Advanced Visual Medicine: Techniques, Applications and Software

S. Oeltze, F. Link, B. Preim, A. Vilanova, S. Zachow, D. Bartz

Introduction

Steffen Oeltze

Visualization Research Group,
University of Magdeburg, Germany
stoeltze@isg.cs.uni-magdeburg.de

Tutorial Speakers

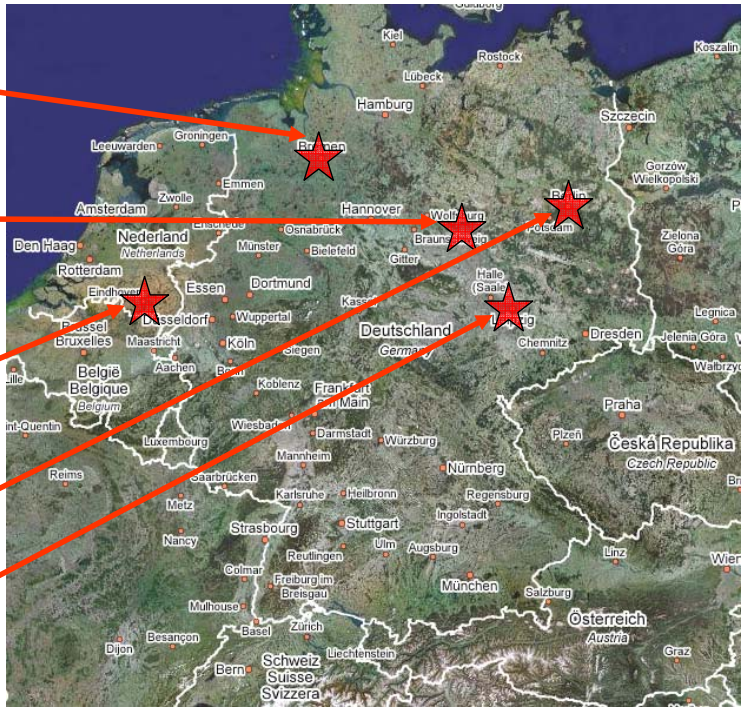
Florian Link
Dir. Software Engr.,
MeVis Research, Bremen

Bernhard Preim
Prof. of Vis',
Steffen Oeltze
PhD Student Vis',
Univ. of Magdeburg

Anna Vilanova
Assistant Prof., Eindhoven
Univ. of Technology

Stefan Zachow
Post-Doc. Research Fellow,
Zuse-Institute Berlin

Dirk Bartz
Associate Prof., ICCAS,
Univ. of Leipzig



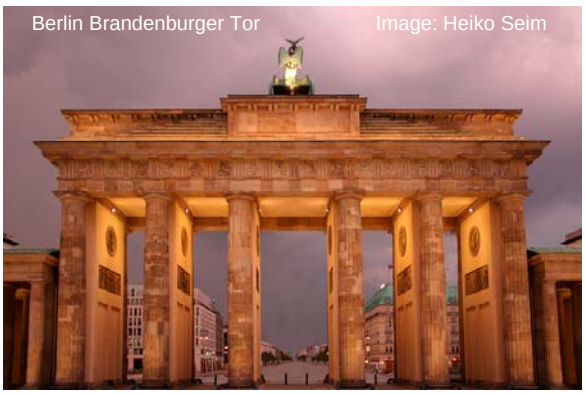
Dirk Bartz

Associate Prof. for Computer-Aided Surgery and Head of Research Group on Visual Computing, ICCAS Institute, Univ. of Leipzig, Germany

innovation center computer assisted surgery

Stefan Zachow

Head of Medical Planning Group, Dept. Visualization & Data Analysis, Zuse Institute Berlin (ZIB), Germany



ZIB

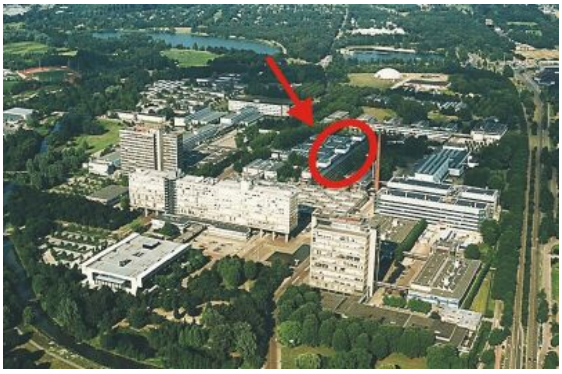
Konrad Zuse (1910 – 1995)

Inventor of the 1st freely programmable computer Z2 (1940) - Z3 (1941)

Anna Vilanova

Assistant Prof. and Head of Research Group at Dept. of Biomedical Engineering, Eindhoven Univ. of Technology, The Netherlands

Technische Universiteit Eindhoven University of Technology



Steffen Oeltze & Bernhard Preim

Bernhard Preim

Prof. for Visualization, Univ. of Magdeburg, Magdeburg, Germany

Steffen Oeltze

PhD Student Vis', Univ. of Magdeburg, Magdeburg, Germany

Florian Link

MeVis RESEARCH

Director of Software Engineering, MeVis Research, Bremen, Germany

Outline

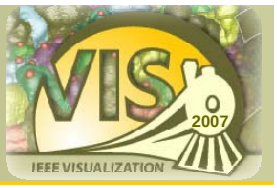
1:55pm-5:45pm

Introduction (Oeltze), 10min

- Intraoperative Navigation and Medical Mixed Reality, *Bartz* (30 min)
- Integration of Simulation and Visualization for Surgical Planning, *Zachow* (30 min)
- Diffusion Tensor Imaging Visualization Techniques and Applications, *Vilanova* (30 min)
- Visual Analysis of Perfusion Data, *Oeltze* (25 min)
- Surface-based Vessel Visualization, *Preim* (25 min)
- Fast Tagged Multi-resolution Volume Rendering, *Link* (30 min)

Questions and Answers (All), 15min

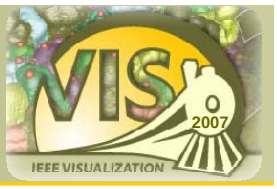
Additional Tutorial Material



Conference DVD contains additional material:

- Videos for illustration purposes
- Links to related papers (to avoid copyright clashes …)
- and the slides, of course

Updates of Tutorial Notes



New and updated material will be available at:

http://wwwisg.cs.uni-magdeburg.de/cvcms/de/tutorials

Prerequisites

Basic 3D graphics
(polygons, triangles, shading, ...)

Basic medical-imaging knowledge

Basic knowledge in visual medicine

Scientific visualization helps as well