



# AGPiG

ARCHITECTURE GEOMETRY PERCEPTION IMAGES GESTURES

TEAM LEADERS

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**Michèle ROMBAUT**

**6 researchers** (CNRS)

**14 faculty members** (University Grenoble  
Alpes, Grenoble INP)

**1 Emeritus research director** (CNRS)

**15 PhD students**

Algorithms and architectures  
for geometric modeling,  
image and video analysis

## TOPICS

- ◆ Image processing
- ◆ Algorithms and dedicated architecture
- ◆ Reconstruction and inverse problems
- ◆ Object and image modeling
- ◆ Visual perception, quality
- ◆ Embedded perception



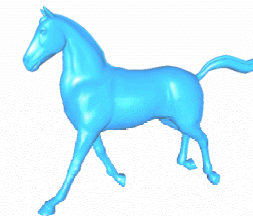
*Image processing*



*Flat torus*



*Spectral parcimony*



*Dynamic 3D meshing*



*Embedded  
GPU*



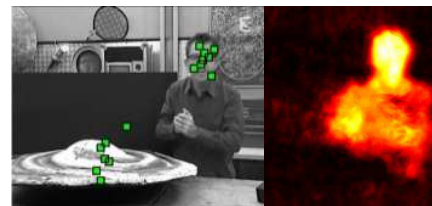


## APPROACHES

- ◆ Discrete and computational geometry
- ◆ Subdivision surfaces
- ◆ Bio-inspired visual perception models
- ◆ Multi-resolution analysis
- ◆ Algorithm-architecture adequacy on GPU clusters and multi-FPGA
- ◆ Drones, companion robot, sensory substitution

### Experimental platforms:

Analysis interpretation multimodality,  
Visual perception and image quality,  
System on programmable chip,  
High performance computing  
Robotic companion, drone, ...



Visual attention



Sensorial substitution



GPU cluster



Companion robots

**Target publications:** *IEEE PAMI, IEEE IP, IEEE CSVT, IJCV, Vision Research, PR, IVC, DAM*

**Target conferences:** *ICIP, ICPR, SoCG, DATE, Eusipco, IAPR-DGCI, VISAPP, DASIP*

