

AN INTERDISCIPLINARY DOCTORAL PROGRAM FOR CREATIVE AND SUSTAINABLE INNOVATION

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Abstract

The doctoral program in Creativity, Social and Sustainable Innovation at the CREA Campus of the University of Vigo represents an innovative and transformative model of doctoral education designed to promote interdisciplinary and transdisciplinary between all the areas of knowledge taught on this campus. Conceived within the framework of contemporary higher education reform, the program responds to the growing demand for flexible, integrative, and socially engaged doctoral training capable of addressing complex global challenges. At its core, the program emphasizes the importance of aligning doctoral projects with two distinct research lines from different fields or disciplines. The program operates as a dynamic learning ecosystem and a hub for academic collaboration, supported by the School of Forestry Engineering and several faculties on the Pontevedra campus, including Fine Arts; Education and Sports Sciences; Physiotherapy; Social Sciences, Communication and Design; and Direction and Public Management. This interdisciplinary academic promotes collaborative learning, cross-faculty teaching practices, and the co-creation of knowledge among doctoral students and faculty members from diverse educational and professional backgrounds. At least two experts who bring their specialized knowledge to enrich the doctoral work guide these projects. This structure encourages collaboration across traditionally separate domains, enabling innovative approaches to complex societal challenges. Furthermore, students benefit from a dynamic academic environment that integrates diverse methodologies and perspectives, enhancing both the depth and impact of their research.

Keywords: *Interdisciplinary doctoral education, transdisciplinary, innovative research training, creativity and social innovation, higher education pedagogy.*

1. Introduction

Creativity and innovation are essential forces behind economic expansion, sustainable progress, and the transformation of ideas into real value. They are crucial across all sectors, acting as key drivers of advancement and long-term success. While creativity involves the generation of original ideas, innovation focuses on putting those ideas into practice, resulting in new products, services, or processes. Together, they create a dynamic synergy that strengthens organizations and societies, enhancing competitiveness and supporting continuous development.

In the framework of the European Union (EU), these two elements occupy a central place in policy-making, with the European Commission highlighting their role as fundamental engines of growth. Innovation, in particular, is vital for reinforcing the EU's position in the global landscape and for addressing emerging and future challenges effectively. For this reason, research and innovation have consistently been prioritized within the EU's strategic agenda, with ongoing efforts to promote them as key contributors not only to economic performance but also to social welfare and overall prosperity.

The relevance of encouraging creativity and innovation in Europe is widely recognized. Decision No. 1350/2008/EC of the European Parliament and of the Council (16 December 2008) points out the urgent need to strengthen Europe's creative and innovative capacity for both economic and social purposes. Likewise, the European Council has emphasized that innovation is critical for responding to the demands of globalization. Achieving this requires equipping citizens with creative competencies that enable them to

view change as an opportunity and to engage with new ideas. These abilities are also fundamental for fostering active involvement in an increasingly diverse, knowledge-driven society.

In academic research, knowledge has traditionally been organized into separate disciplines, fostering a high degree of specialization that, while valuable, often limits the understanding of complex issues requiring broader perspectives. This contrasts with earlier conceptions of knowledge, such as in classical Greek thought, where technique (*techné*), creation (*poiesis*), theory (*theoria*), and practice (*praxis*) were viewed as interconnected dimensions of a unified system (Alsina, 2007; Gonzalez et al., 2011; Villar, 2011). In contemporary academia, however, this holistic vision has largely been replaced by fragmented approaches that isolate fields of study. As noted by Tornero (2016), the strong emphasis on maintaining disciplinary boundaries has led to an excessive rigidity, restricting the development of more comprehensive and integrative views of the world.

Interdisciplinarity promotes deep integration of knowledge across disciplines, emphasizing that combined insights create a more comprehensive understanding than separate contributions alone (Caballero, 2008). Transdisciplinarity is an approach that goes beyond single disciplines by combining academic and non-academic knowledge to co-create solutions for complex societal challenges, emphasizing collaboration, shared learning, and context-specific frameworks (Lang et al., 2012).

An illustrative example of this interdisciplinary approach is the CREA Doctoral Program at the University of Vigo in Galicia, Spain. Based at the Pontevedra campus, this program adopts a hybrid working methodology aimed at promoting creativity and innovation through collaboration across different fields. The CREA Doctoral Program in Creativity and Sustainable Social Innovation is specifically designed to support interdisciplinary research and doctoral training, enabling students to integrate diverse areas of knowledge.

