

ILCB

amU Institute of language,
communication and the brain
Aix Marseille Université



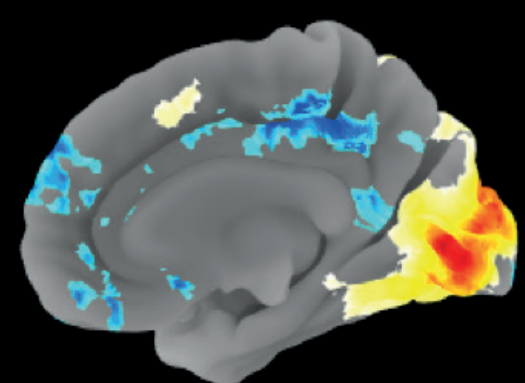
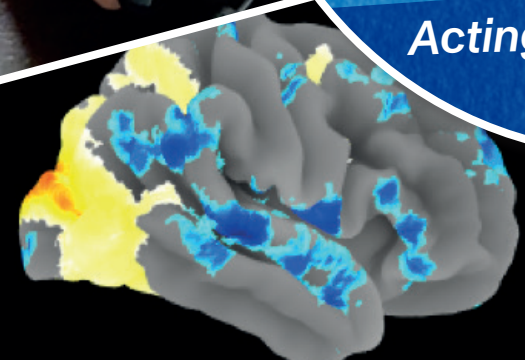
Forming a community

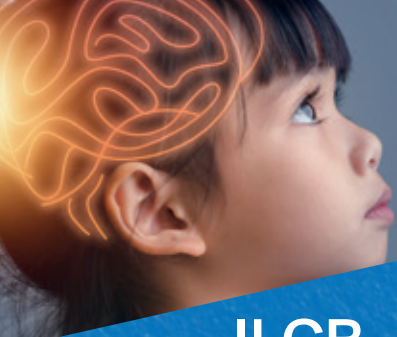
Training through and for research

Connecting disciplines

Strengthening partnerships

Acting internationally

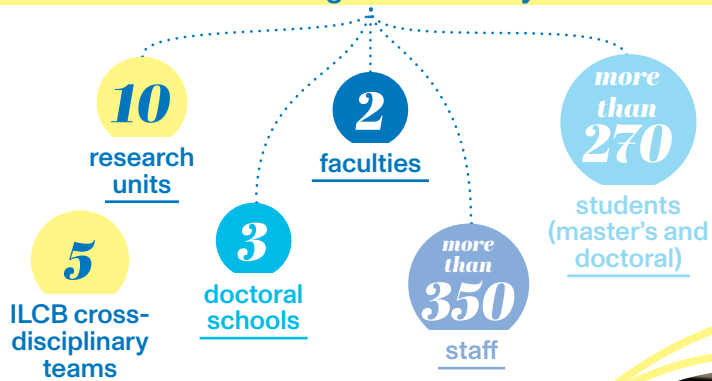




Our main goal: Understand language and communication as a dynamic and complex system.

The ILCB is an interdisciplinary institute studying the cerebral and cognitive bases of language and communication. Its aim is to explain these complex, dynamic systems using an experimentally validated theoretical framework that combines the neuronal, behavioural, ontogenetic (developmental) and phylogenetic (evolutionary) dimensions. The models and methods used are at the crossroads of linguistics, neuroscience, psychology, mathematics, ethology, medicine and computer science. The ILCB comprises 11 research units, 6 experimental platforms and an experimentation and analysis resource centre. The institute's training programme includes a master's degree in cognitive science, a PhD programme and a summer school.

Forming a community



Training through and for research

- ▶ Summer schools
- ▶ Research placements in laboratories or private companies
- ▶ PhD interdisciplinary programme



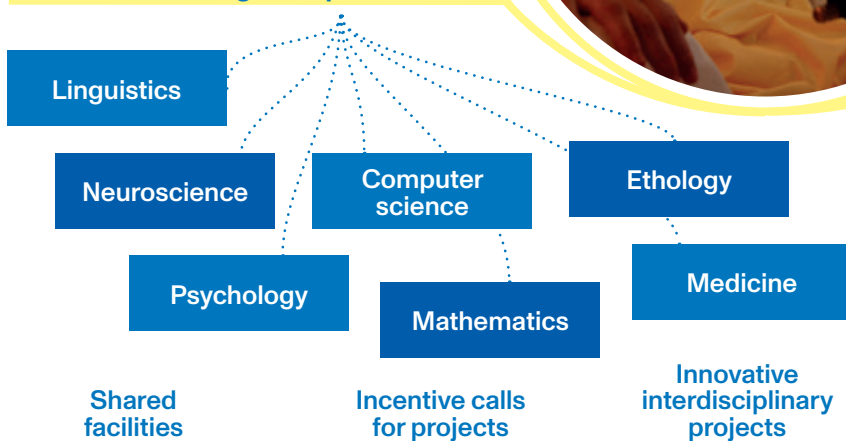
Acting internationally

- ▶ Organising and hosting international seminars and conferences
- ▶ International missions to/from around fifteen countries

