

The Student Research Hub Network for interdisciplinary challenge-based education – a webinar recap

** Extras are shared on p. 5 and further.*

On Tuesday, February 17th 2026, Present-day Practicals hosted its sixth webinar:

☀️ The Student Research Hub Network for interdisciplinary challenge-based education ☀️

The webinar explored how interdisciplinary challenge-based education can foster the development of students' academic skills and how this can be supported by means of a student research hub network. The webinar speaker was **Michael Schakelaar** (UMC Utrecht), who pursues a so-called hybrid PhD project combining biomedical research into immunotherapy with educational research into academic skill development.

Topic of this webinar

The central question addressed was: **How can we prepare students for working on complex health challenges that cannot be tackled from a monodisciplinary perspective?**

The speaker discussed how current complex health challenges require professionals to operate across disciplines and to better connect with society. However, interdisciplinary education is currently underrepresented in the undergraduate phase of many (bio)medical programs, which render students underprepared for contributing to such challenges.

The webinar was divided into two parts:

1. **Introducing the Utrecht Interdisciplinary Health Challenge continuum:** Explaining the educational setup of the interdisciplinary challenge-based educational concept organized in Utrecht.
2. **Interaction with the international audience via an interdisciplinary mini-challenge:** Offering the participants to experience the power of interdisciplinary challenge-based collaboration first-hand.

The Utrecht Interdisciplinary Health Challenge continuum

The presenter explained the setup of the Interdisciplinary Health Challenge continuum organized by the UMC Utrecht.

- **Phase 1:** The Health Challenge is introduced by a broad panel of doctors, patients and biomedical researchers to a think-tank joined by approximately 600 students across multiple undergraduate programs. The students are divided over 24 interdisciplinary teams that each come up with their own research proposal for a dedicated Health Challenge.
- **Phase 2:** The best ranked proposal is used as input for an elective course on Experimental Translational Medicine, which again can be joined by students from multiple (bio)medical undergraduate programs. Students are allowed to refine the research proposal and will then work to perform the research proposed. To support them in this process, they have access to a wide range of student research hubs, ranging from biomedical wet labs, to AI hubs and medical humanities hubs, in which associated professionals offer them supervision and guidance in performing their research. Students present their findings during a symposium that is again attended by researchers, doctors and patients involved in the initial challenge.

The presenter has published multiple papers on this educational concept (see Extra – Resources and Further Reading) and shared some of their most recent (unpublished) key findings on this concept.

Mini-challenge

After explaining the setup of the interdisciplinary challenge-based education in Utrecht, the speaker offered the participants the opportunity to gain some first-hand experience with this type of education. He introduced the challenge of the increase in lifestyle-related chronic diseases in urban populations, after which participants joined in two subsequent discussion rounds:

Round 1 - In monodisciplinary groups (Biomedical Sciences, Educational Sciences and Chemistry & Pharmaceutical Sciences) participants thought of the lifestyle-related chronic disease they would like to focus on, reflecting on the strongest leverage point for this disease from their own perspective.

Round 2 - After a short plenary recap, participants were re-divided into interdisciplinary groups in which they finetuned their prior ideas. They compared ideas and came up with more specific proposals for the challenge at hand.

Although this pressure cooker-style challenge was considered rather short, all groups came up with some nice initial ideas for tackling lifestyle-related chronic disease in urban population, combining strategies from the various disciplines present. As one of the participants nicely mentioned: “You can truly come up with some really nice ideas, even in such short time.”

The presenter explained that the students during the Interdisciplinary Health Challenge follow a similar flow of discussion:

1. They are first allowed to think on the topic for themselves and to perform some (guided) literature research.
2. Next, they discuss the topic within a small group of peers with the same disciplinary background.
3. In the third phase, they discuss their ideas within a small interdisciplinary group of peers (3-4).
4. Finally, they discuss their ideas in a larger interdisciplinary group of peers (12-15).

Further interaction with the international audience

Apart from the mini-challenge, the audience actively participated in the session by posing various questions in the chat.

Some questions were specifically on the **setup** of the Interdisciplinary Health Challenge in Utrecht. The speaker accordingly explained that:

- the Challenge is primarily joined by 2nd and 3rd year students of the medical and biomedical programs who roughly represent 80% of the students participating in the think tank. The remaining students are from other undergraduate programs such as Biology, Pharmaceutical Sciences and Veterinary Sciences.
- the students are supervised in various ways: there are expert scientists available for in depth questions on the topic, biomedical educators with a broader background on the topic for more general questions and project supervisors who mainly responsible for guiding students through the process of interdisciplinary collaboration.

