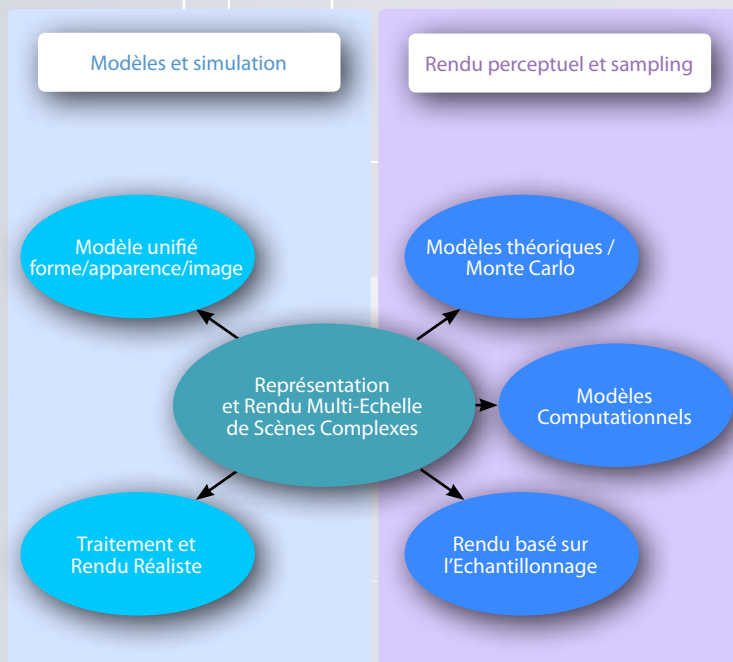


R3AM Team

Realistic Rendering for Mobile Augmented Reality

Laboratoire d'InfoRmatique en Image et Systèmes d'information
LIRIS UMR 5205 CNRS / INSA de Lyon / Université Claude Bernard Lyon 1 / Université Lumière Lyon 2 / Ecole Centrale de Lyon

R3AM works on the efficient description and rendering of complex scenes, at various scales: geometry, appearance and lighting. Modern graphical pipelines are nowadays still based on ideas from the mid 80s, which do not scale well to the increasing complexity of modern scenes. R3AM develops both models and methods dedicated to the rendering of such complex scenes. Its main research axes encompass multi-scale modelling, appearance descriptors, adaptive sampling schemes and simulation of light transport and interactions.



Contacts

Coordinator

Victor Ostromoukhov

Tel : +33 4 72 44 83 70 – Fax : +33 4 72 43 15 36

E-mail: victor.ostromoukhov@liris.cnrs.fr

Website

liris.cnrs.fr/r3am/

The team

Members

1 Professors

3 Associate Professors

5 PhD students

Defended PhD Thesis

1 per year in average

Highlights

- 2009 : V. Ostromoukhov joins the team and takes the scientific leadership
- 2010 : Re-definition of team project towards multi-scale appearance rendering
- 2010 : Excellency chair on advanced sampling obtained by V. Ostromoukhov
- 2011 to 2014 : First results on the new project with a significant scientific progression. Issued several publications in highly selective conferences and journals (4 full SIGGRAPH papers, 2 short SIGGRAPH papers, 2 SIGGRAPH courses)

Scientific skills and societal challenges

Scientific skills

- Computer graphics
- Sampling theory
- Realistic rendering
- Expressive rendering
- Real time rendering

Societal challenges

The team participates actively on the development of the modern digital society. Our techniques are among the most advanced in the field of digital image synthesis. They are widely used by major actors of the entertainment industry : films, video-games and special effects. These works also have direct applications in digital prototyping.

Softwares and platforms

- gKit : OpenGL toolbox used for all our developments in real time rendering
- OASIS : computer vision platform (in common with SAARA team) used until 2010 for augmented reality

Positioning

International context

- Our works compete with other recognised international teams, most notably in MIT, ETH Zurich, Berkeley, Louvain University, Montreal university, University College London.

National context

- Common project with iCube laboratory in Strasbourg. IPARLA INRIA project in Bordeaux also works on appearance modeling.

Regional context

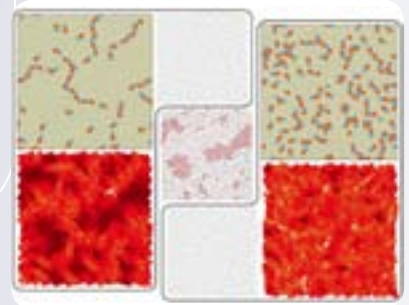
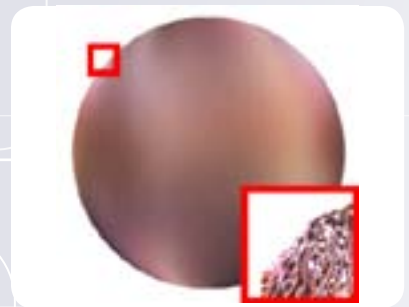
- We have continuous relations with Imaginove competitiveness Pole on Digital entertainment.
- The Maverick INRIA project, in Grenoble, has similar objectives on multiscale rendering.

Industrial partnerships

- Volvo GTT, Core Technologies, Centre Scientifique et Technique du Batiment, Laboratoire Central des Ponts et Chaussées, Awabot, RT Simulations, Commissariat à l'énergie atomique, Valeo Lighting Systems, Mercenaries, AMD

International relationships

- Collaboration and PHD co-supervising with Montreal university
- Common publications with Stanford university and Caltech
- Common publications with Constanz university



International journals and conferences

- SIGGRAPH
- Transaction on graphics
- Eurographics
- Computer Graphics Forum
- Computer Graphics International

