



State of the Art in Robotic Leg Prostheses: Where We Are and Where We Want to Be

Workshop website: <https://belab.mech.utah.edu/iros2020/>

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In this talk, Dr. Elliott Rouse will give an overview of the open source robotic prosthetic leg (OSL) project. The overarching purpose of the OSL project is to unite a fragmented field—research in prosthetic hardware design, prosthetic control, and amputee biomechanics is currently done in silos. Each researcher develops their own robotic leg system on which to test their control strategies or biomechanical hypotheses. This may be successful in the short term, since each researcher produces publications and furthers knowledge. However, in the long term, this fragmented research approach hinders results from impacting the lives of individuals with disabilities—culminating in an overarching failure of the field to truly have the impact that motivated it. With the goal of unifying the research field of prosthetic leg controls, the OSL is a robust and relatively inexpensive system that can be easily manufactured, assembled, and controlled. Through this website, researchers have access to downloadable hardware and software files so that they can enter the research field without having to design the leg themselves. Ultimately, having a ubiquitous leg will help facilitate comparison between control strategies, potentially streamlining the field towards highly functional robotic prosthetic legs.