

# Academic Curriculum

## PERSONAL INFORMATION **Maurizio Mancini**

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Sex M | Date of birth 06/05/1974 | Nationality Italian

## EDUCATION

### 2004-2008 **PhD in Computer Science – Thesis Title: “Multimodal distinctive behavior for expressive embodied conversational agents”**

Université Paris VIII  
2 Rue de la Liberté 93200 Saint-Denis  
<http://www.univ-paris8.fr>

- Model for expressive/affective distinctive multimodal BML compliant ECAs (see Work Experience from January 2004 to February 2008 for details)

### 1994-2003 **Master's Degree in Computer Science – Thesis Title: “Analisi e sintesi dei gesti comunicativi per agenti conversazionali”**

La Sapienza Università di Roma, Dipartimento di Informatica  
Piazzale Aldo Moro 5, 00185 Roma, Italy  
<http://www.uniroma1.it>

- Model for expressive gesture of the Greta ECA

## ACADEMIC CAREER

### At a glance

- Currently I'm Assistant Professor (RTD-A) at Università degli Studi di Genova, Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi, InfoMus Lab
- I'm one of the main contributors of the EyesWeb XMI research platform ([http://www.infomus.org/eyesweb\\_eng.php](http://www.infomus.org/eyesweb_eng.php))
- **I have been the main developer of the Greta virtual character research platform** (see <http://www.tsi.telecom-paristech.fr/mm/en/themes-2/greta-team>) that is still used by the LTCI laboratory at CNRS, Telecom ParisTech (France) for research activities in national and EU projects, see the publications list: <http://www.tsi.telecom-paristech.fr/mm/themes/equipe-greta/#Publications>
- I have 2 patents:
  - (2014) VIB - Virtual Interactive Behaviour (France only patent)
  - (2016) iLabelMusic - Applicazione per un dispositivo di telecomunicazione provvisto di processore
- Publications:
  - **12 International Journals:**
    - **3 IEEE Transactions, 1 ACM Transactions, 3 ACM Journals, 2 Frontiers**
  - Scopus h-index: 8 (277 citations)
  - Number of publications in Scopus: 58
  - **Research indicators (for Italian teaching qualification):**
    - number of journal publications (in WoS/Scopus): **11**
    - number of publications per year (in WoS/Scopus): **19.79**
    - contemporary h-index (based on WoS/Scopus): **7**

### January 2016 – current **Assistant Professor**

Università degli Studi di Genova, Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi, InfoMus Lab - viale Causa 13, 16145 Genova, Italy - <http://www.infomus.org>

- 2016
  - (EU Project DANCE) Real-time and offline expressive features analysis in dance performances using multimodal sensors (motion capture, depth sensors, accelerometers)

October 2008 – December 2015

**Post-doc Researcher**

Università degli Studi di Genova, Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi, InfoMus Lab - viale Causa 13, 16145 Genova, Italy - <http://www.infomus.org>

- 2015
  - (EU Project DANCE) Real-time and offline expressive features analysis in dance performances using multimodal sensors (motion capture, depth sensors, accelerometers)
- 2011-2014
  - (EU Project ILHAIRE) Real-time and offline expressive features analysis (laughter detection); collection of multimodal data corpus of laughter in interaction;
- 2010-2013
  - (EU Project SIEMPRE) Real-time and offline social features analysis (entropy of movement) from MoCap, computer vision, and sensors; collection of multimodal data corpus of ensemble music performance;
  - 3D visualization of motion captured data;
  - mapping of emotional movement from motion captured data (Kinect) to virtual characters
- 2008-2009
  - (EU Project SAME) Mobile interfaces for active music listening, real-time expressive gesture analysis (smoothness, impulsivity) using computer-vision techniques and mobile devices; social features extraction (synchronization of users) using mobile devices; evaluation of mobile interfaces;

March 2008 – June 2008

**Researcher – External Consultant**

Université Paris VIII - 2 Rue de la Liberté 93200 Saint-Denis - <http://www.univ-paris8.fr>