This approach equips doctoral candidates with the tools needed to address complex social and environmental challenges by developing creative and practical solutions. Grounded in the idea that today's global issues require both technical expertise and cross-disciplinary thinking, the program places strong emphasis on sustainability and social innovation. As a result, it prepares students to contribute meaningfully to societal progress, encouraging the development of innovative responses to challenges such as climate change, social inequality, and economic development.

2. Content and development of the doctoral program

The CREA PhD program is delivered at the University of Vigo, on the Pontevedra campus (Spain), and is designed to promote inter- and transdisciplinary collaboration across all areas of knowledge taught there. The doctoral program in Creativity, Social and Sustainable Innovation, based at the CREA Campus, stands out for its strong commitment to advancing academic interdisciplinarity. Its primary aim is to explore the key drivers of development through creativity and innovation, fostering a transversal approach supported by multidisciplinary research teams.

The program operates as a dynamic learning ecosystem and a hub for academic collaboration, supported by the School of Forestry Engineering and several faculties on the Pontevedra campus, including Fine Arts; Education and Sports Sciences; Physiotherapy; Social Sciences, Communication and Design; and Direction and Public Management. This interdisciplinary academic environment promotes collaborative learning, cross-faculty teaching practices, and the co-creation of knowledge among doctoral students and faculty members from diverse educational and professional backgrounds.

These doctoral studies were officially published in the DOG on 14/07/2017 and in the BOE on 24/10/2017, with teaching commencing in the 2017/2018 academic year. The program initially established a maximum intake of 20 students; however, over the past two years, this limit has been exceeded due to growing demand, with 24 students enrolled. On average, around 30% of enrolled students come from other universities.

The program requires that each doctoral project be aligned with at least two main thematic lines, selected from areas such as health innovation; innovation, sustainability and communication; social design and innovation; innovation and sustainability of natural resources; governance and innovation; and pedagogical innovation in teacher professionalization. Accordingly, each project must be supervised by two directors from different fields of knowledge, ensuring a genuinely interdisciplinary approach.

These thematic lines remain flexible and are adapted to the specific needs of each project, promoting both academic and research innovation. They bring together specialists from diverse disciplines who collaborate in the co-supervision process, guiding doctoral candidates to integrate multiple perspectives around a shared topic. By encouraging interdisciplinary dialogue and focusing on themes rather than isolated disciplines, the program enables a deeper and more comprehensive exploration of current educational, environmental, and cultural challenges.

Final admission to the doctoral program includes the assignment of a tutor or director linked to one of the research lines. In collaboration with the doctoral candidate, this supervisor is responsible for identifying a second director from a different research line, who may belong either to the university or to an external institution. The doctoral student is required to complete 100 hours of compulsory general training activities and may also participate in additional optional seminars. The mandatory activities are: Seminar to present research lines; Defense of the research plan; Public communication seminar; Written communication seminar in English; Research Seminar: search, ethical use, dissemination and publication of scientific information; Researchers Seminar: academic career, research projects and scientific publication and Research Methodology Seminar. The optional activities are: Qualitative Research Methodology Seminar; Normative databases and politicalological approach Seminar and The comparative method in the preparation of documentation theses Seminar. In order to improve student training, three new optional training activities have been proposed for the next academic year 2026/2027.

Since the pandemic, training activities have been offered in a hybrid format, either online or in person, depending on the student's preference. Each year, the program's academic committee evaluates the student's research plan, activity record, and accompanying reports. This report must be prepared annually by the program director.

A positive evaluation is a mandatory requirement for continuing in the program. If the evaluation is negative, it must be clearly justified, and the doctoral student must undergo a re-evaluation within six months. To do so, a new Research Plan must be developed. If the second evaluation is also negative, the student will be permanently withdrawn from the program.

In addition to these training activities, students are required to participate in at least two national or international scientific conferences during their training period, presenting a scientific contribution in the form of a paper or poster.

The estimated duration from the start of the program to the thesis defense is three years for full-time students and five years for part-time students, with the possibility of one extension.

Since the program's inception in 2017, 24 doctoral theses have been successfully defended, demonstrating that interdisciplinary research is achievable across diverse fields. These include combinations that may initially seem distant, such as textile design and forestry; health and education; communication and sports; education and communication; governance and education; and art and chemical engineering, among others.

3. Conclusion

In summary, creativity and innovation play a fundamental role in advancing society, as they provide effective responses to many of today's most urgent challenges. Through the promotion of creative thinking and the support of interdisciplinary approaches, the European Union and institutions such as the University of Vigo contribute to building a more sustainable and forward-looking future. Within this context, the CREA campus and its interdisciplinary doctoral program serve as a platform for methodological innovation, enabling the in-depth exploration of complex issues that require comprehensive and integrative perspectives.

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