

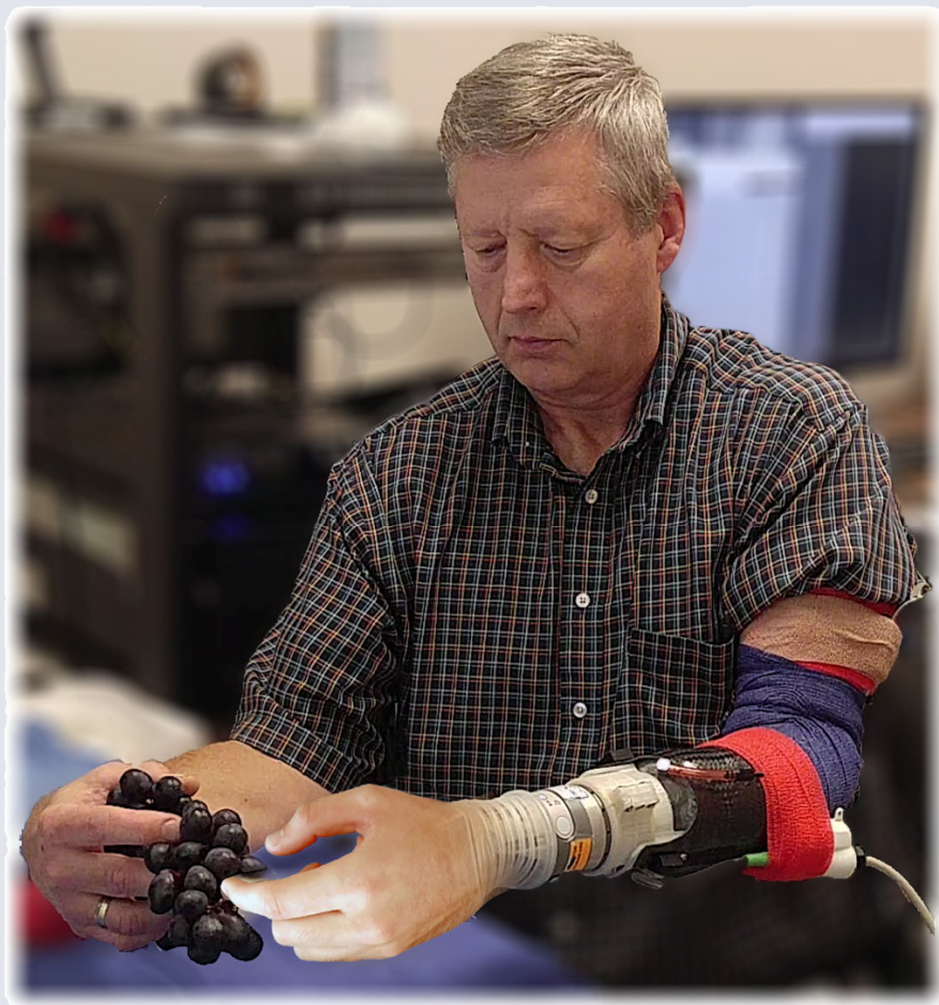


THE UNIVERSITY OF UTAH
DEPARTMENT OF
BIOMEDICAL ENGINEERING

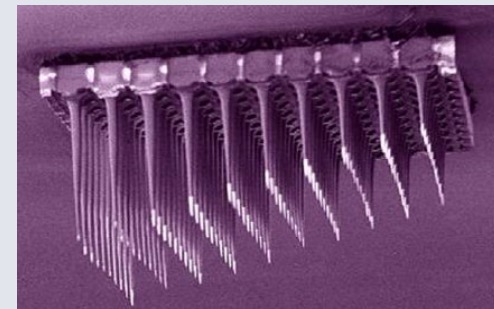
A New Hope: Restoring Naturalistic Sensorimotor Function after Hand Amputation

Gregory A. Clark, Ph.D.

