**Program**

**Thursday 28 November**

**Principles**

11:45-12:30    Lunch

12:30-14:30    Lectures

12:30-13:30    Principles of machine learning

Alessandro Sbrizzi (UMCU)

13:30-14:30    Introduction to deep learning

Hugo Kuijf (ISI, UMCU)

14:30-15:00    Coffee/tea break

15:00-17:00    Lectures

15:00-15:45    Deep learning methods for iterative reconstruction & optimization

Niek Huttinga (UMCU)

15:45-16:30    Interpretability/Uncertainty

Louis van Harten (UMCU)

16:30-17:00    Hard -and software for deep learning

Mark Savenije (UMCU)

**Friday 29 November**

**Radiotherapy applications**

8:55-10:45    Lectures

8:55-9:00    Introduction of deep learning in Radiotherapy

Nico van den Berg (UMCU)

9:00-10:00    Image-to-image translation: Synthetic-CT generation and CBCT correction

Matteo Maspero (UMCU)

10:00-10:45    Deep learning-based auto contouring

Mark Savenije (UMCU)

10:45-11:15    Coffee/tea break

11:15-12:45    Lectures

11:15-12:00    Deep learning-based image registration

Koen Eppenhof (Faculty of Bioengineering, TUE)

12:00-12:45    Deep learning in the radiotherapy treatment planning and delivery pipeline

Charis Kontaxis (UMCU)

12:45-13:30    Lunch

13:30-15:00    Lectures

13:30-14:15    Deep learning for image reconstruction: MRI

Bjorn Stemkens (UMCU)

14:15-15:00    Deep learning based radiomics

Nico van den Berg (UMCU)

15:00-15:30    Coffee/tea/refreshments break

15:30-17:00    Lectures

15:30-16:15    Considerations for clinical implementation of deep learning in radiotherapy: a computer scientist perspective

Gijsbert Bol (UMCU)

16:15-17:00    Considerations for clinical implementation of deep learning in radiotherapy: a medical physicist perspective

Anna Dinkla (Radiotherapy, A-UMC)

17:00    Final remarks

 Drinks