USART Training course

December 5-6th 2013, Leuven

Room: MSI1 00.14, Building: Mgr. Sencie Instituut, Address: Erasmusplein 2, 3000   LEUVEN

Day 1: Ultrasound segmentation

- *9.00 – 9.15*
  Welcome to the USART project (Jan D'hooge, KU Leuven, Belgium / Eigil Samset, GE VingMed Oslo, Norway)

- *9.15-10.00*
  Introduction to image segmentation methodologies (Olivier Bernard, CREATIS, Lyon, France)

- *10.00-10.45 Active contour methods (Part I)*
  - Level sets (Martino Alessandrini, KU Leuven, Belgium)

- *10.45-11.30*
  Break

- *11.30-12.15 Active contour methods (Part II)*
  - B-spline Explicit Active Contours – BEAS (Daniel Barbosa, University of Minho, Brage, Portugal)

- *12.15-13.30*
  Lunch

- *13.30-14.15 Active contour methods (Part III)*
  - Deformable models and the real-time cardiac tracking library (RCTL) (Frederik Ordrud, GE VingMed, Oslo, Norway)

- *14.15-15.00*
  Active shape / appearance models (Marijn van Stralen, University of Utrecht, the Netherlands)

- *15.00-15.30*
  Coffee break

- *15.30-16.00*
  Open-source software tools for image segmentation
  - CreaSeg (Olivier Bernard, CREATIS, Lyon, France)

- *17.00-21.00*
  Social event

Day 2: Ultrasound motion estimation

- *9.00-9.20*
  Introduction to ultrasound motion estimation methodologies (Jan D'hooge, KU Leuven, Belgium)

- *9.20-10.30 Doppler-based methodologies*
  - *9.20 – 9.55:* Conventional Doppler imaging (Abigail Swillens, University of Ghent, Belgium)
  - *9.55 – 10.30:* Multi-dimensional Doppler through spatial modulation of the ultrasound field (Herve Liebgott, CREATIS, Lyon)

- *10.30-11.00*
  Break

- *11.00-12.00 Optical flow approaches*
  - 11.00 – 11.30: Block matching (Richard Lopata, TU Eindhoven, the Netherlands)
  - 11.30 – 12.00 Phase-based methodologies (Martino Alessandrini, KU Leuven, Belgium)

- *12.00-13.00*
  Lunch

- *13.00-13.45*
  Registration-based motion estimation (Brecht Heyde, KU Leuven, Belgium)

- *13.45-14.30*
  Motion estimation to construct statistical atlases of the heart (Nicolas Duchateau, Universitat Pompeu Fabra, Barcelona, Spain)

- *14.30-15.15*
  Open-source software tools for elastic registration (Pieter Slagmolen, KU Leuven, Belgium)