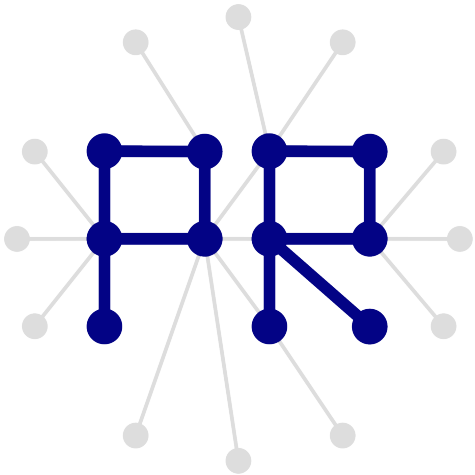
Medical Image Processing - Project

Introduction



Joanna Czajkowska, PhD

Research Group for Pattern Recognition
Institute for Vision and Graphics, University of Siegen

Place/Time

H-C 6336/37, 8:30 - 10:00

Lecturer

Dr. Eng. Joanna Czajkowska, H-B 6415,
joanna.czajkowska@uni-siegen.de

Recommendation

Master Students in Computer Science

Schedule of the Exercises

- 17.10 Introduction
- 24.10 Image Processing in Matlab
- 31.10 Pre- processing
- 07.11 Clustering
- 14.11 Region Growing / Fuzzy Connectedness
- 21.11 Mathematical Morphology
- 28.11 Object Properties
- 05.12 CAD Station / Final Results

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Schedule of the Exercises

- Consultation
  12.12, 19.12, 09.01, 16.01, 23.01, 30.01
- 06.02 **Presentation**

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- Please bring your own laptop to the project course
- Please install the newest available Matlab version on your laptop

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The Rules of Completing the Course

- Registration for the course in the LSF is obligatory.
- Project is held every week according to the schedule given before.
- Presence on classes 1-8 and 15 is mandatory.
- Presence on classes 9-14 depends on the students needs.
- Each Student is allowed one unexcused absence during the semester. (classes 1-8 and 15). Each subsequent absence should be confirmed by a sick leave.
- For classes 9-14 the Student should present the progress of the work and can discuss with the lecturer the appearing problems.
- On the last class, Students should submit the results of their work (15 min presentation).

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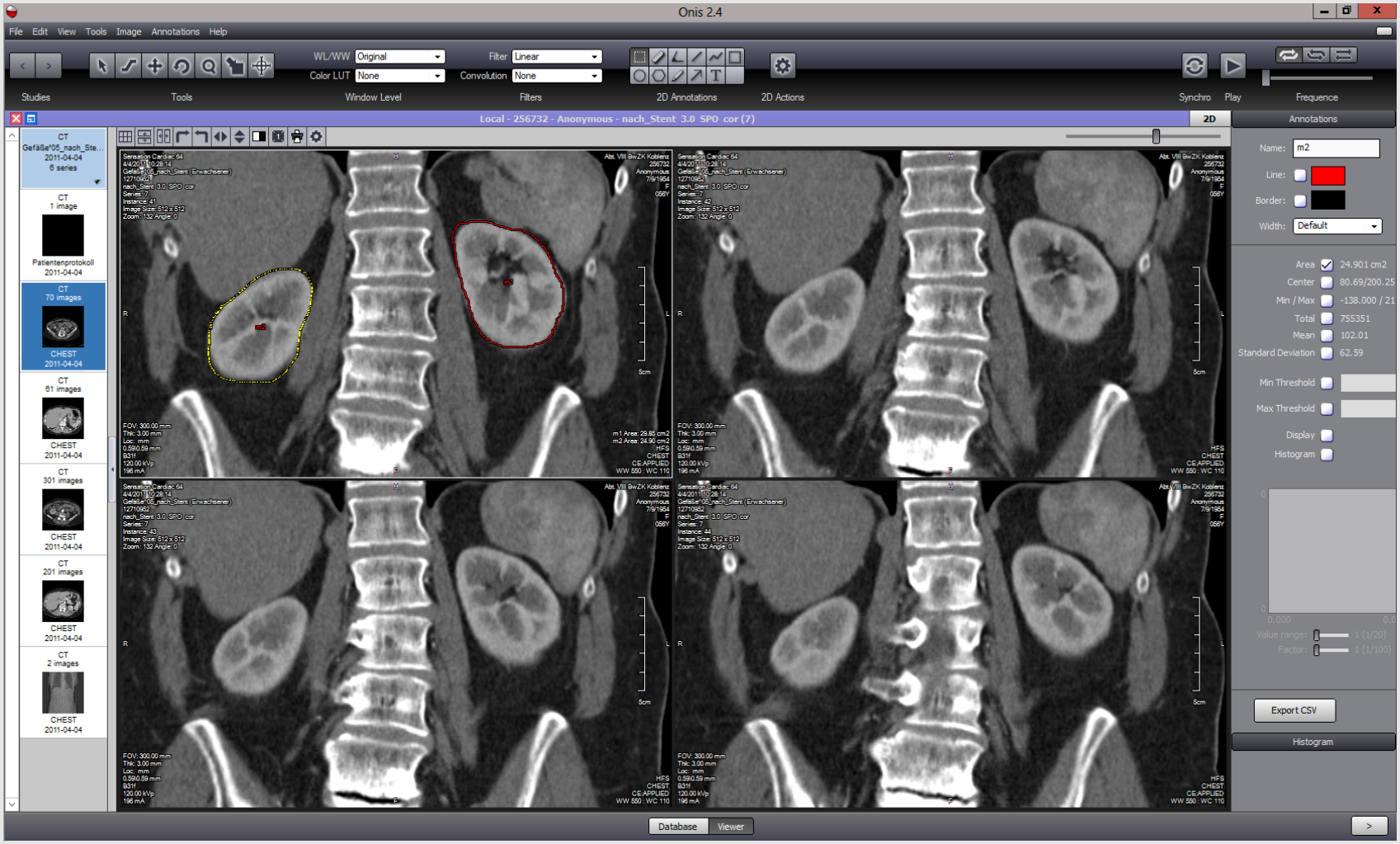
Project Topics (for 2-person groups)

