period: October 2005 – September 2008

IM2.IIR (Swiss National Center of Competence in Research (IM)2 - Interactive Multimodal Information Management)

Information indexing and retrieval

Leading House: IDIAP Martigny

Period: 2002—2009

Website: <http://www.im2.ch>

IM2.SA (Swiss National Center of Competence in Research (IM)2 - Interactive Multimodal Information Management)

Scene analysis

Leading House: IDIAP Martigny

Period: 2002—2009

Website: <http://www.im2.ch>

IM2.BMI (Swiss National Center of Competence in Research (IM)2 - Interactive Multimodal Information Management)

Brain machine interface

Leading House: IDIAP Martigny

Period: 2002—2005

Website: <http://www.im2.ch>

Intelligent multimedia description authoring framework (FNRS-SNSF, Swiss National Science Foundation)

FRNS-SNSF No. 200020-105282/1

Period: October 2004 – September 2006

Direct non-invasive Human Brain Machine Interfaces (FNRS-SNSF, Swiss National Science Foundation)

FRNS-SNSF No. 3152Ao-100745/1

Principal investigator: Dr. C. Michel, Neurology Clinic, Geneva University Hospital (with: J. Millan, T. Pun, S. Gonzalez Andino).

Period: April 2003 – April 2006

SNF Professorship grant "Stochastic detection of hidden data" (FNRS-SNSF, Swiss National Science Foundation), FRNS-SNSF No PP002-68653/1,

Period: April 2003 – April 2007

SPINOFF

- Anteleon Imaging S.A.R.L. (founded August 2003, <http://www.anteleon.com/>), specialized in multimedia documents protection and management, watermarking, authentication and tamper proofing

OTHERS

Editorial boards

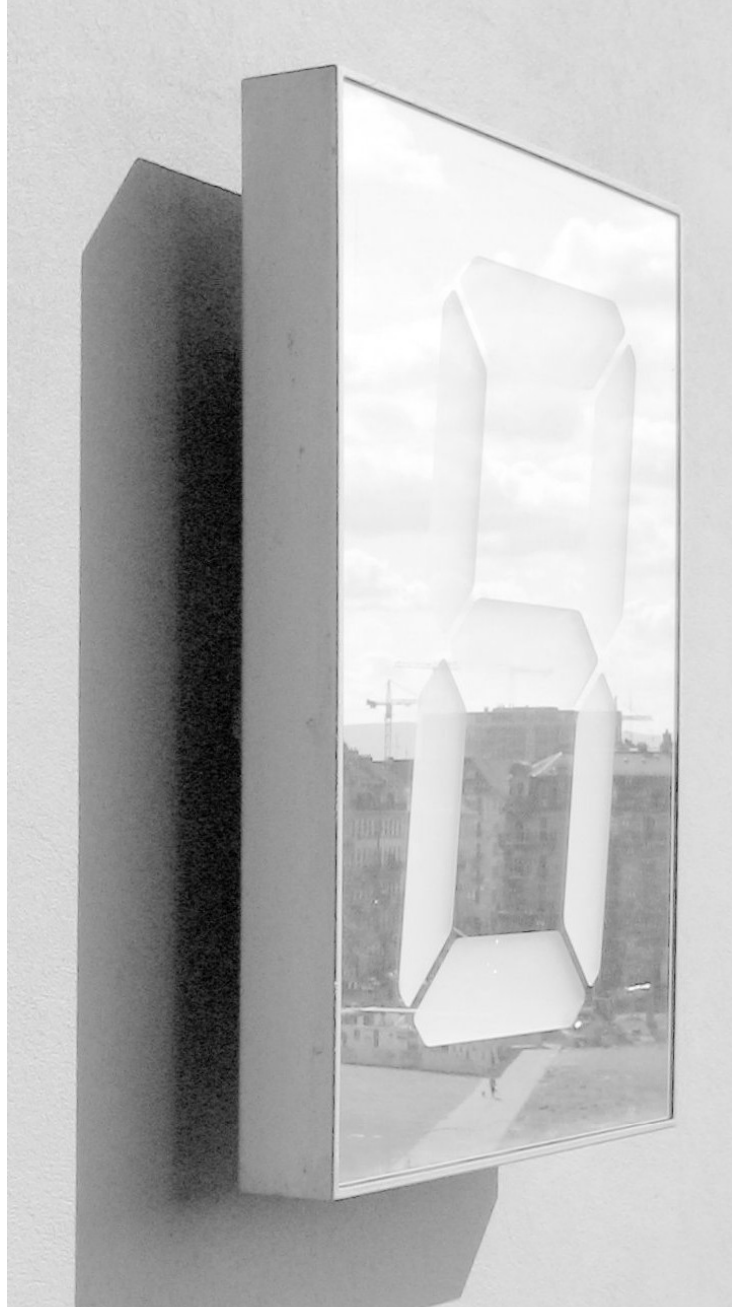
- International Journal on Image & Video Processing (Hindawi, <http://www.hindawi.com/journals/ijivp/>) (T. Pun).
- Computerized Medical Imaging and Graphics (Elsevier/Pergamon, <http://ees.elsevier.com/cmig/>) (T. Pun).
- International Journal of Image and Graphics (World Scientific Network, <http://www.worldscinet.com/ijig/mkt/editorial.shtml>) (S. Voloshynovskiy)

Refereeing / reviewing

- Journals, conferences, national funding organizations for various countries

Events

- Café de l'Université-Informatique, Roundtable with Junior High-school students, Cycle d'Orientation de la Gradelle, Geneva, with demonstrations and a talk on "Communiquer en touchant, en écoutant, et par la pensée", Oct. 4, 2005
- Journée des Collégiens, Presentation of the Computing Science Department for High-School students, Talk on "Nouvelles interfaces humain-machine: interaction multimodale", Sept. 28, 2005
- RSR 1, Radio Suisse Romande, Interview, Mordicus, "Risquons-nous d'être transformé en machine ?", by Lydia Gabor, Reportage réalisé par Germaine Müller, Oct. 31, 2005



Geneva Team Database Laboratory

Prof. Michel Léonard

MATIS

Geneva Team Database Laboratory

Prof. Michel Léonard

DOMAIN ACTIVITIES

The domain of Information System is so exciting that we find a real pleasure to work in this area. Our research is focused mainly on IS engineering in its different aspects. Basically four main areas represent our research trends:

- The first is the component-based IS engineering. Such approach regroups different fields of research, such as the IS components, interoperability, integration, evolution, static and dynamic aspects integration and IS ontology. It concerns the integration of new needs of information systems in legacy IS.
- The second area of interest is the distributed information system design and implementation. In this area, we focused on the different interactions and knowledge overlap between the IS project partners.
- The third area is the methods engineering.
- Finally, the fourth area is e-government IS engineering (egovIS), where we are building a law-based framework dedicated to institutional IS.

Our laboratory has a long experience in national, international, scientific and industrial collaborations. We are currently member of INTEROP NoE, the european network of excellence.

MATIS is led by Pr. Michel Léonard, who is currently the director of the Information Systems dept. SYINF of the University of Geneva.

Web: <http://matis.unige.ch>



MATIS

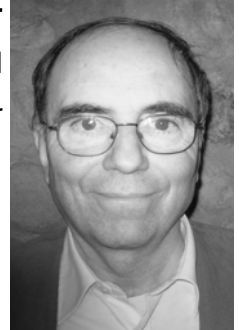
MAAnagement and T echnology of Infomation Sysystems

- Component-based IS engineering
- Distributed IS
- Method engineering
- E-government IS engineering

TEAM

Director

Michel Léonard
Full professor



Members

Dr. Mehdi Snene, senior researcher
Dr. Jolita Ralyte, senior researcher
Dr. Slim Turki, senior researcher

Phd Students

Jorge Pardellas
Nicolas Arni-Bloch
Abdelaziz Khadraoui
Thoa Pham Thi

PhD THESIS

- Slim Turki, Des hyperclasses aux composants pour l'ingénierie des systèmes d'information, July 2005 [8]
- Thoa Pham Thi, Intégration des aspects statique, Dynamique et organisationnel dans la modélisation des systèmes d'information, October 2005
- M. Jamil Hebali, L'engagement du consommateur dans les relations en ligne : proposition et validation d'un modèle conceptuel , July 2005

LIST OF PUBLICATIONS

Refereed papers in international journals

- [1] Abdelaziz Khadraoui, Michel Léonard, Daphné Solomos, Slim Turki, "Ingénierie des Systèmes d'Information pour l'e-Gouvernement: Stratégie, Concepts et Bases", Revue Internationale en Technologie de l'Information (e-TI)

Refereed papers in Conference Proceedings

- [2] Pham Thi T. T., The ISDA model for Integrating Static and Dynamic Aspects in Information Systems, Doctoral Symposium, INTEROP-ESA'05- Geneva, Switzerland, February 2005
- [3] Abdelaziz Khadraoui, Nicolas Arni-Bloch, Michel Léonard, Jolita Ralyté, "Laws-Based Ontology for E-Government Information Systems", International Conference on Innovations in Information Technology (IIT'05) , Dubaï, September 26-28, 2005
- [4] J. Pardellas, Knowledge map for distributed information system re-engineering, Interop ESA Doctoral Symposium, Geneva, Switzerland 2005
- [5] M. Snene, J. Pardellas, Secure Design and Implementation of Distributed and Interoperable Information System based on Overlap Knowledge Pattern, IBEC 2005, Tunisia 2005
- [6] M. Snene, J. Pardellas, M. Leonard, Distributed information systems design and implementation knowledge pattern, IADIS e-Society 2005, Malta 2005
- [7] Ralyté, J., Maiden, Rolland, C. and Deneckère, R. (2005). Map-driven Modular Method Re-engineering: Improving the RESCUE Requirements Process. 17th International Conference, CAISE 2005,

Porto, Portugal, June 13-17, 2005, CAISE'05 Forum proceedings

[8] Ralyté, J., Maiden, Rolland, C. and Deneckère, R. (2005). Applying Modular Method Engineering to Validate and Extend the RESCUE Requirements Process. Proceedings of the International Conference of Conceptual Modeling (ER'05), Klagenfurt, Austria, October 24-28, 2005. LNCS 3716, Springer-Verlag, pp. 209-224

- [9] Arni-Bloch, N., Towards a CAME Tools for Situational Methods Engineering, Doctoral Symposium, International Conference INTEROP-ESA, Geneva, Switzerland, February 2005

Books and book chapters

- [10] Ralyté, J., Rolland, C., Ben Ayed, M. (2005). An Approach for Evolution-Driven Method Engineering'. Chapter 5 in the book 'Information Modeling Methods and Methodologies' (Advanced Topics in Database Research), J. Krogstie, T. Halpin, K. Siau (Eds.). IDEA Group, p.80-100.
- [11] D. Konstantas, J.-P. Bourières, M. Léonard, N. Boudjlida, Interoperability of Enterprise Software and Applications, Springer ED, 2005

CONFERENCE ORGANIZATION AS CHAIR OR CO-CHAIR

- Interop-ESA 2005: General Co-chair Michel Leonard
- International workshop Situational Requirements Engineering Processes – Methods, Techniques and Tools to Support Situation-Specific Requirements Engineering Processes, SREP'05. In conjunction with RE'05 – 13th IEEE International Requirements Engineering Conference, August 29th – September 2nd 2005, Paris, France

MEMBER OF CONFERENCE PROGRAM COMMITTEES

- Michel Léonard: CAISE05, INTEROP-ESA05, DEXA05, INFORSID05
- Mehdi Snene: INTEROP-ESA 2005, IITMO2005, IMMO 2005
- Jolita Ralyte: INTEROP-ESA2005, CAISE05, ADBIS2-005, REFSQ'05, BIR2005, OOPSLA'05, TPSE2005

FUNDED RESEARCH PROJECTS

Participation to European and/or National Projects

Knowledge pattern for pattern distributed information system design and implementation

FNRS 200021-103848/1, 50% assistant

Period: 2005 - 2006

Computer Aided Situational Method Engineering

FNRS 200021-103826, 50% assistant

Period: 2005 - 2006

Modelling based approach for information system re-engineering

CTI no.2320 , 2* 100% Assistant

Period: April 2005 - april 2006

Participant: State of Geneva

Interop

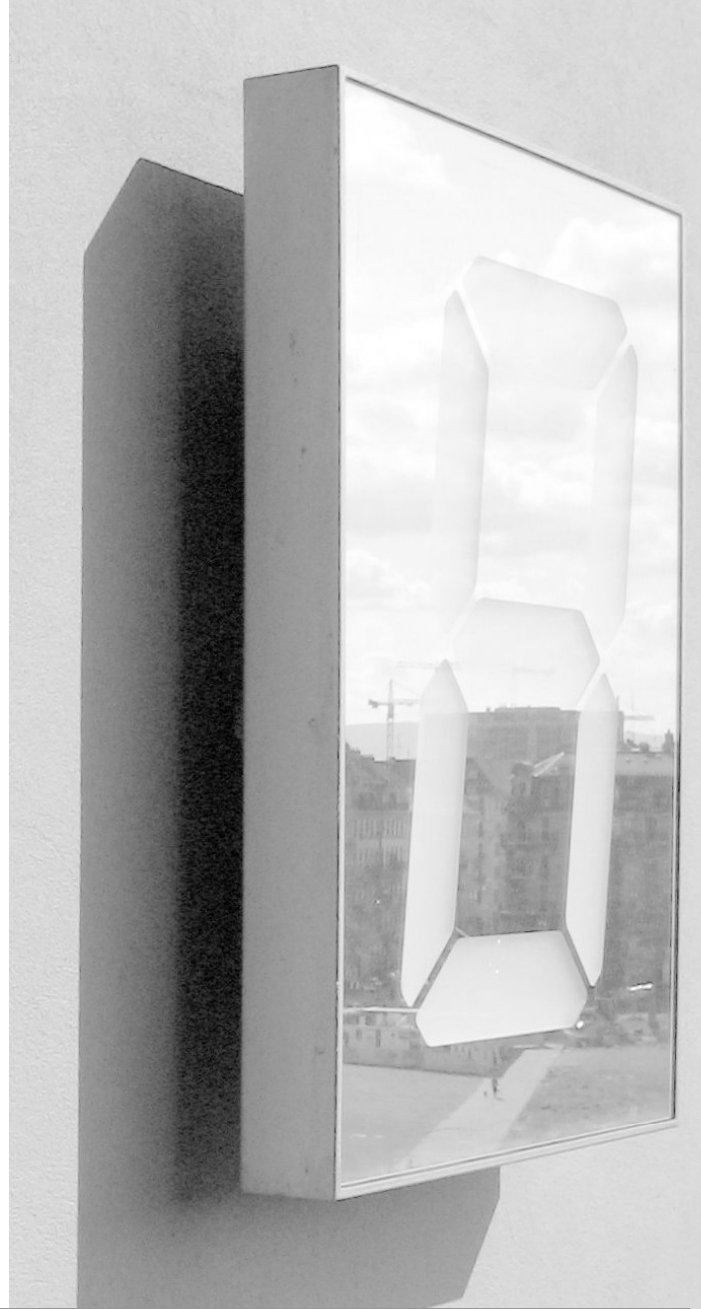
European network of research on Information system Interoperability

EU, IST-508011

European Commission

Period: January 2004 - 2006

Participants: 54 Universities.