Strengthening partnerships

- ▶ CNRS
- ▶ Inserm
- ▶ AP-HM
- ▶ Iméra, Aix-Marseille institute for advanced study
- ▶ Carnot Cognition
- ▶ CreativLab of the AMPIRIC pilot cluster
- ▶ ...

Connecting disciplines





Watch the institute's presentation film



Meet our executive office



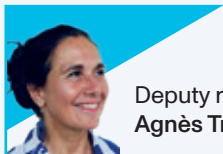
Deputy research director:
François-Xavier Alario



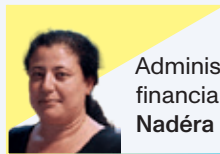
Director:
Johannes Ziegler



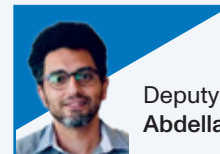
Deputy training director:
Noël Nguyen



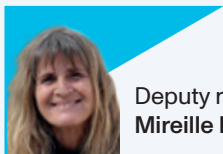
Deputy research director:
Agnès Trébuchon



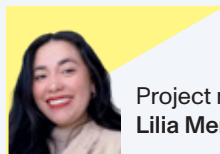
Administrative and
financial officer:
Nadéra Bureau



Deputy training director:
Abdellah Fourtassi



Deputy research director:
Mireille Besson



Project manager:
Lilia Mena



Deputy training director:
Elin Runnqvist

Discover the entire governance team: <https://www.ilcb.fr/members/organization-chart/>

Focus on

The experimentation resource centre and our network of platforms

The implementation of highly interdisciplinary projects is facilitated by the **Experimentation Resource Centre**, a team of engineers **specialising** in scientific computing, neuroimaging, electrophysiology, eye movements, man-machine interfaces, statistics and machine learning. This service is shared and fully **dedicated** to supporting **ICLB interdisciplinary** projects, both in terms of research and training.

ILCB members have privileged access to a unique set of **platforms** including neuroimaging (MRI, MEG, EEG, NIRS), Transcranial Magnetic Stimulation (TMS), virtual reality, primatology, speech analysis and IT facilities. The ILCB directly supports all these platforms. Access to these platforms and methodological, mathematical and technical support encourages the emergence of projects that would never have been possible before.

Contact

Director: Johannes Ziegler

ilcb-direction@univ-amu.fr

www.ilcb.fr





Training at ILCB

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*Training for, through and in research,
with continuity from master's to doctorate level*

*Training for, through and in research,
with continuity from master's to doctorate level*

Our ecosystem

more than
200

master's
students¹

2

partner
faculties

► Faculty of arts, letters,
languages and humanities
(ALLSH)

► Faculty of sciences

more than
60

PhD
students²

3

partner
doctoral
schools

► Cognition, language
and education (ED 356)

► Life and health
sciences (ED 62)

► Marseille mathematics
and computer sciences
(ED 184)

6

key master's

► Cognitive Sciences
(created by the ILCB)

► Neuroscience

► Language sciences

► Computer science | IAAA
specialisations

► Applied Mathematics,
Statistics | Data Sciences
specialisations

► Psychology | PNPC
specialisations
Ergonomics
specialisations

1

interdisciplinary
doctoral
programme

Consult our range of
training courses:



¹ students enrolled on master's specialisations attached to the institute

² doctoral students enrolled in our partner doctoral schools

Our key actions

- Summer school
- Research placements in laboratories or private companies
- Financial support for training students in the Cognitive Sciences Master's programme and for doctoral and post-doctoral students in the ILCB PhD programme
- Funding for interdisciplinary postdoctorates and theses
- PhD interdisciplinary programme

Annual report

55

PhD students
in the ILCB PhD
programme

3

Thesis
grants

2

postdoctoral
grants

10

research
internships

8

lunch talks

150

summer school
participants

"Funding from the ILCB meant that I could complete a four-month internship in the Multicomp Lab at Carnegie Mellon University, an internationally renowned research laboratory. I'm currently doing a PhD at the ILCB."



