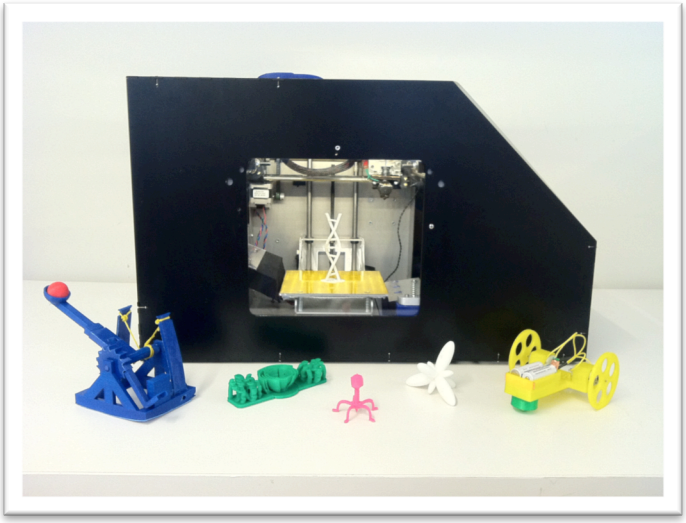
LEMELSON-MIT

*Celebrating invention, inspiring youth*

# Lemelson-MIT National Collegiate Student Prize Competition "Use it!" Winner

**Christopher Haid (Team lead), MIT (Cambridge, MA)**
**$10,000 Lemelson-MIT "Use it!" Undergraduate Team Winner**
*Automated 3D printing for the classroom*

**The Challenge:** The current 3D printing process is often considered too cumbersome for students and teachers, prohibiting widespread adoption of a technology that offers a hands-on, interdisciplinary approach to science, technology, engineering, art and mathematics (STEAM) education. Desktop 3D printers have a steep learning curve, require a local operator, and are difficult to share.



**The Solution:** 3D printing provides powerful resources and tools for educators, giving students the opportunity to bring their ideas to life. The New Valence Robotics (NVbots) team consisting of Christopher Haid, Mateo Pena Doll, AJ Perez and Forrest Pieper created a cloud-based interface and automated part removal mechanism allowing teachers and students to easily use their NVprinter for robotics and engineering activities. This patent-pending technology allows the NVprinter to operate around the clock without human interaction. By using an automated part removal mechanism, users no longer need to remove their 3D printed parts by hand between each job: the current standard in the 3D printing industry. The cloud-based interface allows users to easily submit jobs from any device.

**Applications and Commercialization:** The goal of the NVprinter is to bring 3D printing to the classroom. The NVbots team is currently piloting printers in several Massachusetts schools and will use this experience as the basis for launching easy-to-use and easy-to-share NVprinters in schools worldwide this fall.