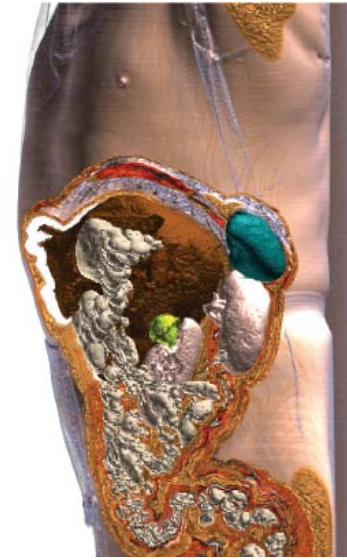


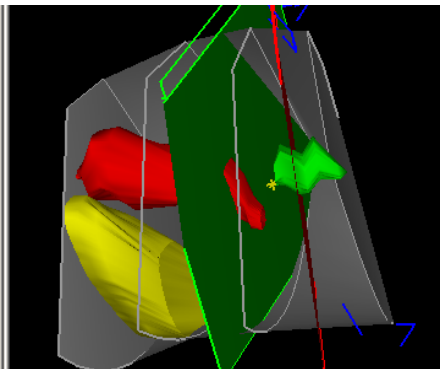


FROM VISION TO DECISION



MedViz

The Medical Imaging and Visualization Network in Bergen

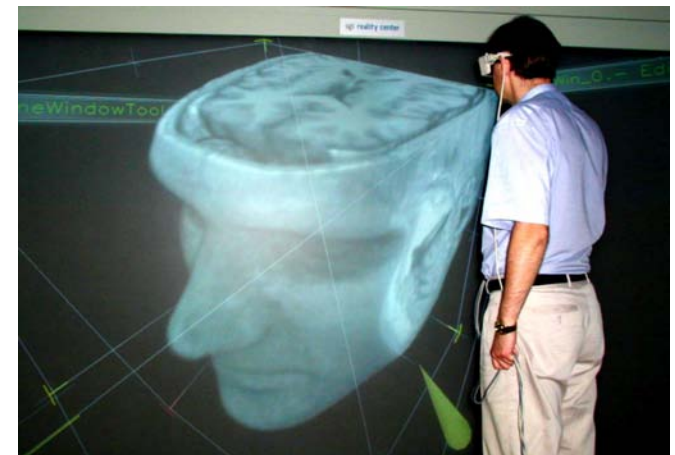
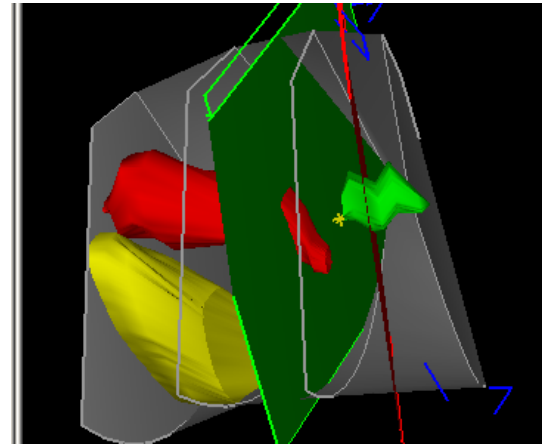


IllustraVis 2009
If you want to use content
from these slides, you have
to ask the respective author
for permission!



