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# Science + Technology Perspectives

# Insights from the 2025 Lab Design Conference



The recent Lab Design Conference offered a compelling glimpse into the evolving landscape of laboratory design and construction. Hixson Project Architect Shuting Zhao and Architectural Designer Emma Cunningham attended the event, which featured a

convergence of ideas, challenges, and forwardthinking solutions. According to Shuting and Emma, five key themes underscored the 2025 conference:

 Construction Cost Transparency. Rising construction costs, driven by global instability and tariffs, have become a significant concern for project stakeholders. To help address this issue, one effective strategy shared by presenters at the conference was to ask contractors to submit a base bid that excludes inflation and tariff-related increases. Instead, these costs should be listed as potential add-ons. "This approach appears to enhance transparency, allowing owners to plan more effectively, and encourages more "applesto-apples," competitive bidding," said Shuting.

- 2. End-User Involvement. Another key theme for this year's conference was an emphasis on bringing lab users into the design conversation...something that Hixson has always been an advocate of doing. Presenters noted that lab managers and lab users can find themselves under-informed during the design process, which can lead to miscommunication and unmet expectations. However, in some cases, lab personnel may only ask for newer versions of their current setup... without realizing what else they can achieve with a new lab design. "Overcoming this limitation requires really listening to the user to uncover what they need, but then also demonstrating what can be done to further reach their goals, said Emma.
- 3. Lab Relocation Planning. Conference presenters also spent time discussing the relocation of labs, and how this effort is frequently underestimated in terms of cost, time, and complexity. "Many companies treat a lab relocation as a sub-task within a broader construction or renovation

project," said Shuting. "In reality, though, it should be treated as a separate project, with its own budget, timeline, and resources, so that critical details aren't overlooked."

- 4. Designing for Flexibility. A fourth key theme at the Lab Design Conference was a renewed look at flexibility in lab design, particularly for laboratories where priorities and equipment needs routinely change. "To accommodate flexibility, today's labs increasingly incorporate modular casework, overhead utility systems and storage, and adaptable layouts," said Emma. "Such features enable spaces to evolve without major renovations, while future-proofing the lab, making it more resilient to change and more cost-effective over time."
- 5. Lab Automation. Automation is becoming increasingly prevalent in laboratories as a way to address labor shortages, minimize human error, and boost operational efficiency. At this year's conference, presenters discussed how lab design is evolving to accommodate more automation with features such as robotic systems, which require smooth transitions between spaces, level flooring, and accessible layouts. Though Shuting cautions that, "despite the rise of automation, human collaboration remains essential. Design strategies must balance the needs of machines with those of people, ensuring that maintenance areas and teamwork spaces are integrated into the overall plan."

Overall, Shuting and Emma agreed the conference provided an in-depth look at the most topical issues facing lab designers and lab owners. As Emma summarized, "the conference served as a great reminder that lab design is not just about the physical elements we're designing or the equipment we include in our floor plans... it's about creating environments where people can do their best work."

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