

CUI Activity Report 2018

1 – Team MIRALab - University of Geneva

- **Director**
Magenat-Thalmann Nadia, Professor



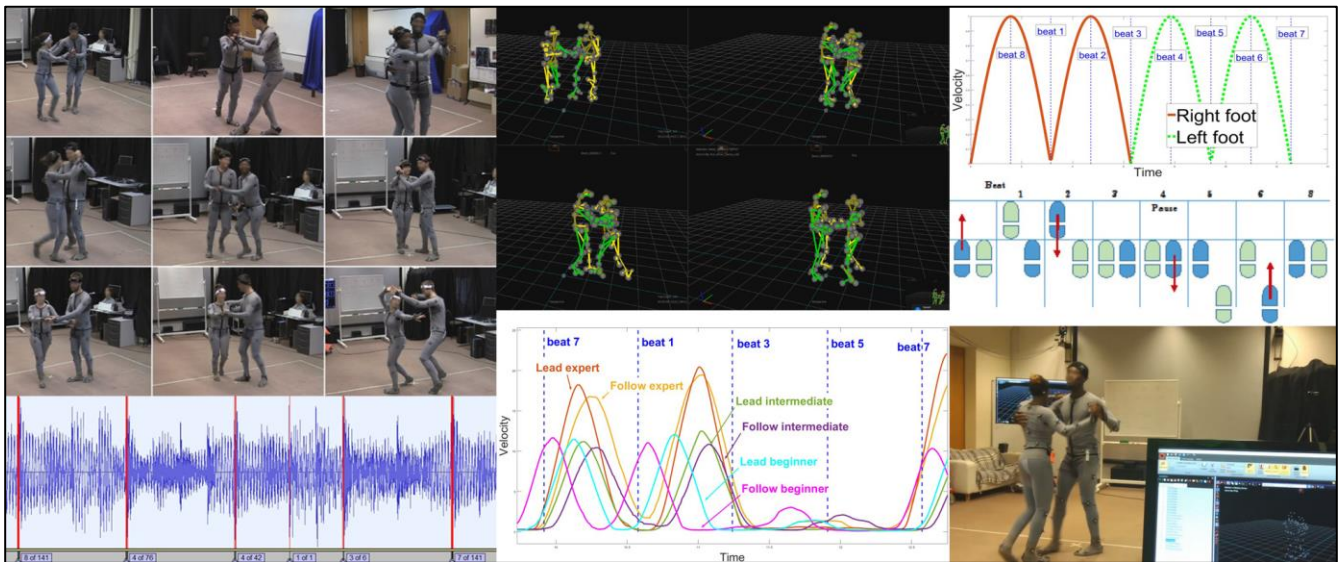
- **Assistants (PhD students)**
Baka Evangelia
Sénécal Simon
Tisserand Yvain
- **Developers / Designers**
Arévalo Marlène
Cadi-Yazli Nedjma
- **Administration**
Grossrieder Coralie

