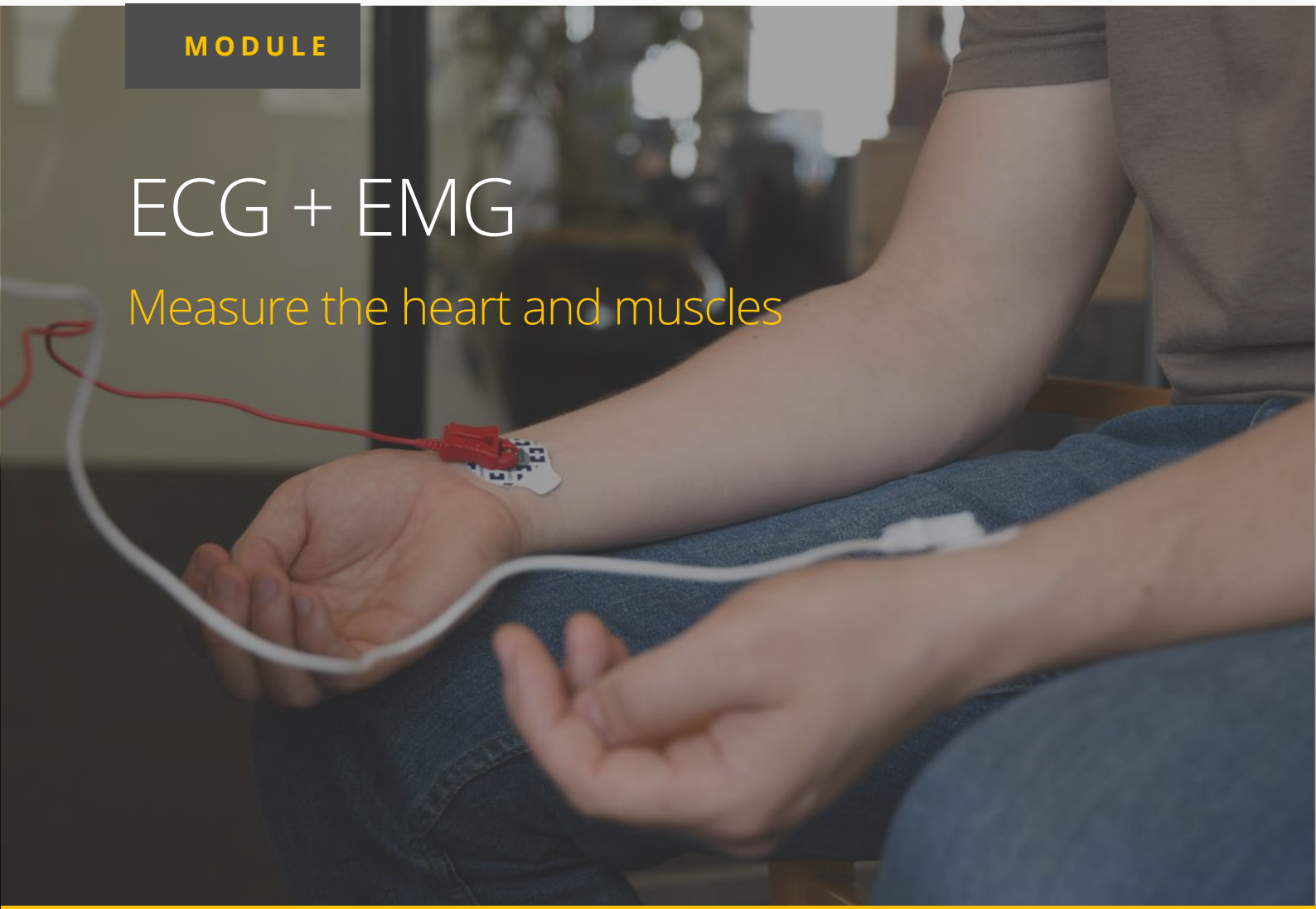
IMOTIONS

MODULE

ECG + EMG

Measure the heart and muscles



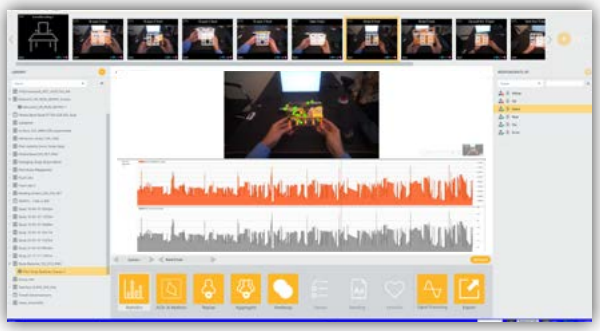
ECG + EMG Module

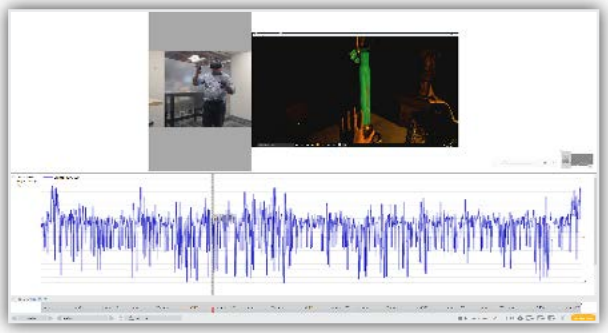
ECG + EMG Module

Get closer to understanding the body

The ECG + EMG module enables users to connect, record, live visualize, and export ECG and / or EMG data, as well as carry out cloud-based data processing. Full overviews of channels, signal data, and battery levels are integrated.

