

What's the latest on gut microbiota? Concordia microbiology undergrads publish their findings

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Credit: Concordia University

How many undergraduate classes in microbiology—or any scientific field, for that matter—can say they're published in a peer-reviewed

journal?

"It's very rare, especially with such a large class size," says Chiara Gamberi, an affiliate assistant professor of biology and part-time faculty member in Concordia's Faculty of Arts and Science.

This July, *Frontiers in Microbiology* published an article co-authored by 106 of Gamberi's undergrad students. It was part of an ambitious pedagogical initiative in the Department of Biology.

"Human Gut Microbiota: Toward an Ecology of Disease" is a review of the primary literature and latest discoveries on the interactions between gut microbiota and the human host.

'Strength in numbers'

The idea for the project came out of Gamberi's desire to give her students an opportunity to improve their writing. She also wanted to provide them with the kind of individual guidance she supplies in smaller, more senior classes.

"With just over 100 students, I figured we had strength in numbers," Gamberi says.

She divided them into groups of four or five and assigned one article per person.

"They had to learn how to properly cite and paraphrase the articles and how to avoid plagiarism—with help from the biology librarian, Katharine Hall," she says.

"Next, some of the students volunteered to edit each group's work into one article. Editing could be a whole course in itself!"

For the final step, the students made further edits based on the journal reviewer's comments and suggestions.

"The revised document was accepted for publication and one reviewer praised the students for addressing his comments so thoroughly."

Validation: student success in the job market

Susannah Selber-Hnatiw (BSc 17) was one of the editors. She found the project to be an extremely beneficial learning experience.

"Working on the article improved my writing and editing skills, but it also stands out on my résumé as something unique."

When Selber-Hnatiw graduated this spring, she went for a job interview at Maxxam Analytics. They were impressed that she'd already been published as an undergraduate student, and she got a job in their environmental lab working on extraction techniques to analyse hydrocarbons.

Next topic? Metabolism!

Gamberi was so pleased with the experience of having a class write an article together that she's repeating the initiative this year, but with a different topic.

"The second [student](#) paper will be on metabolic disease and how microbiota effects metabolism."

Partners in Research: Chiara Gamberi received funding from the Concordia Library for the journal's publication fee. The journal also defrayed the publication costs in part.

More information: Susannah Selber-Hnatiw et al. Human Gut Microbiota: Toward an Ecology of Disease, *Frontiers in Microbiology* (2017). [DOI: 10.3389/fmicb.2017.01265](https://doi.org/10.3389/fmicb.2017.01265)

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