- Development of Methodology for Automatic Kidneys Segmentation in CT Images/Series



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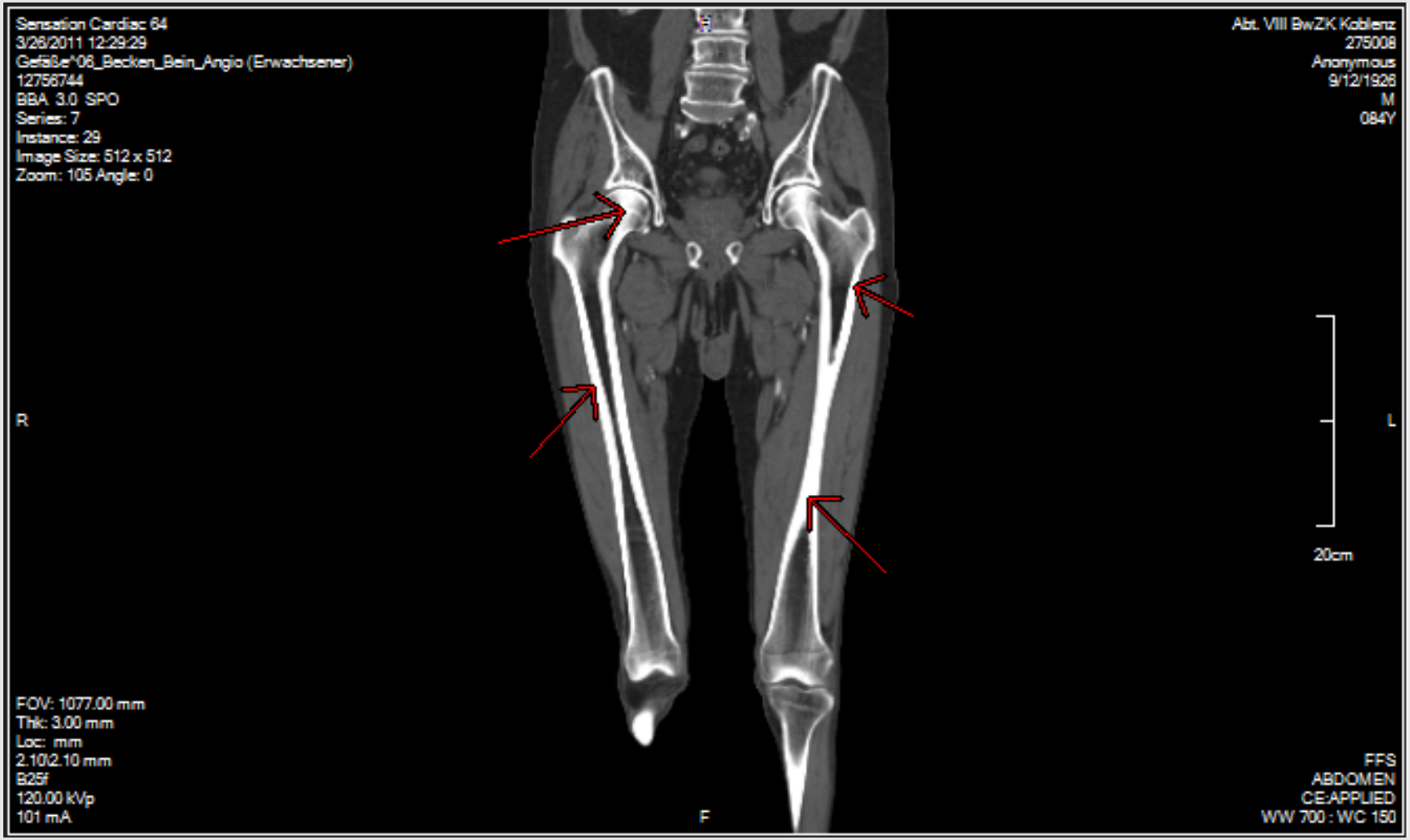
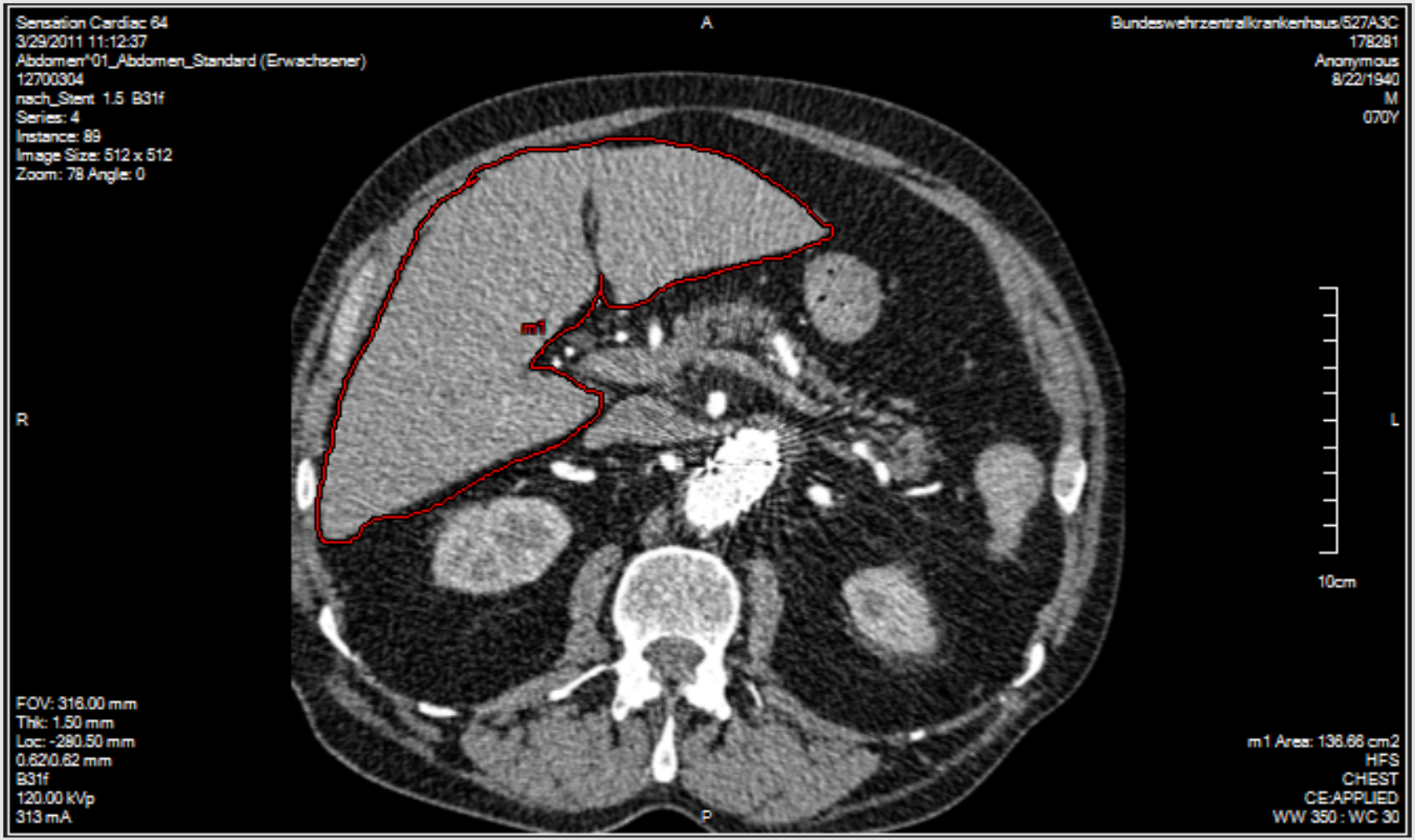


