



BroadBranch Advisors

SLAS 2024: Harnessing the Power of Automation to Speed Drug Discovery and Development

[The Society for Laboratory Automation and Screening \(SLAS\) Conference](#) held in Boston, Massachusetts the week of February 3-7, 2024 presented the latest technical innovations with the potential to transform the biopharmaceutical drug discovery and development landscape. This year's record-setting SLAS 2024 conference showcased numerous compelling technologies targeting longstanding R&D productivity challenges including new developments in generative AI, lab connectivity and productivity, and drug screening.

The conference convened more than 7,500 R&D leaders to explore fresh approaches to solving challenges that continue to slow the progress of drug discovery and development. The biopharmaceutical industry faces intense pressures from shrinking pipelines, fading



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blockbuster drug revenues, and rising clinical trial costs – and in the wake of slower biotech markets the past few years, companies are now beginning to invest more heavily to grow their pipelines. This year's conference theme was *Innovation at Every Turn* embodying the SLAS mission to leverage technology to drive scientific progress.

Vicki Loise, CEO of SLAS, noted with regards to this year's conference, "We are thrilled by the turnout we



Vicki Loise, CEO of SLAS

experienced in Boston this year. With a record number of exhibitors, a record number of first-time exhibitors and a record attendance overall we've lived up to our reputation as the place to be to see all of the new developments and industry advances in laboratory automation. The mood was extremely positive, the interactions were energetic and the feedback so far has been fantastic. We feel very fortunate to have so much scientific participation from the Boston region again this year and look forward to supporting the SLAS community with more collaborative events in 2024."

The Proliferation of Creative AI

A prominent theme throughout the conference was the evolving role of artificial intelligence (AI) to enhance and accelerate research progress. The conference included an educational track devoted to these topics which included speakers and biopharmaceutical executives from large



data players (Microsoft), established pharmaceutical players (Pfizer and Moderna), researchers (NIH, Broad Institute), and AI forward startups

([Pharmaceutical Collaborations](#)).

The talks focused on laboratory advancements including the promise of self-optimizing experiments, the design of novel testing solutions, and AI-driven drug screening all requiring less human oversight and intervention.

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Advancements in Drug Discovery and Toxicity Models

SLAS also featured interesting conversations around the continued maturation of more biologically relevant models

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for drug discovery and toxicity testing. Advanced 3D tissue cultures like organoids and organs-on-chips offer more *in vivo*-like complexity than traditional cell culture without the added expense and complexity of extensive animal model testing. Exhibitors such as Inventia and Cell Microsystems showcased microfluidic and bioprinting platforms to culture these 3D tissues, while others (SynVivo and InSphero) discussed the adoption and utility of their 3D cultured and organ-on-a-chip offerings for drug screening and toxicity testing.

Revolutionizing the Lab with Digitization and Connectivity

Automation and lab connectivity are always hot topics at SLAS as each of the leading automation players

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takes the opportunity to demonstrate their latest innovations. This year, in addition to showcasing technical advancements – such as Tecan’s Phase Separator for non-optical layer separation in plasma samples – many companies promoted their efforts to improve connectivity, workflows, and quality while also driving platform efficiency. Hamilton announced a new initiative, the [Hamilton Pipetting Excellence Program](#), that leverages instrument connectivity to verify, check, and monitor instrument performance. [Tecan introduced two new digital products](#), LabNavigator™ and their Next-Gen Introspect™ platforms, designed to deliver workflow oversight at the lab and instrument level to maximize productivity and efficiency.



Portfolio Approach to Customers

SLAS also provided an opportunity for [Revvity](#) and [Danaher](#) to unveil new branding and customer engagement strategies to support their biopharmaceutical customers. Revvity, the life science company that recently spun out from PerkinElmer, introduced its new corporate branding and rolled out a variety of improvements across its product portfolio, showcasing automation and analytical capabilities for CRISPR and AAV empty/full capsid discrimination capabilities to support these emerging drug modalities. Danaher’s new branding marked a departure from its traditional approach by



elevating its corporate brand serving the drug discovery and development continuum rather than focusing its efforts at the operating company level.

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Final Thoughts

The SLAS annual conference remains a 'can't miss' for executives and professionals looking to spot trends in the biopharmaceutical space. Advancements in artificial intelligence and digitization set the stage for transformative changes in the field in the years to come. Next year's SLAS conference is scheduled for January 25-29, 2025 in San Diego, CA with the theme Curiosity Igniting Innovation. Vicki Loise and her team are already looking forward to next year, stating, "We're looking forward to launching a new and expanded Lab of the Future initiative at SLAS2025 in San Diego – stay tuned for that! Our theme next year is *Curiosity Inspiring Innovation* because we

know that every great innovation starts with someone's curiosity. We anticipate another great year of collaboration opportunities and insightful science to turn that curiosity into powerful discoveries."



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