

AUGUST 2019

The Green Features of Porter Neuroscience Research Center, Phase II (Building 35A)



The John Edward Porter Neuroscience Research Center (PNRC) was designed and constructed to provide NIH staff with a state-of-the-art research facility that prioritizes sustainability. The PNRC complex exists as two conjoined buildings: Phase I (Building 35), which first opened in 2004, and Phase II (Building 35A), which opened in 2014. While the Phase I building includes various sustainability features, the PNRC II building was specifically designed to be at the forefront of sustainable research facilities. These features have resulted in multiple certifications from outside sources, such as the PNRC II facility earning the Leadership in Energy and Environmental Design (LEED) *Gold* certification and a *Three Green Globes* rating from the Green Building Initiative (GBI). Very few laboratory buildings have ever received the LEED *Gold* certification.

Many of the green features of the PNRC II building focus on energy efficiency, especially given the energy-intensive nature of research facilities. These features either reduce the amount of energy used by the building or offset energy needs. A few examples include utilizing natural lighting, installing energy efficient light fixtures, employing occupancy sensors for lighting control, and operating a photovoltaic (PV) array (or solar panels). Additionally, the PNRC II facility uses green features to boost the efficiency of its heating and cooling systems with a chilled beam system and a ground-source heat pump. The chilled beam system passes cool water through a beam integrated into a suspending ceiling. As air passes over the beam it is cooled and falls to the floor while being replaced by rising warm air and creating a cooling air flow. This type of chilled beam system requires less active air movement, which reduces the energy expended on HVAC fans. The ground-source heat pump uses the Earth's near-constant temperature below 20 feet of depth to pre-heat or pre-cool building air, depending on the season. These features combine to make the PNRC II building approximately 30% more energy-efficient than a traditional laboratory building.

Other features of the PNRC II facility aim at improving aspects of water efficiency, stormwater management, light pollution and recycling. Low-flow water fixtures, like urinals, faucets and showers, help reduce water use within the building itself. Special landscaping using drought-resistant plants and mulches that reduce evaporation reduce water use in areas surrounding the PNRC II building. Combined, these features should result in 30% less water use. Permeable pavement placed around the PNRC II building minimizes the impact on stormwater management by allowing more rainwater to infiltrate the ground. Similar effects are achieved by the green roof of the PNRC II building, which diverts water from storm drains while also reducing urban heat island effects and providing a habitat for local animal species. As an additional support for the local environment, the effects of light pollution around the PNRC II building are minimized by using fixtures that do not emit light at an upwards angle. As an added environmental precaution, approximately 87% of construction waste from the PNRC II building was recycled and multiple recycling areas exist within the building.

These sustainability features set the standard for all future research buildings at the NIH. The PNRC II building is one of the most energy-efficient biomedical research laboratories ever constructed and this accomplishment will undoubtedly inspire further innovation in the future. Please contact [Mr. Pete Baxter](#) with questions regarding the sustainability features in the PNRC II building.

EVENT



2019 Bike to Work Day Recap

The NIH enjoyed another successful Bike to Work Day back in May, once again repeating as the most-represented employer in the D.C. area. Read inside for a full recap of the event!

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STAFF SPOTLIGHT

Go Green Get Healthy HHS



Green Champion Award Winners from the NIH for FY18

Many staff members from the NIH have received recognition from HHS for their contributions to sustainability in FY18. Read the full article to learn about their efforts and join us in congratulating them!

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NEMS TRAINING

Did you know? [Earth Overshoot Day](#) marks the date each year when humanity's demand for ecological resources (fish and forests, for instance) exceeds what Earth can regenerate in that year. In 2019, this date was July 29. The ultimate goal for sustainability is to move this date back to December 31 (or later). To learn more about sustainability at the NIH, please visit the [NEMS Training webpage](#) to view a short (20 minute) NIH environmental awareness training video.