Auriane Boudin

ILCB doctoral student

Aix Marseille Université/CNRS

Laboratory for speech and language

Our international training

CIVIS alliance,
European civic
university

Cobra

Conversational Brains: A Marie
Skłodowska-Curie Innovative
Training Network

<https://www.cobra-network.eu/>

Contact

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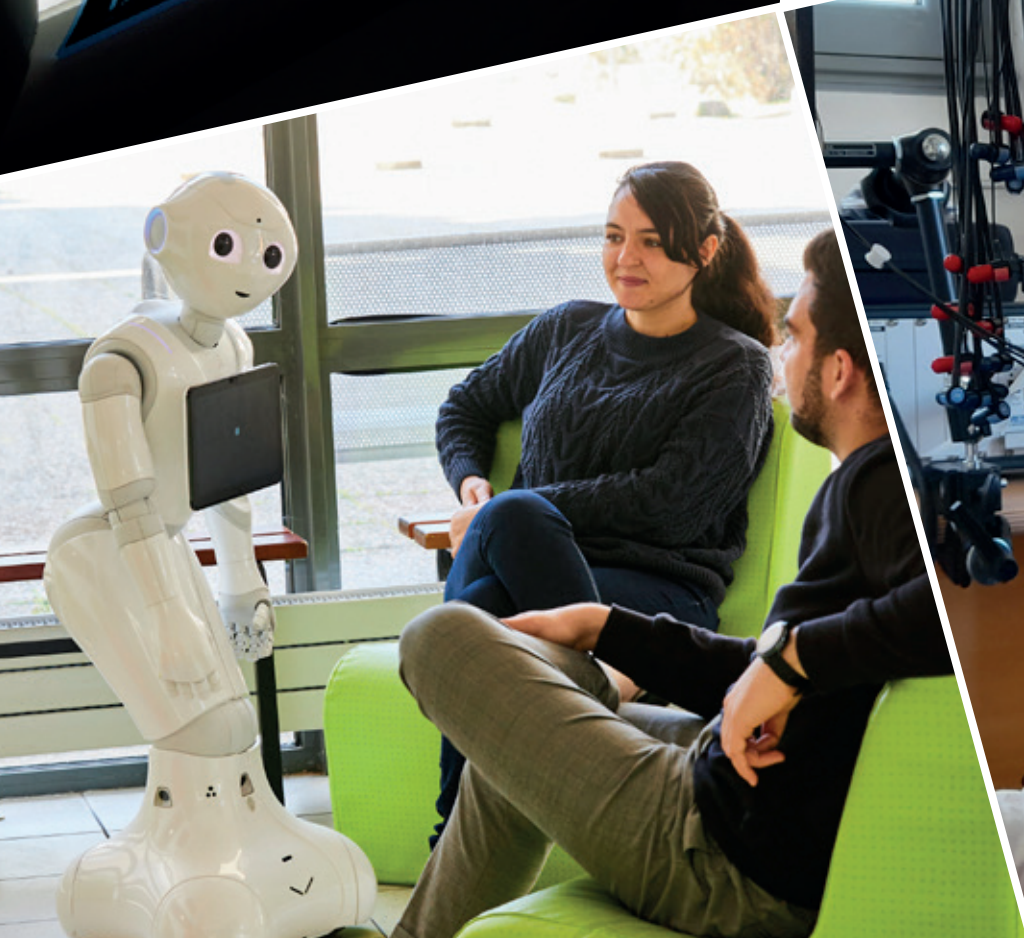
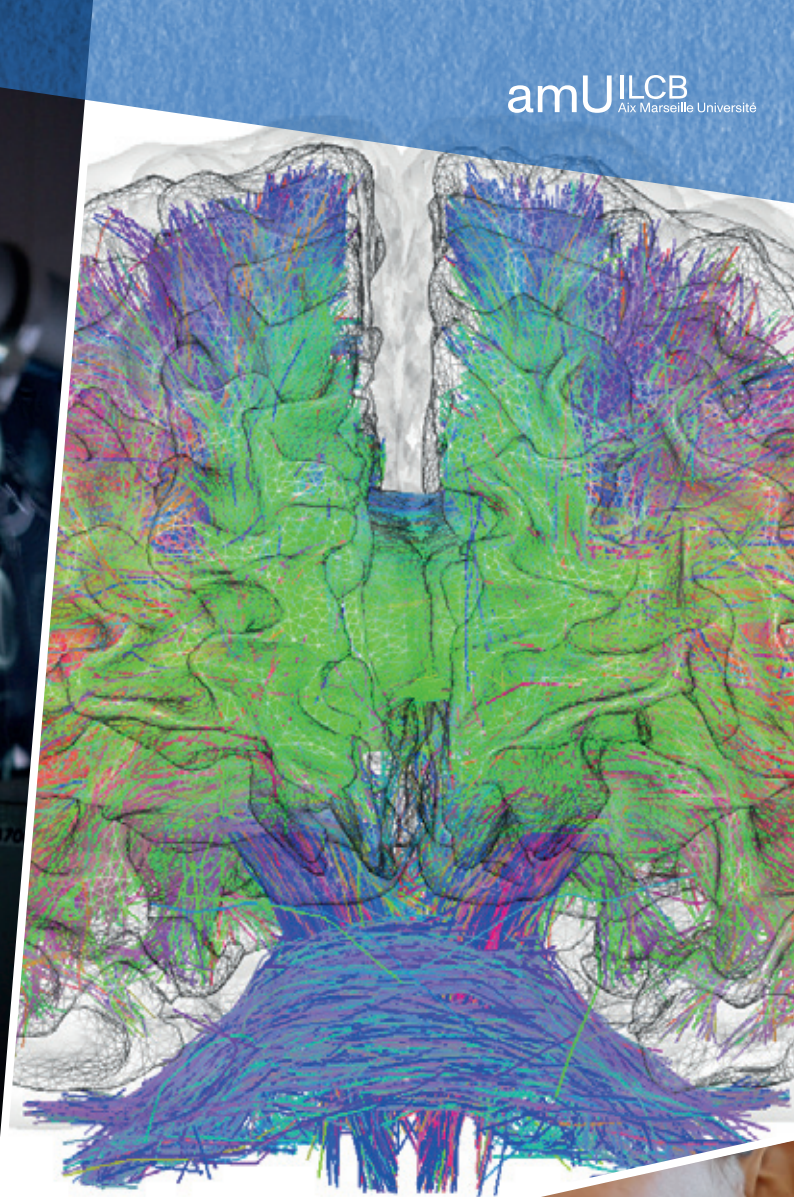
www.ilcb.fr