Information System Interfaces

Prof. Gilles Falquet

ISI

Information System Interfaces

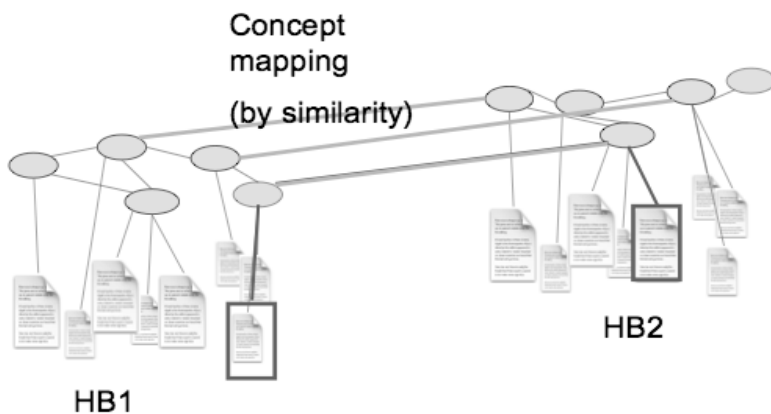
Prof. Gilles Falquet

DOMAIN ACTIVITIES

Current research directions of the ISI group include:

- models and tools to develop and maintain multi-point of view ontologies
- models and systems for managing virtual documents, in particular virtual hyperbooks
- techniques to integrate ontologies, and their application to the generation of interfaces for accessing digital libraries
- contextual interfaces for information retrieval systems

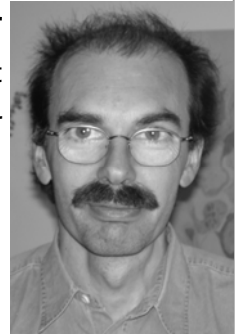
Web: <http://cui.unige.ch/isi/>



TEAM

Director

Gilles Falquet
Associate professor



Members

Dr. Jacques Guyot
Luka Nerima

Phd students

Claire-Lise Mottaz
Jean-Claude Ziswiler
El Mustapha El Afiti
Saïd Radhouani
Gabriela Tissiani
Kaveh Bazargan

LIST OF PUBLICATIONS

Refereed papers in international journals

- [1] G. Falquet and J.-C. Ziswiler. Virtual Hyperbooks Model to Support Collaborative Learning. AACE International Journal on E-Learning (IJEL) Volume 4, Issue 1, 2005. pp. 39-56
- [2] C.-L. Mottaz Jiang, G. Tissiani, G. Falquet, R. Pinto da Luz. Facilitating Communication between languages and Cultures: A computerized interface and Knowledge Base. Journal of Computing Research 2005, to appear

Full refereed papers in Conference Proceedings

- [3] J.-P. Chevallet, Joo-Hwee Lim, S. Radhouani. Using Ontology Dimensions and Negative Expansion to solve Precise Queries in CLEF Medical Task. In CLEF Workshop, Working Notes in Cross-Language Retrieval in Image Collections Track, Vienna, Austria , 21-23 September, 2005
- [4] J. Guyot, S. Radhouani, G. Falquet. Ontology-Based Multilingual Information Retrieval. In CLEF Workshop, Working Notes in Multilingual Textual Document Retrieval Track, Vienna, Austria , 21-23 September, 2005
- [5] G. Falquet, L. Nerima, C.-L. Mottaz Jiang, J.-C. Ziswiler. Building Virtual Documents by Integrating Hyperbooks. 4th European Networked Knowledge Organization Systems (NKOS) Workshop at 9th European Conference on Digital Libraries (ECDL 2005), Vienna, Austria, September 22, 2005.
- [6] G. Falquet, L. Nerima, J.-C. Ziswiler. Augmented Hyperbooks through Conceptual Integration. In Proceedings of the 16th ACM Conference on Hypertext and Hypermedia (Hypertext'05), Salzburg, Austria, September 6-9, 2005.
- [7] M. El Atifi, G. Falquet. A Specification Language and System for the Three-Dimensional Visualisation of Knowledge Bases. In Proc. DSVIS '05, Newcastle, July 2005
- [8] G. Falquet, L. Nerima, J.-C. Ziswiler. Ontologies and Ontology Mapping for Supporting Student Assessment in an Advanced Learning System. In Proceedings of the 17th annual AACE World Conference on Educational Multimedia, Hypermedia & Telecommunications (ED-MEDIA), Montréal, Canada, June 27 - July 2, 2005.
- [9] G. Falquet, C. Métral. Integrating Urban Knowledge into 3D City Models. In Proc. First International Workshop on Next Generation 3D City Models, Bonn, Germany, June 2005

- [10] M. El Atifi, G. Falquet. Spécification des interfaces 3D pour la visualisation des bases de connaissances. In Proc. INFORSID Conf., Grenoble, May 2005

Software and services

- [11] G. Falquet, J. Guyot. The Lazy hypertext view system. <http://sourceforge.net/projects/lazy-x/>
- [12] W. Muller. The International UNL Resource Index (UNL Universe) <http://cui.unige.ch/isi/unl/>

INTERNATIONAL AND NATIONAL ADVISORY COMMITTEES

- Gilles Falquet, member of the « comité scientifique de la revue Techniques et Sciences Informatiques (TSI) », Paris, since 2003
- Gilles Falquet, member of the management committee of the COST C21 "Towntology" European Action

MEMBER OF CONFERENCE PROGRAM COMMITTEES

- Comité scientifique de la conference Extraction et Gestion de la Connaissance EGC'05
- Comité scientifique de la conference ACM Hypertext 05

FUNDED RESEARCH PROJECTS

Participation to European and/or national projects

Models and languages to design and specify interactive three dimensional interfaces for knowledge bases (FNS)

FNS 200020-105254/1

Period: 2004-2006

Development of advanced text mining tools (suite) (CTI/KTI)

CTI no. 5571.2 KTS

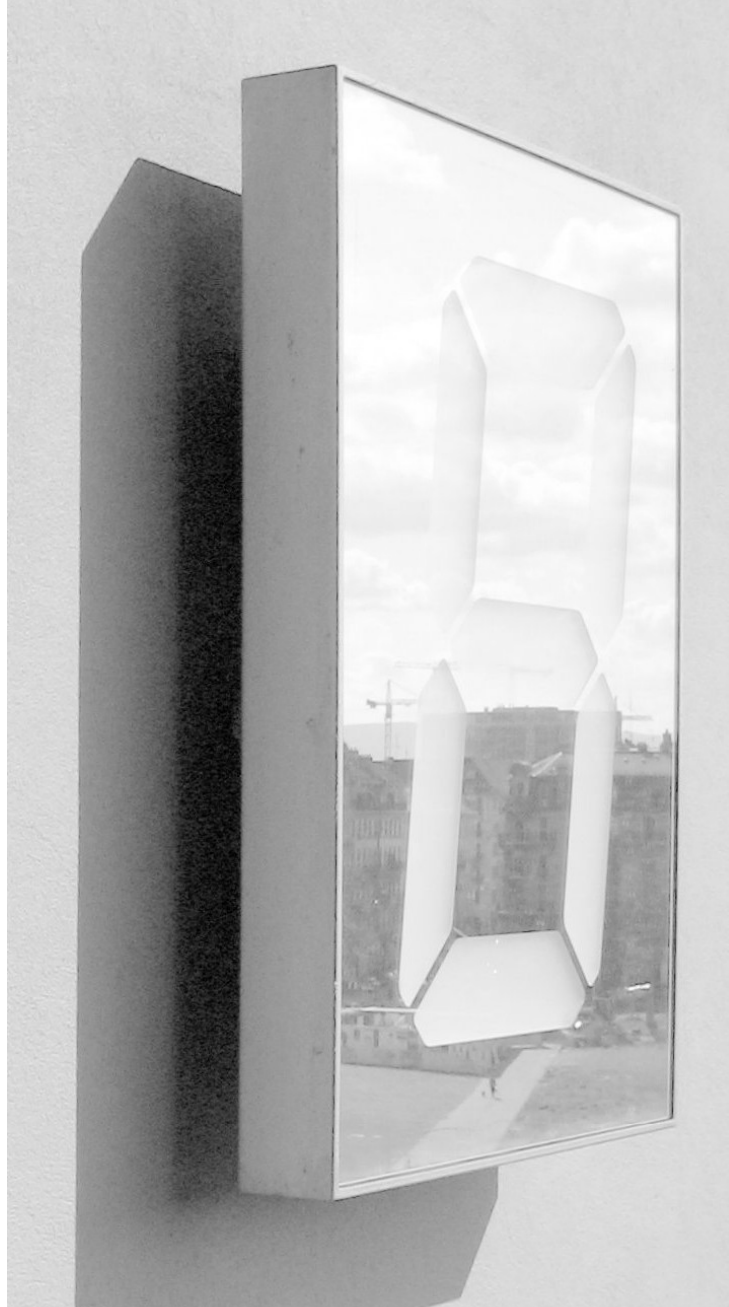
Period: 2004-2005

Partner : Metaread S.A.

Facilitating Communication Between Languages and Cultures: A Computerized Interface and Knowledge Base (RUIG)

Period: 2003-2005

Partners : UNDL Foundation, UNITAR



Laboratory for the Analysis and Technology of Language

Prof. Eric Wehrli

LATL

www.latl.unige.ch

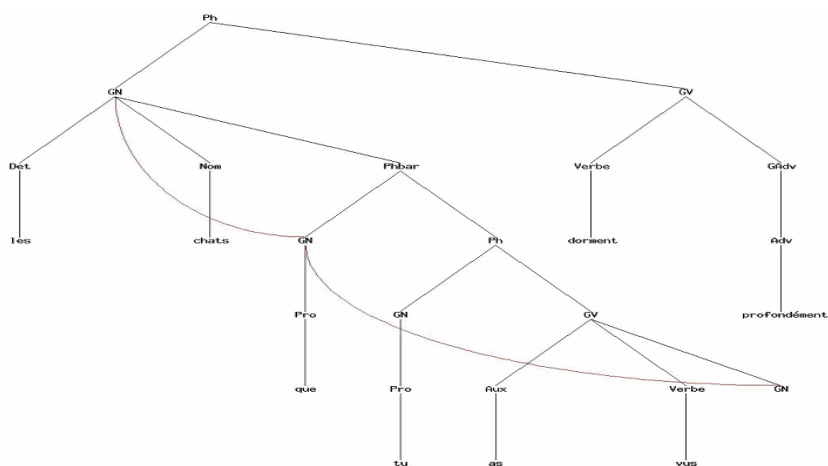
Laboratory for the Analysis and Technology of Language

Prof. Eric Wehrli

DOMAIN ACTIVITIES

The LATL develops research and prototypes for several facets of natural language processing. The main areas of research are automatic analysis of sentence structure (parsing) and its meaning, and the development of lexicons and dictionaries. Parsing is at the core of several applications: text-to-speech, terminological extraction, computer-assisted language learning, text mining, and automatic translation. The successful performance of these applications lies in accurate, extensive and detailed information about words. We study machine learning techniques for learning dictionaries, and parse text to automatically treat collocations (fixed sequences of words) to support translation. The systems developed at LATL span several languages: French, English, German, Italian, and other languages are underway (Greek, Spanish). We have recently extended our investigations to shallow levels of meaning representations.

