SECTOR: Higher Education Institution  
LOCATION: France, Grenoble  
RESEARCHER PROFILE:  
□ First stage researcher,  
INSTITUTION: Univ. Grenoble Alpes, University of Innovation  

One of the major research-intensive French universities, Univ. Grenoble Alpes\(^1\) enjoys an international reputation in many scientific fields, as confirmed by international rankings. It benefits from the implementation of major European instruments (ESRF, ILL, EMBL, IRAM, EMFL\(^2\)). The dynamic ecosystem, grounded on a close interaction between research, education and companies, has earned Grenoble to be ranked as the 5th most innovative city in the world. Surrounded by mountains, the campus benefits from a natural environment and a high quality of life and work environment. With 7000 foreign students and the annual visit of more than 8000 researchers from all over the world, Univ. Grenoble Alps is an internationally engaged university.

A personalized Welcome Center for international students, PhDs and researchers facilitates your arrival and installation.

In 2016, Univ. Grenoble Alpes was labeled « Initiative of Excellence ». This label aims at the emergence of around ten French world class research universities. By joining Univ. Grenoble Alpes, you have the opportunity to conduct world-class research, and to contribute to the social and economic challenges of the 21st century ("sustainable planet and society", "health, well-being and technology", "understanding and supporting innovation: culture, technology, organizations" "Digital technology").

* ESRF (European Synchrotron Radiation Facility), ILL (Institut Laue-Langevin), IRAM (International Institute for Radio Astronomy), EMBL (European Molecular Biology Laboratory), EMFL (European Magnetic Field Laboratory)

Key figures:

- + 50,000 students including 7,000 international students
- 3,700 PhD students, 45% international
- 5,500 faculty members
- 180 different nationalities
- 1st city in France where it feels good to study and 5th city where it feels good to work
- ISSO: International Students & Scholars Office affiliated to EURAXESS

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\(^1\) [https://www.univ-grenoble-alpes.fr/english/](https://www.univ-grenoble-alpes.fr/english/)

IDEX PROJECT TITLE: “Collaborative Intelligent Systems” chair (Gérard BAILLY & James L. CROWLEY)
SUBJECT TITLE: The AI multiparty facilitator: Training of adaptive interactive behavioral models for a social robot
RESEARCH FIELD: Cognitive robotics, machine learning, multimodal behaviors, style modelling
DOCTORAL SCHOOL’S: EEATS
SUPERVISOR’S NAME: Gérard BAILLY

SUBJECT DESCRIPTION:
Social robots are robots which interact with people in a natural manner by using speech, gestures, gaze, and facial expressions for example. As social robots use natural communication, they are easy to interact with and have many applications in entertainment, services, education, collaborative robotics and therapy. Cognitive robots are social robots endowed with cognitive functions such as perception processing, attention allocation, anticipation, planning, complex motor coordination, and reasoning about other agents and perhaps even about their own mental states.

Now however, the interactive behaviors of these robots are often hand-crafted, as training behavioral models from the observation of human-human interactions is still largely impossible. Our research aims at endowing robots with interactive behavioral models from human demonstrations (Nguyen et al, 2017). CRISSP has developed an operational robotic platform that enables a human pilot to demonstrate interactive behaviors to Nina – our iCub robot with an enhanced talking head (see Nina moderating a sorting game with two human participants) – via immersive teleoperation (Sauze et al, 2016). The project will study how a robot can use generative deep learning to convert interactive experiences into models that can be reused by using an AI planner to produce short term and long term verbal and non-verbal interaction at a level where people think the robot is a worthy conversation partner. The goal is also learn how to adapt the behaviors produced to specific interaction circumstances. In other words, the project focuses on training adaptive interactive models, endowing the robot with the ability to align with human partners in the short, mid and long term using style embeddings (Wang et al, 2018; Mohammed et al, 2018).

SUPERVISION
You will be supervised by Prf. Gérard BAILLY (www.gipsa-lab.fr/~gerard.bailly) together with Dr. Damien PELLIER (www.lig-membres.imag.fr/PPerso/membres/pellier/) and Dr. Frédéric ELISEI (www.gipsa-lab.fr/~frederic.elisei). You will be part of an interdisciplinary research team, focusing on “Collaborative Intelligent Systems” as part of the MIAI@UGA AI institute.

ELIGIBILITY CRITERIA
Applicants must hold a Master’s degree (or be about to earn one) or have a university degree equivalent to a European Master’s (5-year duration),

Applicants will have to send an application letter in English and attach:
- Their last diploma
- Their CV
- A short presentation of their scientific project (2 to 3 pages max)
- Letters of recommendation are welcome.

Address to send their application: gerard.bailly@gipsa-lab.fr & damien.pellier@imag.fr