

Materials List for:

Multi-Modal Signals for Analyzing Pain Responses to Thermal and Electrical Stimuli

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Materials

Name	Company	Catalog Number	Comments
PATHWAY Model ATS	Medoc Ltd., Ramat Yishai, Israel		Thermal Stimulator
30 mm x 30 mm ATS Thermode	Medoc Ltd., Ramat Yishai, Israel		Thermode
PATHWAY Software Arbel 6.3.7.22.1	Medoc Ltd., Ramat Yishai, Israel		Thermal Stimulator Software
Digitimer DS7A Current Stimulator	Digitimer Ltd., Hertfordshire, UK		Electrical Stimulator
Inquisit 5	Millisecond Software, Seattle, WA, USA		Software for triggering electrical stimuli
Analogue-To-Digital Converter	Wissenschaftliche Werkstatt Elektronik, University of Ulm, Ulm, Germany	custom built	
BIOPAC MP150 System	BIOPAC Systems, Inc., Goleta, CA, USA		Biosignal Recording Hardware
AcqKnowledge Software 4.1.1	BIOPAC Systems, Inc., Goleta, CA, USA		Biosignal Recording Software
NTG-2 Dual Powered Directional Condenser Microphone	RØDE Microphones, Silverwater, Australia		Audio Recording Microphone
Kinect v2	Microsoft, Redmond, WA, USA		Body View Camera
AV Pike F-145C	Allied Vision Technologies GmbH, Stadtroda, Germany		Face Camera (frontal view)
AV Prosilica GT 1600C	Allied Vision Technologies GmbH, Stadtroda, Germany		Face Camera (side view)
PIR uc 180 Thermal Camera	InfraTec GmbH, Dresden, Germany		Thermal Face Camera
Synchronization Hardware	Werkstatt, IIKT, University of Magdeburg, Magdeburg, Germany	custom built	Hardware triggering of cameras, trigger signal is recorded by BIOPAC and Audacity
Recording and Synchronization Software	Philipp Werner, Neuro-Information Technology, University of Magdeburg, Magdeburg, Germany	custom software	Real-time recording, offline video encoding, and offline synchronization
Examination Couch	ClinicalCare GmbH, Bremen, Germany		
Ag-AgCl Electrodes EL254 / EL254S (Reusable, 4mm recording diameter)	BIOPAC Systems, Inc., Goleta, CA, USA		Used to record EMG <i>M. corrugator</i> and <i>M. zygomaticus</i>
Ag-AgCl Electrodes BlueSensor P (Disposable, skin contact size: 34 mm diameter, measuring area 154 mm ²)	Ambu GmbH, Bad Nauheim, Germany		Used to record ECG and EMG <i>M. trapezius</i> . Also used for electrical stimulation
Audacity 2.1.2	Dominic Mazzoni (Audacity)		Audio Recording Software

Cold Gel Pack	C+V Pharma Depot GmbH, Versmold, Germany		
Panthenol 50mg/g	ratiopharm GmbH, Ulm, Germany		Ointment
Aluminium Profiles	item Industrietechnik GmbH, Solingen, Germany		Used to install all cameras and microphone
Electrode Gel GEL1	BIOPAC Systems, Inc., Goleta, CA, USA		
ELPREP Skin Preparation Gel	BIOPAC Systems, Inc., Goleta, CA, USA		