

Doing Away With the Old Dogma: The Future of Science at Lake Forest College

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Following a hemorrhagic stroke, a doctor from the 1960s would likely inform their patient that there was little hope for recovery. Until five decades ago, the prevailing view in neuroscience was that the brain was akin to a piece of metal—all of its cells and connections were essentially fixed throughout adulthood. It wasn't until the groundbreaking work in sensory substitution by Paul Bach-y-Rita that researchers began to question the old dogma. If blind people could begin to 'see' due to specified vibrations against their skin, perhaps the brain was far more flexible than previously believed.

The ability to adapt to the environment as well as internal changes is essential for the brain's functioning. The same logic applies to education. The upcoming renovation of the Ernest A. Johnson Memorial Science Center aims to incorporate aspects of the new dogma: flexibility and the development of novel connections. The field of science is hurtling forward at a rapid pace. After 25 years of deliberation, Lake Forest College has reaffirmed its dedication to preparing students for a discipline that is continually evolving.

First developed in 1962 by Perkins and Will, the Johnson Science Building has long housed the departments of Physics, Biology, Chemistry, and most recently, Neuroscience. With the renovation, the departments of Psychology, Environmental Studies, and Biochemistry/Molecular Biology will also be placed under the same roof. In a personal interview with President Stephen D. Schutt, he explained the logic behind the move: "I'd like to make intersections among different departments much more frequent and possible so there aren't walls between the disciplines. There needs to be a lot more knowledge and conversation flowing among different departments." Echoing this same belief, Laurence R. Lee Family Professor of Biology, Dr. Douglas Light, elaborated on what he calls the 'synergy of proximities': "With the renovation, we will be able to bring together different departments to support increasing interdisciplinary and transdisciplinary study. When working on different floors, we get into our own little worlds and we tend to stay there. The new building will be purposefully designed to encourage accidental interactions between students and professors from different departments. We need to start working together on common questions we have."

In order to make these collaborations most fruitful, there will be a complete overhaul of the interior of Johnson. Noting the incredible growth of students interested in science, President Schutt determined that something considerable had to be done: "It became clear to the planning committee that we needed to improve the state of the facilities in order to serve the number of students who are pursuing the sciences. It is remarkable what we've achieved thus far with what we have. The classrooms and labs are outdated. They're not well designed for work in science today. They're too rigid in structure. Science today is flexible."

In summer Discovery Workshops led by the architect, professors discussed what sort of learning environments they

would like to produce. According to Dr. Light, "You do the building last—you think about teaching first. The architect's role is to make a space that supports that." A resounding statement made by professors was the need for 21st century flexible teaching labs that allow for the accommodation of growing student demand and adoption of the latest pedagogies, with particular emphasis on group work and discussion-based inquiry. Dr. Light spoke passionately about a desire for rooms that eliminate the distinction between lecture and lab. With multiple purpose rooms equipped with items like projectors and moveable desk pods, students could effectively transition from transforming yeast to doing presentations or engaging in a dialogue with their professor.

Another topic that came up frequently in the Discovery Workshops was a need for purposeful student spaces instead of the accidental ones we currently have, such as the bridge, a spattering of couches, and faculty lounges. Due to early morning classes and four-hour labs, it is not uncommon for science students to spend all day in Johnson. With central areas to socialize and study, Neuroscience major Sarah Chiren hopes to "see a new, diverse student body commingling with the current Johnson community."

Beyond the addition of comfortable student spaces, the architects are attempting to provide better climate control with updated AC/heating systems, a dark room for physics students, a green roof and a greenhouse for those in Environmental Studies, and unclaimed research labs and offices for newly hired tenure-track faculty. However, the question still remains—when will all of these exciting renovations be finished? According to President Schutt, the construction of the new wing is projected to be completed by Fall of 2017. Once students and faculty have been moved into the new space, the renovation of the existing Johnson Science Building will begin.

In *The Brain The Changes Itself*, Norman Doidge claims, "As we age and plasticity declines, it becomes increasingly difficult for us to change in response to the world, even if we want to." In the 54 years since its construction, the Johnson Science Building has prepared hundreds of science students for excellence in their chosen fields. However, its lack of flexibility has disabled many professors and students from embodying the dynamism and collaboration that is necessary for the 21st century workforce. The upcoming renovation is not only an investment in a building, but an investment in the future of science at Lake Forest College.





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