2 – Domain activities

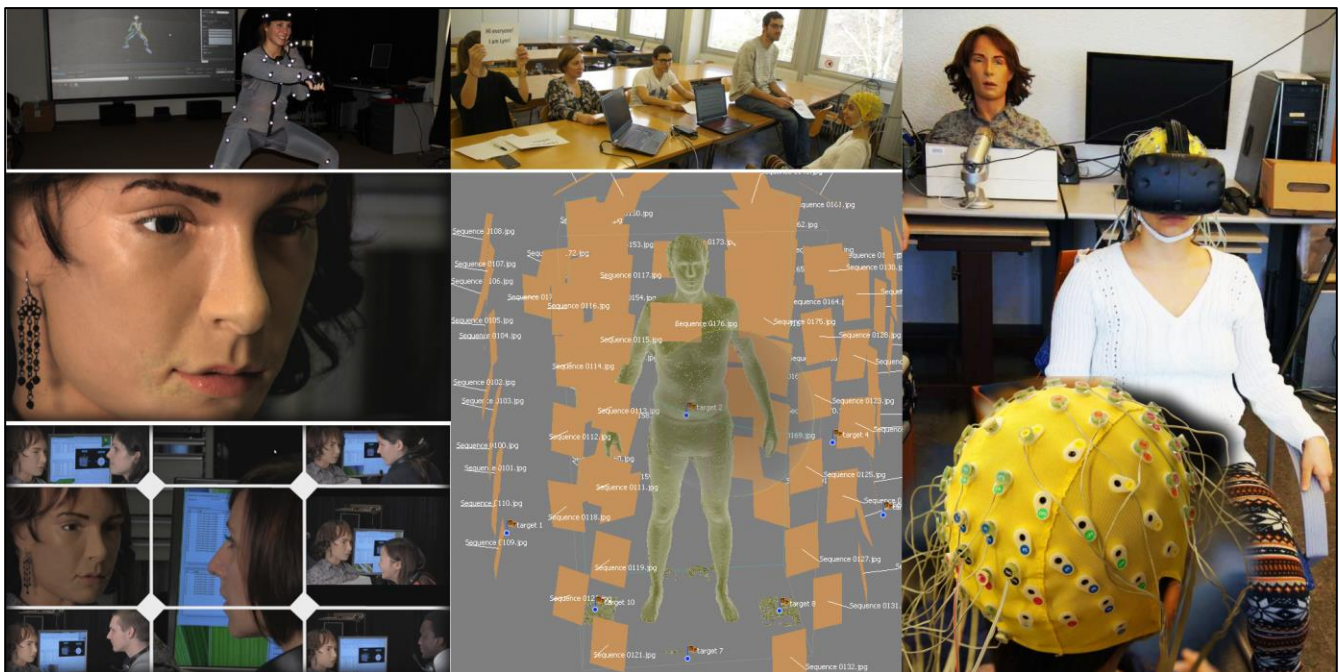
- **Description of the activities of the laboratory research**
MIRALab was founded in 1989 by Professor Nadia Magenat-Thalmann and has brought together PhD students and researchers from different fields, such as computer science, 3D graphics, 3D simulation, social robotics, 3D fashion design, and cognitive science. This truly interdisciplinary group continues to work in the field of medical informatics, virtual worlds and virtual humans.

Since 1992, MIRALab has participated in more than 50 European Projects and contributes to the management of two International Conferences, CASA and CGI. Moreover, MIRALab produces 3D showcases for museums, galleries, such as fashion shows with virtual models and clothes. In 2018, MIRALab was working on the following projects: NOTRE and ViMM.

The following are some images of our work:



Motion analysis and classification of salsa dance using music-related motion features



Designing a virtual environment for teacher training: Enhancing presence and empathy

- **Website :** <http://www.miralab.ch>
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3 – PhD Thesis

- **Yvain Tisserand**

Fast prototyping and deformation of virtual humans, February 19, 2018

4 – List of publications – Refereed papers in international journals

- N. Jain, A. Wydra, W. Hai, N. Magnenat-Thalmann and D. Thalmann, **Time scaled interactive object driven Multi-party VR**, The Visual Computer, DOI: 10.1007/s00371-018-1539-1, Vol 34, Issue 6-8, pp. 887-897, May 04, 2018 (2nd Best Paper Award of CGI Conference 2018)
 - J. Zhang, J. Zheng and N. Magnenat Thalmann, **MCAEM: Mixed-Correlation-Analysis based Episodic Memory for Companion-User Interactions**, The Visual Computer, DOI: 10.1007/s00371-018-1537-3, Vol 34, Issue 6-8, pp. 1129-1141, May 10, 2018
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5 – List of publications – Full refereed papers in Conference Proceedings

- S. Sénécal, N. Nijdam, N. Magnenat-Thalmann, **Motion analysis and classification of salsa dance using music-related motion features**, In ACM Motion in Games 2018, 11th annual ACM/SIGGRAPH conference on Motion, Interaction and Games (MIG 2018), Limassol, Cyprus, November 8-10, 2018
- M. Christofi, E. Baka, K. E. Stavroulia, D. Michael-Grigoriou, A. Lanitis, N. Magnenat-Thalmann, **Studying Levels of Presence in a Virtual Environment Simulating Drug Use in Schools: Effect on Different Character Perspectives**, 28th International Conference on Artificial Reality and Telexistence (ICAT 2018) and the 23rd Eurographics Symposium on Virtual Environments (EGVE 2018), Limassol, Cyprus, November 7-9, 2018
- E. Baka, M. Kentros, G. Papagiannakis, P. Trahanias, **Virtual Reality Rehabilitation based on Neurologic Music Therapy: A qualitative preliminary clinical study**, In proceedings of 20th International Conference on Human Computer Interaction, Springer, Las Vegas, USA, July 15-20, 2018