- (EU Project CALLAS) BML-compliant architecture for the Greta ECA

January 2004 – February 2008

**Researcher – External Consultant (Jan.04 – Sep.04) & PhD (Oct.04 – Feb.08)**

Université Paris VIII - 2 Rue de la Liberté 93200 Saint-Denis - <http://www.univ-paris8.fr>

- **I have been the main developer of the Greta virtual character research platform** (see <http://www.tsi.telecom-paristech.fr/mm/en/themes-2/greta-team>) that is still used by the LTCI laboratory at CNRS, Telecom ParisTech (France) for research activities in national and EU projects, see the publications list: <http://www.tsi.telecom-paristech.fr/mm/themes/equipe-greta/#Publications>  
Part of the Greta platform is included in the patented VIB system.
- EU Project Humaine:
  - expressive/affective gesture synthesis for the Greta ECA (6 expressivity parameters model)
  - mapping of emotional movement from a human actor to a virtual character
  - mapping of an emotional music performance to a virtual character
  - model for multimodal synchronization for the Greta ECA (synchronization of head, arms, torso movements)
  - (PhD main theme) model for distinctive ECAs: a virtual character has preferences in using modalities (face, arms, torso) and expressivity; these preferences are "fused" with the those needed to communicate a message (e.g., emotional state) before computing animation
  - main contributor of BML and FML standard languages
  - XML languages for defining 3D virtual worlds (objects) and characters (face, body, texture mapping, skinning)
  - GUI-based 3D tools for the creation of facial expressions and gestures of a virtual character
  - GUI-based tool for the definition of 3D animations in BML

May 2003 – December 2003

**Researcher – External Consultant**

La Sapienza Università di Roma, Dipartimento di Informatica e Sistemistica - Piazzale Aldo Moro 5, 00185 Roma, Italy- <http://www.uniroma1.it>

- EU Project MagiCster:
  - Expressive gesture synthesis for the Greta ECA
  - OpenGL visualization of an animated character with texture mapping and skinning
  - GUI-based 3D tool for the creation of gestures of a virtual character

- Patents**
- (2014) VIB - Virtual Interactive Behaviour (France only patent)
  - (2016) iLabelMusic - Applicazione per un dispositivo di telecomunicazione provvisto di processore

- Citations**
- Google Scholar h-index: 17 (1446 citations)
  - Number of publications in Google Scholar: 98
  - Scopus h-index: 8 (277 citations)
  - Number of publications in Scopus: 58