Department of Biomedical Engineering, University of Utah
OSMS Ogden UT, 20-May-2022

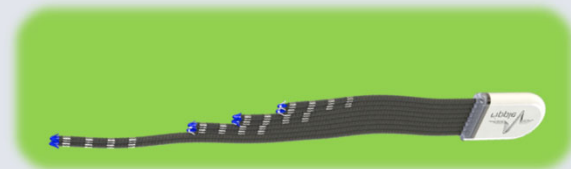


Center for Neural Interfaces



USEA

Blackrock Microsystems/
Loren Rieth



EMG leads

Ripple Neuro, LLC/
Synapse Biomedical

Lights, Camera, ACTION! **(and Sensation)**

USEAs and iEMGs Are Implanted Into the Residual Arm Nerves and Muscles



Participant S7

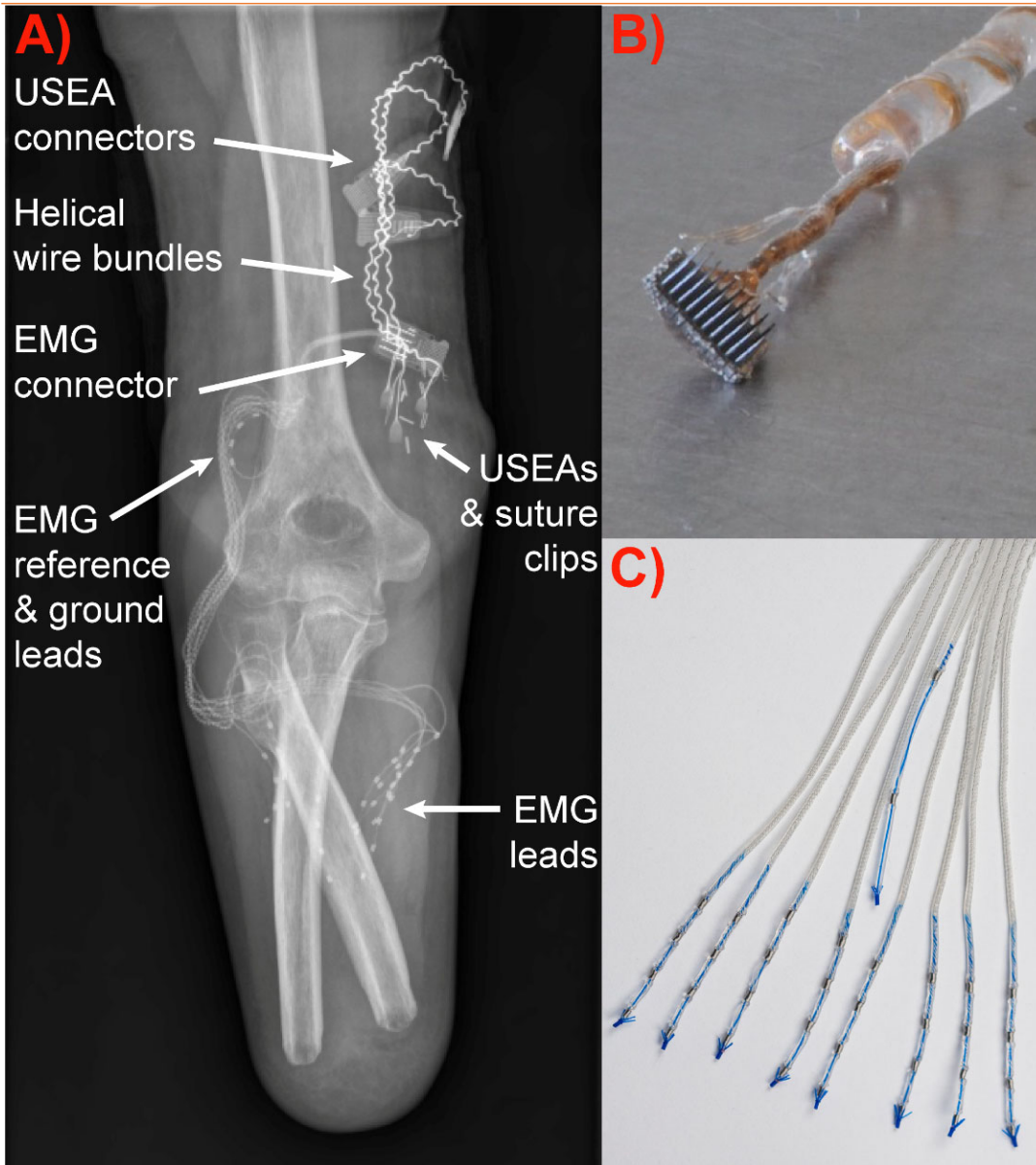
USEAs and iEMGs Are Implanted into the Residual Arm Nerves and Muscles



