The PSYONIC-ROMP Collaboration: Providing Affordable, Advanced Prosthetic Hands in Quito, Ecuador

Aadeel Akhtar¹ and David Krupa²
¹ PSYONIC, ² Range of Motion Project

Problem
• State-of-the-art commercial prostheses cost between $15000-$30000
• They lack sensory feedback
• 80% of people with amputations come from developing nations, <3% have access to prosthetic care

Solution
• We have developed an affordable advanced bionic hand that is viable to use in Quito, Ecuador
• The hand can withstand blunt force impacts
• The hand has advanced motor control using EMG pattern recognition
• The hand has sensory feedback through pressure sensing and electrocutaneous stimulation

Project
• We will be conducting the first home trial of our advanced prosthetic hand with a patient with a below-elbow amputation in Quito, Ecuador