Others asked about the **educational gains** of the Interdisciplinary Health Challenge. The speaker explained that:

- because of the intricate setup of this educational setup, they cannot compare learning outcomes or skill development of students participating in the Health Challenge versus students participating in other integrated programs.

- they have been studying the learning outcomes of the different groups of students within the Health Challenge, showing that because of their different backgrounds, students gain different skills throughout the challenge. They all show valuable learning curves in terms of academic skills, yet the specific endpoint of their learnings might be different.

Key take-home messages

The webinar showed how you can boost students' academic skill development by via interdisciplinary challenge-based education.

- **Grand challenges require multiple disciplines:** We should break the silos of monodisciplinary research and join forces to tackle these complex challenges.
- **Interdisciplinary education should not be postponed to the graduate phase:** By starting early, in the undergraduate phase, we can better prepare students to tackle complex challenges in the future.
- **Focus on reciprocity:** Providing direct interaction with expert scientists, doctors and patients boosts student motivation, while employing the elaborate thinking power of a large group of students can provide new leads for further research.

Wrap-up – enroll for the LabBuddy session!

The webinar concluded with a **wrap-up by the organizers** and thanking them for their participation in this and the previous webinars. This was the last webinar in the PDP series for this year, but participants are still warmly invited to enroll for a special LabBuddy session:

- LabBuddy* session: Enhancing lab education Thu 19/03/26

Sign up for our special LabBuddy* session => [Enhancing lab education with LabBuddy](#)

Hope to see you again soon!

On behalf of the organizers

** LabBuddy provides an e-learning solution to support students in preparing before the start of the practical work, while working in the lab or field, and to guide them during the processing of their results after the practical work. Visit our website for more information, <https://www.labbuddy.net/>.*

Extra - Resources and further reading

The presenter shared links to the Student Research Hub network in Utrecht and beyond, as well as to various papers published on the Interdisciplinary Health Challenge:

- **Student Research Hub Network Utrecht:**

<https://www.studentresearchhubnetwork.com/>

This network unites multiple student research hubs across Utrecht all aimed at tackling societal challenges in an interdisciplinary setting.

- **Biomedicine Student Research Hub:**

<https://www.biomedicinestudentresearchhub.com>

As part of the above-mentioned Student Research Hub Network, the Biomedicine Student Research Hub offers a unique, full-equipped laboratory space for students in the UMC Utrecht to collaborate with researchers, medical doctors and patients.

- **CHARM-EU:** <https://charm-eu.eu>

This alliance consists of nine universities across Europe that jointly offer various Master's programmes and educational courses aimed at tackling global challenges in an interdisciplinary fashion.

- **Research correspondence of the international student research hub network within CHARM-EU:** <https://www.nature.com/articles/d41586-022-03665-w>

Schakelaar MY, *et al.* Linked research hubs train students to tackle societal challenges. *Nature*. 2022 Nov;611(7936):449. doi: 10.1038/d41586-022-03665-w.

- **Viewpoint article that describes the setup of the health challenge course continuum in Utrecht:** <https://pmc.ncbi.nlm.nih.gov/articles/PMC11486828/>

Schakelaar MY, *et al.* Uniting education, research, healthcare, and society to advance women's heart health. *J Exp Med*. 2024 Nov 4;221(11):e20240877. doi: 10.1084/jem.20240877.

- **Career feature on the public-private partnership within the Biomedicine Student Research Hub:** <https://pubmed.ncbi.nlm.nih.gov/39953224/>

Ten Broeke T, *et al.* Undergraduate education as catalyst for public-private partnership in biotechnology. *Nat Biotechnol*. 2025 Feb;43(2):282-283. doi: 10.1038/s41587-025-02552-9. PMID: 39953224.

- **Viewpoint article on hybrid PhDs:** <https://www.scientia.global/michael-y-schakelaar-hybrid-phds-integrating-biomedical-and-educational-research/>

Schakelaar MY. Hybrid PhDs: Integrating Biomedical and Educational Research. Scientia. 2024 Nov. <https://doi.org/10.33548/SCIENTIA1121>