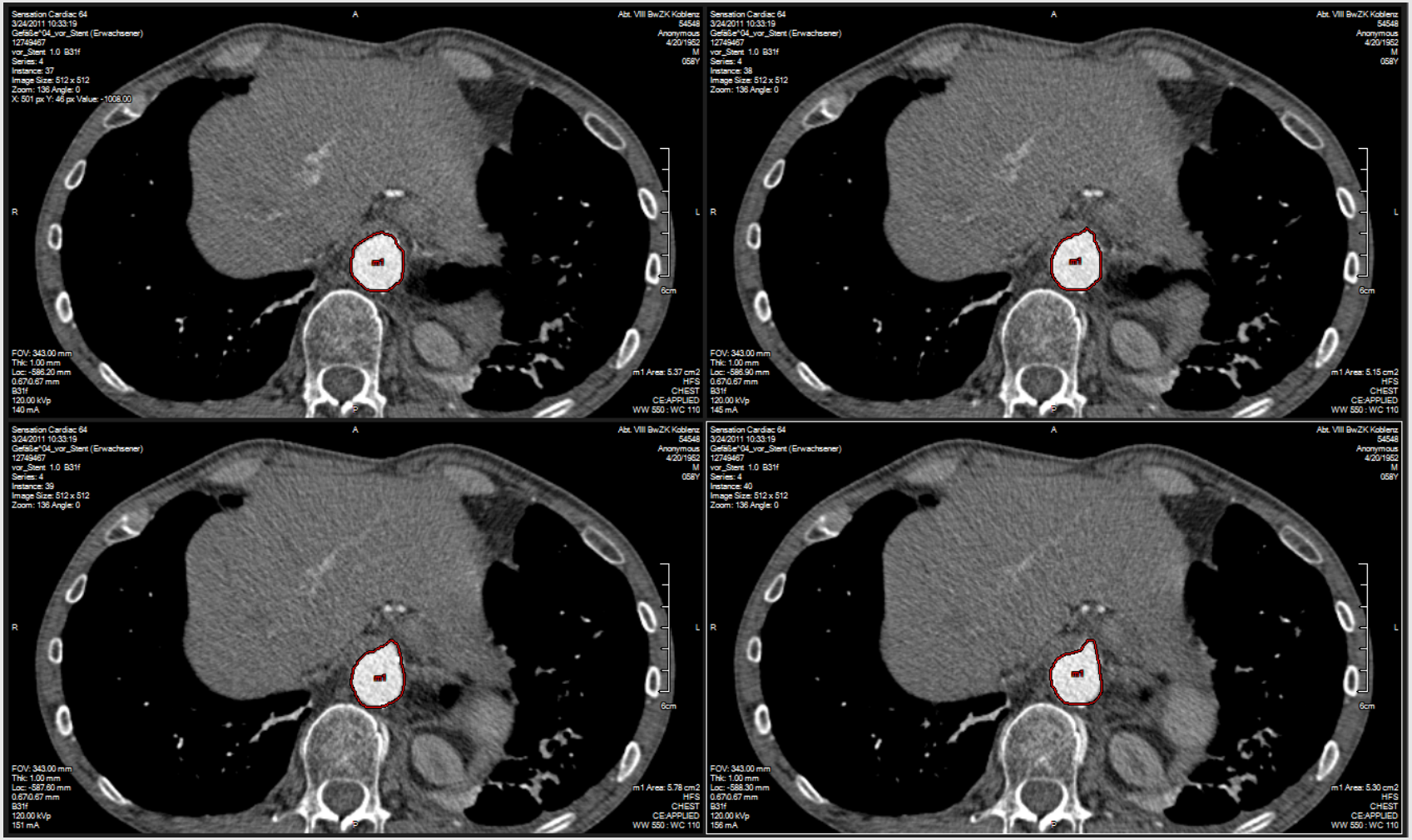
Project Topics (for 2-person groups)

