

SENT TO LSU AGCENTER/LOUISIANA FOREST PRODUCTS DEVELOPMENT CENTER - FOREST SECTOR / FORESTY PRODUCTS INTEREST GROUP

BUILDING DESIGN + CONSTRUCTION

(This is truly awesome for the mass timber sector in the US.)

MASS TIMBER

Oregon State University builds a first-of-its-kind mass timber research lab

The Huang Collaborative Innovation Complex features an innovative use of mass timber that reduces embodied carbon emissions by 108%.

BY NOVID PARSİ, CONTRIBUTING EDITOR | JUNE 26, 2024



In Corvallis, Ore., the Jen-Hsun Huang and Lori Mills Huang Collaborative Innovation Complex at Oregon State University aims to achieve a distinction among the world's experimental research labs: It will be the first all [mass timber](#) lab meeting rigorous vibration criteria (2000 micro-inches per second, or MIPS).

Designed by [ZGF Architects](#), the \$213 million [Huang Collaborative Innovation Complex](#), which broke ground in April, will be both a teaching center and a home for team-based transdisciplinary research on global

SENT TO LSU AGCENTER/LOUISIANA FOREST PRODUCTS DEVELOPMENT CENTER - FOREST SECTOR / FORESTY PRODUCTS INTEREST GROUP challenges involving climate science, clean energy, and water resources. The center also will support research and learning in artificial intelligence, robotics, and materials science. The three-level, 143,000-sf building features flexible experimental and computational laboratories, a 12,000-sf clean room, undergraduate student space, and cross-functional collaborative spaces. The center also will harness one of the nation’s most powerful supercomputers, showcased on the public ground floor. The supercomputer’s rejected heat will help heat the building, which has the potential to become net zero operational carbon on an annual basis by 2030. For the first-of-its-kind mass timber structure, ZGF collaborated with OSU’s College of Forestry to leverage its expertise in wood and regional forestry practices. To meet the vibration criteria of 2000 MIPS in mass timber, the project team created a structural bay in the lab interiors comprising mass timber columns, beams, and a composite deck. This carbon-negative innovation not only provides the structural stability needed for the use of sensitive scientific equipment, it also reduces embodied carbon emissions by 108% compared to the traditional all-concrete approach. In addition, the exposed wood creates a beautiful interior environment and an inviting academic and research environment. “We discovered over the course of planning that with careful coordination between the structure and building systems, mass timber works really well for research buildings,” Vladimir Pajkic, lead designer and partner at ZGF, said in a statement. On the outside, electrochromic glass, in conjunction with intelligent building controls, changes tint based on the sun’s position and the level of cloudiness. Along with façade glazing and shading strategies, these smart windows increase daylight, reduce peak cooling load, and create a visually comfortable space.

On the Building Team:

Owner: [Oregon State University](#)

Design architect and architect of record: [ZGF Architects](#)

MEP engineer: [AEI](#)

Structural engineer: [KPF](#)

General contractor: [Andersen Construction](#)

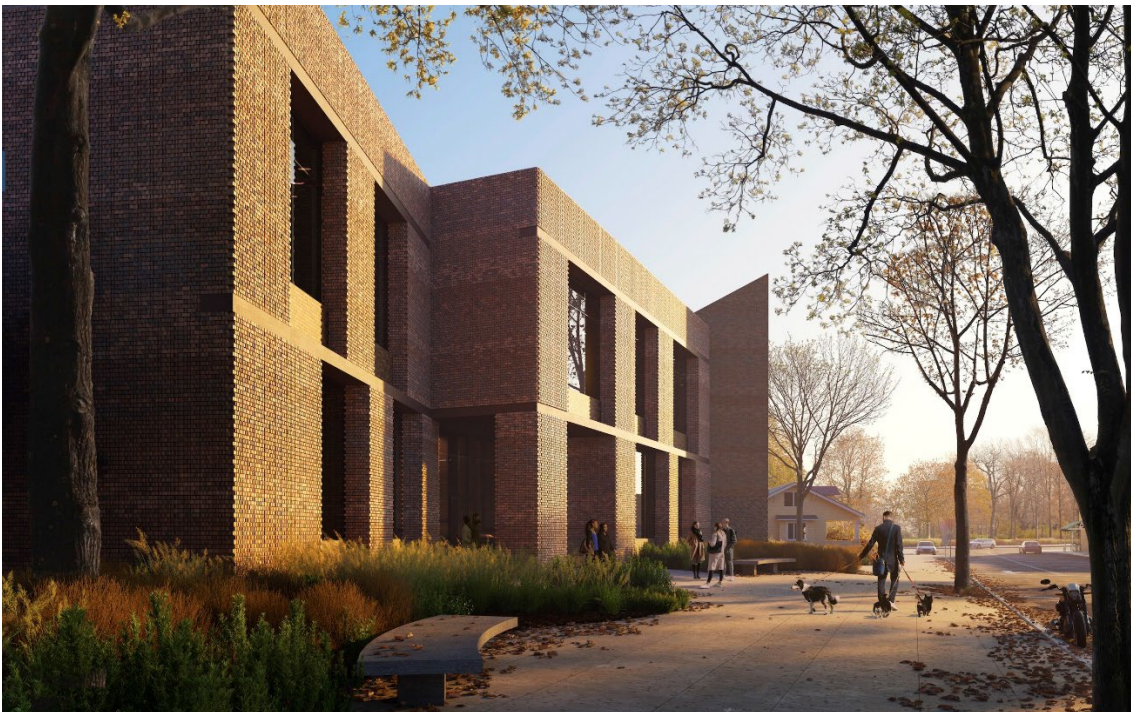
ZGF Architects Renderings



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27 June 2024



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Richard P. Vlosky, Ph.D.
Crosby Land & Resources Professor of Forest Sector Business Development
Director, Louisiana Forest Products Development Center
Room 227, School of Renewable Natural Resources
Louisiana State University Agricultural Center
Baton Rouge, LA 70803 USA
Phone: (225) 578-4527; Mobile: (225) 223-1931
rvlosky@agcenter.lsu.edu
<https://www.lsu.edu/rnr/people/profiles/vlosky.php>

Chair, LSU Agricultural Faculty Council, LSU AgCenter/College of Agriculture
<https://faculty.lsu.edu/ag-faculty-council/index.php>

