WASHINGTON, D.C., October 16, 2017 – Global Biological Standards Institute (GBSI) today brought top scientists, biomedical researchers, investors and funders together with science inventors and programmers to consider the laboratory of the future and explore how newly affordable and accessible digital tools, technologies and lab automation advances will increase reproducibility in preclinical research… and ultimately to accelerate the discovery of treatments and cures. GBSI's 3rd BioPolicy Summit: "Improving Reproducibility of Research Through Digital Tools, Technologies and Laboratory Automation," marked the first time the science tech community had brought their expertise to the reproducibility case.

"The innovations demonstrated and discussed at today's BioPolicy Summit have the potential to make a profound impact on the quality of research," said Leonard P. Freedman, Ph.D., president of GBSI. "Laboratories are changing. New inventions and developments are redefining the lab environment and workflow characteristics at every step of the scientific process. Affordable, accessible biotech solutions are democratizing scientific discovery, putting sophisticated tools and data in the hands of more scientists than ever before, and making protocols and results easier to share."

At the meeting, inventors and technology experts demonstrated their latest creations that promise to support scientists and revolutionize the way science is done. Scientists, researchers and academicians offered insight into organizational strategies and tools needed to capture the benefits of automation, and steered discussion about how these innovations, along with traditional scientific methods and expertise, will lead to more reproducible research.

"In the past, a serious scientific institution like GBSI wouldn't have reached out to a biohacker like me who got started at a community lab like Genspace. But today, they're looking to us and our open-source technology for solutions to the life science's reproducibility issues. We are very excited to be involved," said Will Canine, cofounder and chief product officer of Opentrons—which makes robots for biologists that are 10-100 times cheaper than other lab automation.

Canine demonstrated a pipetting robot that automates basic protocols such as plate filling, consolidating, mapping, and serial dilution, and more advanced pipetting tasks. "Today, 90 percent of labs have no automation at all, so they run all of their experiments by hand. Manual processes are not easy to reproduce; robotic processes, on the other hand, are easy to reproduce exactly—you just share the code. And when scientists get to focus on collaboration, experiment design, and data analysis, rather than the repetitive aspects, it's better for everyone."

"The robotic pipetting systems used to cost at least $20,000 and require IT experts to program, but now they are closer to $3,000 and much more user-friendly," said Freedman. "That's revolutionary."

Protocols.io is a free, central, crowd-sourced protocol repository that is making it easier for scientists to share and discover up-to-date science knowledge. Cofounder, Lenny Teytelman, discussed the latest advancements at an afternoon session. "We're improving reproducibility and changing the publishing culture with increased methodological details of published research. We are also starting to work towards connecting our platform and protocols directly to the laboratory devices, so that we'll be able to tell you when there is a misstep or a wrong setting."

Nancy J Kelley, President & CEO of Nancy J Kelley + Associates, led a panel discussion and shared about emerging commercial incentives and business models for using automation to improve reproducibility. Robert Seamans, Associate Professor, NYU Stern School of Business, confirmed the increase in manufacturing and use of robotics today is impressive. It is growing especially fast in the medical field, and he estimates the robotics growth rate in the medical, precision and optical instruments industry over the past five years to be around 250% in the U.S.

Also among the 30 experts who presented inventions and ideas were representatives from Bill & Melinda Gates Foundation, Boston University Department of Electrical and Computer Engineering, Chan Zuckerberg Initiative, HackScience, Khosla Ventures, MIT Media Lab, National Center for Advancing Translational Sciences (NIH), Nature, SciNote, Stanford University, Transcriptic, Tetrascience, Zymergen and others.

A full list of presenters and the program is at GBSI.org.

BioPolicy Summit partner organizations include American Type Culture Collection (ATCC), Nancy J. Kelley + Associates, BioDesign Automation Consortium and Edinburgh Genome Foundry. The meeting at San Francisco's Mission Bay Conference Center built upon industry gatherings held by GBSI since 2013, convening stakeholders in cell authentication, antibody validation and other priorities undertaken by the life sciences research community to shore up the reproducibility crisis.

The event's steering committee includes: Leonard P. Freedman, Ph.D., president, Global Biological Standards Institute; Nancy J. Kelley, JD/MPP, president and CEO, Nancy J. Kelley + Associates; Will Canine, co-founder and chief product officer, Opentrons; Douglas Densmore, Ph.D., associate professor, Department of Electrical and Computer Engineering, Boston University; James Inglese, Ph.D., principal investigator, Assay Development & Screening Technology, National Center for Advancing Translational Sciences, NIH; Lenny Teytelman, co-founder, Protocols.io.

About Global Biological Standards Institute (GBSI)
Global Biological Standards Institute (GBSI) is an independent nonprofit organization dedicated to enhancing the quality of biomedical research by advocating best practices and standards to accelerate the translation of research breakthroughs into life-saving therapies. GBSI was founded by the nonprofit, American Type Culture Collection (ATCC), and is currently funded primarily by ATCC's

BioNexus Foundation, with additional support from other grants and donations. For more information, visit GBSI.org and Twitter @GBSIorg.

###

Media Contacts:

Carol Miller, senior communications advisor, GBSI: cmiller@gbsi.org; 202-306-0130
Nancy Retherford, communications advisor, GBSI: nancy.retherford@gmail.com; 317-460-6838

Note to editors: Interviews, photographs and video are available upon request.

Funded by ATCC and The BioNexus Foundation

Terms & Conditions Privacy © Global Biological Standards Institute 2017. Site by Barrel