



# MIAI Grenoble Alpes

## An Interdisciplinary Artificial Intelligence Institute



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**Emmanuel Barbier**

*Health representative on MIAI Scientific board*

*Member of **Grenoble Institut Neurosciences GIN** (INSERM,UGA)*



# OBJECTIVES



- Organize a world-class interdisciplinary research network
- Train students and professionals in leading-edge AI research
- Propose AI solutions within large companies, SMEs and startup
- Communicate and interact with the public on AI, including its applications and its impact on society

# RESEARCH THEMES & DIFFERENT AXES



## FUTURE AI SYSTEMS

- Machine learning and reasoning
- Hardware and embedded architecture for AI
- Perception and Interaction



## AI FOR HUMAN BEINGS AND THE ENVIRONMENT

- AI and Society
- **Health**
- Environment & Energy
- Industry 4.0

# AI FOR HUMAN BEINGS - HEALTH

<https://miai.univ-grenoble-alpes.fr/research/chairs/health/>

## Real Life 4P Medicine

- **Deep Care (P. Cinquin, TIMC/CHUGA)**



Philippe.Cinquin@univ-grenoble-alpes.fr

Founded to mark the **synergy between Artificial Intelligence and « Care »**, this chair focuses on our ability to **characterize the state of health « in real life »**.  
New tools are invented to **empower** everyone to act on their own health and allowing a smooth and efficient cooperation with health teams.



- **MyWay2Health (JL. Pepin, HP2/CHUGA ; E. Mignot, Stanford University)**



Jean-Louis.Pepin@chu-grenoble.fr



The main challenge of this Chair, supported by numerous industrial and international partnerships, is to use artificial intelligence to **characterize and predict health trajectories** and **anticipate the effectiveness of pharmacological or behavioural interventions**.

# AI FOR HUMAN BEINGS - HEALTH

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- **Artificial Intelligence for High throughput biomedical investigations**  
(M. Blum - TIMC, J. Thevenon – IAB/CHUGA, T. Burger - CEA)

Advances in multimodal, high-speed, health data acquisition technologies in genomics, proteomics, and imaging provide a critical opportunity for biomedical research and the realization of precision medicine. This chair is developing **machine learning methods to better predict and diagnose health conditions and identify new biomarkers.**



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Thomas.Burger@cea.fr



- **Computer Assisted Medical Intelligence (J. Troccaz - TIMC ; S. Voros - TIMC)**



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Sandrine.Voros@univ-grenoble-alpes.fr




For 30 years, robots and computers have entered the hospital for "augmented medical-surgical procedures" to diagnose and treat a patient more efficiently and less invasively. Advances in **AI can significantly contribute to the development of a new generation of "computer and robotic assistants"**. In particular, the aim is to **model the clinical "right" gesture, to be able to recognize it in real time and provide contextualized help to the practitioner.**




# AN ATTRACTIVE ENVIRONMENT


- A world renowned multidisciplinary academic expertise
- 700 students currently trained in AI
- A label « Professional Qualification in AI »
- Training course in AI



**1500+**  
faculty, PhDs students & post-doctoral researchers working on AI and related fields



**1600+**  
publications of which 15% feature in the top 10 key journals & conferences



Shanghai Academic Subject Ranking  
Univ. Grenoble Alpes

**31<sup>st</sup>** worldwide  
**1<sup>st</sup>** France

Computer Science and Engineering

Grenoble INP - Ensimag  
Best Computer and Applied Maths Programs in France

## ■ Labeled short training courses for professionals **2020-2021**

- AI and Ethics
- Deep Learning
- Quantitative Methods in AI (QMAI) **REGISTRATION CLOSED**
- AI and Health (available soon)