- Development of Methodology for Automatic Liver Segmentation in CT Images/Series



Project Topics (for 2-person groups)

- Development of Methodology for Aorta Segmentation in CT Images/Series



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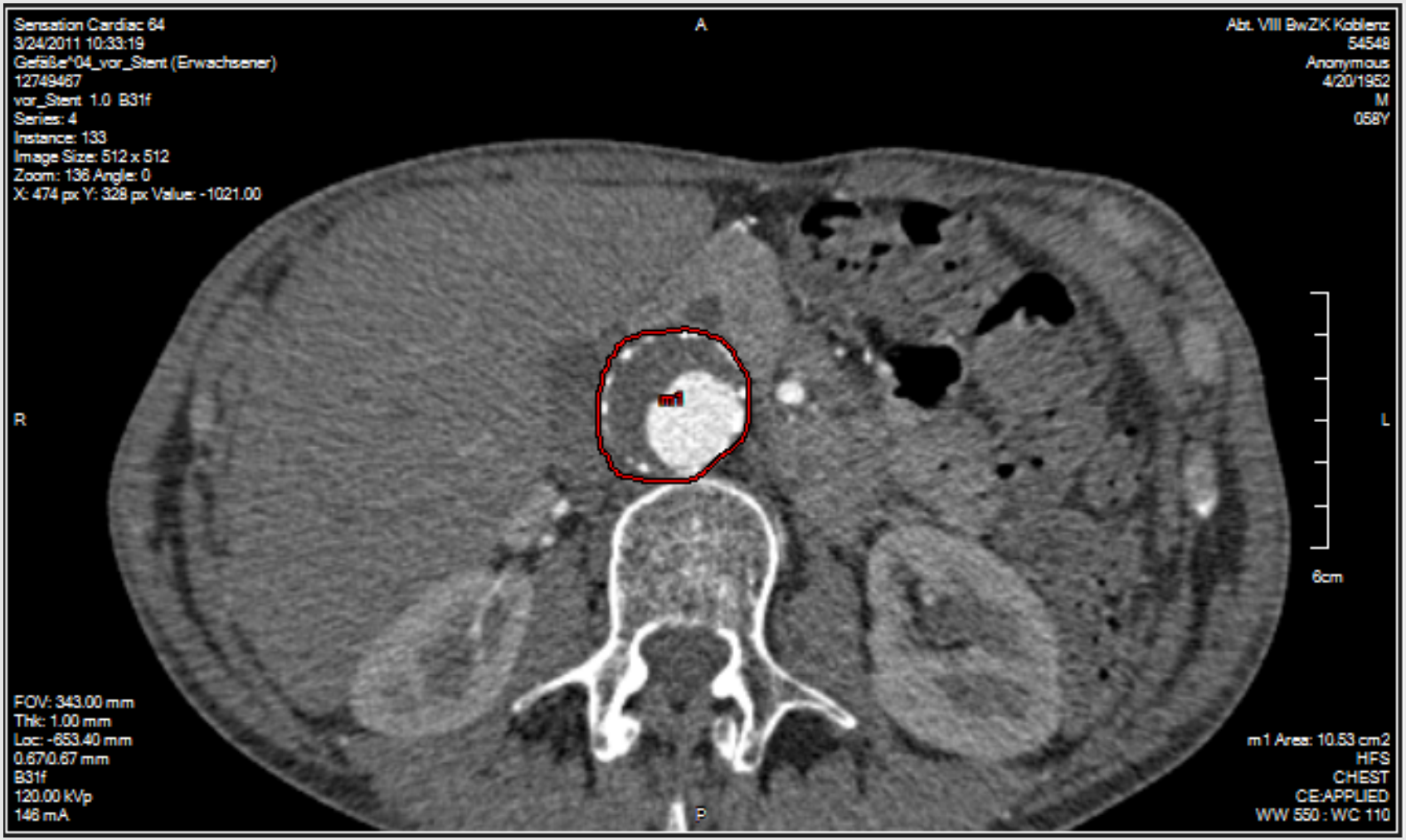
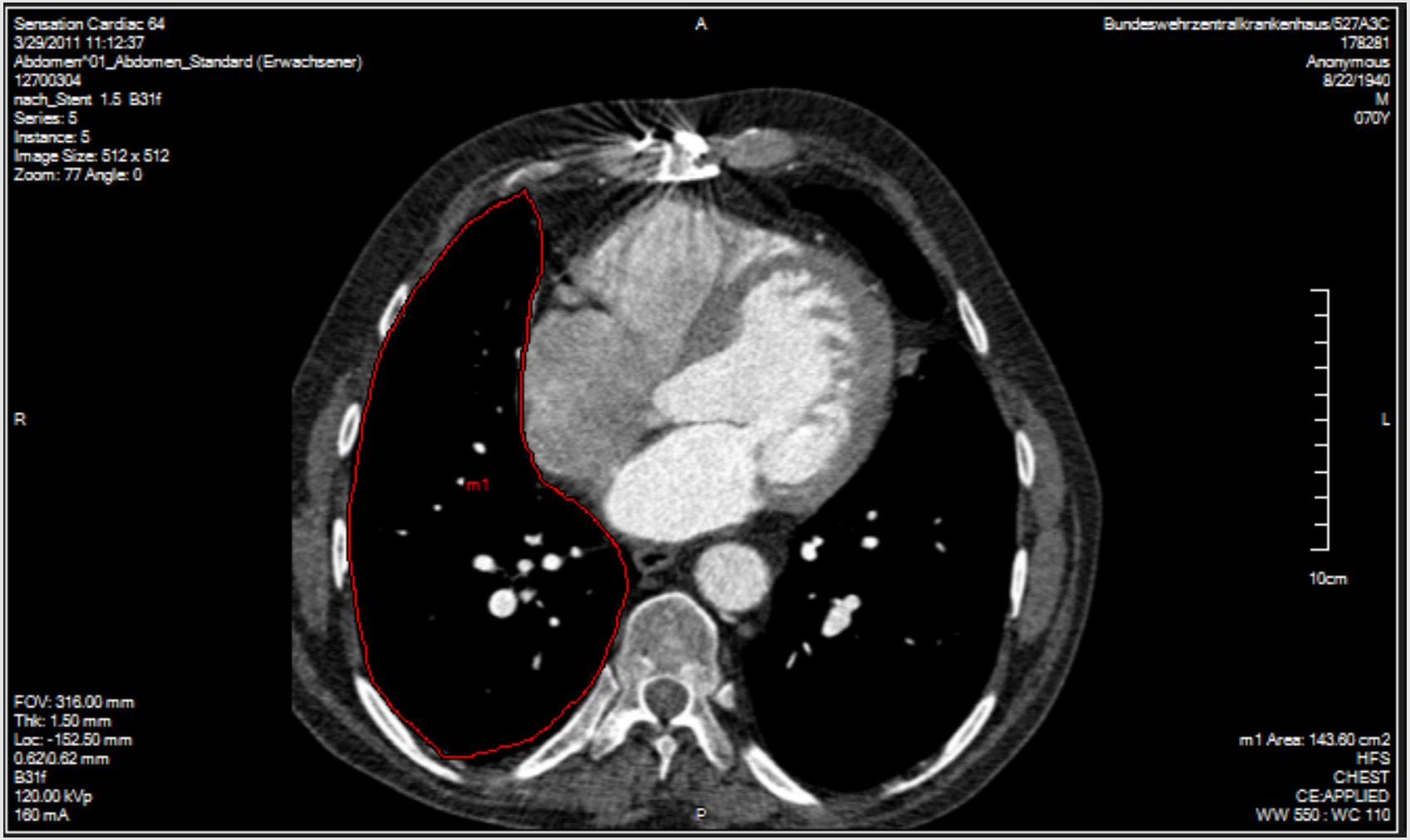
- Development of Methodology for Aortic Aneurysm Segmentation in CT Images/Series

