Team

- **Director**
  Magnenat-Thalmann Nadia, Professor

- **Senior Researchers**
  Choi Hon Fai

- **Assistants (PhD students)**
  Assassi Lazhari
  Becker Matthias
  Ben Moussa Maher
  Chincisan Andra
  Nijdam Niels
  Sénécal Simon
  Tisserand Yvain

- **Adjoints / Collaborateurs Scientifiques**
  Arévalo Marlène
  Cadi-Yazli Nedjma

- **Administration**
  Broi Lara
Domain activities

- **Description of the activities of the laboratory research**

MIRALab was founded in 1989 by Professor Nadia Magnenat-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 2014, MIRALab was working on the following projects: ANINEX, EMC2, ITN-DCH, MULTISCALEHUMAN and REPLAY.

The following are some images of our work:

Muscle deformation pipeline:
Muscle map creation, rescale model, Generate muscle slices and maps, Dynamic muscle deformation

Muscle deformation results
Simulating traditional participative sports

Efficient extraction of musculoskeletal structures - processing

• Multimodal knee articulation model
- **Website**: [http://www.miralab.ch](http://www.miralab.ch)

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**PhD Thesis**

- **Niels Nijdam**  
  ‘Context-Aware 3D rendering for User-Centric Pervasive Collaborative computing environments’  
  January, 2014

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**List of publications - Refereed papers in international journals 2014**


List of publications - Full refereed papers in Conference Proceedings in 2014


List of publications – Books in 2014


List of publications – Chapters in Book in 2014


List of publications - Research and technical reports

Several technical reports for the following projects: ANINEX, EMC2, ITN-DCH, MULTISCALEHUMAN and REPLAY.

Invited talks, Keynotes and Tutorials (Prof. Nadia Magnenat-Thalmann)


[8] Invited talk at The 2nd EMBO Conference on Visualizing Biological Data (VIZBI 2014), **Human Anatomy**, Heidelberg, Germany, March 7, 2014 (http://www.vizbi.org/2014/Program/)


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**Funded research projects – Participation to European projects**

- **ANINEX**  
  *User Centred Computer Animation Techniques for Next Generation Digital Creation and Modelling*  
  Period: December 2013 - November 2017  
  Type: European Research  
  MIRALab Total budget: CHF 188'000.-  
  MIRALab Budget 2014: CHF 47'000.-

  Partners (5 partners):
  - National Centre for Computer Animation, Bournemouth University – United Kingdom
  - MIRALab, University of Geneva – Switzerland
  - National Laboratory for Information Science and Technology, Tsinghua University – China
  - The State Key Laboratory of Computer Science, Institute of Software, Chinese Academy of Sciences – China
  - The State Key Laboratory of Computer Aided Design and Computer Graphics, Zhejiang University – China

- **EMC2**  
  *Support Action Towards Excellence in Media Computing and Communication*  
  Period: June 2011 – June 2014  
  Type: European Research  
  MIRALab Total budget: CHF 34’000.-  
  MIRALab Budget 2014: CHF 5’600.-
Partners (6 partners):
- Queen Mary, University of London – United Kingdom
- Dublin City University – Ireland
- Institut Telecom – France
- Fraunhofer Gesellschaft zur Förderung der angewandten Forschung e.V. – Germany
- MIRALab, University of Geneva - Switzerland
- Centre for Research and Technology Hellas – Greece

- ITN-DCH
  *Initial Training Network for Digital Cultural Heritage: Projecting our Past to the Future*
  Period: October 2013 - September 2017
  Type: European Research
  Website: [http://www.itn-dch.org/](http://www.itn-dch.org/)
  MIRALab Total budget: CHF 459'230.-
  MIRALab Budget 2014: CHF 114'800.-

Partners (14 partners):
- Cyprus University of Technology - Cyprus
- National Technical University of Athens - Greece
- Universitaet Stuttgart – Germany
- Foundation for Research and Technology Hellas – Greece
- Fraunhofer Gesellschaft zur Förderung der angewandten Forschung e.v. - Germany
- Katholieke Universiteit Leuven – Belgium
- Fondazione Bruno Kessler – Italy
- Centre National de la Recherche Scientifique - France
- Universidad de Murcia - Spain
- Univerzav Ljublmani - Slovenia
- Arctron 3d Vermessungstechnik-und Softwareentwicklungs GmbH - Germany
- 7Reasons Medien GmbH - Germany
- The University of Warwick – United Kingdom

- MULTISCALEHUMAN
  *Multi-scale Biological Modalities for Physiological Human Articulation*
  Period: October 2011 – September 2015
  Type: European Research
  Website: [http://multiscalehuman.miralab.ch/](http://multiscalehuman.miralab.ch/)
  MIRALab Total budget: CHF 1’100’000.-
  MIRALab Budget 2014: CHF132’900.-

Partners (7 partners):
- MIRALab, University of Geneva - Switzerland
- Les Hôpitaux Universitaires de Genève – Switzerland
- Universidade do Minho – Portugal
- Medizinische Hochschule Hannover – Germany
- Consiglio Nazionale Delle Ricerche - Italy
- Softeco Sismat Srl – Italy
- Gottfried Wilhelm Leibniz Universitaet Hannover – Germany
• **REPLAY**
  *Reusable low-cost platform for digitizing and preserving traditional participative sports*
  Period: March 2013 - February 2016
  Type: European Research
  MIRALab Total budget: CHF 313’600.-
  MIRALab Budget 2014: CHF 104’500.-

Partners (8 partners):
- Fundacion Centro de Tecnologias de Interaccion Visual y Comunicaciones VICOMTECH – Spain
- Dublin City University – Ireland
- MIRALab, University of Geneva – Switzerland
- IN2 Search Interfaces Development Limited – United Kingdom
- Gaelic Athletic Association – Ireland
- Centre For Research and Technology Hellas – Greece
- Eusko Jaurlaritza-Gobierno Vasco – Spain
- Vicon Motion Systems Limited – United Kingdom

### Others

• **Refereeing**
  - 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.

• **Tutorial and Panels**

- **Conference/Program Chair and Festival Chair**
  
  Dec 2014  Course Organizer, SIGGRAPH ASIA 2014, Shenzhen, China

  May 2014  Conference Co-chair, 27th International Conference on Computer Animation and Social Agents (CASA 2014), Houston, Texas, USA

- **Member of Conference Program Committees**


• **International and National Advisory board Expertise**

  2013-2016  Member of the Scientific Council of the Institute of Mines-Telecom, Paris, France

  2013-2016  Expert on the advanced grant panel of the European Research Council (ERC)

• **Editorial responsibilities**

  Since 2014  Associate Editor, *Frontiers in Robotics*, Nature Publisher

  Since 2010  Editorial Adviser of the journal of *Graphical Models* published by Elsevier

  Since 2000  Editor-in-Chief of the Journal *The Visual Computer* published by Springer Verlag, Germany

  Since 2000  Editor of the Journal of *Computational Geometry* published by Elsevier, Holland


• **Honours and scientific awards**