## ■ Short training course referenced by MIAI@Grenoble Alpes

- Artificial Intelligence for Management

## ■ Short course in AI for all

- Discover AI with games

## LONG TRAINING COURSES DEDICATED TO ARTIFICIAL INTELLIGENCE

### ENGINEERING DEGREES



■ See the list of engineering degrees

### MASTERS



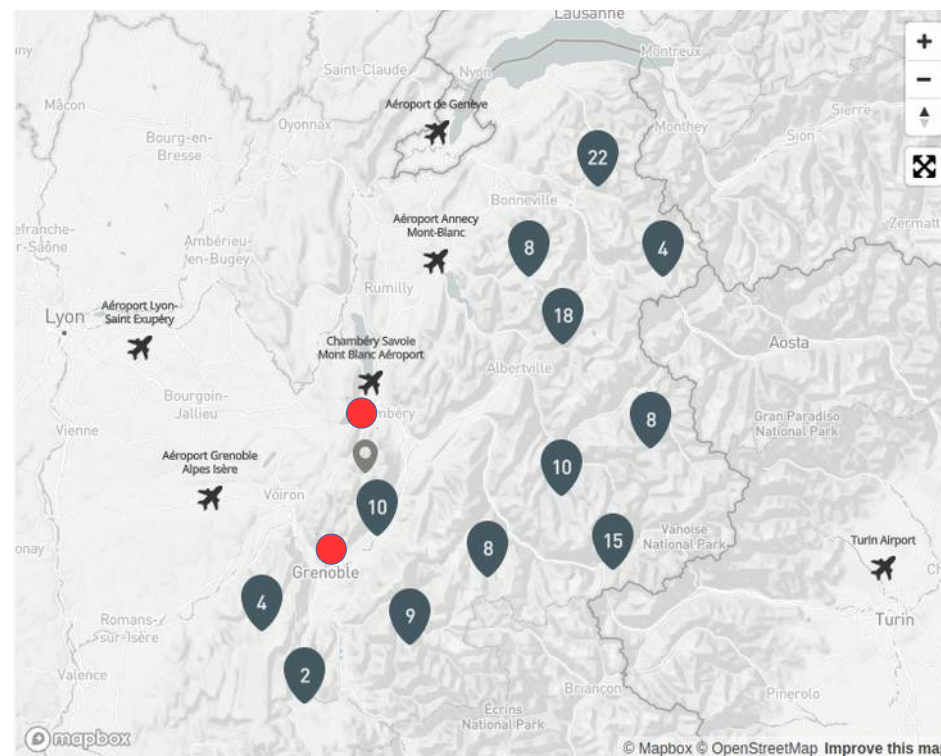
■ See the list of masters

- **MIAI Meetings** (10+ since November 4, 2019)
- **MIAI Webinar** (the 1st Friday of each month from 1:30 to 2:30 p.m)
- ....

# AN ATTRACTIVE ENVIRONMENT

- A world renowned multidisciplinary academic expertise
- 700 students currently trained in AI
- A label « Professional Qualification in Artificial Intelligence »
- Dedicated training course in AI ...
  - **... without forgetting**
    - **Future academic opportunities**
      - Masters internship proposals
      - Science thesis or post-doctorate proposals
    - **the proximity to the French Alps**

*A glance at all the ski resorts in the Northern French Alps*



# PROJECTS WITH COMPANIES

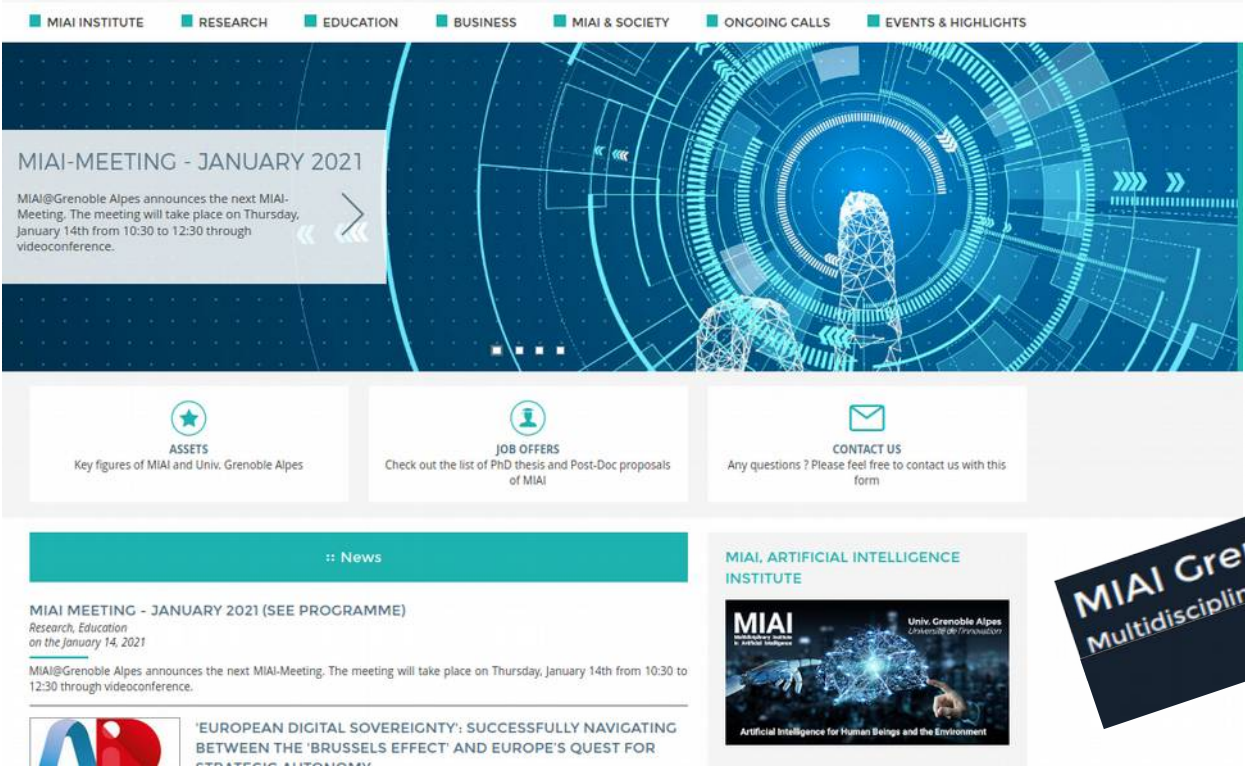




# Information about MIAI Grenoble Alpes

- Website

- <https://miai.univ-grenoble-alpes.fr/>



Key Figures

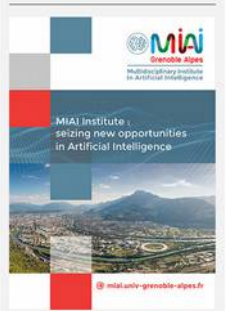
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