**International Journal Publications  
(selection)**

1. R. Niewiadomski, M. Mancini, G. Varni, G. Volpe, A. Camurri, Automated Laughter Detection from Full-Body Movements, in **IEEE Transactions on Human-Machine Systems**, 2015
2. G. Castellano, M. Mancini, C. Peters, P. W. McOwan, "Expressive Copying Behavior for Social Agents: A Perceptual Analysis", **IEEE Transactions on Systems, Man and Cybernetics, Part A: Systems and Humans**, vol.PP, no.99, pp.1-8, 2012 doi: 10.1109/TSMCA.2011.2172415 I.F. 2.183
3. M. Mancini, R. Bresin and C. Pelachaud, "A Virtual Head Driven by Music Expressivity", in **IEEE Transactions on Audio, Speech, and Language Processing**, ISSN 1558-7916, V. 15, I. 6, Pages 1833-1841, Aug. 2007 I.F. 2.625
4. M. Mancini, B. Biancardi, F. Pecune, G. Varni, Y. Ding, C. Pelachaud, G. Volpe, A. Camurri, "Implementing and evaluating a laughing virtual character", **ACM Transactions on Internet Technology**, in press
5. G. Varni, M. Mancini, G. Volpe, A. Camurri, 'A System for Mobile Active Music Listening Based on Social Interaction and Embodiment', **ACM Journal on Mobile Network Applications**, Springer Netherlands, ISSN 1383-469X, pages 1-10, 2010 I.F. 1.109
6. D. Glowinski, M. Mancini, R. Cowie, A. Camurri, C. Chiorri, C. Doherty, The movements made by performers in a skilled quartet: a distinctive pattern, and the function that it serves, **Frontiers in Psychology**, v. 4, 2013 I.F. 2.843
7. W. F. Ruch, T. Platt, J. Hofmann, R. Niewiadomski, J. Urbain, M. Mancini, S. Dupont, "Gelotophobia and the Challenges of Implementing Laughter into Virtual Agents Interactions", **Frontiers in Human Neuroscience**, 8, 928. doi:10.3389/fnhum.2014.00928
8. M. Mancini and C. Pelachaud, "Generating distinctive behavior for Embodied Conversational Agents", **ACM Journal on Multimodal User Interfaces**, Springer Berlin / Heidelberg, ISSN 1783-7677, pages 1-13, doi 10.1007/s12193-010-0048-y, 2010 I.F. 0.462
9. M. Mancini, G. Varni, J. Kleimola, G. Volpe, A. Camurri, "Human movement expressivity for mobile active music listening", in **ACM Journal on Multimodal User Interfaces**, Springer Berlin / Heidelberg, ISSN 1783-7677, pages 1-9, 2010 I.F. 0.462
10. M. Mancini, G. Volpe, G. Varni, A. Camurri, "Social retrieval of music content in multi-user performance", **EAI Transactions on Creative Technologies**, Special Issue on Multimodal Interfaces for Natural Interactions, 2015
11. M. Mancini, A. Camurri, G. Volpe, "A system for mobile music authoring and active listening", **Entertainment Computing**, Volume 4, Issue 3, pages 205-212, 2013 I.F. 0.353
12. G. Caridakis, A. Raouzaoui, E. Bevacqua, M. Mancini, K. Karpouzis, L. Malatesta and C. Pelachaud, "Virtual agent multimodal mimicry of humans", **Multimodal Corpora For Modelling Human Multimodal Behavior**, special issue of **Language Resources and Evaluation**, Springer Netherlands, ISSN 1574-020X (Print) 1574-0218 (Online), J.-C. Martin, P. Paggio, P. Kühnlein, R. Stiefelhagen and F. Pianesi Eds, V. 41, N. 3-4, pages 367-388, 2007 I.F. 0.518

International Conferences  
(selection, by year)