Research at ILCB

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Aix Marseille Université

*Bringing together multiple areas of expertise
in language and communication to build
knowledge and contribute to national
and international scientific debates*



Bringing together multiple areas of expertise in language and communication to build knowledge and contribute to national and international scientific debates

Research ecosystem

10
research
units

Health and life sciences

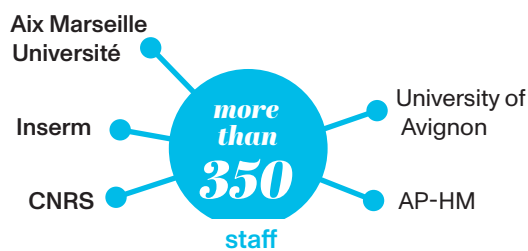
- ▶ Institute for systems neuroscience (INS)
- ▶ Timone neuroscience institute (INT)
- ▶ Research centre for psychology and neuroscience (CRPN)

Humanities

- ▶ Laboratory for speech and language (LPL)
- ▶ Centre for research in psychology of knowledge, language and emotion (PSYCLÉ)

Advanced science and technology

- ▶ Marseille institute for mathematics (I2M)
- ▶ Institute of movement sciences (ISM)
- ▶ Computer science and systems laboratory (LIS)
- ▶ Computer science Avignon laboratory (LIA)
- ▶ Perception, representations, image, sound and music (PRISM)



"Two grants as a postdoctoral student at the ILCB meant I could pursue my intrinsically interdisciplinary research, combining computer science and signal processing to answer fundamental questions in auditory neuroscience. This enabled me to establish my research activity in a unique way and obtain a position as a research fellow at the CNRS."



Etienne Thoret
Research fellow at the CNRS

Our main areas of research

- ▶ **Evolution and development:** origins of language and communication in the individual (ontogeny) and in the species (phylogeny)
- ▶ **Language, conversation and neural dynamics:** phenomena of synchronisation, convergence and interaction in an interdisciplinary multi-scale approach extending from the syllable to the conversation
- ▶ **Modelling and interactions:** computational and mathematical tools and methods to understand the complexity of these phenomena
- ▶ **Language and communication disorders:** diagnostic tools, remediation and training programmes in the field of education and health

Our key actions

- ▶ Contribution to conducting and funding research projects
- ▶ Funding and organising scientific events (conferences, workshops, seminars, lunch talks, etc.)
- ▶ Creation of interdisciplinary project teams
- ▶ Recruitment of PhD and postdoctoral students
- ▶ Platform funding (MEG, MRI, virtual reality, etc.)