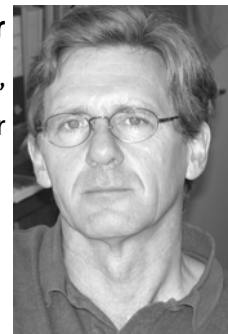
Web: <http://www.latl.unige.ch>



TEAM

Director

Eric Wehrli,
Full professor



Members

Dr. Paola Merlo, MER
Luka Nerima, CE

Phd students

Jean-Philippe Goldman
Antonio Leon di Leoni
Sébastien L'Haire
Athina Michou
Gabriele Musillo
Mar Ndivae
Yves Scherrer
Violeta Seretan

LIST OF PUBLICATIONS

Full refereed papers in Conference Proceedings

- [1] Violeta Seretan, Induction of Syntactic Collocation Patterns from Generic Syntactic Relations, Proceedings of Nineteenth International Joint Conference on Artificial Intelligence , (IJCAI 2005), Edinburgh, Scotland, pages, 1698-1699
 - [2] Sébastien L'haire, Basic semantic error detection by sentence comparison (poster). In: CALL, WELL and TELL: Fostering autonomy. EUROCALL 2005 conference. Jagiellonian University, Cracow, Poland, 24-28 August 2005. p. 152
 - [3] Anne Vandeventer Faltin, Sébastien L'haire and Mar Ndiaye, A spell checker for language learners of French and a learner corpus (poster). In: CALL, WELL and TELL: Fostering autonomy. EUROCALL 2005 conference. Jagiellonian University, Cracow, Poland. 24-28 August 2005. p. 153
 - [4] Paola Merlo, Gabriele Musillo (2005), Accurate Function Parsing, Procs of the Conference on Empirical Methods in NLP (EMNLP 2005), Vancouver, Canada, 620-627
 - [5] Gabriele Musillo, Paola Merlo (2005), Lexical and Structural Biases for Function Parsing, International Workshop on Parsing Technologies, (IWPT 2005), Vancouver, Canada, 83-93
 - [6] Gabriele Musillo, Paola Merlo (2005), Assigning Function Labels to Unparsed Text, Recent Advances in NLP (RANLP 2005), Borovetz, Bulgaria, 340-347
- Key-note speaker, Prepositional Phrase Attachment and the Notion of Argument, Second ACL-SIGSEM Workshop on Prepositions, Essex, April 2005
 - Key-note speaker, Computational Experiments on Verb Classes, International Workshop on Verbs and Verb Classes, Saarbruecken, January 2005

INTERNATIONAL AND NATIONAL ADVISORY COMMITTEES

- Paola Merlo, Member of the Advisory Board for the European Chapter of the Association for Computational Linguistics, 2004-2006

MEMBER OF CONFERENCE PROGRAM COMMITTEES

- Paola Merlo, Second ACL-SIGSEM Workshop on Prepositions, Essex, April 2005
- Third International Workshop on Generative Approaches to the Lexicon, Geneva, May 2005

INVITED TALKS

- Paola Merlo, Learning the Interface between Syntax and Semantics, AI Labs, MIT, September 2005
- Invited speaker, Issues on Learning Shallow Seman-

tics, Workshop on Future Challenges in NLP, Italian Association for Artificial Intelligence, Milano, September 2005

FUNDED RESEARCH PROJECTS

Participation to National projects

Weakly Supervised Learning of Verb Meaning

NFS Grant 100011-105286/1

Period: 2004-2006

Paola Merlo

Développement d'un modèle plurilingue de traitement des langues naturelles

NSF grant 101412-103999

Period: 2004-2006

Eric Wehrli

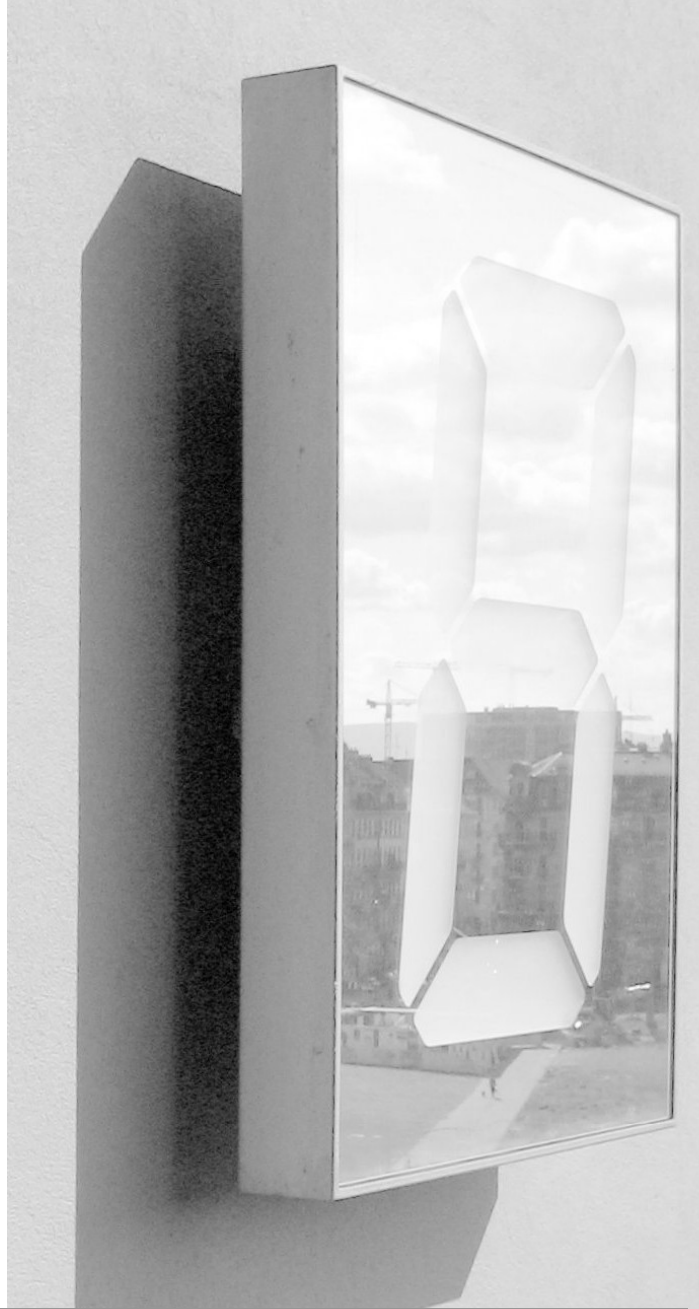
TECHNOLOGY TRANSFER

LATL.ch is a technology start-up specialized in the development of linguistic software components. Closely associated with LATL laboratory, LATL.ch develops and commercializes products based on fundamental research conducted in the university lab. Two companies involved in Speech synthesis use its phonetiser: Acapela Group, a European group, and SVOX, a start-up located in Zürich.

OTHERS

Editorial responsibilities

- Paola Merlo, Member of the editorial board of Computational Linguistics, MIT Press
- Paola Merlo, Editor of the Journal of Logic, Language and Information, Springer Verlag



3D Animation and Virtual Reality Laboratory

Prof. Nadia Magnenat-Thalmann

MIRALab

www.miralab.unige.ch

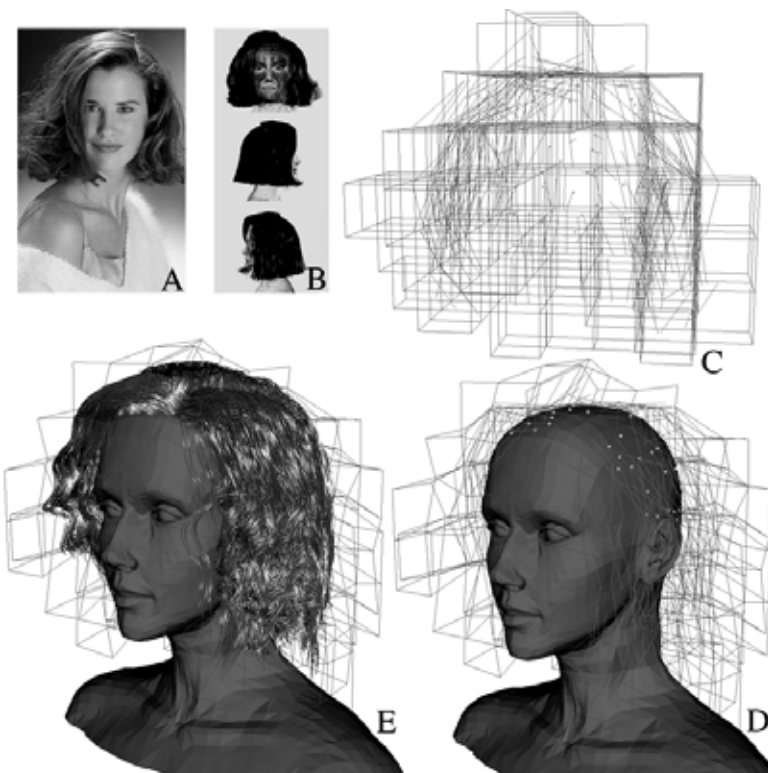
3D Animation and Virtual Reality Laboratory

Prof. Nadia Magnenat-Thalmann

DOMAIN ACTIVITIES

MIRALab was founded in 1989 by Professor Nadia Magnenat-Thalmann and is composed of more than 25 researchers coming from many different fields, such as computer science, mathematics, medical field, design, architecture, fashion design, cognitive science, etc. The group is truly interdisciplinary, working in the field of computer graphics, computer animation and virtual worlds. Since 1992 the group has participated in more than 30 European Projects; In 2005, MIRALab was working on 11 projects: AIM@Shape, CADPIPE, COME, DANAE, ENACTIVE, EPOCH, ERATO, HAP-TEX, HUMAINE, INTUITION, LEAPFROG. International conferences are often organised in Switzerland by MIRALab.

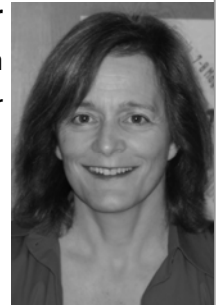
Web: <http://www.miralab.unige.ch>



TEAM

Director

Nadia Magnenat-Thalmann
Full professor



Members

Dr. Laurent Moccozet (MER)
Dr. Azam Bastanfard (Post Doc)
Dr. HyungSeok Kim (Post Doc)
Dr. Pascal Volino (Post Doc)
Dr. Stéphane Garchery (Post Doc)

Assistants

Alessandro Foni
Arjan Egges
Benjamin Gilles
Caecilia Charbonnier
Christiane Luible
Clementine Lo
Dimitris Protopsaltou
Etienne Lyard
Fabien Dellas
Georgios Papagiannakis
Lionel Egger
Lydia Yahia-Cherif
Marlene Arevalo-Poizat
Mélanie Montagnol
Michel Gaudry
Mustafa Kasap
MyungJin Kang
Nedjma Cadi-Yazli
Pierre Davy
Rajeev Gupta
Sophie Jarlier
Thomas Di Giacomo
Ugo Bonanni
Yacine Benmansour

PhD THESIS

- MyungJin Kang, "Individualized Generation of Motions of Hip Joint", December 2005 [10]

LIST OF PUBLICATIONS

Refereed papers in international journals

- [1] G. Papagiannakis, S. Schertenleib, B. O'Kennedy, M. Arevalo-Poizat, N. Magnenat-Thalmann, A. Stoddart, D. Thalmann. Mixing Virtual and Real scenes in the site of ancient Pompeii. *Computer Animation and Virtual Worlds*, p 11-24, Volume 16, Issue 1. February 2005
- [2] P. Volino, F. Cordier, N. Magnenat-Thalmann. From early virtual garment simulation to interactive fashion design. *Computer-Aided Design Journal (CAD journal)*, Elsevier, volume 37, pp 593-608. March 2005
- [3] M. Teschner, S. Kimmerle, B. Heidelberger, G. Zachmann, L. Raghupathi, A. Fuhrmann, M.-P. Cani, F. Faure, N. Magnenat-Thalmann, W. Strasser, P. Volino. Collision Detection for Deformable Objects. *Computer Graphics Forum*, vol. 24, no. 1, pp. 61-81. March 2005
- [4] P. Volino, N. Magnenat-Thalmann. Accurate Garment Prototyping and Simulation. *Computer-Aided Design & Applications*, Vol. 2, Nos. 1-4, 2005. 2005
- [5] S. Oh, H. Kim, N. Magnenat-Thalmann, K. Wohn. Generating unified model for dressed virtual humans. *Visual Comput* 21(8), pp. 522-531. October 2005
- [6] N. Magnenat-Thalmann, P. Volino. From early draping to haute couture models: 20 years of research. *Visual Comput* 21(8) pp. 506-519. October 2005
- [7] B. Gilles, R. Perrin, N. Magnenat-Thalmann, J-P. Vallée. Bones motion analysis from dynamic MRI: acquisition and tracking. *Academic Radiology*, 12(10), pp. 2385-92. October 2005
- [10] G. Papagiannakis, H. Kim, N. Magnenat-Thalmann. Believability and Presence in Mobile Mixed Reality Environments. *IEEE VR2005 Workshop on Virtuality Structures*. February 2005.
- [11] T. Di Giacomo, M. Gaudry, N. Magnenat-Thalmann. Converting 3D Facial Animation with Gouraud Shaded SVG. *4th Annual Conference on Scalable Vector Graphics, SVG Open 2005*. August 2005.
- [12] M. Kang, H. Sadri, N. Magnenat-Thalmann. Computer-assisted pre-operative planning for hip joint-preserving surgery. *5th Annual Meeting of the International Society for Computer Assisted Orthopaedic Surgery, Pro Business GmbH*, pp. 212-214. June 2005.
- [13] G. Papagiannakis, A. Foni, N. Magnenat-Thalmann. Practical Precomputed Radiance Transfer for Mixed Reality. *Virtual Systems and Multimedia 2005, VSMM05*, Ghent, Belgium. August 2005.
- [14] R. Gupta, N. Magnenat Thalmann. Scattering-Based Interactive Hair Rendering. *International Conference on CAD/Graphics, IEEE Computer Society Press*, pp. 489-494. December 2005.
- [15] A. Egges and Nadia Magnenat-Thalmann. Emotional Communicative Body Animation for Multiple Characters. *V-Crowds'05*, Lausanne, Switzerland. Pages 31-40. November 2005.
- [16] N. Magnenat Thalmann, H. Kim, A. Egges, S. Garchery. Believability and Interaction in Virtual Worlds. *International Multi-Media Modelling Conference, IEEE Computer Society Press*, pp. 2-9. January 2005.
- [17] F. Salsedo, M. Fontana, F. Tarri, E. Ruffaldi, M. Bergamasco N. Magnenat-Thalmann, P. Volino, U. Bonanni A. Brady, I. Summers, J. Qu D. Allerkamp, G. Böttcher, F.-E. Wolter M. Makinen, H. Meinander. Architectural Design of the Haptex System. In *Proceedings of the HAPTEX'05 Workshop on Haptic and Tactile Perception of Deformable Objects, Hanover*, pp. 1-7. December 2005.