1. S. Piana, P. Alborno, R. Niewiadomski, M. Mancini, G. Volpe, A. Camurri, Movement fluidity analysis based on performance and perception, ACM Conference for Human-Computer Interaction CHI 2016, ACM Press, 2016
2. F. Pecune, M. Mancini, B. Biancardi, G. Varni, Y. Ding, C. Pelachaud, G. Volpe, A. Camurri, "Laughing with a Virtual Agent", In Proceedings of the 2015 International Conference on Autonomous Agents and Multiagent Systems (pp. 1817-1818), 2015 PDF
3. F. Pecune, B. Biancardi, Y. Ding, C. Pelachaud, M. Mancini, G. Varni, A. Camurri, G. Volpe, "LOL — Laugh Out Loud", AAAI Publications, Twenty-Ninth AAAI Conference on Artificial Intelligence, 2015 PDF
4. R. Niewiadomski, M. Mancini, Y. Ding, G. Volpe, C. Pelachaud, "Rhythmic body movements of laughter", Proceedings of the 16th ACM International Conference on Multimodal Interaction, Istanbul, 2014
5. M. Mancini, G. Varni, R. Niewiadomski, G. Volpe, A. Camurri, "How is your laugh today?", in Proceedings of ACM CHI Conference on Human Factors in Computing Systems, Toronto, Canada, 2014
6. D. Glowinski, M. Mancini, R. Cowie, A. Camurri, "How Action Adapts to Social Context: The Movements of Musicians in Solo and Ensemble Conditions", in Proceedings of 2013 Humaine Association Conference on Affective Computing and Intelligent Interaction, IEEE, pp. 294-299, 2013
7. M. Mancini, G. Varni, D. Glowinski, G. Volpe, "Computing and evaluating the Body Laughter Index", Third International Workshop on Human Behavior Understanding, IEEE/RSJ International Conference on Intelligent Robots and Systems, Lecture Notes in Computer Science, Vol. 7559, pp. 90-98, Springer, ISBN 978-3-642-34013-0, Algarve, Portugal, 2012
8. G. Varni, M. Mancini, G. Volpe, "Embodied cooperation using mobile devices: presenting and evaluating the Sync4All application", Proceedings of the International Working ACM SIGCHI Conference on Advanced Visual Interfaces, ISBN 978-1-4503-1287-5, pp. 312-319, ACM, New York, NY, USA, 2012
9. G. Castellano, M. Mancini, C. Peters, "Emotion Communication via Copying Behaviour: A Case Study with the Greta Embodied Agent", in Proceedings of the AFFINE satellite workshop of the ACM ICMI 2011 Conference, Alicante Spain, Novembre 17, 2011
10. D. Glowinski, M. Mancini, N. Rukavishnikova, V. Khomenko and A. Camurri, "Analysis of Dominance in Small Music Ensemble", in Proceedings of the AFFINE satellite workshop of the ACM ICMI 2011 Conference, Alicante Spain, Novembre 17, 2011
11. D. Glowinski, P. Coletta, M. Mancini, Multi-Scale Entropy analysis of Dominance in Social Creative Activities, in ACM Multimedia Grand Challenge Program, finalist paper, ACM Multimedia, Italy, 2010
12. R. Niewiadomski, E. Bevacqua, M. Mancini, C. Pelachaud, "Greta: an interactive expressive ECA system", Proceedings of The 8th International Conference on Autonomous Agents and MultiAgent Systems, v. 2, pages 1399-1400, ISBN 978-0-9817381-7-8, 2009
13. M. Mancini and C. Pelachaud, "Distinctiveness in multimodal behaviors", in Proceedings of the 7th international joint conference on Autonomous Agents and MultiAgent Systems - Volume 1, pages 159-166, ISBN978-0-9817381-0-9, 2008
14. E. Bevacqua, M. Mancini and C. Pelachaud, "A listening agent exhibiting variable behaviour", Proceedings of The 8th International Conference on the Intelligent Virtual Agents, Lecture Notes in Computer Science, Springer Berlin/ Heidelberg, V. 5208/2008, pages 262-269, 2008
15. H. Vilhjalmsson, N. Cantelmo, J. Cassell, N. E. Chafai, M. Kipp, S. Kopp, M. Mancini, S. Marsella, A. N. Marshall, C. Pelachaud, Z. Ruttkay, K. R. Thorisson, H. van Welbergen and R. van der Werf, "The Behavior Markup Language: Recent Developments and Challenges", in Intelligent Virtual Agents, Lecture Notes in Computer Science, V. 4722/2007, pages 99-111, Springer Berlin / Heidelberg, 2007
16. B. Hartmann, M. Mancini, S. Buisine and C. Pelachaud, "Design and Evaluation of Expressive Gesture Synthesis for Embodied Conversational Agents", in Proceedings of the International Conference on Autonomous Agents and MultiAgent Systems, pages 1095 - 1096, ACM Press, USA, 2005
17. M. Mancini, B. Hartmann, C. Pelachaud, A. Raouzaïou and K. Karpouzis, "Expressive avatars in mpeg-4," in IEEE International Conference on Multimedia & Expo, ISBN 0-7803-9331-7, Amsterdam, 2005
18. B. Hartmann, M. Mancini, C. Pelachaud, "Formational parameters and adaptive prototype instantiation for MPEG-4 compliant gesture synthesis", in Proceedings of Computer Animation 2002, ISBN 0-7695-1594-0, pages 111-119, Geneva, June 2002