Participant S7

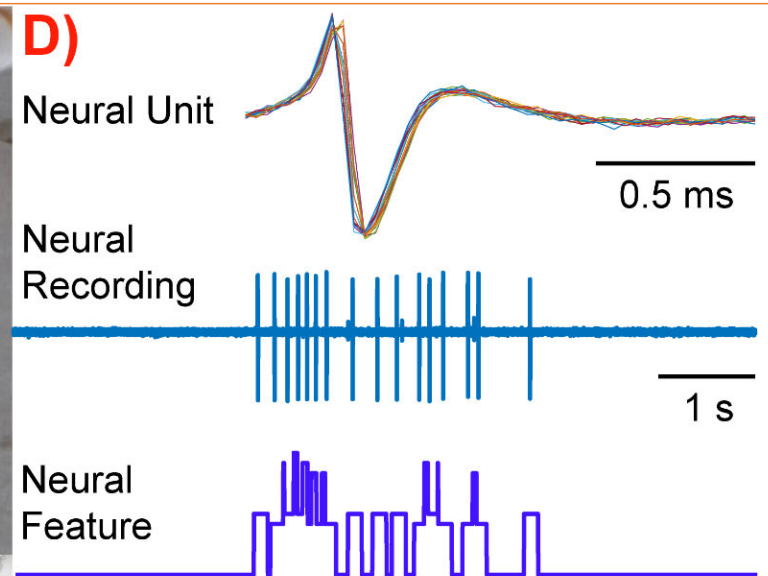
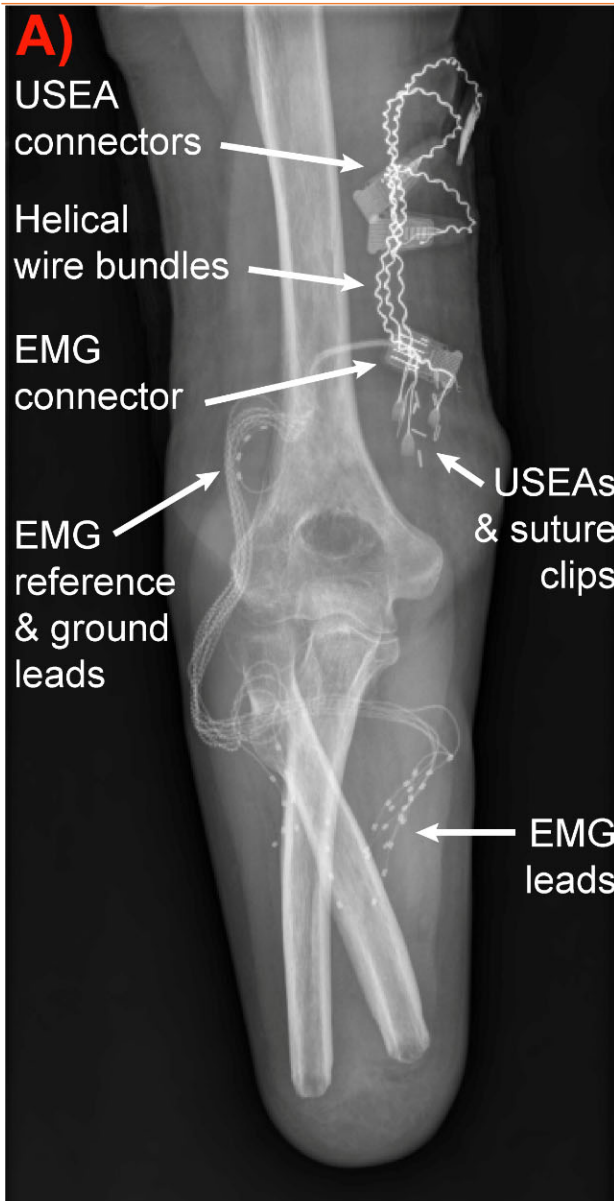
