

# Ruding Lou

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## EDUCATION

<i>PhD</i> , Computer-Aided Design, co-tutelle: Arts et Meiers ParisTech, Aix en Provence, France, Universita degli studi di Genova, Genoa, Italy.	2011
<i>Master</i> , Science of Information and System (Product design and production system), Arts et Meiers ParisTech, Aix en Provence, France.	2007
<i>Master</i> , Computer Science (Distributed systems, networks and parallelism), University of Bordeaux, France.	2006
<i>Bachelor</i> , Computer Science, Southwest Science and Technology University, China.	2003

## ACADEMIC POSITIONS

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

## RESEARCH INTERESTS

Geometric processing for virtual reality and engineering simulation  
Mitigating motion sickness in virtual reality by geometric processing  
Multi-user visualization and interaction with multi-representation of Digital Mock-Up  
Virtual reality and augmented reality applications

## 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>
2024	Tingcheng LI	<a href="https://www.theses.fr/s251993">https://www.theses.fr/s251993</a>
2025	Eloise MINDER (partial)	<a href="https://theses.fr/s353453">https://theses.fr/s353453</a>
2025	Noé WATIEZ	<a href="https://labomap.ensam.eu">https://labomap.ensam.eu</a>

### Ongoing PhD theses

2026	Romain GUILLAUME	<a href="https://www.theses.fr/s268423">https://www.theses.fr/s268423</a>
2026	Jinxue CUI	<a href="https://theses.fr/s353755">https://theses.fr/s353755</a>
2026	Abdualrhman ABDALHADI	<a href="https://institutchalon.ensam.eu">https://institutchalon.ensam.eu</a>
2028	Jin YANG	<a href="https://theses.fr/s428574">https://theses.fr/s428574</a>
2029	Xinyu LIU	<a href="https://theses.fr/s417884">https://theses.fr/s417884</a>

## 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*, 2010
- **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*, 2010
- **R. Lou**, J-P. Pernot, F. Giannini, P. Veon, B. Falcidieno, Filleting sharp edges of multi-partitioned volume finite element meshes, *Engineering Computations*, 2015
- 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, *International Journal on Interactive Design and Manufacturing*, 2016
- B. Li, H. Zhang, **R. Lou**, Study of Efficiency of Multi View System in Multi-Disciplinary Collaboration Task, *Research and Science Today*, 2017
- 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*, 2018
- P. Raimbaud, **R. Lou**, F. Danglade, P. Figueroa, T. Hernandez, F. Merienne, A Task-Centred Methodology to Evaluate the Design of Virtual Reality User Interactions: A Case Study on Hazard Identification, *Buildings* , 2021
- T. Li , **R. Lou**, A. Polette, Z. Shao, D. Nozais, J-P. Pernot, On the Use of Quality Metrics to Characterize Structured Light-based Point Cloud Acquisitions, *Computer-Aided Design and Applications*, 2023
- J. Cui , **R. Lou**, F. Mantelet, F. Segonds, Integration of additive manufacturing and augmented reality in early design phases: a way to foster remote creativity, *International Journal on Interactive Design and Manufacturing*, 2024
- T. Li , A. Polette, **R. Lou**, M. Jubert, D. Nozais, J-P. Pernot, Machine learning-based 3D scan coverage prediction for smart-control applications, *Computer-Aided Design*, 2024
- T. Li , **R. Lou**, A. Polette, M. Jubert, D. Nozais, J-P. Pernot, As-scanned point cloud generation using structured-light simulation and machine learning-based coverage prediction, *Advances in Engineering Software*, 2025
- J. Cui , F. Mantelet, **R. Lou**, F. Segonds, Exploring the usability and creativity enhancement of augmented reality in additive manufacturing-based product design, *Computers in Human Behavior Reports*, 2025
- A. Abdalhadi, N. Koundal, M. S. Moosavi, **R. Lou**, M. Z. Yusoff, F. Merienne, N. M. Saad, Enhancing User Experience in Virtual Reality Through Optical Flow Simplification with the Help of Physiological Measurements: Pilot Study, *Sensors*, 2026

### 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. - 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, 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**, 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, 2019
- **R. Lou**, 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, 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, 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, Italy, 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, J-P. Pernot, On the Use of Quality Metrics to Characterize Structured Light-based Point Cloud Acquisitions, *International CAD Conference* (CAD), pp. 344-349, China, 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), pp. 420–430 France, 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), France, 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, Singapore, 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, Singapore, 2022
- **R. Lou**, F. Mérienne, D. Bechmann, General framework of geometric simplification for mitigating cybersickness, *IEEE International Conference on Future Trends in Smart Communities* (ICFTSC), pp. 1-5, Malaysia, 2022
- N. Watiez, D. Cotton, A. Besnard, **R. Lou**, H. Birembaux, J. Outeiro, Augmented reality representation for the investigation of simulated inclined chromium thin films, *PLATHINIUM*, France, 2023
- A. Abdalhadi, N. Koundal, F. Merienne, **R. Lou**, M. Moosavi, M. Z. Yusoff, N. M. Saad, Development Of Virtual Environment to Enhance User Experience with the help of Electroencephalography, *Lecture Notes in Electrical Engineering*, Springer, 2024
- A. Besnard, **R. Lou**, "Virtual PVD": A Virtual Reality approach to explore PVD Magnetron sputtering, *Lecture Notes in Computer Science*, Springer, 2025
- **R. Lou**, A. Besnard, F. Viprey, Virtual Reality for Surface Topography Analysis, *Communications in Computer and Information Science*, Springer, 2026
- P. Chacon, K. Alzein, C. Jean, **R. Lou**, Leveraging Augmented Reality for Enhanced Smart and Connected Product Design: An Experimental Approach, *Communications in Computer and Information Science*, Springer, 2026

#### National Conferences

- **R. Lou**, F. Giannini, J-P. Pernot, A. Mikchevitch, P. Veon, B. Falcidieno, R. Marc, Perçage de maillage préservant la sémantique, *Journées du Groupe de Travail en Modélisation Géométrique*, Dijon, France 2010
- P. Raimbaud, **R. Lou**, F. Danglade, F. Mérienne, J. T. Hernandez, P. Figueroa, Smart Adaptation of BIM for Virtual Reality, Depending on Building Project Actors' Needs, *1st Workshop CATAÏ*, Lyon, France, 2018
- P. Raimbaud, F. Mérienne, P. Figueroa, F. Danglade, **R. Lou**, J. T. Hernandez, BIM-based mixed reality environments to improve AEC task performance, *2nd Workshop CATAÏ*, Bogota, 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
- T. Li , A. Polette, **R. Lou**, J-P. Pernot, M. Jubert, D. Nozais, Estimation de la couverture de configurations de numérisation 3D à l'aide de techniques d'apprentissage machine, *S.mart*, France, 2023
- M. Airault, A. Besnard, **R. Lou**, F. Viprey, LEVELNESS : une approche innovante et immersive pour l'analyse métrologique des surfaces, *S.mart*, France, 2025
- A. Besnard, **R. Lou**, « PVD Virtuel » : apprentissage des dépôts sous vide par la réalité virtuelle, *S.mart*, France, 2025