

The Group of Graphics, Computer Vision and AI (UGiVIA) associated to the Department of Mathematics and Computer Science at the UIB is a research group with extensive international experience and dissemination.

The origin of the group dates back to the early 90s and was born officially in 1995. Since then, it has become a leader research group and it is recognized both nationally and internationally in the field of computer vision and computer graphics. The group currently consists of nine faculty members and three full-time doctoral students, as well as a number of research partners from national and international universities and companies (see ugivia.uib.cat/Equip-investigador/).

The group's main research topics are:

- Human motion analysis and synthesis. Human face analysis and animation
- Modeling and Animation of Deformable objects. Virtual Reality (VR) and Augmented Reality (AR), Human-Computer Interaction (HCI) and Perceptual user interfaces (PUI)
- Artificial Intelligence (AI), Expert systems, Inductive Learning Methods, AI Applications for 3D Intelligent Avatars (Visual agents)

In particular, we focus on the following specific research topics:

- Modeling and Animation of Deformable objects
- Human Motion Analysis and Synthesis. Gesture recognition and analysis of environments
- Medical Image Processing and 3D Human Models. Telemedicine. Medical Biomechanics.
- Neuroplasticity and interfaces for rehabilitation. Rehabilitation applications.
- Visualization of 3D data. Scanner FARO. Applications for cultural and artistic heritage.
- Analysis and animation of human faces. Face aging. Modeling of emotions and facial expressions.
- Virtual Reality systems and Multimodal User Interfaces
- Artificial Intelligence, Expert systems, Inductive Learning Methods
- Vision applied to Mobile Robotics. Intelligent transport. Domotics. Industrial Applications
- Biometry. Multibiometric systems
- Serious games

The Group has both national and international recognition and collaborates with national and international groups whose research topics are related (collaborators are listed in ugivia.uib.cat/ca/produccio/contactes/1.html).

As a sign of prestige, the Group has organized ten conferences from 2000 to 2014, among which we highlight the biannual conference AMDO (Articulated Motion and Deformable Objects). Further, we have organized the VI Iberdiscap (Iberocamerican

conference in Assistive Technologies for Disabled Users) in 2011 and the IbPRIA conference (Iberian Conference Pattern Recognition and Image Analysis) in 2003.

The group is a partner since its creation of the Research Institute of Health Sciences (IUNICS) in the Neuroscience area. At Spanish American level, the group is also a founding and active member of the Thematic network RedAUTI (Thematic Network on Applications and Usability for Interactive Digital Television).

Members of the Research Group have participated actively in research projects related to the aforementioned research topics, results have been presented in numerous conferences and published in international refereed journals. Summarizing, we highlight the scientific production since 1995:

- Over 35 articles in international refereed journals with impact index (most of them in the higher positions in their category). (only last 5 years)
- Over 50 articles in other journals or book chapters (only last 5 years)
- Over 250 works in national and international conferences (only last 5 years)
- Participants in more than 30 competitive research projects (national and international)
- Participants in the European projects.
- Participants in thematic networks: “Thematic Network in Audio-visual Signal Processing and in Advanced Multimodal Interfaces”, “Thematic Network on Applications and Usability for Interactive Digital Television”

The Group has also developed multiple projects for industrial application and/or participated in training and knowledge transfer.

The training of students pursuing a Ph.D. is also a main goal of the Group. Therefore, we are constantly offering opportunities to Ph.D. students and participating in graduate courses offered by the Department of Mathematics and Computer Science at the UIB. Many of the faculty members of the Group received their Ph.D. while researching in the Group and were supervised by a senior Group member. External Ph.D. students have also pursued a doctorate supervised by members of the Group. In recent years, 15 thesis have been supervised, which gives a hint of the group’s training capacity.

Further, our relationship with other domestic and international research groups, specialized in similar research topics, offers our Ph.D. students the possibility of visiting and carrying out research projects in other laboratories.