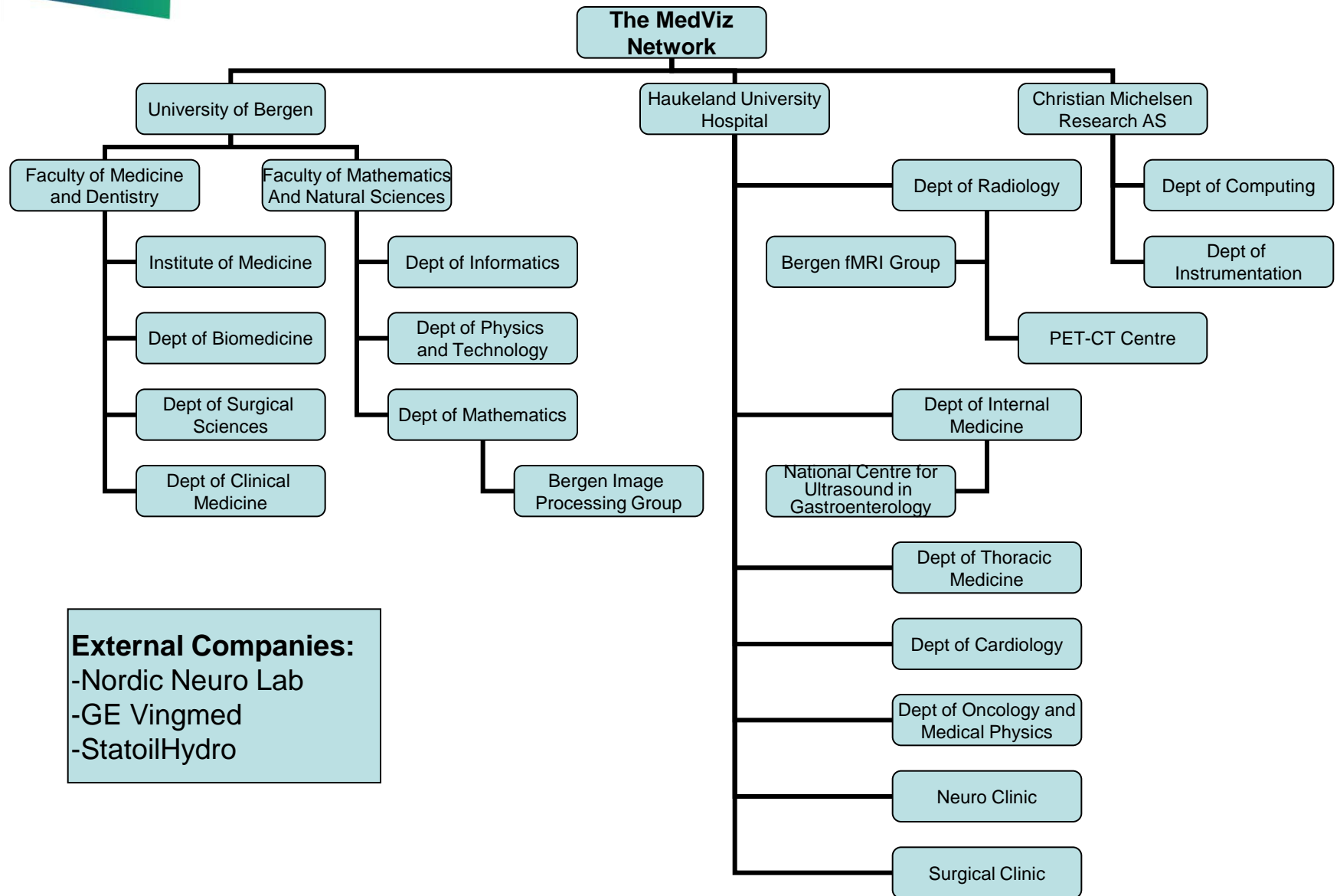
What is MedViz?

- A cluster of research groups in Bergen
- A consortium between 3 institutions
 - A consortium agreement
- A network of persons dedicated to R&D in the field of advanced imaging and visualisation





FROM VISION TO DECISION



Our Mission

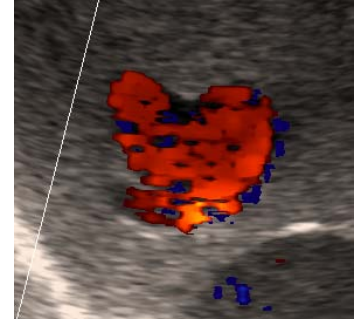
To promote the development of biomedical and clinical imaging technologies with the goal of improving diagnosis and treatment of patients



The patient-doctor interface is in the centre of MedViz' challenge



FROM VISION TO DECISION



Ultrasonography -Characteristics

- A clinical method
- Cheap and flexible in use
- Worldwide access
- Very high temporal resolution
- Very good spatial resolution
- ..., but somewhat noisy





FROM VISION TO DECISION

“Illustrasound”

Illustrated Ultrasound for Multimodal Image Interpretation

UNIVERSITY OF BERGEN



cmr

 HELSE BERGEN
Haukeland Universitetssykehus



FROM VISION TO DECISION

THE LIVER SEGMENTS

Defined by the portal branching and the liver veins

Interdigitation between portal branches and liver veins, frontal see-through

Transverse ultrasound scan, segment borders defined by the liver veins

• Cantlie's line
(Blue right and left division described by J. Cantlie, 1916)

The Couinaud model
seen in topographic blow-out from below
Conceptual development of network S. Kasper, MD

CT-scan; cranial level -above hilum

CT-scan; hilar level

CT-scan; caudal level, below hilum

Ultravist

SCHERING

Segment Distribution in the Liver

The anatomic division of the liver consists of a larger right and a smaller left hepatic lobe, whose boundaries are defined by the falciform ligament and the fissure of the ligamentum venosum.