- K. E. Stavroulia, E. Baka, M. Christofi, D. Michael-Grigoriou, N. Magnenat-Thalmann, A. Lanitis, **A virtual reality environment simulating drug use in schools: effect on emotions and mood states**, In proceedings of International Conference on Information, Communication Technologies in Education, ICICTE 2018, Chania, Greece, July 5-7, 2018
- E. Baka, K. E. Stavroulia, N. Magnenat-Thalmann, A. Lanitis, **An EEG-based evaluation for Comparing the sense of presence between Virtual and Physical Environments**, In proceedings of Computer Graphics International 2018 (CGI 2018), ACM, New York, USA, 10 pages, June 11-14, 2018
- K. E. Stavroulia, E. Baka, A. Lanitis, N. Magnenat-Thalmann, **Designing a virtual environment for teacher training: Enhancing presence and empathy**, In proceedings of Computer Graphics International 2018 (CGI 2018), ACM, New York, NY, USA, 11, pages, June 11-14, 2018
- L. Tian, N. Magnenat Thalmann, D. Thalmann, J. Zheng, **A methodology to model and simulate customized human robotic realistic hand**, In proceedings of the 35th Computer Graphics International (CGI 2018), ACM, Nirwana Resort, Bintan, Indonesia, June 11-14, 2018
- Z. Fang, J. Yuan and N. Magnenat Thalmann, **Understanding Human-Object Interaction in RGB-D videos for Human Robot Interaction**, In proceedings of the 35th Computer Graphics International (CGI 2018), ACM, Nirwana Resort, Bintan, Indonesia, June 11-14, 2018
- S. Xu, Z. Yang, D. Chakraborty, Y. Tahir, T. Maszczyk, C.Y.H. Victoria, J. Dauwels, D. Thalmann, N. Magnenat-Thalmann, B.L. Tan, and J.L.C Keong, **Automated Lexical Analysis of Interviews with Schizophrenic Patients**, In proceedings of the 9th International Workshop on Spoken Dialogue Systems Technology (IWSDS 2018), HUONE Singapore, Singapore, May 14-16, 2018 (Best Paper Award Runner-up)

6 – List of publications – Book chapters

- M. Becker and N. Magnenat Thalmann, **Muscle Tissue Labeling of Human Lower Limb in Multi-Channel mDixon MR Imaging: Concepts and Applications**, IEEE/ACM Transactions on Computational Biology and Bioinformatics, IEEEpublisher, DOI: 10.1109/TCBB.2015.2459679, pp. 290-299, 2017
- N. Magnenat Thalmann, **Les robots sociaux humanoïdes : une réalité imminente**, Le Goût d'imaginer sa vie, Manitoba Editions, ISBN-13: 978-2376150541, pp. 237-247, Paris, France, 2018

7 – List of publications – Research and technical reports

Several technical reports for the following projects: NOTRE and ViMM.

8 – International and national advisory boards

2016-2019	Member of the IAB Committee of the Computer Science Dpt of Technical University of Vienna
2013-2018	Expert on the advanced grant panel in Computer Science, European Research Council (ERC)
2002- Present	Member of the Strategic Advisory Board Committee, City University, and Hong Kong, China
1994- Present	President of the Computer Graphics Association (CGS)

9 – PhD Thesis committees

- Yvain Tisserand, Supervisor, University of Geneva, Switzerland
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10 – Conference/Program Chair and Festival Chair

June 2018	Conference Chair, 35th International Conference on Computer Animation and Social Agents (CGI 2018) , Bintan, Indonesia
May 2018	Conference Co-Chairs, 31st International Conference on Computer Animation and Social Agents (CASA 2018) , Beijing, China

11 – Refereeing (Include any review for Journal)

