IMMEDIATE RELEASE:  

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Tuesday, May 26, 2015

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NYU ENGINEERING STUDENT EARNNS PRESTIGIOUS

NSF FELLOWSHIP FOR WEARABLE-ROBOT RESEARCH

Henry Clever Hopes His Mathematical Equations Will Someday Deliver Energy-Efficient Exoskeletons to Give People with Disabilities a Natural Gait

Henry Clever, a mechanical engineering doctoral student at the NYU Polytechnic School of Engineering, has been awarded the prestigious National Science Foundation (NSF) Graduate Research Fellowship for his work at the intersection of robotics and human energy expenditure. The research will establish a critical measure for the design and control of wearable robotic exoskeletons that could particularly benefit people with lower-limb disabilities.

Working in the Applied Dynamics and Optimization Lab under the mentorship of Assistant Professor Joo H. Kim, Clever is formulating equations that will enable practical applications of assistive robotics. He is helping to devise mathematical models of energetic performance and stability control that can be integrated into the design of lower-extremity robotic exoskeletons. His work could help accelerate the development of better performing, lower cost assistive devices.

“Providing people with an energy-efficient exoskeleton will obviously increase their mobility,” he says. “But there are other, intangible benefits. For example, simply enabling people to stand up from a wheelchair and be at the same eye level as anyone else can provide an enormous boost to their self-confidence and social interactions.”

The highly competitive NSF award, which recognizes outstanding graduate students pursuing research-based degrees, provides recipients with a three-year tuition and stipend along with research support funds and professional development opportunities.

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Clever, from Lawrence, Kansas, is the second student from Kim’s research group within the Department of Mechanical and Aerospace Engineering to garner the coveted fellowship, which this year attracted some 16,000 applications. (Dustyn Roberts, who graduated last year, won for humanoid-robot research that provided a greater understanding of how much energy the joints in the human body expend during walking.)

“I feel doubly proud that Henry has been honored by the NSF,” says Kim. “It is a well-deserved recognition of his important and socially beneficial work, and it is a tremendous privilege for our lab to be home to two graduate students who have won the attention and support of the foundation within the past six years.”

The NYU Polytechnic School of Engineering dates to 1854, when the NYU School of Civil Engineering and Architecture as well as the Brooklyn Collegiate and Polytechnic Institute (widely known as Brooklyn Poly) were founded. Their successor institutions merged in January 2014 to create a comprehensive school of education and research in engineering and applied sciences, rooted in a tradition of invention, innovation and entrepreneurship. In addition to programs at its main campus in downtown Brooklyn, it is closely connected to engineering programs in NYU Abu Dhabi and NYU Shanghai, and it operates business incubators in downtown Manhattan and Brooklyn. For more information, visit http://engineering.nyu.edu.

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