Parallel to the increasing importance of liver surgery, ultrasonographic imaging of the liver has also taken into account the division of the liver into segments based on the dichotomous division of the branches of the portal vein, the hepatic arteries and the bile ducts (primarily from Couinaud 1957).

Thus, we distinguish right and left halves of the liver, each of which is further subdivided into two so-called double segments, including a lateral double segment encompassing the left

hepatic lobe, a medial double segment essentially analogous to the quadrata lobe, and an anterior and dorsal double segment. The caudate lobe corresponds to segment I.

The main branches of the hepatic veins, which receive venous blood independent of the segmental divisions, pass through the functional borders between these so-called double segments.

Conversely, the branches of the portal vein do not form intrahepatic anastomoses and together with the radicles of the hepatic arteries and the bile ducts follow the portal canal endowed with Glisson's capsule.

The nomenclature of the segments is clockwise starting from dorsal-medial.

Upper abdominal transverse and subcostal slices, right

Intercostal, flank and paramedian slices, right

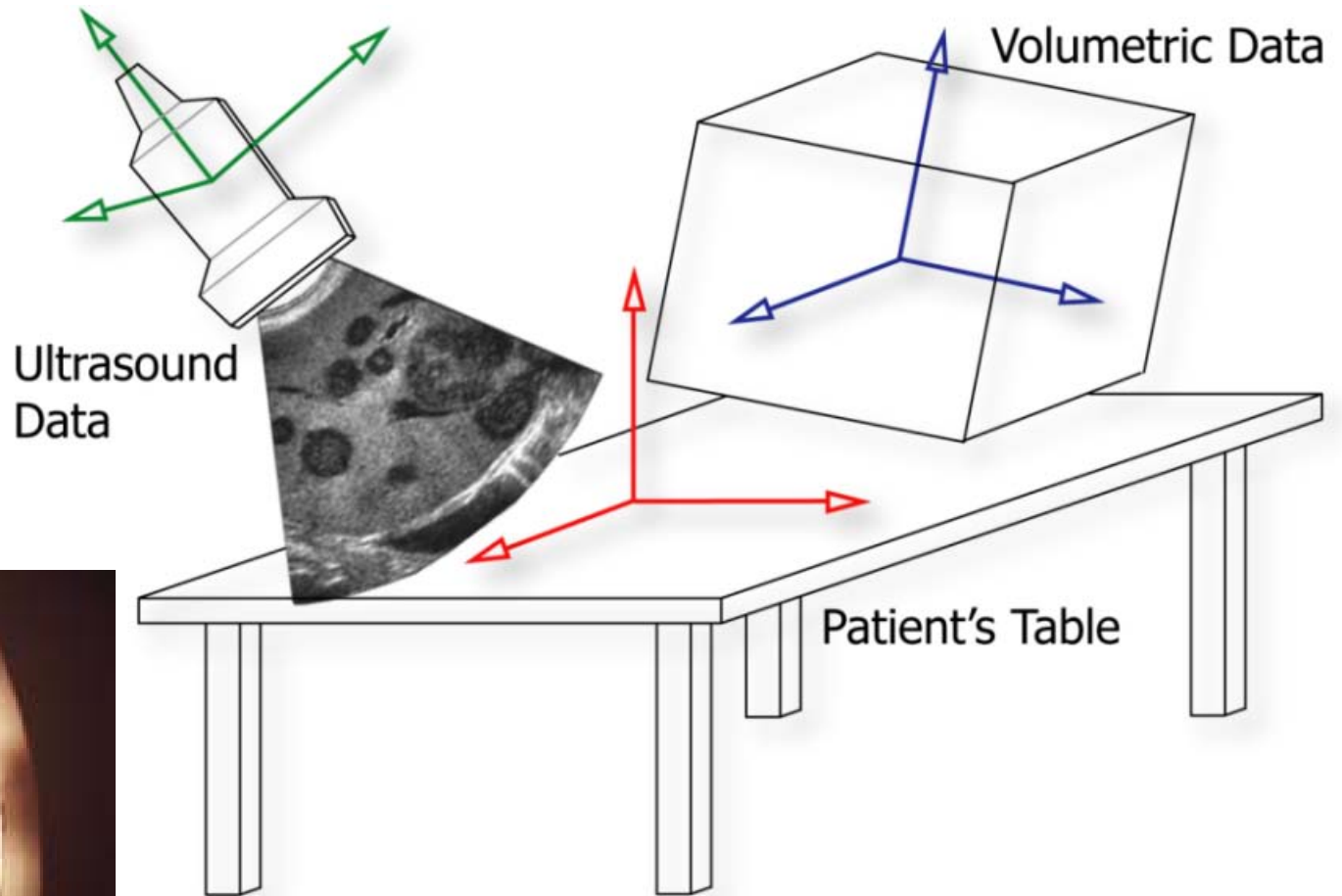
Ursofalk
Cephaloerythrin
Ursocholic acid