Annual report

33

research
projects

2

Iméra chairs
(Institute for
Advanced study)

18

guest
professors

4

ERC
contracts

2

international
conferences

Contact

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Strengthening and developing special links with academic and institutional players and the socio-economic and cultural world

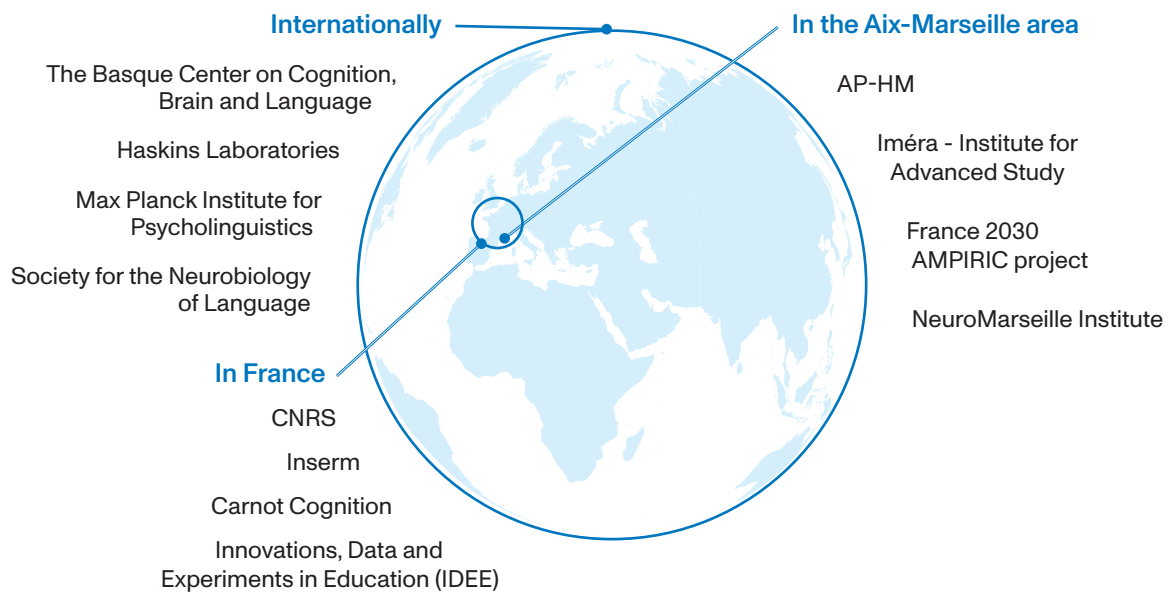
"We have had a partnership with the ILCB since 2017 involving an ILCB/IMERA chair in the context of the Interdisciplinary Explorations research programme. This partnership has enabled us to attract talented residents from all over the world to the Chair for periods of five to ten months, and to work with them and the ILCB to organise events of the highest scientific quality."



Gabriella Crocco
Epistemologist
University professor

Interdisciplinary Explorations Programme | Iméra - Aix-Marseille institute for advanced study
<https://www.imer.fr/programmes-de-recherche/explorations-interdisciplinaires/>

Our key partners include

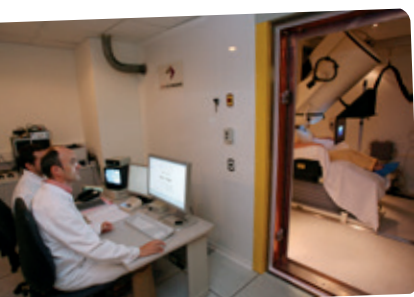


Our key actions

IMéRA ILCB Chair - every year a chair is awarded to an international researcher

Coordination of an EU Innovative Training Network

Organisation of the Symposium of the Society for the Neurobiology of Language (2023)



Contact

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*The ILCB institute brings together teams
on 8 university and scientific sites*



The Aix Marseille Université institutes are coordinated by the Amidex foundation

amidex Aix
Marseille
Université



The Aix-Marseille Excellence Initiative, a consortium between Aix Marseille Université and 8 partners