Full refereed papers in Conference Proceedings

- [8] S. Oh, H. Kim, P. Volino, N. Magnenat-Thalmann, K. Wohn. Semantics over Geometry: Garmented Body Model Generation for Real-time Simulation. *Workshop towards Semantic Virtual Environments (SVE 2005)*, Villars, Switzerland, March, 2005. March 2005.
- [9] L. Yahia-Cherif, N. Magnenat-Thalmann. An optimized methodology for estimating patient-specific joints' poses. In *Surgetica'2005, Computer-Aided Medical Interventions: Tools and Applications*, edited by J. Troccaz and P. Mermoz, pages 305-312. January 2005.
- [18] M. Mäkinen, H. Meinander, C. Luble, N. Magnenat-Thalmann. Influence of Physical Parameters on Fabric Hand. In *Proceedings of the HAPTEX'05 Workshop on Haptic and Tactile Perception of Deformable Objects, Hanover*, pp. 8-16. December 2005.

- [19] P. Volino, P. Davy, U. Bonanni, N. Magnenat-Thalmann, G. Böttcher, D. Allerkamp, F.-E. Wolter. From measured physical parameters to the haptic feeling of fabric. In Proceedings of the HAPTEX'05 Workshop on Haptic and Tactile Perception of Deformable Objects, Hanover, pp. 17-29. December 2005
- [20] S. Garchery, A. Egges, N. Magnenat-Thalmann. Fast Facial Animation Design for Emotional Virtual Humans. Measuring Behaviour, Wageningen, NL, CD-ROM Proceeding. September 2005
- [21] D. Protopsaltou, N. Magnenat-Thalmann. The Fourth Party in Online Arbitration as a Shared Virtual Workspace. ACM SIGGRAPH Conference Web Program, Los Angeles, California, USA: ACM Press. August 2005

Books and book chapters

- [22] P. Volino, F. Dellas, T. Di Giacomo, N. Magnenat-Thalmann. Integrated Platform for Networked and User-Oriented Virtual Clothing. Encyclopedia on Multimedia Technology and Networking, published by Idea-Group Reference, edited by Margherita Pagani, pp. 424-428. April 2005.
- [23] T. Di Giacomo, C. Joslin, N. Magnenat-Thalmann. Production, Delivery and Playback of 3D Graphics. Encyclopedia on Multimedia Technology and Networking, published by Idea-Group Reference, edited by Margherita Pagani, pp. 855-863. April 2005.
- [24] N. Magnenat-Thalmann and D. Thalmann, Proceedings of the workshop "Aim@shape", IEEE publisher, 2005.

INTERNATIONAL AND NATIONAL ADVISORY COMMITTEES (Prof. N. Magnenat-Thalmann)

- Member of the third cycle in computer science committee, CUSO, Switzerland
- Member of the Board of the National Library, Bern
- Member of the Scientific Advisory Board of CSCS (Centro Svizzero di Calcolo Scientifico), Mano, Switzerland, 2004 – 2006
- Experts Jury Member of the Vienna Science and Technology Fund, Austria.
- Jury Member of the Art Competition at ZKM, Karlsruhe, Germany
- Member of the Board of the Assessment Centre of

Excellence, Katholic University of Leuven, Belgium

CONFERENCE ORGANIZATION AS CHAIR OR CO-CHAIR (Prof. N. Magnenat-Thalmann)

- Conference and Program chair of the workshop AIM@Shape, Séminaire de 3ème cycle d'informatique, Villars-sur-Ollon

MEMBER OF CONFERENCE PROGRAM COMMITTEES (Prof. N. Magnenat-Thalmann)

- AIM@SHAPE 2005: Conference and Program chair of the workshop, Séminaire du 3ème cycle informatique, Villars-sur-Ollon, April 16-18, 2005
- MMM05, 11th International Multi-Media Modelling Conference, Melbourne, Australia, January 2005

INVITED TALKS

- Keynote speech at MMM'2005, Melbourne, Believability and interaction with virtual worlds, January 12, 2005

FUNDED RESEARCH PROJECTS

Participation to European projects

AIM@Shape

"Advanced and Innovative Models And Tools for the development of Semantic-based systems for Handling, Acquiring, and Processing knowledge Embedded in multidimensional digital objects"

Period : January 2004 - July 2006

Type : European Research

Website : www.aim-at-shape.net

Partners: Ecole Polytechnique Fédérale de Lausanne - Switzerland, C.N.R. – Istituto di Matematica Applicata e Tecnologie Informatiche – Dept. Of Genova - Italy, Università di Genova – Dipartimento di Informatica e Scienze dell'Informazione - Italy, Fraunhofer Institut für Graphische Datenverarbeitung - Germany, INRIA – France, Institut National Polytechnique de Grenoble - France, Informatics and Telematics Institut – Center for Research and Technology Hellas - Greece, Max-Planck-Institut für Informatik - Germany, Stiftelsen for industriell og teknisk forskning ved Norges Tekniske Høgskole - Norway, Technion – Israel Institute of Technology - Israel, Utrecht University - Netherlands, Weizmann Institute of Science – Israel

CADPIPE

"CAD production PIPEline"

Period : January 2005 - December 2006

Type : European Research

Website : cadpipe.vtt.fi

Partners: DeltaCad- France, DeskArtes – Finland, Fraunhofer Institute IFF, Fraunhofer-Gesellschaft zur Foerderung der angewandten Forschung e.V. – Germany, InfoTRON A.S. – Turkey, Ingeniería y Soluciones Informáticas del Sur S.L. – Spain, International Computer Institute – Turkey, Melon Technologies JSC – Bulgaria, Nemetschek – Bulgaria, NIKI Information Technologies Ltd – Greece, SenseTrix Oy – Finland, SienaBioGraFiX s.r.l. – Italy, TESTALUNA srl – Italy, VTT Information Technology - Finland

DANAE

"Dynamic and distributed Adaptation of scalable multimedia coNtent in a context-Aware Environment"

Period : January 2004 - July 2006

Type : European Research

Status : Ongoing

Website : danae.rd.francetelecom.com/

Partners: Imperial College - Great Britain, Siemens - Germany, T-Systems Nova - Germany, France Telecom R & D -

France, INRIA - France, Groupe des Ecoles des Telecommunication - France, IMEC - Belgium, MUSEON - Netherlands, Rheinisch Westfalische Technische Hochschule Aachen - Germany, Universitat Klagenfurt - Austria

ENACTIVE

"Enactive Interfaces"

Period : January 2004 - January 2008

Type : European Research

Status : Ongoing

Website : www.enactivenetwork.org

Partners: PERCRO, Research institute on virtual reality - Italy, ICA - France, Biomedical Physics Group, School of Physics, University of Exeter - Great Britain, Research Centre, Centro de Estudios e Investigaciones Técnicas de Gipuzkoa - Spain, Centre for Research in Sport Sciences, University of Paris sud XI - France, Division of Rehabilitation Engineering Research, University of Lund - Sweden, Département Technologie et Sciences de l'Homme, Université de technologie de Compiègne - France, Department of Psychology, Uppsala University - Sweden, Institute of Robotics and Mechatronics - Germany, EDM Expertise centre for digital media, Limburgs Universitair Centrum–LUC - Belgium, Faculty of Music, McGill University - Canada, France Telecom R & D - France, Human Factors Research Laboratory, University of Minnesota - USA, LABELIN - Spain, Max Planck Institute for biological cybernetics - Germany, SONY Computer Science Laboratory - France, Ecole Polytechnique Fédérale de Lausanne – Switzerland, Università di Padova - Italy, Sony international Europe GmbH - advanced technology centre, MMI lab - Germany, Palpable Machines Group, MEDIA LAB Europe - Ireland, Institut Jean Nicod - France, Human-Technology Interaction Group, Eindhoven University of Technology - Netherlands, InfoMus Lab at DIST – University of Genova – Italy, DIST University of Genova - Italy, MIRALab, University of Geneva - Switzerland

EPOCH

"European research network on excellence in Processing Open Cultural Heritage"

Period : March 2004 - February 2008

Type : European Research

Status : Ongoing

Website : www.epoch-net.org

Partners: 100

ERATO

"Identification, Evaluation and Revival of the Acoustical heritage of ancient Theatres and Odea ICFP502A3PRO3"

Period : February 2003 - January 2006

Type : European Research

Status : Ongoing

Website : www.at.oersted.dtu.dk/~erato/

Partners: Technical University of Denmark - Denmark, Yıldız Teknik Üniversitesi - Turkey, Hashemite University - Jordan, Università degli Studi di Ferrara - Italy, Association Etudes Cadre de vie Environnement - France, Ecole Polytechnique Fédérale de Lausanne - Switzerland, MIRALab, University of Geneva - Switzerland

HAPTEX

"HAPTic sensing of virtual TEXTiles"

Period : December 2004 - September 2007

Type : European Research

Status : Ongoing

Website : haptex.miralab.unige.ch/

Partners: UHAN - WelfenLab, University of Hanover – Germany, SWL - SmartWearLab, Tampere University of Technology - Finland, PERCRO Laboratory - Scuola Superiore di Studi Universitari e di Perfezionamento Sant'Anna - Italy, UNEXE - Biomedical Physics Group, University of Exeter - Great Britain

INTUITION

"Network of Excellence on Virtual Reality and Virtual Environments Applications for Future Workspaces"

Period : September 2004 - August 2008

Type : European Research

Status : Ongoing

Website : www.intuition-eunetwork.net/

Partners (non exhaustive list of the 57 partners) : Computer systems (Greece), Commissariat à l'Énergie Atomique (France), Scuola Superiore Santa Ana, PERCRO Laboratory (Italy), FHG-IOA, FGH-IPK, FGH-FIT (Germany), INRIA (France), University of Nottingham (U.K.)

LEAPFROG

"Leadership for European Apparel Production From Research along Original Guidelines"

Period : June 2004 - December 2006

Type : European Research

Website : www.leapfrog-eu.org/

Partners (non exhaustive list of the 36 partners) : Euratex (Belgium), ATC, Athens Technology Center (Greece), D'Appolonia (Italy), IFTH, Institut Français Textile Habillement

(France), TNO (Netherlands), ENEA (Italy)

HUMAINE

" Humaine-Machine Interaction Network on Emotion "

Period : January 2004 - January 2008

Type : European Research

Website : <http://emotion-research.net/>

Partners (non exhaustive list of the 33 partners): Queen's University (Belfast, England), University of Hertfordshire (England), Istituto Trentino Di Cultura (Italy), Université de Paris VIII (France), Kungliga Tekniska Högskolan Stockholm (Sweden), Universität Augsburg (Germany)

FUNDED RESEARCH PROJECTS

Participation to National projects

CO-ME

"The Computer Aided and Image Guided Medical Interventions"

Period : January 2001 - June 2005

Type : Swiss Research

Website : co-me.ch

Partners: Ecole Polytechnique Fédérale de Lausanne – Switzerland, Hôpital Universitaire de Genève (HUGE) - Switzerland

OTHERS

Public exhibition and performance

- “The haute Couture in equations”, participation to the exhibition of Robert Piguet, Musée de la Mode, Yverdon, June to October 2005
- Member of Editorial Board, Journal of Universal Computer Science, Electronic Journal, since August 1994
- Member of Editorial Board, Journal of Computer Graphics, Russia, since 1993

