

Tear down academic silos: Take an 'undisciplinary' approach

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The Soil Factory, a large, unremarkable warehouse on the southern edge of Ithaca, has become a collaboration center in 2021 for students, scientists, artists, community members and everyone in between. Credit: The Soil Factory

Solving societal problems such as climate change could require dismantling rigid academic boundaries, so that researchers from varying disciplines could work together collaboratively—through an "undisciplinary" approach, a new Cornell study suggests.

Instead of rallying around a specific mission, it's best to incorporate a human approach and fixate on the process to find solutions. The work published May 16 in *Nature Humanities and Social Sciences Communications*.

"The research topic is remarkably unimportant as motivation to engage in [collaboration](#), which flies in the face of relying on engagement merely around an important crisis such as climate change," said co-author Johannes Lehmann, Cornell's Liberty Hyde Bailey Professor, School of Integrative Plant Science Soil and Crop Sciences Section, in the College of Agriculture and Life Sciences.

"Collaborating among disciplines effectively is much more about how to approach problems, finding a common way of interacting. That was intriguing," he said. "In academia, we may want to question the way 'disciplines' constrain a common vision."

In the paper, the authors recount how the Soil Factory, a large, unremarkable warehouse on the southern edge of Ithaca, became a collaboration place in 2021 for students, scientists, artists and everyone in between.

The Soil Factory—once an actual soil factory—hosted classes, art installations and exhibitions, experiments in the bionutrient circular economy, Friday night film screenings, salons, chats, outdoor concerts and panel discussions. It dissolved academic boundaries and participants began having conversations about scientific perspectives and community engagement.

Through unstructured workshops, the authors found that who participates tends to be less important than how they interact.

"It's refreshing to be in spaces with people who aim to cross boundaries

in their work," said co-author Verity Platt, professor and chair in the Department of Classics in the College of Arts and Sciences, who has an interest in the environmental humanities.

Traveling between science and the arts is inspiring. "Since I work on ancient Greece and Rome, crossing these boundaries helps me think about bigger questions," Platt said. "And it has helped me better reach students majoring in the sciences—but who may be interested in the arts and humanities."

For Rebecca J. Nelson, professor, School of Integrative Plant Science and the Department of Global Development (CALs), one of the original researchers behind the Soil Factory notion, the factory is a node on a much larger network.

"Our network in and around Ithaca has brought together a wonderful and diverse cast of characters, who come together to work on different things for different reasons, with intersecting interests around environmental issues and a willingness to explore and learn from each other," Nelson said.

"One theme that intrigues me—as well as several of the scientists and artists who spend time at the Soil Factory—has to do with excreta (human waste) and the circular bionutrient economy," Nelson said. "It's a taboo topic that has a lot of potential to address a snarl of contemporary crises. Our local network connects with a global one that actively engages people in the U.S., India, Kenya and elsewhere."

To test the impact of interdisciplinary approaches as drivers for [engagement](#), after the [workshops](#) the researchers confirmed their results at the Soil Factory experimental center. Lehmann said the results clarified the importance of both synchronous and asynchronous interactions in a common space—like the Soil Factory—large enough to

allow uninhibited ideas flow.

"Our process suggests that universities may benefit from tolerating a more-porous structure on behalf of their faculty, staff, student body and especially surrounding communities," Lehmann said. The learning, sharing and catalytic social and intellectual action was understood to have been emergent from the university.

Lehmann said, "The trick behind getting diverse stakeholders from different disciplines into breaking down academic silos is decentralization, dispersion and undisciplining."

More information: Andrew Freiband et al, Undisciplining the university through shared purpose, practice, and place, *Humanities and Social Sciences Communications* (2022). [DOI: 10.1057/s41599-022-01195-4](https://doi.org/10.1057/s41599-022-01195-4)

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