

Interdisciplinary Research

Young Academy Leiden – *Position Paper*

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Summary

Interdisciplinary research that combines methods and insights of several established disciplines is crucial to address urgent and complex challenges. However, at present academic structures do not sufficiently motivate and support early-career researchers to engage in interdisciplinary research. We outline several recommendations for Leiden University to address this problem:

- University level: Create better structures for scholars from different disciplines to find each other and increase funding for bottom-up interdisciplinary research projects.
- Faculty and Institute levels: Enable and appropriately recognize and reward interdisciplinary teaching. Improve recognition of interdisciplinary publications by enabling the possibility to cross-list publications.
- Individual level: Interdisciplinary research takes time. R&D interviews should recognize this and provide space for a narrative that explains long-term interdisciplinary commitments.

Background

Societal challenges and research puzzles are increasingly complex and multifaceted. This puts limitations on the theories, approaches, and methodological tools from one discipline. Interdisciplinary research that combines methods and insights of several established disciplines is therefore extremely important; not as a goal in itself, but as a means to address urgent and complex challenges. This is now widely recognized.

Promoting interdisciplinary collaboration is an important goal in Leiden University's [Institutional Plan \(2015-2020\)](#). Currently, the university has various means in place to stimulate interdisciplinary science, such as the Leiden-Delft-Erasmus network, various interdisciplinary programmes (Stimuleringsgebieden), the Lorentz Center and the LUF Snouck Hurgronje grant. Nevertheless, from an early-career perspective, there are still a

range of structural obstacles to engaging in truly meaningful interdisciplinary research or teaching.

Points of concern

The disciplinary focus of the organizational structure at Leiden University - and the academic world more broadly - makes it risky for early-career scholars to devote their time to interdisciplinary work. This has to do with the general structure of how output such as publications are recognized, how projects are funded as well as how the job market is organized. In recent years, there has been a push to offer interdisciplinary (PhD) programmes and teaching tracks at Leiden University, opening up opportunities for both staff and students to participate in interdisciplinary programmes. Inherent in this are both opportunities and drawbacks.

On the one hand, programmes for students, PhDs, and Early Career Researchers (ECR) who do not want to 'choose' a single discipline are given the opportunity to pursue an **interdisciplinary career** 'from the ground up'. On the other hand, not all interdisciplinary programmes have this desired effect. ECRs with interdisciplinary backgrounds report increased scarcity of career opportunities. There is also the danger of gaining a bit of knowledge from different disciplines while lacking expertise in one research field. This translates into finding fewer suitable conferences and ranked journals.

For **interdisciplinary teaching** tracks, there are organizational and structural barriers that ECRs have highlighted. The mechanisms through which faculties organize and finance their teaching, make it hard to set up interdisciplinary courses and get the work done for these courses recognized within one's own Institute as an equally valuable contribution to the Institute's own education programme.

Beyond individuals pursuing interdisciplinary paths, ECRs increasingly work in **interdisciplinary teams**. In that context, they face the dilemma of publishing in journals unfamiliar to their own discipline and facing the danger of not receiving recognition within their own Institute for such publications. From the Institute's perspective, such publications are difficult to value, due to disciplinary rankings of journals still dominating formal and informal research review evaluations. Additionally, using laboratory facilities of another faculty, for example, is often still a very complex affair.

Outside of structural constraints, interdisciplinary research has also become somewhat ‘fashionable’, which is further facilitated by funding calls that require interdisciplinary collaboration. Interdisciplinary ECRs fear that this stimulates projects that are **interdisciplinary in name only**. Since nominally interdisciplinarity is encouraged, sometimes researchers come to feel that calling their own work ‘interdisciplinary’ is yet another hoop to jump through or a top-down pressure to work on fashionable themes. This issue is most visible in many grants and scientific awards (including individual ones) that encourage applicants in general to highlight interdisciplinarity, but do not have mechanisms in place to actually stimulate bottom-up interdisciplinary activities. Given the high pressure to obtain such grants, this creates artificial interdisciplinarity, and hence a loss of research efficiency and negative publicity for the importance of interdisciplinary research. In addition, **funding** more generally for such initiatives is currently extremely limited (e.g., the LUF Snouck Hurgronje grant), difficult to access for early-career researchers (e.g., the NWA), and often still encouraging specific links between specific disciplines over others (see, e.g., [this study](#)).

In essence, doing sound, thorough, bridging, interdisciplinary work requires time, but does not lead to output that is judged more highly despite its often innovative character. We realize that the above points of concern highlight a range of issues that cannot be solved short-term or by Leiden University alone. However, in the following section we outline recommendations for steps that can be taken at Leiden University to facilitate a focus on high-quality genuinely interdisciplinary research.

Recommendations

The recommendations are structured to give input from a broader structural perspective down to individual-level support.

First, at the university-wide level, as ECRs, we are not in favour of facilitating interdisciplinary research and teaching through the creation of evermore institutes, affiliations and programmes. Such structures are costly, too rigid for the quick changes in the needs for interdisciplinary research, and they can have harmful effects on the careers of those embedded exclusively in such non-disciplinary structures. Efforts should rather go into **helping members of different disciplines find each other** and set up

interdisciplinary research teams or new interdisciplinary courses, and to provide earmarked funding for such bottom-up initiatives. YAL is a successful example of an interfaculty network of young researchers. We encourage the university to extend this opportunity to other researchers who want to collaborate among each other as well as across hierarchies. The fierce competition for interdisciplinary grants, such as the LUF Snouck Hurgronje grant, shows that there is interest from the research community and investing in such grants offers a quick and efficient way to motivate more interdisciplinary research. In short, an interdisciplinary approach should emerge from a **genuine scientific need**, or enrichment of research, and not as a means of obtaining funding. On the one hand, **funding** that is only available for high-quality interdisciplinary research should increase. This should be assessed by panels with expertise in interdisciplinary research. On the other hand, in general funding applications, having an interdisciplinary component should not be automatically seen as adding value to the project.

At the faculty and institute level, interdisciplinarity should be fomented at an early stage; any teaching programme should aim for a baseline awareness of the work and methods in other disciplines. **Interdisciplinary teaching** should further supplement the disciplinary teaching, and not replace it. Yet, it should be seen as an essential supplementation. Interdisciplinary research should, where appropriate, also be **communicated back to the established disciplines**, so as to enrich them. An added benefit is that this can demonstrate the value of interdisciplinarity. As highlighted earlier, institutes sometimes struggle to make interdisciplinary publications count in the context of research review evaluations. It should therefore be possible to cross-list publications as output in multiple groups. Finally, for facilitating cooperation across disciplines, there are easy wins in offering no-cost or low-cost internal interdisciplinary lab analyses to offer spaces for conducting such research.

At the individual level, as we highlighted earlier, **interdisciplinary research takes time**. This has repercussions in a fast-moving, output-focused and short-term contract environment, where one may not have enough time to be working for three to four years on interdisciplinary output. Hence, R&D talks should recognize interdisciplinary efforts and publications without treating interdisciplinarity as a goal in itself. Staff members should be able to provide a narrative to explain any long-term interdisciplinary commitments, as interdisciplinary projects tend to take a lot of time and investment and often cannot be properly evaluated on a year-to-year basis.