Courses and tutorials

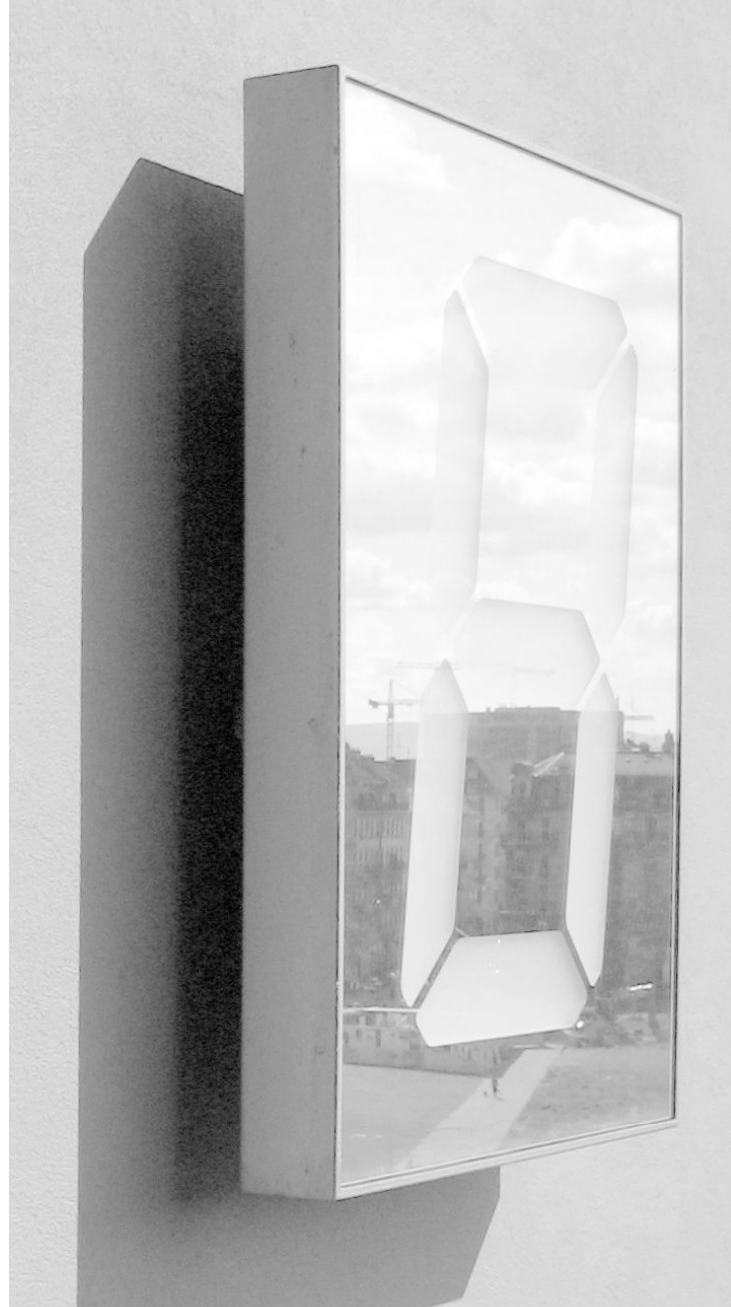
- Eurographics Tutorial 2005
 - ◇ Believability and Presence
 - ◇ Emotional and conversational virtual humans
 - ◇ Case studies: MR in various applications

Refereeing

- Jury of Ph.D. thesis for New Zealand, France, Sweden, and Switzerland
- European Union, Esprit Projects, Brussels
- Research Grants Council of Singapore
- Natural Sciences and Engineering Research Council of Canada
- National Science Foundation U.S.A.
- Swiss National Research Foundation.
- Austrian Research Foundation
- ACM SIGGRAPH, IEEE Transactions on Visualization and Computer Graphics, IEEE Computer Graphics and Applications, IEEE Computer, Communications of ACM, The Visual Computer, Computer Graphics Forum, Computer Vision, Graphics and Image Processing, Presence, International Journal of Human-Computer Studies, Computers and Graphics

Editorial responsibilities

- Since 1990, Co-founder and Co-editor-in-chief, "Journal of Visualization and Computer Animation", John Wiley and Sons
- Member of the Advisor Board, International Journal of Image and Graphics, World Scientific, since January 2001
- Since January 1, 2000, Editor-in-chief of the Journal "The Visual Computer" published by Springer-Verlag, Germany
- Since 1987, Associate Editor-in-chief, "The Visual Computer", Springer-Verlag, Heidelberg
- Editor, Computational Geometry Journal, North Holland, since 1995



Object Systems Group

Prof. Dimitri Konstantas

OSG

Object Systems Group

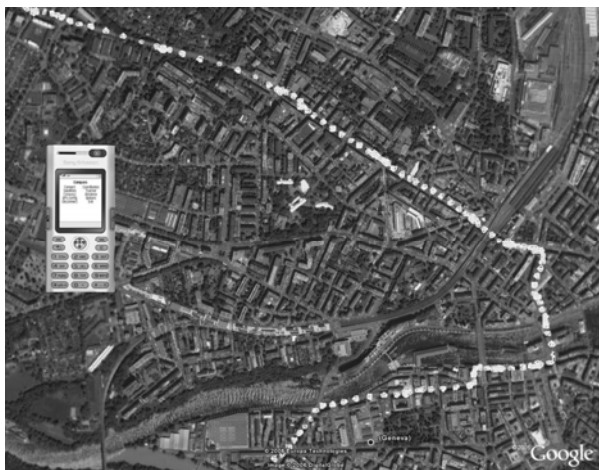
Prof. Dimitri Konstantas

DOMAIN ACTIVITIES

The main research direction of the group is the study of issues related with autonomous and mobile systems and Free and Open Source Software (F/OSS) processes for software production and distribution. More specifically the current research areas of the group are:

- Mobile applications: location based services and applications, mobile health applications and ambient intelligence;
- Free and Open Source Software : define a scalable and secure architecture for the packaging, testing and distribution of F/OSS;
- Security and resource management : formalization and implementation of a model based on the human notion of trust, with concepts such as “recommendations” and uncertainty;
- Digital Rights Management and Digital Policy Management: This research field covers the issue of persistent information protection. By persistently associating usage rules to content, it becomes possible to control the use of the content even outside the traditional perimeter based security.

Web: <http://cui.unige.ch/OSG>

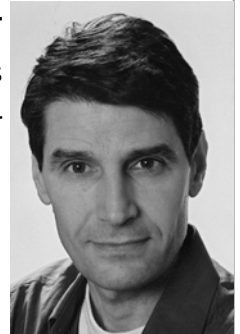


Path-trace in Geneva, made with the Bluetooth GPS API for mobile telephones, developed in the group (<http://www.universal-locator.com>)

TEAM

Director

Dimitri Konstantas
Full professor



Members

Dr. Ciarán Bryce, Scientific manager
Dr. Giovana Serugendo Di Marzo, Senior researcher
Dr. Jean-Henry Morin, Senior researcher
Dr. Jean-Marc Seigneur, Post Doc (since Oct. 2005)

Phd students

Michel Pawlak
Katarzyna Wac
Michel Deriaz
Alfredo Villalba (since Nov. 2005)

LIST OF PUBLICATIONS

Refereed papers in international journals

- [1] Grzegorz Czajkowski, Stephen Hahn, Glenn Skinner, Pete Soper and Ciaran Bryce, "A resource management interface for the Java platform", *Journal of Software Practice and Experience*, vol.35, no. 2, pp. 123--157, February, 2005
- [2] Giovana di Marzo Serugendo, Marie-Pierre Gleizes and Anthony Karageorgos, "Self-organization in multi-agent systems", *The Knowledge Engineering Review*, vol.20, no. 02, pp. 165-189, June, 2005

Full refereed papers in Conference Proceedings

- [3] Wac Katarzyna, Richard Bults, Aart van Halteren, Dimitri Konstantas, Victor Nicola, "Measurements-based performance evaluation of 3G wireless networks supporting m-health services", in Proc. Proc. 12th Multimedia Computing and Networking (MMCN '05), San Jose, California, January 19-20, 2005
- [4] Richard Bults, Katarzyna Wac, Aart van Halteren, Victor Nicola, Dimitri Konstantas, "Goodput Analysis of 3G Wireless Networks Supporting m-health Services", in Proc. proceedings of the 8th International Conference on Telecommunications, ConTEL 2005, Zagreb, Croatia, June 15-17, 2005
- [5] Jean-Henry Morin, Michel Pawlak, "A Credential Based Approach to Managing Exceptions in Digital Rights Management Systems", in Proc. In Proceedings of the 4th pre-ICIS Academic Workshop AIM, ICIS 2005 - International Conference on Information Systems, Las Vegas, USA, December 11-14, 2005
- [6] Giovanna Di Marzo Serugendo, Michel Deriaz, "A Social Semantic Infrastructure for Decentralised Systems Based on Specification-Carrying Code and Trust", in Proc. Proceedings of the Socially Inspired Computing Workshop, pp. 143-152, Hatfield, England, April 12-15, 2005
- [7] Giovanna Di Marzo Serugendo and Michel Deriaz,, "Specification-Carrying Code for Self-Managed Systems", in Proc. IFIP/IEEE International Workshop on Self-Managed Systems & Services, Nice, France, 19 May, 2005
- [8] Jean-Henry Morin, Michel Pawlak, "Towards a Global Framework for Corporate and Enterprise Digital Policy Management", in Proc. Proceedings of the SoftWars conference on Protecting the Intangible Organizational Assets, Las Vegas, Nevada, USA, December, 2005
- [9] Katarzyna Wac, "Towards QoS-Awareness of Con-

text-Aware Mobile Applications and Services", in *On the Move to Meaningful Internet Systems 2005 : OTM 2005 Workshops*, Rober Meersman, Zahir Tari, and Pilar Herrero (Eds), Lecture Notes in Computer Science 3762, Springer-Verlag GmbH, pp. 751 – 760, October 2005, Agia Napa, Cyprus

- [10] Czajkowski Grzegorz, Wegiel M., Daynes Laurent , Palacz K., Jordan Mick, Skinner G., Bryce Ciaran, "Resource management for clusters of virtual machines", in Proc. IEEE International Symposium on Cluster Computing and the Grid, 2005 - CCGrid 2005,), pp. 382-389, Cardiff, Wales, May, 2005
- [11] Ciarán Bryce, Nathan Dimmock, Karl Krukow, Jean-Marc Seigneur, Vinny Cahill and Waleed Wagealla, "Towards an Evaluation Methodology for Trust-based Security Models", in Proc. 3rd iTrust Conference, pp. 289, Paris, France, May, 2005
- [12] Serge Abiteboul, Xavier Leroy, Boris Vrdoljak, Roberto Di Cosmo, Stéphane Fermigier, Stéphane Laurière, Frédéric Lepied, Radu Popescu, Florent Villard, Jean-Paul Smets, Ciarán Bryce, Klaus R. Dittrich,, "EDOS: Environment for the Development and Distribution of Open Source", in Proc. The First International Conference on Open Source Systems, Genova, Italy, July 11-15, 2005

Books

- [13] Dimitri Konstantas, Jean-Paul Bourrieres, Michel Leonard, Nacer Boudjlida, (eds),, *Interoperability of Enterprise Software and Applications*, Geneva, Switzerland, Springer, ISBN 1 84628 151 1, February, 2005
- [14] S. Brueckner, G. Di Marzo Serugendo, A. Karageorgos, R. Nagpal (Eds), *Engineering Self-Organising Applications*, LNAI 3464, Springer-Verlag, 2005

INTERNATIONAL AND NATIONAL ADVISORY COMMITTEES

- Dimitri Konstantas
 - ◇ since 2003, expert evaluator for the Canadian National research foundation
 - ◇ expert evaluator and reviewer for the 6th FP of the EU
 - ◇ expert evaluator for the Dutch Science Foundation
- Jean-Henry Morin, participation in the steering committee as scientific advisor for the project of the Geneva World Security Forum

CONFERENCE ORGANIZATION AS CHAIR OR CO-CHAIR

- Dimitri Konstantas, February 2005, Interoperability of Enterprise Software and Applications, INTEROP-ESA 2005, PC-chair, Geneva
- Giovana Di Marzo Serugendo:
 - ◇ Multi-Agents for Modelling Complex Systems (MA4CS'05), workshop co-chair
 - ◇ Engineering with Complexity and Emergence (ECE'05), workshop co-chair
 - ◇ Engineering Self-Organizing Applications Workshop (ESOA'03, ESOA'04, ESOA'05), workshop co-chair
 - ◇ Doctoral Symposium chair: INTEROP-ESA'05
- Jean-Henry Morin:
 - ◇ co-chair of the Peer-to-Peer Infrastructures and Applications minitrack in the Software Technology Track of the Hawaii International Conference on System Sciences, (HICSS-38, HICSS-39)
 - ◇ Local Organization co-chair for Interoperability of Enterprise Software and Applications, INTEROP-ESA 2005, February 2005, Geneva
- Jean-Marc Seigneur, organiser of the Value of Security Through Collaboration (SECOVAL) workshop at the IEEE SECURECOMM'05 conference (Sept. 9, 2005, Athens, Greece)

MEMBER OF CONFERENCE PROGRAM COMMITTEES

- Dimitri Konstantas, member of several PCs including Ambience 05, INTEROP-ESA 2005, ICSSOFT06, etc
- Ciaran Bryce:
 - ◇ First International Workshop on Privacy and Security in Agent-based Collaborative Environments