- Single platform for integrating and implementing ECG into human behavior research
- Easily synchronize ECG recordings with other sensors - 50+ devices from 20+ partners
- Cloud-based processing provides data such as Heart Rate Variability





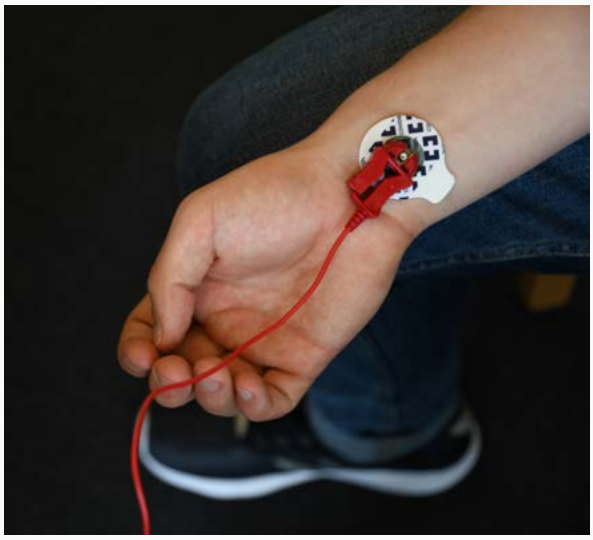
Dr. Camilla Grane, Senior Lecturer and Researcher at Luleå University, describes her experience of using iMotions with ECG for her research in the video below:

ECG Features

Bring ECG data into your research

Measure the behavior of the heart

Use ECG data to provide information about a participant's psychophysiological status reflected in their heart rate activity. Easily complement with other biosensors to gain an understanding of human behavior, thoughts, and feelings.



Go further with the data

Upload the data to the iMotions cloud for further processing to analyze the heart rate variability (HRV). HRV an be associated with the level of physiological or psychological stress (or conversely, calm) that a participant is experiencing. Gain new insights with ECG and cloud-based analysis.

Seamlessly integrated with other biosensors

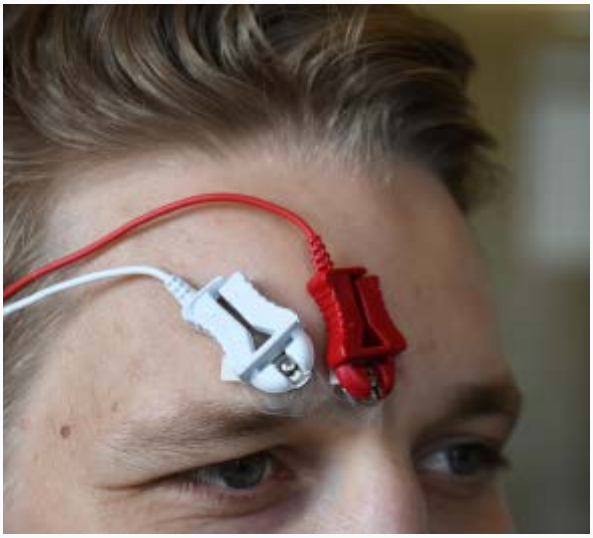
Integrate and synchronize 50+ different sensors from 20+ independent vendors, across 10+ modalities. Add even more sensors through the Lab Streaming Layer. Forward data in real time and import external sensor / software data and loop it back into the platform via the API.

EMG Features

Bring EMG data into your research

Muscle movements and emotions

Use EMG to not only understand how muscular movements are carried out, but also to investigate their association with certain emotions. For example, use recordings of the trapezius as a proxy for psychophysiological stress.



A deeper understanding of the face

Use fEMG (facial electromyography) to make sensitive measurements of the facial muscles. Ideal for use in understanding facial expressions in situations where the face is occluded (such as VR), or for more fine-tuned recordings of particular facial muscles (such as the zygomaticus as a proxy for smiling).

ECG and EMG Hardware Options

Ideal equipment to meet your needs

iMotions allows the integration of sensors from Shimmer, and BIOPAC for the collection of high-quality ECG and / or EMG data. Flexible options and additional channels can add further value to your data. Choose the right equipment for your needs with iMotions.

BIOPAC

BIOPAC offers two solutions for research using ECG / EMG - a wired system, and the wireless BioNomadix system, both of which run through the MP160 (or the older MP150). The MP160 system is a flexible, proven modular data acquisition system for life science research and is in use in top laboratories around the world. The MP160 is also compatible with EDA (Electrodermal Activity) and Respiration devices. The BioNomadix system allows high-fidelity, reliable ECG and EMG recordings to be made with fully-natural mobility.

Shimmer 3

The Shimmer3 ECG device can be utilized to monitor ECG (electrocardiography), recording the pathway of electrical impulses through the heart muscle. The Shimmer3 EMG (electromyography), records the activity of muscles.
The Shimmer3 ECG / EMG unit provides connections and preamplification for one channel of ECG or EMG data acquisition respectively. Up to 5 Shimmers can be connected simultaneously for multiple recordings.

Watch the video below to see how Professor Marco Palma from Texas A&M uses ECG and iMotions in his research.

Want to know more?

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