- Jury of Ph.D. thesis for New Zealand, France, Sweden, Switzerland and Germany
- European Union, FP7 Projects, Brussels
- Research Grants Council of Singapore
- Natural Sciences and Engineering Research Council of Canada
- National Science Foundation USA
- 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, cyberworlds conference, ICAART (International Conference on Agents and Artificial Intelligence), Enactive conference, Multimedia Modelling conference, International Conference on Entertainment Computing (ICEC), International Conference on Signal Processing, Image Processing and Pattern Recognition; GRAPP (“International Conference on Computer Graphics Theory and Applications), Conference on Affective Computing and Intelligent Interaction (ACII 2010), EG Workshop on 3D Object Retrieval, IEEE Virtual Reality Conference 2010, Computer Graphics International, CASA conference, SIGGRAPH/EUROGRAPHICS Symposium on Computer Animation, etc.

12 – Editorial Responsibilities

2014-Present	Associate Editor, Frontiers in Robotics , Nature Publisher
2010-Present	Editorial Adviser of the journal of Graphical Models published by Elsevier
2000-Present	Editor-in-Chief of the Journal The Visual Computer published by Springer Verlag, Germany
2000-Present	Editor of the Journal of Computational Geometry published by Elsevier, Holland
1990-Present	Co-founder and Co-editor-in-chief, Computer Animation and Virtual Worlds , John Wiley and Sons

13 – Events organised in Geneva

(Include here any Conf/Workshop/Other prominent event organized in Geneva)

- **Nuit de la Science MIRALab – UNIGE**, In the framework of the EU project NOTRE, Parc de la Perle du Lac, Geneva, Switzerland, July 7-8, 2018

14 – Invited talks

- Invited talk at The ICAT-EGVE 2018 conference, "**Mixed populated realities**", Limassol, Cyprus, November 07-09, 2018
(<http://icat-egve2018.rise.org.cy/professor-nadia-magnenat-thalmann/>)
- Invited talk at The 2018 World Conference on VR Industry (2018 WCVRI), "**VR-MR-AR: Past, Present and Future Experiences**", Nanchang, China, October 19-21, 2018
(http://sist.shanghaitech.edu.cn/sist_en/2018/1030/c3863a35086/page.htm)
- Invited talk at The 7th Moscow International Forum, "**Human and Robotic Interaction**", Skolkovo Innovation Center, Moscow, Russia, October 15-17, 2018
(<https://openinnovations.ru/en/speakers/115>) (<https://openinnovations.ru/en/video>)
- Invited talk at Slush 2018, "**Morality in Robots**", Zepp@BIGBOX, Singapore, September 14, 2018
(<http://singapore.slush.org/why-attend/speakers/>)
- Invited talk at The fifth annual Milken Institute Asia Summit 2018, "**Artificial Intelligence, Real Impact**", Four Seasons, Singapore, September 13-14, 2018
(<https://www.milkeninstitute.org/events/conferences/summit/asia-summit-2018/speaker-detail/32303>)
- Invited talk at The L'Échappée Volée, "The humanoid robot creator", À la Seine Musicale, France, July 4-5, 2018
(<https://www.lechappeevolee.com/>)
- Invited talk at The 2018 CAUX Forum - Leadership éthique dans le business 2018, "**Favoriser l'innovation et la résilience dans le monde des entreprises et la société**", The Caux Palace: Conference and Seminar Center, Switzerland, June 28 – July 1, 2018
(<https://www.caux.ch/fr/elb-2018-intervenant-e-s>)

- Invited talk at Deutsche Bank - 9th Annual dbAccess Asia Conference, "**Which professions will be affected by Artificial Intelligence (AI) in the near future? And what will happen in the long run once Artificial Intelligences (AIs) are smarter than humans?**", Marina Bay Sands, Singapore, May 14-18, 2018
(<https://www.conferences-db.com/asiapacific/accessasia18/welcome>)
 - Invited talk at Credit Suisse Global Megatrends Conference 2018, "**Session One: Technology At The Service Of Humans – What Does It Mean For Investors**", Fairmont Singapore, Singapore, April 22, 2018
(<https://experts.credit-suisse.com/en/megatrends/2018-conference/detail-video/session-one>)
 - Invited talk at Dentsu Aegis Network Conference 2018, "**Embracing Disruption**", Marina Bay Sands, Singapore, March 22, 2018
(<https://www.corporatenetwork.com/events/singapore-asia-pacifics-digital-disruption-the-next-set-ofwaves/>)
 - Invited talk at The 7th Congreso del Futuro 2018, "**Conversatorio: Un mundo cyborg**", Santiago, Chile, January 15-18, 2018
(<http://www.congresofuturo.cl/category/expositores/#charla17110>)
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15 – Press Release