- ◇ 5th Conference on Security and Network Architectures (*SAR 2006*)
- Giovana Di Marzo Serugendo:
 - ◇ International Conference on Self-Organization and Adaptation of Multi-Agent and Grid Systems (SOAS'2005)
 - ◇ European Workshop on Multi-Agent Systems (EUMAS'05)
 - ◇ International Conference on Interoperability of Enterprise Software and Applications (INTEROP-ESA'2005)
 - ◇ Autonomous Agents and Multi-Agent Systems Conference (AAMAS'05)
 - ◇ IEEE International Workshop on Self-Managed Systems and Services (SelfMan'05)
 - ◇ Engineering with Social Metaphors (SIC'05) workshop
- Jean-Marc Seigneur:
 - ◇ 3rd Conference on Privacy, Security and Trust, Canada, 2005
 - ◇ IADIS International conference WWW/Internet, Portugal, 2005
- Jean-Henry Morin:
 - ◇ Third International Workshop On Databases, Information Systems and Peer-to-Peer Computing (DBISP2P), Collocated with VLDB 2005, Trondheim, Norway, August 28-29, 2005
 - ◇ Fourth International Workshop on Agents and Peer-to-Peer Computing (AP2PC 2005), Utrecht, Netherlands, July 25-29, 2005
 - ◇ First IEEE International Conference on Collaborative Computing (CollaborateCom 2005), San Jose, California, USA, December 19 - 21, 2005
 - ◇ First International Conference on Interoperability of Enterprise Software and Applications (INTEROP-ESA'2005), Geneva, Switzerland, February 23 - 25, 2005
 - ◇ Third ACS/IEEE International Conference on Computer Systems and Applications (AICCSA-05), January 3-6, 2005, Cairo. Egypt

INVITED TALKS

- Dimitri Konstantas, “M-health services: from academic concept to commercial exploitation”, Invited talk in *Development and successful implementation of E-Health service* conference, October 6 2005, Enschede, The Netherlands
- Giovana Di Marzo Serugendo, Semantic Interoperability in Service-Oriented Computing, First Tuesday on Interoperability, Geneva, June 2005
- G. Di Marzo Serugendo, M. Deriaz, "A Social Semantic Infrastructure for Decentralised Systems Based on Specification-Carrying Code and Trust". Invited Talk. In Proceedings of the Socially-Inspired Computing Workshop, D. Hales and B. Edmonds (Eds), 2005
- Jean-Henry Morin, “Enterprise Digital Rights and Policy Management: Strategic Issue and Interoperability Challenge”, panel on “Bienvenue dans la matrice : Les Enjeux de l'Interopérabilité dans les Systèmes d'Information”, IT Tuesday, Rezonance.ch, Geneva, June 1, 2005
- Jean-Henry Morin, “La gestion des droits et des politiques électroniques: un enjeu stratégique pour les entreprises”, 9ème rencontre des entreprises des nouvelles technologies, des biotechnologies et de l'industrie de pointe, INFORUM 2005 NTIC, Geneva, October 25, 2005

FUNDED RESEARCH PROJECTS

Participation to European and/or national projects

Interop NoE

EU, IST-508011

Period: November 2003—october 2006

EDOS

EU IST-004312

Period: November 2004—April 2007

AgentLink III

EU IST-1-002006-CA

Period: January 2004—December 2005

FNRS

A Social Semantical Infrastructure Supporting Ambient Intelligence (SNF 200020-105476/1)

Period: October 2004—September 2005

OTHERS

Giovana Di Marzo Serugendo

- Editor-in-Chief, ACM Transactions on Autonomous Adaptive Systems (2004-2007)

Referee :

- Third Workshop on Modeling of Objects, Components and Agents (MOCA'04)
- International Conference on Complex Systems (ICCS'20004)
- International Conference on Dependable Systems and Networks (DSN'04)
- European Conference on Artificial Intelligence (ECAI'04)
- AgentLink III - University of Geneva Contact Point

Working Group :

- AgentLink III Technical Forum on Self-Organisation in MAS – Co-chair (2004-2005)

Panel participation

- About Self-Organisation, Emergent Behaviour, and Self-Management. Panel. SelfMan'05 Workshop. Nice, May 2005

Others:

- Elaborator of a European Master in Interoperability
- AgentLink III - University of Geneva Contact Point

Jean-Marc Seigneur

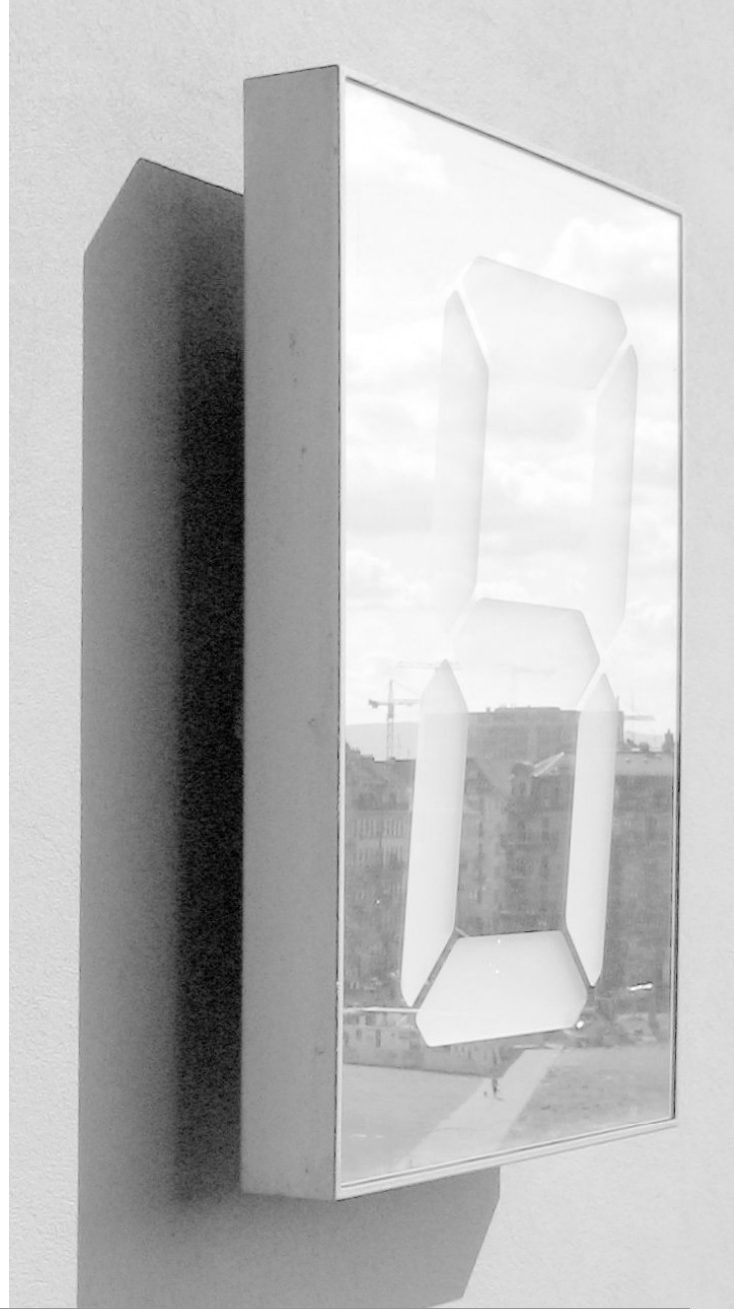
Member of the Editorial Board of

- Journal of Autonomic and Trusted Computing by American Scientific Publishers
- International Journal for Infonomics
- Journal of Privacy, Security and Trust

Reviewed papers for: Elsevier Journal of Decision Support Systems, PST'05, IEEE SECOVAL'05, IEEE SecPerU'06, PST'06, INCOM'06, ACM SAC'06, INFOCOM'06 and AAMAS PSACE'06

Ciaran Bryce

- JSR (Java Specification Request) expert group member
- JSR 284 Resource Management



Scientific and Parallel Computing

Prof. Bastien Chopard

SPC

Scientific and Parallel Computing

Prof. Bastien Chopard

DOMAIN ACTIVITIES

One main research activity concerns the study of complex systems, in particular the development of new numerical methods to model and simulate phenomena in natural sciences, economics, social systems and bio-medical applications. Cellular automata, Lattice Boltzmann and multi-agent techniques are central tools to address these questions. Parallel programs and algorithms are developed to implement the simulation on large PC clusters to discover, explain or reproduce new phenomena.

Another domain of activity is bioinformatics, in collaboration with Swiss Institute of Bioinformatics. New classification methods and algorithmic techniques are developed to analyse the coding in protein sequences and to build large phylogenetic trees.

Web: <http://spc.unige.ch/>

TEAM

Director

Bastien Chopard
Associate professor

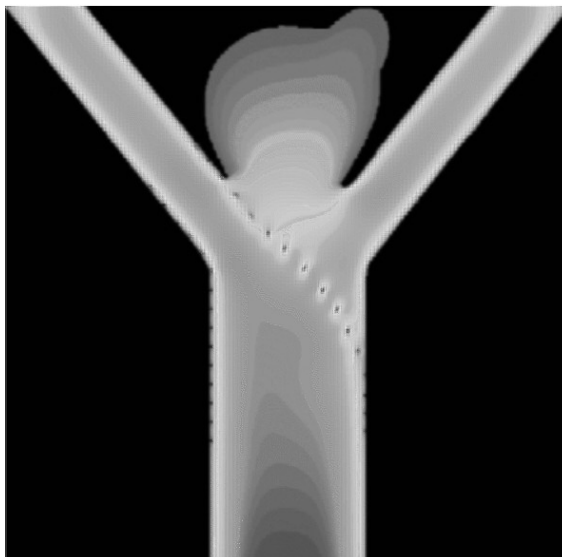


Members

Dr. Rafik Ouared
Fokko Beekhof, programmer

Phd students

Davide Alemani
Philippe Combes
Jean-Luc Falcone
Jonas Latt
Hung Nguyen
Olivier Marcou
Bernhard Sonderegger



Blood flow simulation in blood vessels with an aneurism

LIST OF PUBLICATIONS

Refereed papers in international journals

- [1] Jonas Latt and B. Chopard, An implicitly parallel object-oriented matrix library and its application to medical physics, *Advances in Computation: Theory and Practice*, vol.16. pp. 117-131, Y. Pan and L. T. Yang (Edts). Nova Science, Inc, 2005
- [2] Jonas Latt, Bastien Chopard, Sauro Succi, Numerical analysis of the averaged flow field in a turbulent lattice Boltzmann simulation, *Physica A*, in press. 2005
- [3] D. Alemani, B. Chopard, J. Buffle and J. Galceran, LBGK method coupled to time splitting technique for solving reaction-diffusion processes in complex systems (*Physical Chemistry and Chemical Physics*), *Phys. Chem. Chem. Phys.*, 2005, 7, 3331 – 3341
- [4] S. Orszag, H. Chen, S. Succi, J. Latt and B. Chopard, Turbulence Effect on Kinetics Equations, Invited paper for the 60th birthday of D Gottlieb, 2005
- [5] R. Ouared and B. Chopard, Lattice Boltzmann simulations of blood flow: non-Newtonian rheology and clotting processes, *J. Stat. Phys*, Vol 121 (1-2), pp. 209-221, 2005

Full refereed papers in Conference Proceedings

- [6] B. Chopard, R. Ouared and D. Ruefenacht, Comparison of various Stent performance metrics: a lattice Boltzmann approach. AFI-2005, Sendai, Japan Conference, Dec 2005, Sendai, Japan

INTERNATIONAL AND NATIONAL ADVISORY COMMITTEES

- PhD committee of D. Hernandez, SIB, Geneva

CONFERENCE ORGANIZATION AS CHAIR OR CO-CHAIR

- Workshop on multiscale and multiphysics, ICCS 05, Atlanta USA, May 05, co-chair

MEMBER OF CONFERENCE PROGRAM COMMITTEES

- DSFD 05 (Discrete Simulation of Fluid Dynamics), Kyoto. Japan, August 05
- ICCS 05 (Int. Conf. Computational Science), Atánta, USA, May 05

INVITED TALKS

- AFI-2005, Sendai, Japan, 8-9 Dec 2005

FUNDED RESEARCH PROJECTS

Participation to National projects

Anataxis

Reconstruction of the tree of life with new parallel algorithm. FNRS 205320-103977/1

Period: 2003-2006

Collaboration with SIB.

Decoding Signal Sequences

FNRS 205320-105353/1

Period: 2003-2006

Collaboration Prof Belin, Unige et SIB.

Lattice Boltzmann Methods for fluid flow

FNRS 200021-100128/1

Period: 2003-2006

Collaboration Prof. Droz (Phys Theorique, UNIGE) and S. Succi, (CNR Rome, IT).

Hydrodynamique Properties of fractal aggregates

FNRS 200010-103759

Collaboration with Dr S Stoll, CABE, Unige.

Modeling reaction-diffusion processes in complex environmental problems

FNRS 200020-101974/1

Period: 2004-2007

Collaboration with Prof J Buffle, CABE, Unige, Prof. J. Galceran, U. Lerida, Spain.

