



Spring meeting 2017 Dutch Society of Medical Ultrasound

Date: 10th May 2017
Time: 12.30 – 17.00 hours
Location: TU Delft
Separately please find a map and route description to TU Delft.

10.30-12.30 Short NVMU course for interested master students, PhD's, and postdocs – Lecture hall B, Building Mechanical, Maritime and Materials Engineering, Mekelweg 2, 2628 CD Delft (building 34)

Martin Verweij

Harmonic Imaging

Harmonic imaging is an ultrasound modality that makes images from the reflections of the second harmonic of the transmitted ultrasound pulse. This modality is often used in e.g. cardiac imaging because of its benefits over fundamental imaging. This physics-oriented lecture will explain the generation of the higher harmonics due to the nonlinear propagation of the acoustic pulse, the benefits of using higher harmonics for imaging, the influence of attenuation, and some related topics that are important for medical imaging applications.

12.30-17.00 NVMU meeting – Kronigzaal (F 461), Building Applied Physics, Lorentzweg 1, 2628 CJ Delft (building 22)

12.30 **Lunch for all attendees**

13.00 Opening and board announcements by Chris de Korte (Radboudumc, Nijmegen)

13.10 Intro scientific session by Martin Verweij (TU Delft)

How can we fabricate and control ultrasound matrix transducers with thousands of elements?

13.30 Maysam Shabanimotlagh (TU Delft)

Effect of subdicing on performance of an ultrasound matrix transducer for carotid imaging

13.50 Pim van der Meulen (Erasmus MC, Rotterdam)

Model-based image reconstruction in medical ultrasound

14.10 Inés Beekers (Erasmus MC)

A vessel-on-a-chip for in vitro ultrasound-mediated drug delivery: the OrganoPlate

14.30 **Break**

15:00 Stefan Engelhard and Jason Voorneveld (UTwente, Enschede)

High frame rate contrast enhanced echoPIV of the abdominal aorta in vivo – first results in humans

- 15.20** Niels Petterson (TU Eindhoven)
The Influence of surrounding tissue on the mechanical characterization of abdominal aortic aneurysms
- 15.40** Maarten Heres (TU Eindhoven)
Muscle blood flow assessment with Power Doppler Ultrasound during whole body exercise
- 16.00** Clinical presentation by Bas van Dalen (Erasmus MC)
Is ultrasound imaging useful for detecting diastolic heart failure
- 16.20-17.00** **Drinks**