- **Nadine a socially intelligent human looking robot.**, [stumagz](#), 04 June 2018
- **Asia of cooperation will shape this century, says PM Modi in Singapore**, [India Today](#), 02 June 2018
- **NTU strengthens partnerships in India during Modi visit**, [Channel NewsAsia Singapore](#), 01 June 2018
- **21st century for Asians, PM Modi in Singapore**, [DailyHunt](#), 01 June 2018
- **Day 2 of PM Modi's visit to Singapore**, [Connected to India](#), 01 June 2018
- **El futuro ya está aquí, en la región de O'Higgins**, [El Tipógrafo](#), 25 May 2018, Spanish

- **Nadia Magnenat y los avances de la robótica en Singapur**, [Biblioteca del Congreso Nacional de Chile \(BCN\)](#), 15 February 2018, Spanish
 - **Nadia Thalmann: "En un plazo de diez o 20 años más, todo el mundo tendrá un robot social"**, [AméricaEconomía](#), 19 January 2018, Spanish
 - **Congreso Futuro: Desde la automatización y el transhumanismo al mundo cyborg**, [El Mostrador](#), 16 January 2018, Spanish
 - **Una nueva revolución de la IA: Robots inteligentes y emocionales, el nuevo componente social**, [El Mostrador](#), 10 January 2018, Spanish
 - **La "toma de conciencia" es el tema principal del Congreso del Futuro 2018**, [Innovación.cl](#), 01 January 2018, Spanish
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16 – Honours and scientific awards

- **2018 Second Best Paper Award for Time scaled interactive object driven Multi-party VR**, The 35th Computer Graphics International (CGI) 2018, Nirwana Resort Hotel, Bintan, Indonesia, June 11- 14, 2018 (with N. Jain, A. Wydra, W. Hai, N. Magnenat-Thalmann and D. Thalmann) (<http://www.cgs-network.org/cgi18/#about>)
 - **2018 Best Paper Award Runner-up for Automated Lexical Analysis of Interviews with Schizophrenic Patients**, The 9th International Workshop on Spoken Dialogue Systems Technology (IWSDS 2018), HUONE Singapore, Singapore, May 14-16, 2018 (with S. Xu, Z. Yang, D. Chakraborty, Y. Tahir, T. Maszczyk, C.Y.H. Victoria, J. Dauwels, D. Thalmann, N. Magnenat-Thalmann, B.L. Tan, and J.L.C Keong) (https://www.dropbox.com/s/fkhayd1979v0o47/IWSDS_Award_XSH.pdf?dl=0)
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17 – Funded research projects – Participation to European projects

- **NOTRE**

Network for Social Computing Research

Period: January 2016 - December 2018

Type: European Research

Website: <http://notre.socialcomputing.eu>

MIRALab Total budget: CHF 189'750.-

MIRALab Budget 2018: CHF 63'250.-

Partners (5 partners):

- Cyprus University of Technology (CUT) – Cyprus
- Foundation For Research and Technology Hellas (FORTH-ICS) – Greece
- IMDEA Networks Institute (IMDEA) – Spain
- MIRALab, University of Geneva (UNIGE) – Switzerland
- University of Dusseldorf (UDUS) – Germany

- **ViMM**

Virtual Multimodal Museum

Period: October 2016 - March 2019

Type: European Research

Website: <http://vi-mm.eu/>

MIRALab Total budget: CHF 199'701.-

MIRALab Budget 2018: CHF 79'880.-

Partners (7 partners):

- Cyprus University of Technology (CUT) – Cyprus
- Foundation For Research and Technology Hellas (FORTH-ICS) – Greece
- 7Reasons Medien GmbH - Germany
- MIRALab, University of Geneva (UNIGE) – Switzerland
- Stiftung Preussischer Kulturesitz – Germany
- Universidad Pompeu Fabra – Spain
- 7scenes – Netherlands