

# Ruding Lou

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## EDUCATION

*PhD*, Computer-Aided Design, 2011  
co-tutelle: Arts et Meiers ParisTech, Aix en Provence, France,  
Universita degli studi di Genova, Genoa, Italy.

*Master*, Science of Information and System (Product design and production system), 2007  
Arts et Meiers ParisTech, Aix en Provence, France.

*Master*, Computer Science (Distributed systems, networks and parallelism), 2006  
University of Bordeaux, France.

*Bachelor*, Computer Science, 2003  
Southwest Science and Technology University, China.

## TEACHING EXPERIENCE

Assistant professor at Arts et Meiers ParisTech (Campus Cluny) Since Sept.2012  
Teaching assistant at Arts et Meiers ParisTech (Campus Aix-en-Provence) Oct.2010 - Aug.2012  
Teaching fellow at Arts et Meiers ParisTech (Campus Aix-en-Provence) Oct.2007 - Sept.2010

## PhD thesis supervision

### Defended PhD theses

2017	Bo LI	<a href="https://www.theses.fr/2017ENAM0065">https://www.theses.fr/2017ENAM0065</a>
2019	Barnabé FALUI	<a href="https://www.theses.fr/s171321">https://www.theses.fr/s171321</a>
2020	Pierre RAIMBAUDI	<a href="https://www.theses.fr/2020HESAE012">https://www.theses.fr/2020HESAE012</a>

### Ongoing PhD theses

2023	Romain GUILLAUME	<a href="https://www.theses.fr/s268423">https://www.theses.fr/s268423</a>
2024	Tingcheng LI	<a href="https://www.theses.fr/s251993">https://www.theses.fr/s251993</a>

## RESEARCH INTERESTS

Geometric processing for virtual reality and engineering simulation

- virtual reality : reducing cybersickness (motion sickness) and intuitive interaction
- virtual engineering : CAD-less shape modeling, FE mesh processing

Virtual reality for visualization and interaction with multi-representation of Digital Mock-Up

- product design and engineering
- intuitive and natural interaction for shape design, modeling

Virtual reality (VR) application

- Urban design, Building modeling
- Physical vapor deposition PVD

## PUBLICATIONS

### International Journals

- **R. Lou**, A. Mikchevitch, J-P. Pernot, P. Veon, Merging enriched Finite Element triangle meshes for fast prototyping of alternate solutions in the context of industrial maintenance, *Computer-Aided Design* 42 - 8 (2010) 670–681
- **R. Lou**, F. Giannini, J-P. Pernot, A. Mikchevitch, B. Falcidieno, P. Veon, R. Marc, Direct modification of semantically-enriched Finite Element Meshes, *Shape Modeling* 16 - 1 (2010) 81–108
- **R. Lou**, J-P. Pernot, F. Giannini, P. Veon, B. Falcidieno, Filleting sharp edges of multi-partitioned volume finite element meshes, *Engineering Computations* 32 - 1 (2015) 129–154
- B. Li, **R. Lou**, F. Segonds, F. Merienne, Multi-user interface for co-located real-time work with digital mock-up: a way to foster collaboration, *Interactive Design and Manufacturing*, 11 - 3 (2016) 609–621
- B. Li, H. Zhang, **R. Lou**, Study of Efficiency of Multi View System in Multi-Disciplinary Collaboration Task, *Research and Science Today*, 2 - 1 (2017) 92–100
- B. Li, F. Segonds, C. Mateev, **R. Lou**, F. Merienne, Design in context of use: An experiment with a multi-view and multi-representation system for collaborative design, *Computers in Industry*, 103 - 1 (2018) 28–37
- B. Faliu, A. Siarheyeva, **R. Lou** and F. Merienne, Design and Prototyping of an Interactive Virtual Environment to Foster Citizen Participation and Creativity in Urban Design, Lecture Notes in Information Systems and Organisation, *Springer, Cham*, 34 (2019) 55–78
- P. Raimbaud, **R. Lou**, F. Danglade, P. Figueroa, and T. Hernandez, F. Merienne, A Task-Centred Methodology to Evaluate the Design of Virtual Reality User Interactions: A Case Study on Hazard Identification, *Buildings*, 11 - 7 (2011)

### International Conferences

- **R. Lou**, A. Mikchevitch, J-P. Pernot, P. Veon, Direct merging of triangle meshes preserving simulation semantics for fast modification of numerical models, *Tools and Methods of Competitive Engineering (TMCE)*, vol.1, pp.119-131, Turkey, 2008
- **R. Lou**, F. Giannini, J-P. Pernot, A. Mikchevitch, P. Veon, B. Falcidieno, R. Marc, Towards CAD-less Finite Element analysis using group boundaries for enriched meshes manipulation, *ASME Int. Design Eng. Tech. Conf. & Computers and Information in Eng. Conf.* San Diego, USA, 2009
- **R. Lou**, F. Giannini, J-P. Pernot, A. Mikchevitch, P. Veon, B. Falcidieno, R. Marc, Towards semantic-based 3D mesh modeling, *FOCUS-K3D Conference on Semantic 3D Media and Content*, Sophia Antipolis, France, 2010
- **R. Lou**, F. Giannini, J-P. Pernot, A. Mikchevitch, P. Veon, B. Falcidieno, R. Marc, Direct modification of FE meshes preserving group information, *Tools and Methods of Competitive Engineering (TMCE)*, vol.1, pp.303-315, Ancona, Italy, April 2010
- **R. Lou**, F. Giannini, J-P. Pernot, A. Mikchevitch, P. Veon, B. Falcidieno, R. Marc, Semantic-preserving mesh direct drilling, *Shape Modeling International (SMI)* pp.68-77, Aix-en-Provence, France, 2010
- **R. Lou**, J-P. Pernot, F. Giannini, A. Mikchevitch, P. Veon, B. Falcidieno, R. Marc, Sharp edge filleting of enriched finite element meshes, *Tools and Methods of Competitive Engineering (TMCE)*, vol.1, pp.650-659, Karlsruhe, Germany, 2012
- Z. Li, **R. Lou**, Subdivision surface generation from network of curves, *Tools and Methods of Competitive Engineering (TMCE)*, vol.1, pp.673-684, Budapest, Hungary, May 2014
- B. Li, **R. Lou**, F. Segonds, F. Merienne, A Multi-view and Multi-interaction System for Digital Mock-up's collaborative environment, *European Association for Virtual Reality and Augmented Reality (EuroVR)*, Lecco, Italy, 2015