## Reviewer/Editor

- Project Reviewer for the French National Research Agency ANR in 2016
- Guest Editor of IEEE Transactions on Affective Computing, special issue on “Laughter Computing: towards machines able to deal with laughter”, to appear
- Science Peer Reviewer for the Canadian Social Sciences and Humanities Research Council, Insight Grants 2014
- Science Peer Reviewer for the New Zealand Ministry of Business, Innovation & Employment (MBIE) 2014 Science Investment Round
- Guest Editor of Journal on Multimodal User Interfaces, special issue on Cross-disciplinary approaches to multimodal user interfaces, Springer Berlin / Heidelberg, ISSN 1783-7677, pages 1-2, v. 4, i. 1, doi.org/10.1007/s12193-010-0055-z
- Reviewer of International journals and Conferences, e.g.: IEEE Transactions on Affective Computing, ACM SIGCHI Conference on Human Factors in Computing Systems, ACM International Conference on Multimodal Interaction, ACM Transactions on Interactive Intelligent Systems, Mobile Network, Journal of Multimodal User Interfaces, International Conference on Intelligent Virtual Agents, SIGGRAPH

Conferences/Seminars  
Organization

- (2015) Organizer and Professor of the ACII 2015 tutorial "A Research Platform for Synchronised Individual/Group Affective/Social Signal Recording and Analysis"
- (2014) Organizer and Professor of the 4th EyesWeb Week, Casa Paganini, Genova, Italia
- (2012) Organizer and P. C. of the 3rd Workshop on Social Behavior in Music, Santa Monica, USA
- (2011) Organizer of the closing session of the European ICT-FET Conference and Exhibition 2011
- (2011) Organizer and P. C. of International Conference Intertain 2011
- (2011) Organizer and P. C. of the 2nd Workshop on Social Behavior in Music, Genova, Italy
- (2010) Organizer and Professor of the 3rd EyesWeb Week, Casa Paganini, Genova, Italia
- (2009) Organizer and P. C. of eNTERFACE Summer School 2009
- (2009) Organizer and P. C. of the 1st IEEE Workshop on Social Behavior in Music, Vancouver

Conferences/Seminars  
Presentations

- I performed oral presentations of my research work results at the following International Conferences and Seminars:
- ACII 2015, "Perception of Intensity Incongruence in Synthesized Multimodal Expressions of Laughter"
  - ACII 2015, tutorial "A Research Platform for Synchronised Individual/Group Affective/Social Signal Recording and Analysis"
  - ACII 2013, "Towards automated full body detection of laughter driven by human expert annotation"
  - AVI 2012, "Embodied cooperation using mobile devices: presenting and evaluating the Sync4All application"
  - ACII 2011, "Evaluating the communication of emotion via expressive gesture copying behaviour in an embodied humanoid agent"
  - Gesture Workshop 2009, "Implementing distinctive behavior for conversational agents"
  - UCMedia 2009, "Sync'n'Move: social interaction based on music and gesture"
  - AAMAS 2008, "The FML – APLM language" and "Distinctiveness in multimodal behaviors"
  - IVA 2007, "Dynamic behavior qualifiers for conversational agents"
  - ACII 2007, "Real-time analysis and synthesis of emotional gesture expressivity"
  - Gesture Workshop 2006, "From Acoustic Cues to an Expressive Agent" and "Implementing Expressive Gesture Synthesis for Embodied Conversational Agents"
  - AISB 2004, "Speaking with Emotions"

## Invited Presentations

- (2014) Invited Professor at the International Summer School in Systematic Musicology 2014, University of Genoa, Italy
- (2012) Seminar of the EyesWeb XML platform, invited by Prof. E. Bevacqua, Ecole nationale d'Ingenieurs de Brest, France
- (2011) Invited Professor at the International Summer School in Systematic Musicology 2011, University of Jyväskylä, Finland
- (2005) Seminar on the Greta agent platform, invited by Prof. H. Prendinger, National Institute of Informatics, Tokyo, Japan