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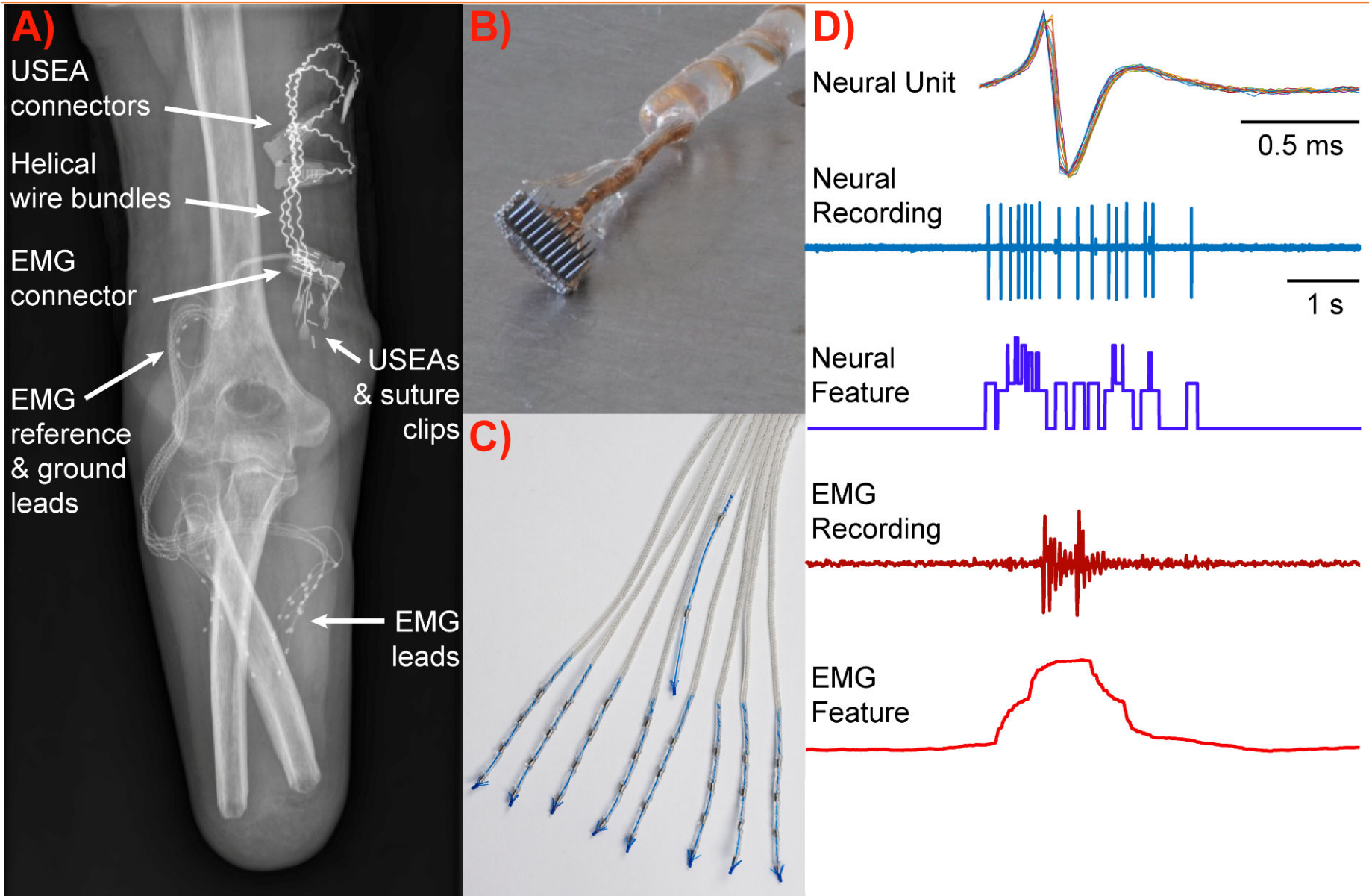
Neural and EMG Data Collected to Infer Motor Intent

