

Janelia Farm — Open for Discovery



Terraced: The front entrance to the landscape building.



Light: There's nothing dark or dreary about the staircases.



Flexible workspaces: Specially designed bollards enable lab benches to easily take on different functions.

Let the Science Begin

After six years and “hundreds and hundreds” of drawings, Janelia Farm design wizard Robert H. McGhee can finally allow himself

a moment of satisfaction. “It’s working,” he says with a tinge of pride. “It’s nice to see the campus cleaned up and being used. You think about things for a long time and you envision how things are going to work, but you never know for sure. I’m pleased.”

An architect and an interior designer, McGhee wrote the detailed architectural program for Janelia Farm, including how many labs, offices, guest rooms, and meeting spaces were needed, and then went on to develop designs and specifications for the furniture and fixtures that fill Janelia’s interior spaces—even the color scheme that runs throughout. McGhee received lots of input from HHMI trustees and leadership, along with an advisory committee and other experts, but he brought decades of experience to the task.

As the Institute architect and facilities officer since 1985, McGhee has designed new facilities and directed renovations for HHMI investigator sites around the country. McGhee’s interiors work hand-in-hand with the architectural plans created by principal architect Rafael Viñoly (see page 38). Viñoly’s visionary design includes enormous stretches of glass, creating corridors and labs that look out onto rooftop gardens and the hillsides beyond. The link with nature is felt throughout the building, with a mix of natural and recycled materials.

“The design of this place is phenomenal. Every detail that really matters has been thought out,” says Sean R. Eddy, a Janelia

Farm group leader and computational biologist who was previously an HHMI investigator at Washington University School of Medicine in St. Louis. “Bob McGhee spent hours working with me on the design of our offices and computer spaces. At every other place I’ve worked, computational biology labs were designed as an afterthought, placed in converted wet labs or in cubicles.” That doesn’t work well, says Eddy, for people who spend 12-plus hours a day thinking hard and working at a computer. “People need windows and sunlight and a much more human environment or they stop thinking efficiently.”

Eddy likens the feeling of connectivity from the open spaces and glass walls of Janelia’s landscape building to being at home. “You might think it’s a Big Brother intrusive thing, but it’s not like that,” he says, sitting at his desk and waving through a glass wall to lab members on their way to a ping-pong break. “It’s like being in a house with your family: You know where everyone is even though they’re off in different rooms.”

The social engineering aspects of the design plan have already made a difference for Rex Kerr, a fellow who just moved to Janelia from the Salk Institute in September. Kerr aims to develop imaging methods to look at neural activity in the worm model *Caenorhabditis elegans*. “Even though I’m still sort of half-camping in my lab, I’ve already had interesting conversations with [group leaders] Eric Betzig and Gene Myers. They



Guest housing: Beyond the main entrance's circular driveway are 96 guest rooms.



Scientific presentations: The main auditorium seats 250.



Making Connections: Common areas that encourage interaction among scientists are plentiful.

build microscopes and tools to do analysis and I have a cool problem to work on, so it makes for a very good interaction.” Kerr is anxious to begin work and expects to have his worm colony established and his microscopes and other equipment fully in place within six months.

McGhee says the major challenge at Janelia Farm was anticipating what scientists would need five years in advance. “Because we didn’t know what the scientific questions to be asked at Janelia would be, we gave the building a lot of flexibility to move from one function to another, without great cost or loss of time because of construction,” he says.

In the laboratories, for example, McGhee felt strongly that the ceilings had to be kept free of shelving, wiring, and piping. Instead, these services are brought up from the floor via stainless steel bollards. Shelves, tables, and drawers back up the bollards and can be removed with a minimum of fuss. “We wanted the labs to have other lives to them than strictly biochemistry,” says McGhee. “You can move the benchwork and change a lab in just hours.”

The extra large “back of house” support space sets Janelia apart as well. Many of the things that usually cramp a scientist’s lab area—fume hoods, freezers, and centrifuges, for example—have their own space near the lab but out of the way. “As we bring scientists on, we determine how that back of house space will be used,” says McGhee.

Eddy is downright giddy about Janelia’s data-processing capacity. “We have 1,000 processors here—more power here than we had in St. Louis—and the capacity to add 10 times more. And the system is running smoothly,” he says. “When I was in academia, we had our own fiefdoms and had to make alliances to build infrastructure, which was a tremendous time drag.” Here, he doesn’t have to think about civil engineering or building an IT team because a strong system already exists. “This place could be a model for universities on how to run a high-performance computing system.”

Entering the landscape building, visitors first see the meeting and break out spaces. “It’s somewhat akin to walking into a conference facility, one that is very gracious and open—and has laboratories in it,” says McGhee. “But you would never have a lab building with those elements if it didn’t have a larger mission.”

Part of what this building does is reach outside, says McGhee. “Bringing scientists in for meetings makes the campus more scientifically robust. That’s why there are very good meeting facilities and housing for guests, and why it doesn’t feel, when you walk in, like a research building. It feels like something else.”

Judging by the positive buzz heard at the first scientific meeting, held at Janelia in September, the “feel” of the building is right on the mark. Says McGhee, “We’ve all worked hard on this, not because we thought we had to design a building but because it has to be *right*.” ■ -MARY BETH GARDINER