Workshop on Noncontact and unobtrusive techniques for vital sign monitoring
(with hands-on experience)

at the

14th International Conference on Wearable and Implantable Body Sensor Networks

BSN2017, Eindhoven, The Netherlands

Date & Venue

Tuesday, 09 May, 2017, 14:00 – 18:00
Auditorium Einstein, Conference Center, The High Tech Campus, Eindhoven, The Netherlands

Organizers

Daniel Teichmann, Philips Chair for Medical Information Technology (MedIT), RWTH Aachen University, Aachen, Germany
Steffen Leonhardt, Philips Chair for Medical Information Technology (MedIT), RWTH Aachen University, Aachen, Germany

Abstract

This workshop is intended to give an overview about measurement techniques that are well suited for unobtrusive monitoring of vital signs. It will provide information of strengths and drawbacks of individual techniques and their potential for wearable use. A special focus of this workshop lies on providing hands-on experience during demonstration phases in which attendees can try prototypes of the presented measurement techniques. This includes e.g. instrumented seats, infrared cameras, and wearable devices. Measurement techniques covered by this workshop are Magnetic induction monitoring, Capacitive electrocardiography (ECG), Infrared imaging, and Remote photoplethysmography (PPG). Each of these methods will be introduced by a presentation of theory, pros and cons, application examples, and studies. A further presentation will address potential solutions for processing and fusion of physiological signals recorded by unobtrusive sensors.

Speakers

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Institution</th>
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<tbody>
<tr>
<td>Daniel Teichmann</td>
<td>Dr.-Ing.</td>
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<tr>
<td>Lennart Leicht</td>
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<td>Xinchi Yu</td>
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<td>Michael Paul</td>
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<td>Carina Pereira</td>
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<td>Christoph Hoog Antink</td>
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<td><strong>Introduction</strong></td>
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<td>Daniel Teichmann</td>
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<tr>
<td><strong>Magnetic induction monitoring</strong></td>
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<td>Daniel Teichmann</td>
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<td><strong>Capacitive ECG</strong></td>
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<td>Lennart Leicht</td>
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<td><strong>Hands-On 1</strong></td>
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<td><strong>Infrared thermography</strong></td>
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<td>Carina Pereira</td>
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<td><strong>Remote PPG</strong></td>
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<td>Michaels Paul, Xinchi Yu</td>
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<td><strong>Hands-On 2</strong></td>
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<td><strong>Sensor fusion</strong></td>
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<td>Christoph Hoog Antink</td>
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