Participant S7



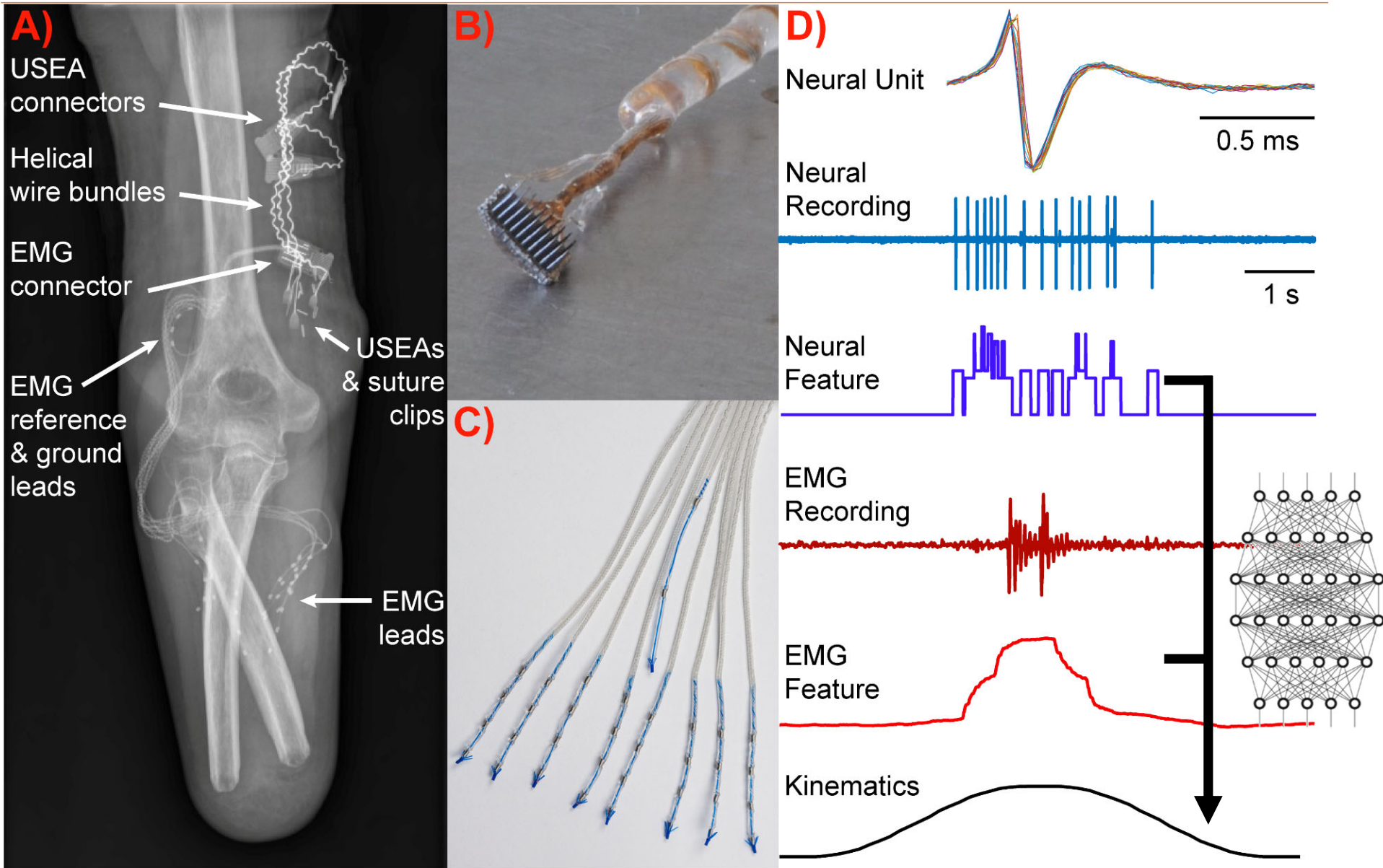
Neural and EMG Data Collected to Infer Motor Intent