## Teaching

- Assistant Professor
  - 2016, Fondamenti di Informatica at the University of Genova, DIBRIS:
    - full course, 48 hours of face-to-face teaching
- Adjunct Professor for Master Degree in Computer Engineering at the University of Genoa, DIBRIS:
  - 2014-2015, Human Computer Interaction
    - 15 hours of face-to-face teaching
    - 25 students, >90% satisfaction rating
  - 2013-2014, 2010-2011, Sistemi ed interfacce multimediali
    - 30 hours of face-to-face teaching in total (15 hours each year)
  - 2012-2013, 2011-2012, 2010-2011, Multimodal systems for human-computer interaction
    - 75 hours of face-to-face teaching in total (15 hours each year)
- Adjunct Professor for European Master on Advanced RObotics at the University of Genoa, DIBRIS:
  - 2014-2015, Human Computer Interaction
    - 15 hours of face-to-face teaching
    - 13 students, 4.48/5 global satisfaction rating
- Adjunct Professor for PhD Computer Science and Engineering at the University of Genoa, DIBRIS:
  - 2014, Multimodal Interfaces
    - 3 hours of face-to-face teaching in total
- Professor for lifelong learning courses at the University of Genoa, PerForm:
  - 2015 (2 courses), 2013, 2012, 2011, XML (300 hours of face-to-face teaching in total)
  - 2010, 2009, C++ Language (80 hours of face-to-face teaching in total)
- Adjunct Professor for Bachelor in Computer Science at the University of Paris 8, IUT de Montreuil:
  - 2007, C Language
    - 36 hours of face-to-face teaching

## Supervision of graduate students and post-doctoral fellows

- Co-mentoring of PhD Students, Scuola Politecnica / DIBRIS, University of Genoa:
  - Stefano Piana, since 2012 to present
  - Paolo Alborno, since 2015 to present
- Mentoring of Master Degree students of the European Master on Advanced RObotics, University of Genoa:
  - Marco Barbagelata and Prashanth Martinelli in 2013
  - Emilio Roth in 2010

## Other academic activities

- I have been co-editor of funded EU Projects proposals (SIEMPRE in 2009, ILHAIRE in 2010 and DANCE in 2014)
- I taught multimodal interfaces and applications in several Summer Schools and Seminars (EyesWeb Weeks, PhD courses)
- I taught over 250 hours in Academic lifelong learning courses (C++, PHP)
- I taught over 150 hours in bachelor and Master's Degree courses: Sistemi ed interfacce multimediali, Multimodal systems for human-computer interaction, C language
- I coordinated 3 Thesis for the European Master on Advanced Robotics (EMARO) and I'm currently coordinating 1 PhD Thesis

## Participation in EU Projects

- (2015-present) H2020 DANCE, grant no. 645553, I collaborate to the definition of models and algorithms for single user and group movement features detection from both Mocap and video/mobile sensors data
- (2012-2014) FP7-ICT FET ILHAIRE, grant no. 270780, I co-wrote the project proposal, I had the responsibility of coordination of our lab's work in the project and I mainly worked on non-verbal full-body movement analysis in laughter (features extraction and body laughter models)
- (2010-2013) FP7-ICT FET SIEMPRE, grant no. 250026-2, I co-wrote the project proposal and I mainly worked on the analysis of expressive social behavior in music ensembles (dominance/leadership, entropy of movement) starting from MoCap (Qualisys)
- (2008-2010) FP7-ICT STREP SAME, grant no. 215749, I collaborated to the coordination of the project and I mainly worked on expressive gesture analysis on mobile devices: social (synchronization) and individual (smoothness, energy, impulsivity) features
- (2008) FP6-IST IP CALLAS, grant no. 34800, I participated to the definition of the BML language and I created a real-time BML engine for ECAs
- (2004-2008) FP6-IST NoE HUMAINE, grant no. 507422, I mainly worked on my PhD (I developed an engine for individualized affective multimodal ECAs) and on the coordination of the Greta ECA platform
- (2003) FP5-IST MAGICSTER, grant no. IST-1999-29078, I mainly worked on my Master's Thesis on expressive gesture synthesis for ECAs