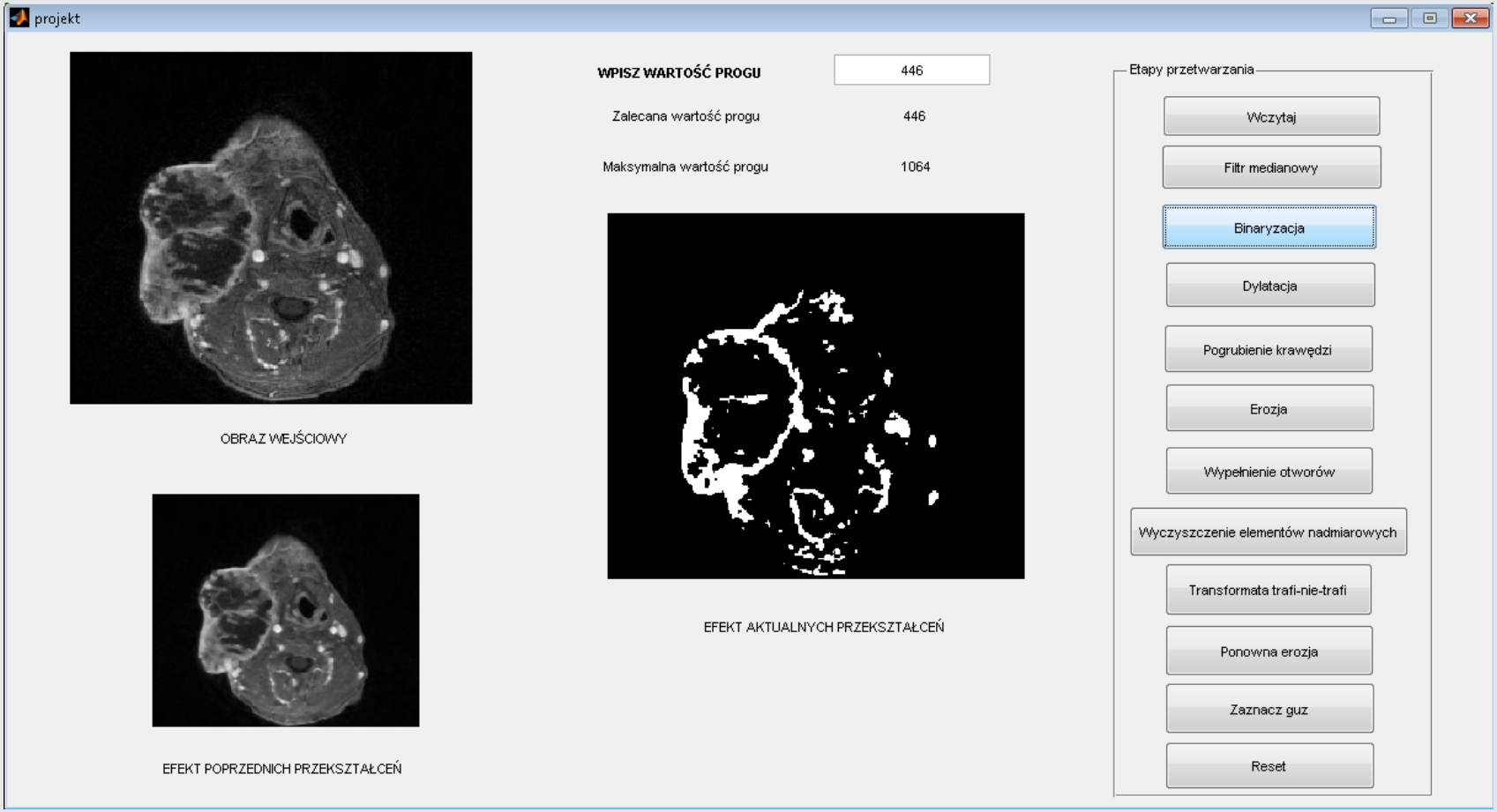


Project Topics (for 2-person groups)

- Development of Methodology for Automatic Lung Segmentation in CT Series



CAD Example


projekt
OBRAZ WEJŚCIOWY
EFEKT POPRZEDNICH PRZEKSZTAŁCEŃ
WPISZ WARTOŚĆ PROGU
446
Zalecana wartość progu
446
Maksymalna wartość progu
1064
EFEKT AKTUALNYCH PRZEKSZTAŁCEŃ
Etapy przetwarzania
Wczytaj
Filtr medianowy
Binaryzacja
Dylatacja
Pogrubienie krawędzi
Erozja
Wypełnienie otworów
Wyczyszczenie elementów nadmiarowych
Transformata trafi-nie-trafi
Ponowna erozja
Zaznacz guz
Reset