

Areas for Improvement and Expansion for the PhD Program in Sciences of the Mind

Following a careful analysis of the programs of the XXXIX, XL, and XLI PhD cycles, three strategic areas for improvement and expansion have been identified. The objective is to enrich the educational offer, align it with the latest scientific and technological developments, and enhance the career prospects of the PhD students.

1. Strengthening Methodological and Computational Skills

Analysis: Although the XLI cycle introduced a solid program of methodological lessons, a significant gap emerges regarding advanced computational skills, such as machine learning, big data analysis, and computational neuroscience. These skills are increasingly in demand in contemporary neuroscientific and psychological research.

Recommendation: It is suggested to introduce a structured track on "Computational Neuroscience and Advanced Data Analysis". This track could include:

- Collaborations:** Inviting expert researchers in computational neuroscience for seminars and workshops, and promoting collaborations with departments of computer science and engineering.

2. Development of a "From Bench to Bedside and Back" Program

Analysis: The current educational offer, while covering a wide range of topics, could benefit from a stronger link between basic research and its clinical applications. This is particularly relevant for a PhD in "Sciences of the Mind," which has an intrinsic translational potential.

Recommendation: It is proposed to create a program called "From Bench to Bedside and Back," aimed at bridging the gap between research and clinical practice. The activities could include:

- Clinical-Translational Seminars:** Inviting clinician-researchers to present case studies and discuss the challenges and opportunities of translational research in neurology, psychiatry, and rehabilitation.

- Internships and Rotations:** Establishing agreements with healthcare facilities and rehabilitation centers to offer PhD students the opportunity to carry out short periods of internship or clinical rotation.

3. Implementation of a Professional and Career Development Program

Analysis: The PhD path should prepare students not only for an academic career but also for professional opportunities in other sectors (industry, scientific publishing, science communication, etc.). The current program does not seem to include structured training on these topics.

Recommendation: It is suggested to implement a "Professional Development Program" that provides PhD students with so-called "soft skills" and greater awareness of different career prospects. The program could be structured as follows:

- Training on Open Science:** Introducing training modules on the principles and practices of Open Science, such as study preregistration, data sharing, and research reproducibility, skills that are increasingly requested and valued internationally.