- B. Li, **R. Lou**, F. Segonds, F. Merienne, Multi-user Interface for Co-located Real-time Collaborative Work with Digital Mock-up, *Virtual Concept Workshop – Major Trends in Product Design*, Bordeaux, France, 2016
- B. Li, **R. Lou**, J. Posselt, F. Segonds, F. Merienne, A. Kemeny, Multi-view VR system for co-located multidisciplinary collaboration and its application in ergonomic design, *23rd ACM Symposium on Virtual Reality Software and Technology (VRST)*, ACM, New York, NY, USA, 2017
- P. Raimbaud, F. Merienne, F. Danglade, **R. Lou**, T. Hernandez, and P. Figueroa, Smart adaptation of BIM for virtual reality, depending on building project actors' needs: the nursery case, *IEEE Conference on Virtual Reality and 3D User Interfaces (IEEE VR)*, pp. 667–668, Reutlingen, Germany, March 2018
- B. Faliu, A. Siarheyeva, **R. Lou** and F. Merienne, Design and prototyping of an interactive virtual environment to foster citizen participation and creativity in urban design, *27th International Conference on Information Systems Development (ISD)*, Lund, Sweden, August 2018
- **R. Lou** and J-R. Chardonnet, Reducing Cybersickness by Geometry Deformation, *IEEE Conference on Virtual Reality and 3D User Interfaces (IEEE VR)*, pp. 1058-1059, Osaka, Japan, 2019
- P. Raimbaud, **R. Lou**, F. Merienne, F. Danglade, P. Figueroa, and T. Hernandez, BIM-based mixed reality application for supervision of construction, *IEEE Conference on Virtual Reality and 3D User Interfaces (IEEE VR) Workshop on Smart Work Technologies*, Osaka, Japan, 2019
- P. Raimbaud, M. B. Palacios, J. P. R. Cortes, P. Figueroa, **R. Lou**, F. Danglade, F. Merienne, and J.-T. Hernandez, A Virtual Reality and BIM Approach for Clash Resolution, *European Association for Virtual Reality and Augmented Reality (EuroVR)*, TALLINN, ESTONIA, 2019
- A. Scalas, Y. Zhu, F. Giannini, **R. Lou**, K. Lupinetti, M. Monti, M. Mortara, M. Spagnuolo, A first step towards cage-based deformation in Virtual Reality, *Smart Tools and Applications in Graphics (STAG)*, pp. 119-130, 2020
- **R. Lou**, R.H.Y. So, D. Bechmann, Geometric Deformation for Reducing Optic Flow and Cybersickness Dose Value in VR, *Eurographics*, France, 2022
- T. Li, **R. Lou**, A. Polette, Z. Shao, D. Nozais and J-P. Pernot, On the Use of Quality Metrics to Characterize Structured Light-based Point Cloud Acquisitions, *International CAD Conference (CAD)*, pp. 344-349, 2022
- R. Guillaume, J. Pailhès, **R. Lou**, E. Gruhier, X. Laville, Y. Baudin, Intention detection for virtual reality architectural design, *International Conference on Product Lifecycle Management (PLM)*, 2022
- N. Watiez, A. Besnard, P. Moskovkin, **R. Lou**, J. Outeiro, H. Birembaux, S. Lucas, Finite element mesh generation for nano-scale modeling of tilted columnar thin films for numerical simulation, *International Conference on Product Lifecycle Management (PLM)*, 2022
- M. Sawiros, **R. Lou**, NEXT-GEN E-COMMERCE in the METAVERS, *IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct)*, pp. 30-35, 2022
- **R. Lou**, F. Mérienne, R.H.Y. So, T-T Chan, D. Bechmann, Geometric Simplification for Reducing Optic Flow in VR, *IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct)*, pp. 682-685, 2022

#### National Conferences

- **R. Lou**, F. Giannini, J-P. Pernot, A. Mikchevitch, P. Veon, B. Falcidieno, R. Marc, Perçge de maillage préservant la sémantique, *Journées du Groupe de Travail en Modélisation Géométrique*, Dijon, France 2010
- P. RAIMBAUD, F. MERIENNE, P. FIGUEROA, F. DANGLADE, **R. Lou**, J. T. HERNANDEZ, BIM-based mixed reality environments to improve AEC task performance, *2nd Workshop CATAI*, Colombia, 2019
- **R. Lou**, Geometry deformation for reducing cybersickness in VR, *Journées Françaises d'Informatique Graphique et de Réalité Virtuelle*, Marseille, France, 2019

- Y. Jin, L. Joblot, **R. Lou**, F. Merienne, Utilisation du BIM dans une application RV à des fins de maintenance d'un bâtiment, *eCONFERE*, France, 2020
- R. Guillaume, X. Laville, Y. Baudin, R. Guillaume, J. Pailhès, E. Gruhier, **R. Lou**, Détection d'Intention dans un Environnement de Conception en Réalité Virtuelle, *S.mart*, France, 2021