Participant S7

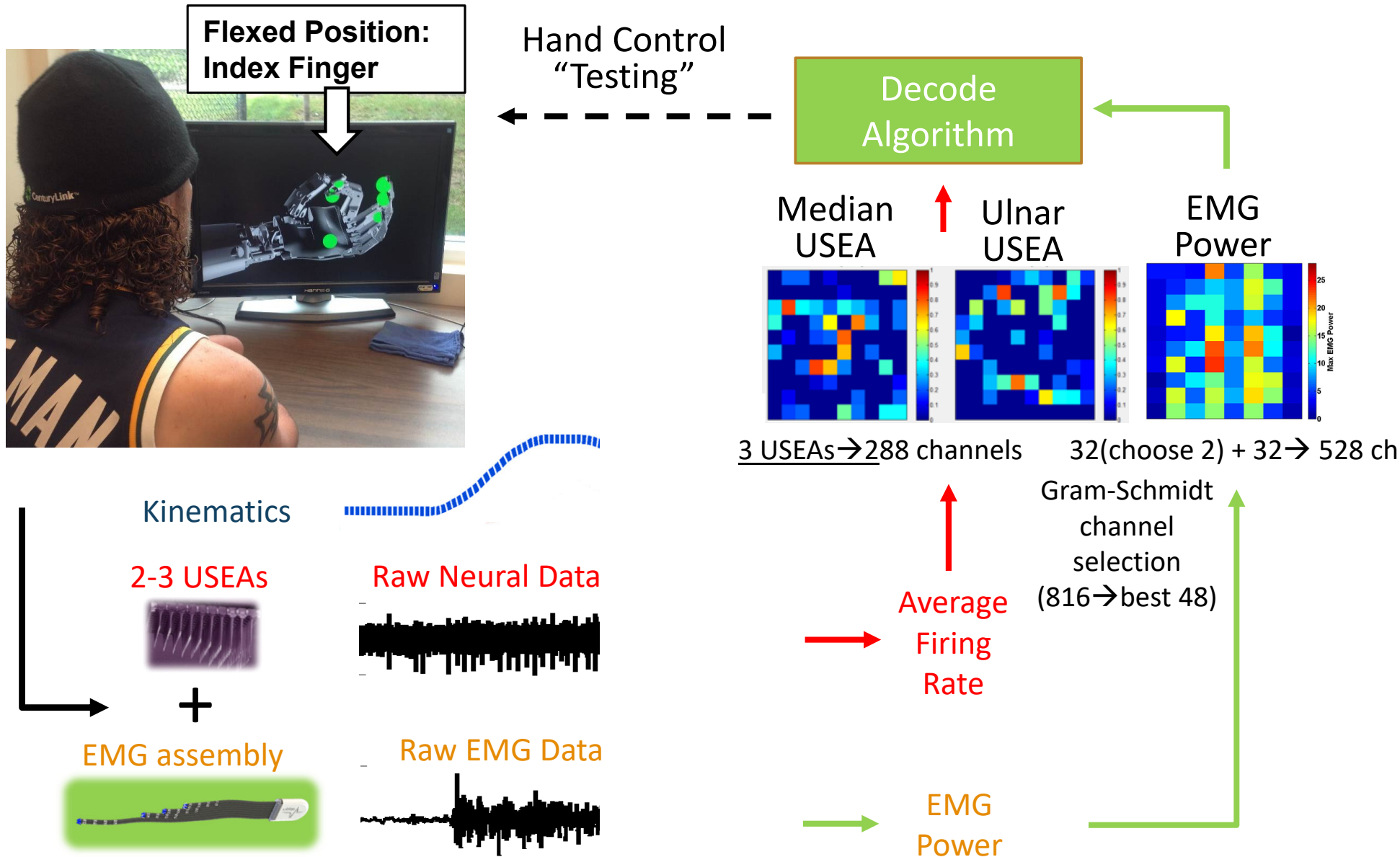


Neural & EMG Features Used To Infer Intended Movements

Participant S7



Participant Actively Mimics Virtual Hand During Decode “Training”



