



LUMC, Center of Medical Innovation

LUMC is a modern university medical center for research, education and patient care with a high quality profile and a strong scientific orientation. Its unique research practice, ranging from pure fundamental medical research to applied clinical research, places LUMC among the world top. This enables LUMC to offer patient care and education that is in line with the latest international insights and standards – and helps it to improve medicine and healthcare both internally and externally (www.lumc.nl).

Faculty

> **J. Geleijns, PhD**

Medical Physicist, Leiden University Medical Center, Leiden, The Netherlands

> **W. Veldkamp, PhD**

Medical Physicist, Leiden University Medical Center, Leiden, The Netherlands

> **R. Joemai, PhD**

Physicist, Leiden University Medical Center, Leiden, The Netherlands

> **I. Hernandez-Giron, M.Sc**

Visiting researcher, Leiden University Medical Center, Leiden, The Netherlands

> **R. Irwan, PhD**

CT Physicist, Toshiba Medical Center Europe, Zoetermeer, The Netherlands

Who should attend

Medical physicists, physicists, radiographers, and physicians with an interest in CT physics.

Fee

€550,- for the 2-day course. The fee includes lecture materials, coffee, lunches and a dinner.

Registration

For more information or to register, please contact:

Mrs. Anna Carien van der Plas

Email: A.L.C.van_der_Plas@lumc.nl

Phone: +31 71 526 2993

Hotel

Hotel accommodation nearby the venue (2 minutes walking distance) can be arranged with a discount. Please contact Mrs. Anna Carien van der Plas for more information.

Venue

Leiden University Medical Center

Department of Radiologie

Albinusdreef 2

2333 ZA Leiden

The Netherlands

Website

www.lumc.nl/org/radiologie/onderwijs/BijEnNascholing/

Certificate of attendance will be provided.



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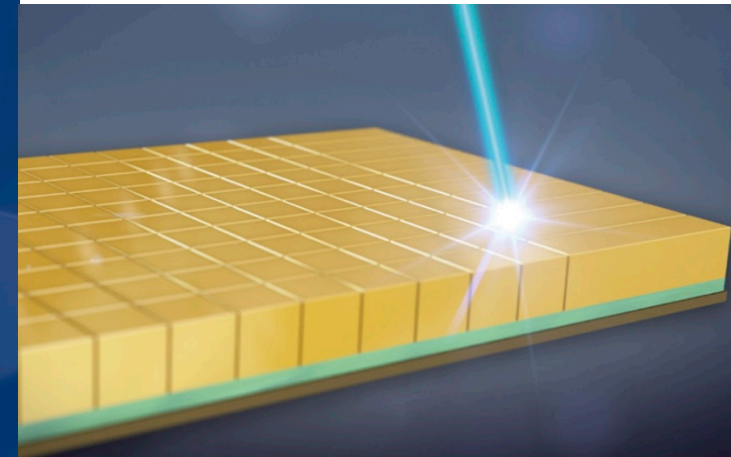
TOSHIBA
Leading Innovation >>>



LEIDEN UNIVERSITY MEDICAL CENTER

CT physics

From basics to standardization



2 day intensive course + hands-on

22 - 23 October 2015

21 - 22 April 2016





Toshiba's Aquilion ONE - Dynamic Volume CT

Welcome

It is our pleasure to invite you to our unique course on CT physics for high-end CT scanners. This 2-day course aims to provide knowledge of CT physics with hands-on assignments on CT. The course provides for the participants understanding of acquisition, reconstruction, automatic exposure control, dosimetry, radiation exposure and image quality. Dosimetry of wide cone beam CT scanners, and new developments in image quality assessment like model observers will be covered. An experienced faculty will guide you from theory to phantom scanning. We are looking forward to meeting you in Leiden, and welcoming you at our radiology department. On behalf of the faculty, Koos Geleijns, Wouter Veldkamp (medical physicists) and Anna-Carien van der Plas (local organisation).

We look forward to welcoming you to Leiden!



Dr. J. Geleijns



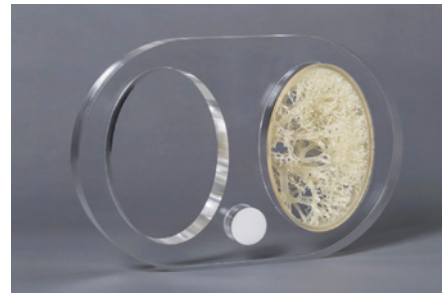
Dr. W. Veldkamp

First day (Acquisition & Reconstruction)

- 13:00 - 13:45 **Registration + lunch**
- 14:00 - 14:30 **CT basic principles**
Dr. J. Geleijns
- 14:30 - 15:00 **Standard and Regulations from Industry's perspective**
Dr. R. Irwan
- 15:00 - 15:30 **Acquisition: FOV, bow-tie filter, kVp, rotation times vs. view rates, etc.**
Dr. R. Irwan
- 15:30 - 16:00 **Tea / Coffee break**
- 16:00 - 16:30 **Reconstruction: FC filters, slice thickness, Iterative Reconstruction, etc.**
Dr. R. Joemai
- 16:30 - 17:00 **Application of Automatic Exposure Control in clinical practice**
Dr. R. Joemai
- 17:00 - 18:00 **Practical session at the CT scanner: AEC, Dosimetry**
Dr. R. Joemai, Dr. J. Geleijns
- 19:00 - 22:00 **Dinner**

Second day (Dose & Image Quality)

- 09:00 - 09:30 **Dosimetry: from CTDI to size specific dose estimation**
Dr. J. Geleijns
- 09:30 - 10:00 **Patient exposure: organ dose, skin dose and effective dose**
Dr. J. Geleijns
- 10:00 - 10:45 **Physical image quality assessment: noise and spatial resolution**
Dr. W. Veldkamp
- 10:45 - 11:00 **Tea / Coffee break**
- 11:00 - 11:30 **New trends in image quality assessment: model observers**
Dr. W. Veldkamp
- 11:30 - 12:00 **Application of model observers**
I. Hernandez-Giron MSc
- 12:00 - 13:00 **Lunch + Adjournal**



Lung phantom with 3D printed insert



CT dosimetry with an ionization chamber and a solid state detector