© 2008 Dr. Falk Pharma GmbH
All rights reserved.



FROM VISION TO DECISION

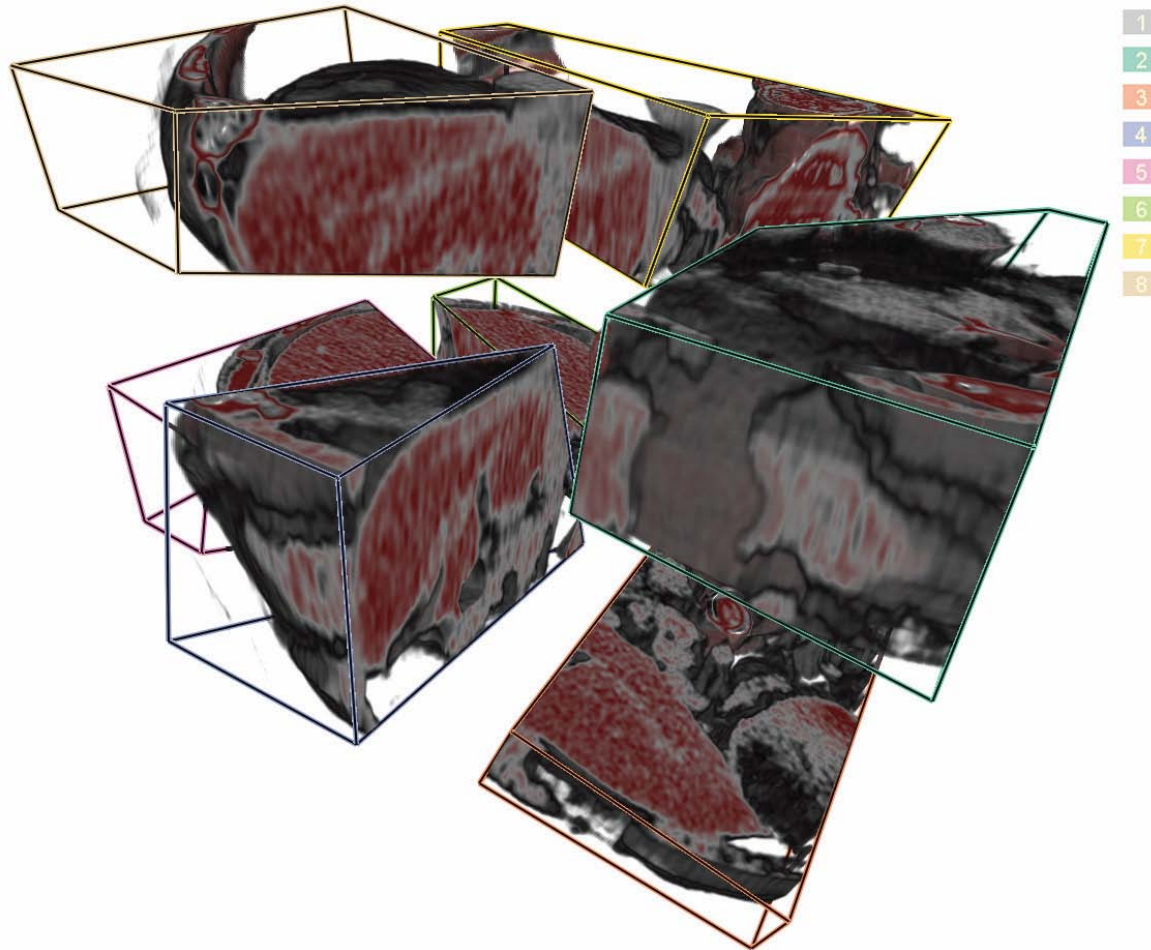
Multimodal Visualization





FROM VISION TO DECISION

Explosion View





FROM VISION TO DECISION

“The red wood effect”