

princeton neuroscience and psychology complex, princeton, new jersey

www.engr.psu.edu/ae/thesis/portfolios/2011/azs168**project team**

design architect Rafael Moneo Valles Arquitecto
 architect Davis Brody Bond, LLP
 structural/mep Ove Arup & Partners
 contractor Barr & Barr, Inc.
 lighting Fisher Marantz Stone

statistics

occupancy academic
 size 248,000 sf
 levels 6 one side, 5 other
 construction summer 2010–spring 2013
 delivery design–bid–build

architecture The Neuroscience & Psychology Complex at Princeton University is comprised of two modern structures joined by a common space. The buildings' design not only connects with the complex landscape but also binds the two separate disciplines. Bridging the two sciences is essential for collaboration and community. The complex facade carries the theme of connection by having rain screens in between floors hiding where the slab separation would be.

lighting Lighting in the non-laboratory spaces includes recessed linear fluorescent wall grazers, troffers, and channels accompanied by recessed compact fluorescent and halogen downlights and accent lights. Metal halide floodlights highlight the light monitors. Through the circulation spaces, Cirkul fixtures by Louis Poulsen provide diffuse illumination. Lab space lighting is provided by fluorescent sources including surgical troffers, high-bay, sealed, and downlights. Controls include daylight and occupancy sensors.

electrical The utility company, PSE&G, supplies electricity at 4160V to campus main location which feeds each building. Two service entrances feed two double-ended substations; one with 480Y/277V 3P 4W and the other with 208Y/120V 3P 4W secondary service. The 4160V generator provides emergency power. Both voltage systems are carried up the building in busways.

mechanical Nine air handling units (AHU) provide a total flow rate capacity of 137,000 cfm. Seven units are in Level 3 Penthouse and serve the north and south variable air volume (VAV) system, laboratories, and the Neuroscience chilled beams. The remaining two are in Level C/B and serve the Psychology chilled beams and the lecture hall.

structural The structural system includes column, wall, and braced frame concrete pad footings with reinforcing in both directions. Nine braced frames run along the height of the buildings. Level C/B has from 6"–12" one-way and two-way concrete slabs on grade. The upper levels mostly have composite deck rib slabs and steel wide flange beams. All levels are supported with steel wide flanges, some incased in concrete.