LUKE ADL Highlights, Day 1

First-in-Human



LUKE ADL Highlights, Day 1

First-in-Human



LUKE ADL Highlights, Day 2-3: Moving an Egg

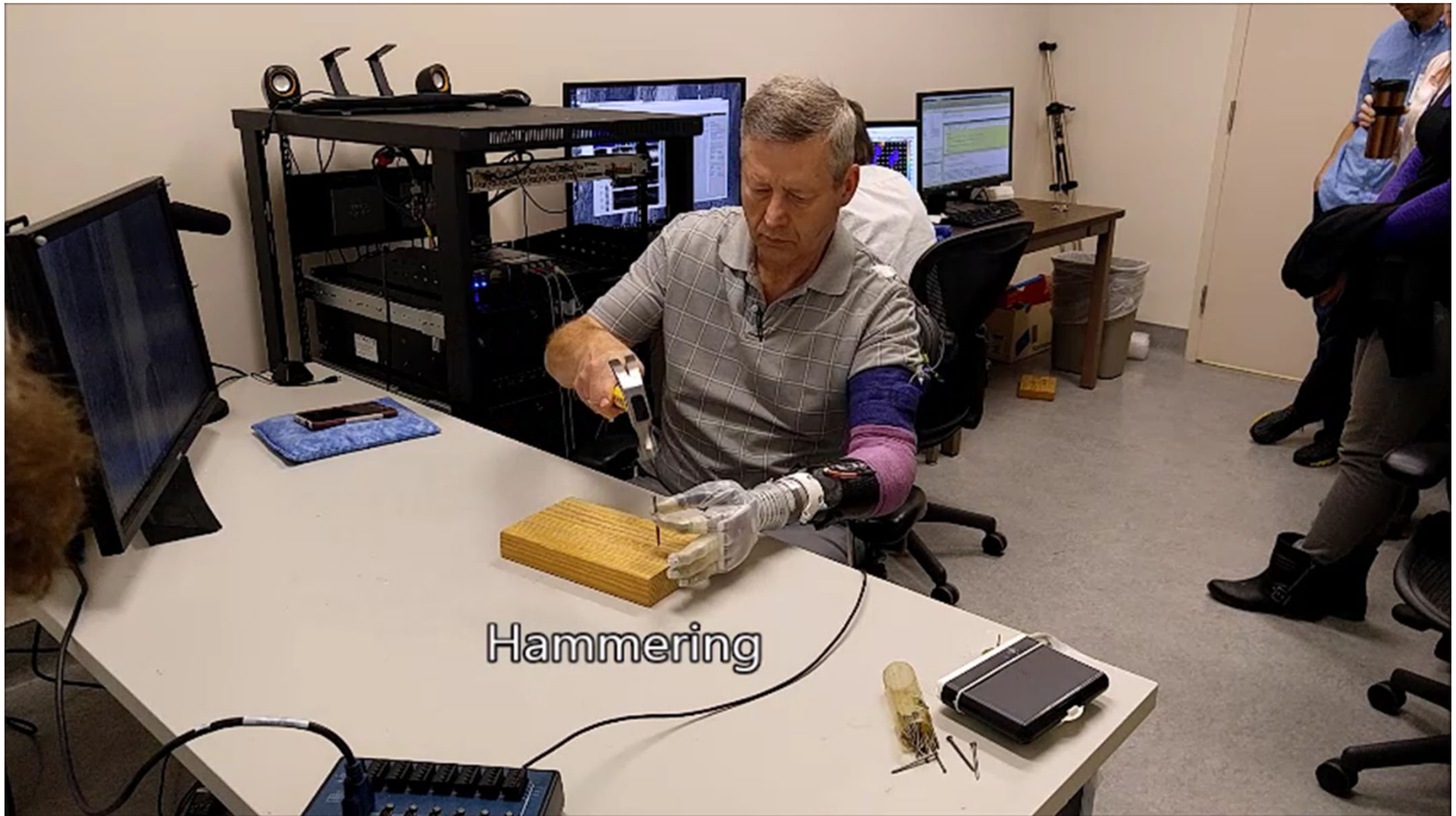


Moving an egg

LUKE ADL Highlights, Day 2-3: Moving an Egg, Video

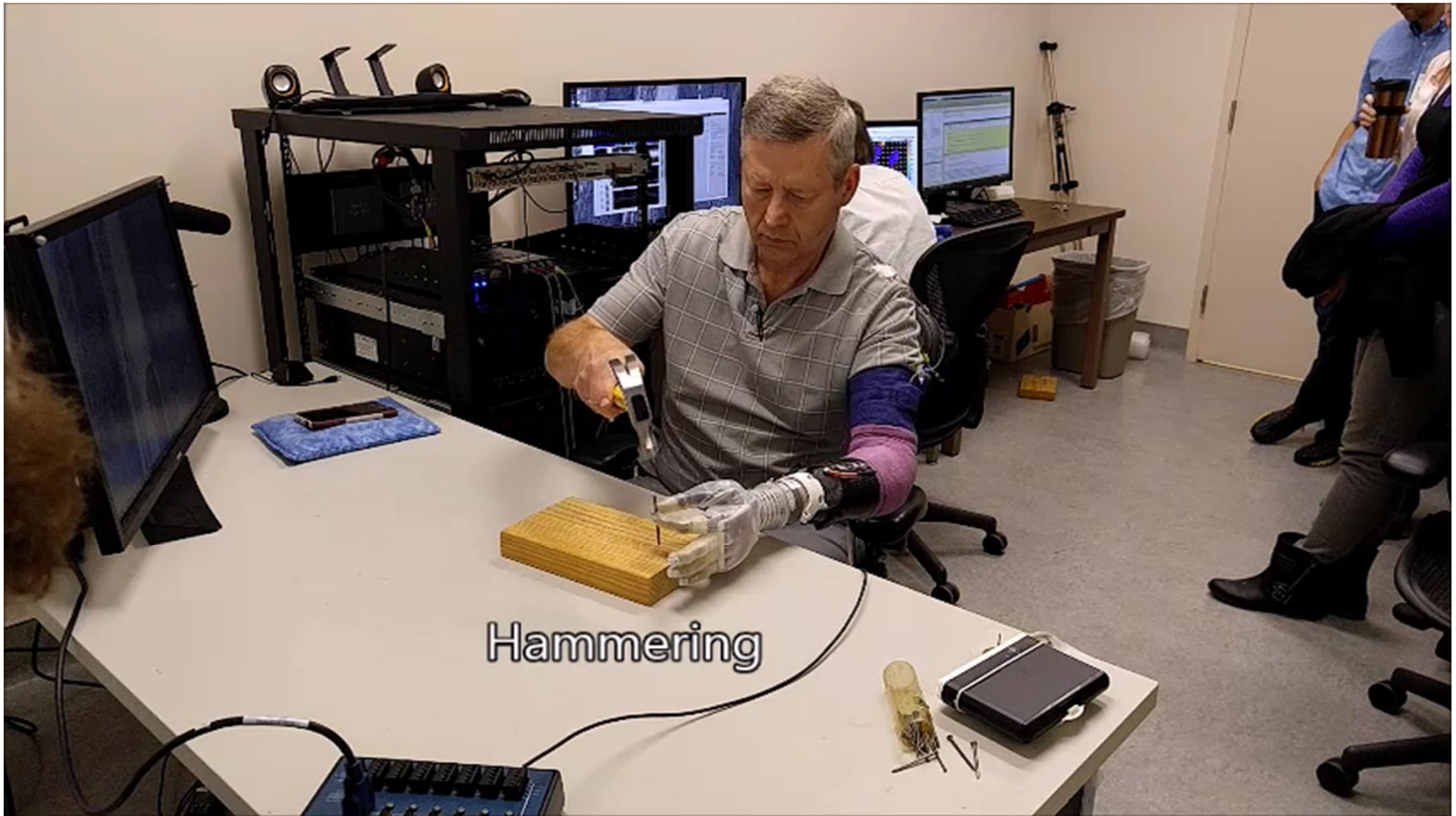


LUKE ADL Highlights, Day 2-3: Hammering



HS2_170329_Luke d2+d3 ADLs_v170416-1334-gac_hammering only_for CPU.
PICTURE

LUKE ADL Highlights, Day 2-3: Hammering, Video



LUKE ADL Highlights, Day 2-3: Doffing & Donning a Ring



LUKE ADL Highlights, Day 2-3: Doffing & Donning a Ring, Video



LUKE ADL Highlights, Day 2-3: Pillowcase



LUKE ADL Highlights, Day 2-3: Pillowcase, Video