SystemC distributed simulation for 3rd and 4th generation of phone platforms

CTI project with STMicroelectronics (J. Zory) 6626.1 ENS-ET

Period: 2004-2006

***Modelling and control of water flow in open-channels
by a Lattice Boltzmann Method***

FNRS

Period: 2005-2007

Collaboration with S. El Yacoubi, University of Perpignan FR

—

Study of Haemodynamics for a Multilayer Stent

Research contract from Cardiatis

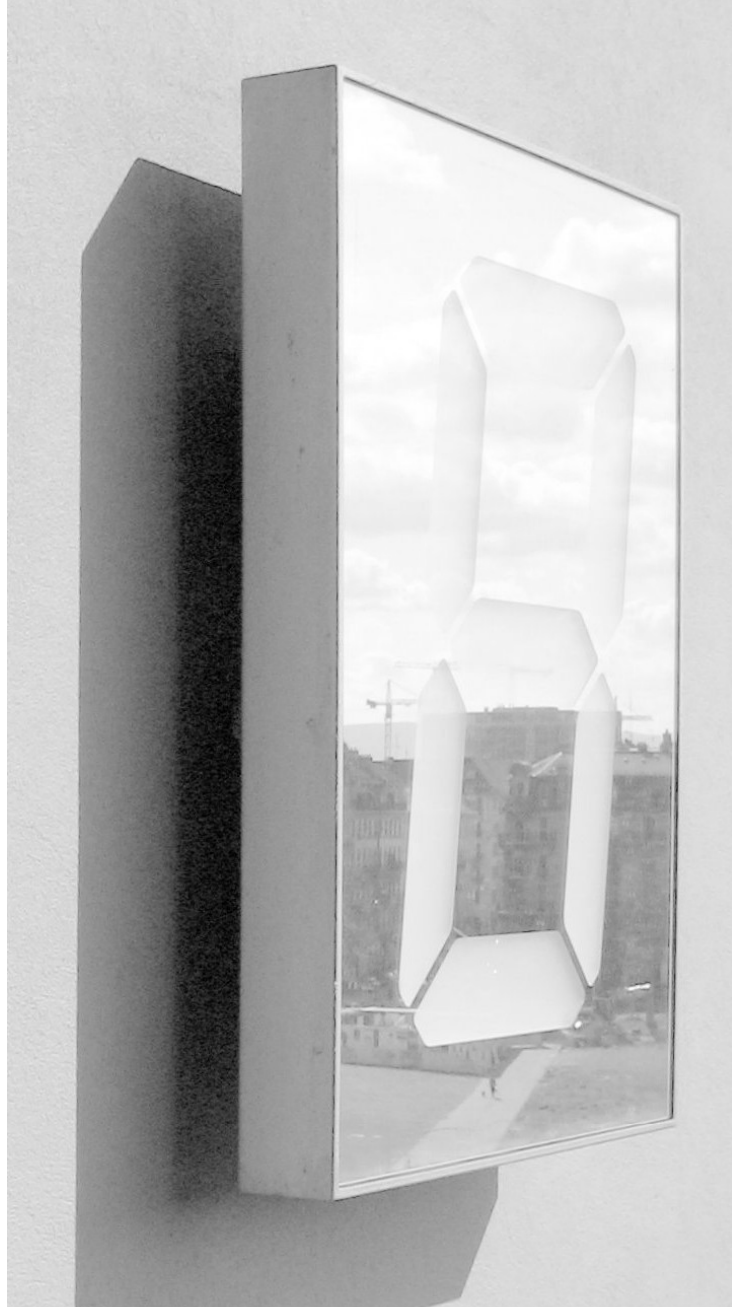
OTHERS

Refereeing

- Referee for tens of international journals and conferences

Editorial responsibilities

- Editor of the Int. J. unconventional computing
- Editor of the Int. J. Cellular Automata



Software Modelling and Verification

Prof. Didier Buchs

SMV

Software Modelling and Verification

Prof. Didier Buchs

DOMAIN ACTIVITIES

Developing complex and reliable software systems requires rigorous methods for modelling, designing and verifying them. The SMV lab is involved in designing dedicated formalisms that are semantically well described in order to make analysis of system properties possible, to automatically produce code and to select pertinent test cases. A coherent set of tools has been developed in order to apply our methods to software-intensive systems.

We are currently studying :

1. development of techniques for distributed object-oriented and reconfigurable system modelling
2. test selection techniques
3. software prototyping and GUI generation
4. model engineering (MDA,UML, model transformation)

Web: <http://smv.unige.ch/>

TEAM

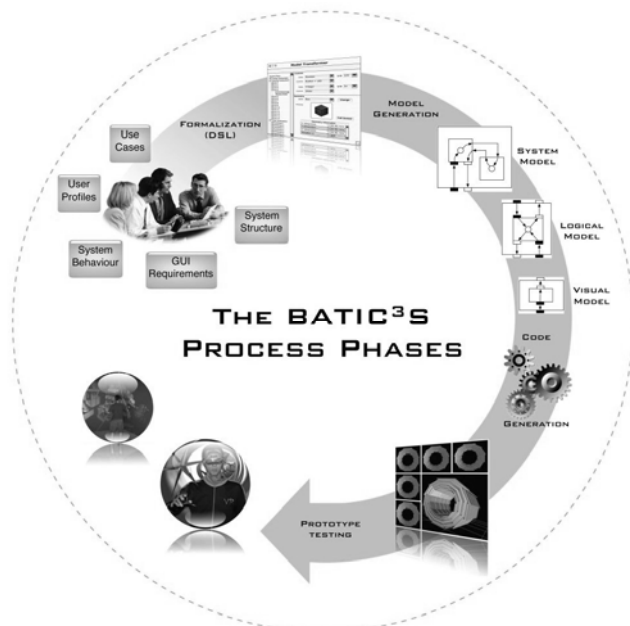
Director

Didier Buchs
Associate professor



Members

Dr. David Hurzeler
Ang Chen
Levi Lúcio
Luis Pedro
Matteo Risoldi
Odorico Von Susani
Andrey Berlizev



Refereed papers in international journals

- [1] David Vernez, Didier R. Buchs, Guillaume E. Pierrehumbert, and Adel Besrou, *MORM-A Petri Net Based Model for Assessing OH&S Risks in Industrial Processes: Modeling Qualitative Aspects*, Risk Analysis, Volume, 24 Issue 6 Page 1719

Full refereed papers in Conference Proceedings

- [2] Levi Lúcio, Luís Pedro and Didier Buchs. "A Methodology and a Framework for Model-Based Testing ", Proceedings of RISE 2004, University of Luxembourg, Luxembourg, pp.52-63. LNCS 3475, 2005
- [3] Ang Chen and Didier Buchs: Towards Service-based Business Process Modeling, Prototyping and Integration, Rapid Integration of Software Engineering techniques 2005, RISE'05, LNCS 3943
- [4] Luis Pedro and Levi Lucio and Didier Buchs, Prototyping Domain Specific Languages With COOPN, Rapid Integration of Software Engineering techniques, RISE'05, LNCS 3943
- [5] Levi Lucio and Luis Pedro and Didier Buchs, A Test Selection Language for CO-OPN Specification, 16th IEEE International Workshop on Rapid System Prototyping (RSP 2005), 8-10 June 2005, Montreal, Canada, 2005, 195-201
- [6] Levi Lucio and Luis Pedro and Didier Buchs, A Methodology and a Framework for Model-Based Testing, Rapid Integration of Software Engineering techniques, 2005, N. Guelfi , LNCS 3475, 57-70
- [7] David Hurzeler: Network Structure and Traffic Modeling and Simulation with CO-OPN , RISE'05, LNCS 3943
- [8] von Susani O. & Dugerdil Ph. - Cross-Organizational Service Maintenance using Temporal Availability Specification and Contracts. IEEE International Conference on Software Maintenance Budapest, Hungary, Sept 25-30, 2005
- [9] von Susani O. & Dugerdil Ph. - Contract-based Cross-Organizational Automated Processes. International IEEE Conference on E-Commerce? Technology 2005. Technische Universität München, Germany, July 19-22, 2005

Books and book chapters

- [10] Levi Lucio, Marko Samer, Technology of Test Case Generation, in *Model based Testing of Reactive Software*, Editor : Manfred Broy, Bengt Jonsson, Joost-Pieter Katoen, Martin Leucker, Alexander Pret-

INTERNATIONAL AND NATIONAL ADVISORY COMMITTEES

- Bouquet Fabrice, Sémantique interprétative de spécifications formelles en animation symbolique et generation de tests à partir de modèles, Habilitation à Diriger des Recherches, Université de Franche-Comté, 2005
- Frédéric Gilliers, Développement par prototypage et génération de code à partir de LfP, un langage de modélisation de haut niveau, 2005, Université de Paris 6, PhD jury

CONFERENCE ORGANIZATION AS CHAIR OR CO-CHAIR

- D. Buchs: RSP, General Chair Conf. on Rapid System Prototyping, Montreal June 2005

MEMBER OF CONFERENCE PROGRAM COMMITTEES

- D. Buchs: ICATPN, Program committee of International Conference on Application and theory of Petri Nets, Turku, June 2006
- D. Buchs: RISE, Program committee of RISE, Heraklion, Crete 2005
- D. Buchs: RSP, Program Committee Conf. on Rapid System Prototyping, Montreal June 2005

FUNDED RESEARCH PROJECTS

Participation to European projects

Interreg TestUML

Funded by interreg European funds (14/AJ/9.1/1)

Partners: EPFL, University of Geneva, University of Franche-Comté, Unicile.

Period: November 2002 – October 2005

Interreg Valid

Funded by interreg European funds (9/FU/9.34)

Partners: EPFL, University of Geneva, University of Franche-Comté, Unicile.

Period: July 2005 – December 2006

CORRECT

Funded by Luxembourg European funds

Partners: Luxemburg, University of Geneva, University of Newcastle.

Period: November 2004 – December 2006

Participation to National projects

ISIS – RA

Integrated System Implementation and Specification for Reliable distributed Applications, FNRS 200021-105594/1

Period: November 2004 – October 2006

RiskIT

Partner: Institut de santé au Travail, Lausanne, ETHZ

Period: July 2005 - December 2005

VeDiss Project

Funded by Haslerstiftung, DICS initiative (project no. 1850)

Partners: EPFL, University of Geneva

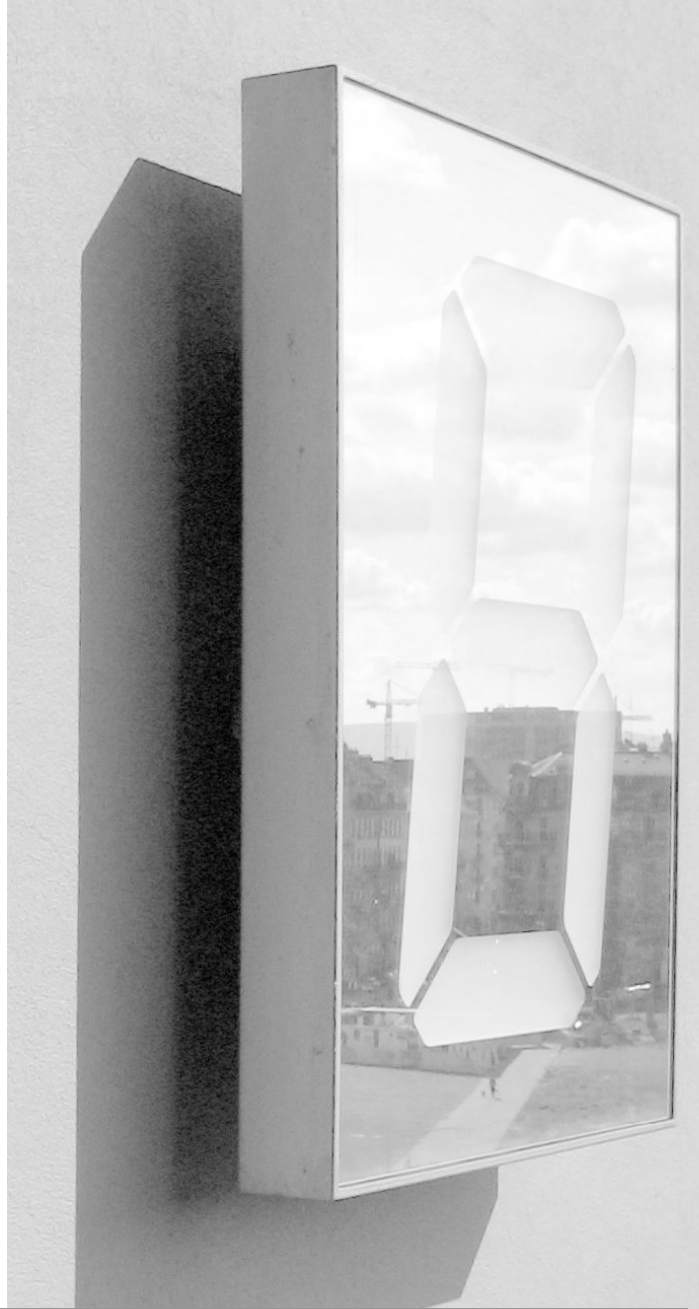
Period: August 2003 – July 2007

BATICS Project

Funded by Haslerstiftung (MMI-2003)

Partners: HES-SO-EIG, University of Geneva, University of Lisboa, CERN

Period: August 2005 – July 2008



Theoretical Computer Science

Prof. José Rolim

TCS

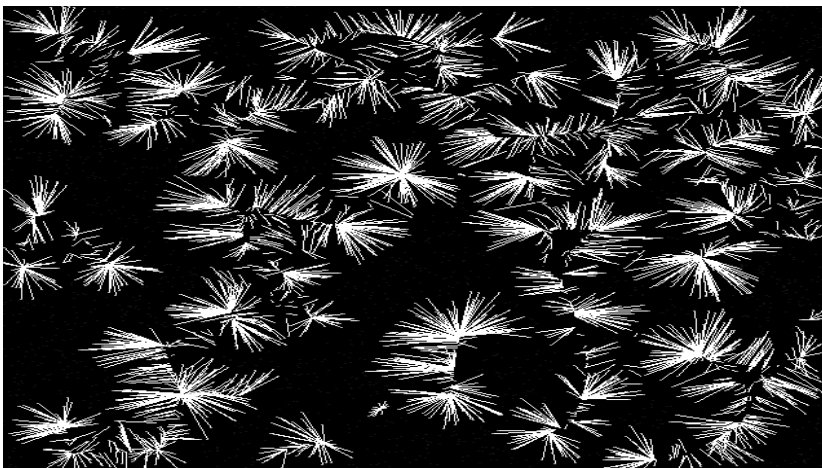
Theoretical Computer Science

Prof. José Rolim

DOMAIN ACTIVITIES

The TCS-Sensor Lab (Theoretical Computer Science and Sensor Networks Lab) main research activities are in large measure concerned with the representation, transformation and communication properties of information systems such as ad-hoc, sensor networks and embedded systems. A certain body of knowledge emphasizing the interweaving themes of complexity and algorithms represent the research axis of theoretical computer science. Under complexity one includes questions which tasks can or cannot be performed by information systems of different aspects restricted in several resources such as running time, memory amount, energy dissipation or communication transmission. Under algorithm one includes questions regarding how efficient a task can be performed in terms of such resources. These questions are often addressed by developing models of relevant parts of information systems such as processors, their interconnections, their rules of operation, the means of communication, etc. and by the study of properties of such models.

Web: <http://tcs.unige.ch>



Example of a clustered sensor network

TEAM

Director

José Rolim
Full professor



Members

Dr. Pierre Leone, Assistant professor
Dr. Aubin Jarry, Post-Doc
Dr. Olivier Powell, Post-Doc
Dr. Taras Holotyak, research assistant

Phd students

Matthieu Bouget, research assistant
Jacques Fontignie, research assistant
Andrei Marculescu, research assistant
Luminita Moraru, research assistant
Michael Weiss, research assistant
Thibaud Guenegou, junior assistant

PhD THESIS

- Olivier Powell, Resource-bounded Measure, Randomness and Almost Completeness in Small Complexity Classes, to appear in Cyberdocuments of the University of Geneva, 2005

LIST OF PUBLICATIONS

Refereed papers in international journals

- [1] P. Leone, P. Albuquerque, C. Mazza, J. Rolim, A Framework for Probabilistic Numerical Evaluation of Sensor Networks: A Case Study of a Localization Protocol, Special Issue of the ACM Journal of Experimental Algorithmics (JEA) devoted to selected best papers of WEA05
- [2] P. Leone, J. Rolim, Towards a Dynamical Model for Wireless Sensor Network Theoretical Computer Science Journal, vol. 344, pp. 69-85, 2005
- [3] P. Leone, P. Albuquerque, D. Alemani, B. Chopard, A Hybrid Lattice Boltzmann Finite Difference Scheme for the Diffusion Equation International Journal for Multiscale Computational Engineering, Special Issue (2005)
- [4] I.Prudyus, Ye.Klepfer, L.Lazko, T.Holotyak, Non-linear restoration and sparse antenna arrays in radiometry imaging systems, Academic Journal of Lviv Polytechnic State University "Radio Electronics and Telecommunications", 2005
- [5] A. Jarry and A. Laugier, On the Minimum Number of Edges of 2-connected Graphs. to appear in GTo4 special volume 2005
- [6] S. Choplin, A. Jarry and S. Pérennes, Virtual Network Embedding in the Cycle. Discrete Applied Maths 2005
- [9] I.Prudyus, T.Holotyak, L.Lazko, Multilevel data fusion in multichannel imaging systems, SPIE proceedings "Photonics Applications in Astronomy, Communications, Industry, and High-Energy Physics Experiments", vol. 6159, 2006, pp. 1076-1080.
- [10] T. Holotyak, J.Fridrich, S. Voloshynovskiy, Blind Statistical Steganalysis of Additive Steganography Using Wavelet Higher Order Statistics, Proc. of the 9th IFIP TC-6 TC-11 Conference on Communications and Multimedia Security, Sep. 19-21, 2005, Salzburg, Austria
- [11] I.Prudyus, T.Holotyak, L.Lazko, Multilevel data fusion in multichannel imaging systems, Proceeding of Symposium on Signal Processing, Wilga-2005, Jun 2-5, 2005
- [12] I.Prudyus, T.Holotyak, L.Lazko, Yu. Shapovalov, Data Fusion Methods in Multichannel Systems, Proceedings of 8th International Conference on The Experience of Designing and Application of CAD Systems in Microelectronics, CADSM'2005, February 23-26, 2005, Lviv-Polyana, Ukraine, pp. 483-484
- [13] T. Holotyak, J. Fridrich, D. Soukal, Stochastic Approach to Secret Message Length Estimation in $\pm k$ Embedding Steganography, Proceedings of EI SPIE San Jose, CA, January 16-20, 2005
- [14] J. Fridrich, M. Goljan, D. Soukal, and T. Holotyak, Determining the Stego Key for Spatial Domain Steganography, Proceedings of EI SPIE San Jose, CA, January 16-20, 2005
- [15] L. Moraru and D. Simplot-Ryl, QoS Preserving Topology Advertising Reduction for OLSR Routing Protocol for Mobile Ad Hoc Networks, In Proc. 3rd Annual Conference on Wireless On demand Network Systems and Services (WONS 2006), Les Ménuires, France, 2006
- [16] L. Gomez, L. Moraru, D. Simplot-Ryl and K. Wrona, Using Sensor and Location Information for Context-Aware Access Control, In Proc. International Conference on "Computer as a tool" (EUROCON 2005), Belgrade, Serbia & Montenegro, 2005

Full refereed papers in Conference Proceedings

- [7] P. Leone, S. Nikolettseas, J. Rolim, An Adaptive Blind Algorithm for Energy Balanced Data Propagation in Wireless Sensors Networks, IEEE International Conference on Distributed Computing in Sensor Systems, Marina Del Rey, California, June (2005), Lecture Notes in Computer Science, Springer-Verlag
- [8] P. Leone, P. Albuquerque, C. Mazza, J. Rolim, A Framework for Probabilistic Numerical Evaluation of Sensor Networks: A Case Study of a Localization Protocol, Fourth International Workshop on Experimental and Efficient Algorithms, Santorini, Greece, May (2005), Lecture Notes in Computer Science, Springer-Verlag

Books and book chapters

- [17] Chandra Chekuri, Klaus Jansen, José D. P. Rolim, Luca Trevisan: Approximation, Randomization and Combinatorial Optimization, Algorithms and Techniques, 8th International Workshop on Approximation Algorithms for Combinatorial Optimization Problems, APPROX 2005 and 9th International Workshop on Randomization and Computation, RANDOM 2005, Berkeley, CA, USA, August 22-24, 2005, Proceedings Springer 2005
- [18] Guest Co-Editor: Jose Rolim (with Sotiris E. Nikolettseas) of the Special Issue of the Theoretical Computer Science (TCS) Journal on "Algorithmic Aspects of Wireless Sensor Networks", Elsevier, Volume TCS 5604, 2005

INTERNATIONAL AND NATIONAL ADVISORY COMMITTEES

- 2005 IPDPS Conference – IEEE 19th International Parallel & Distributed Processing Symposium April 3-8, 2005 in Denver, Colorado at the Omni Interlocken Resort, Jose Rolim, member of the Steering Committee
- 2005 DCOSS – IEEE International Conference on Distributed Computing in Sensor Systems - Marina del Rey during June 30 - July 1, 2005. Jose Rolim, chair of the Steering Committee
- APPROX 2005 – ACM 8th. International Workshop on Approximation Algorithms for Combinatorial Optimization Problems- 22-24 August 2005, Soda Hall -UC Berkeley, Jose Rolim, member of the Steering Committee
- RANDOM 2005 – ACM 9th International Workshop on Randomization and Computation
- 22-24 August 2005, Soda Hall - UC Berkeley, Jose Rolim, chair of the Steering Committee
- WEA 2005: 4th International Workshop on Efficient and Experimental Algorithms -May 10-13, 2005 - Santorini Island, Greece, Jose Rolim, chair of the Steering Committee
- COST Action 295, Dynamo, Dynamic communication networks, Swiss Chair

CONFERENCE ORGANIZATION AS CHAIR OR CO-CHAIR

- 2005 DCOSS, IEEE International Conference on Distributed Computing in Sensor Systems, Marina del Rey during June 30 - July 1, 2005. Jose Rolim, General Chair and Chair of the Steering Committee

- APPROX 2005, ACM 8th. International Workshop on Approximation Algorithms for Combinatorial Optimization Problems, 22-24 August 2005, Soda Hall, UC Berkeley, Jose Rolim, General Chair
- RANDOM 2005, ACM 9th International Workshop on Randomization and Computation, 22-24 August 2005, Soda Hall, UC Berkeley, Jose Rolim, General Chair and Chair of the Steering Committee

MEMBER OF CONFERENCE PROGRAM COMMITTEES

- WEA 2005, 4th International Workshop on Efficient and Experimental Algorithms, May 10-13, 2005, Santorini Island, Greece, Jose Rolim
- ICALP 2005, The 32nd International Colloquium on Automata, Languages and Programming, July 11-15, 2005, Lisboa, Portugal, Jose Rolim
- IEE WMAN 05, 5th IEEE International Workshop on Algorithms for Wireless, Mobile, Ad Hoc and Sensor Networks, April 4-8, 2005, Denver, Colorado, Omni Interlocken Resort, Jose Rolim
- MobiWac 2005, I -The 3-rd IEEE International Workshop on Mobility Management and Wireless Access, June 13, 2005, Maui, Hawaii, USA, Jose Rolim
- TC 1, Foundations of Computer Science, of the IFIP, International Federation for Information Processing, Jose Rolim elected as the Swiss representative

INVITED TALKS

- WEA 2005, 4th International Workshop on Efficient and Experimental Algorithms, May 10-13, 2005, Santorini Island, Greece, Jose Rolim
- Dynamo 1st Workshop, Paris, May 20- 21, Jose Rolim, Dynamic Communications Networks: Foundations and Algorithms
- RANDOM 2005, ACM 9th International Workshop on Randomization and Computation, 22-24 August 2005, Soda Hall, UC Berkeley
- Cost Strategic Workshop on Algorithmic Challenges in the Information Society, Jose Rolim, Brussels, November 2005

FUNDED RESEARCH PROJECTS

Participation to European projects

CRESCCO

Project IST-2001-33135 (OFES 01.0331)

Critical Resource Sharing for Cooperation in Complex Systems, January, June 2005

Partners: University of Patras, Department of Computer Engineering and Informatics (GR), Research Academic Computer Technology Institute (GR). Université de Genève, Centre Universitaire d'Informatique (CH), Centre National de la Recherche Scientifique, Laboratoire I3S (FR), Université de Nice-Sophia Antipolis, Laboratoire I3S (FR), Christian-Albrechts-Universität zu Kiel, Institut für Informatik und Praktische Mathematik (D) . Università degli Studi di Salerno, Dipartimento di Informatica ed Applicazioni (I), Università degli Studi di Roma "Tor Vergata", Dipartimento di Matematica (I)

Website: <http://ceid.upatras.gr/crescco/>

AEOLUS

Integrated Project IST-15964

Algorithmic Principles for Building Efficient Overlay Computers

Partners: University of Patras (GR), Coordinator, Telecom Italia Learning Services S.p.A. (IT), Centre National de la Recherche Scientifique (FR), University of Paderborn (D), Research Academic Computer Technology Institute (GR), Università degli Studi di Salerno (IT), University of Ioannina (GR), Centre Universitaire d' Informatique (CH), Max-Planck Institut für Informatik (D), Christian-Albrechts-Universität zu Kiel (D), Università degli Studi di Roma "Tor Vergata" (IT), University of Athens (GR), Università degli Studi di Padova (IT), Eidgenössische Technische Hochschule Zürich (CH), Universität

Politècnica de Catalunya (ES) Università degli Studi di Roma "La Sapienza" (IT), Katholieke Universiteit Leuven (B), Institut National De Recherche en Informatique et en Automatique (FR), DIMATIA, Charles University (CZ), University of Cyprus (CY), Cybernetica (EE)

Website: <http://www.ceid.upatras.gr/aeolus/>

DYNAMO

Cost Action 295

Partners: Nominated Members from 25 countries, Swiss Nominated: Jose Rolim and Peter Widmayer, ETHZ

Website: <http://cost295.net/cost295/jsp/site/Portal.jsp>

Participation to National projects

Computational complexity of games

FNRS project (200020-105515)

Period: 2004-2005

Coordinator: Jose Rolim

Power Aware Computing

FNRS project (200021-104017)

Period: 2004-2005

Co-partner: IDSIA Lugano

Coordinator: Jose Rolim

Dynamic networks

OFES COST project (Cost 295, SER CO5.0030)

Period: 2005-2006

Coordinator: Pierre Leone and vice coordinator: Jose Rolim



Financial Report

2005

Financial Resources DIP and Swiss confederation	BUDGET
CUI Operating costs	CHF 373'813
Library	CHF 65'170
Academic Staff - Informatic Department	CHF 2'723'856
Academic Staff - Information Systems Department	CHF 1'700'131
Academic Staff - Linguistic Department, Informatic Unit	CHF 495'789
Academic Staff - CUI	CHF 185'334
Administrative and Technical Staff	CHF 611'486
TOTAL	CHF 6'155'579

External funding obtained by the professors	CREDIT
Informatic Department	
• 1 professor position + 1 assistant position	CHF 311'982
• UE funded Projects	CHF 571'076
• Swiss funded Projects	CHF 1'328'090
Information Systems Department	
• UE funded Projects	CHF 1'385'412
• Swiss funded Projects	CHF 730'648
Linguistic Department, Informatic Unit	
• Swiss funded Projects	CHF 206'000
TOTAL	CHF 4'533'208



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