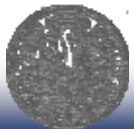


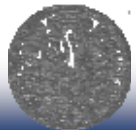
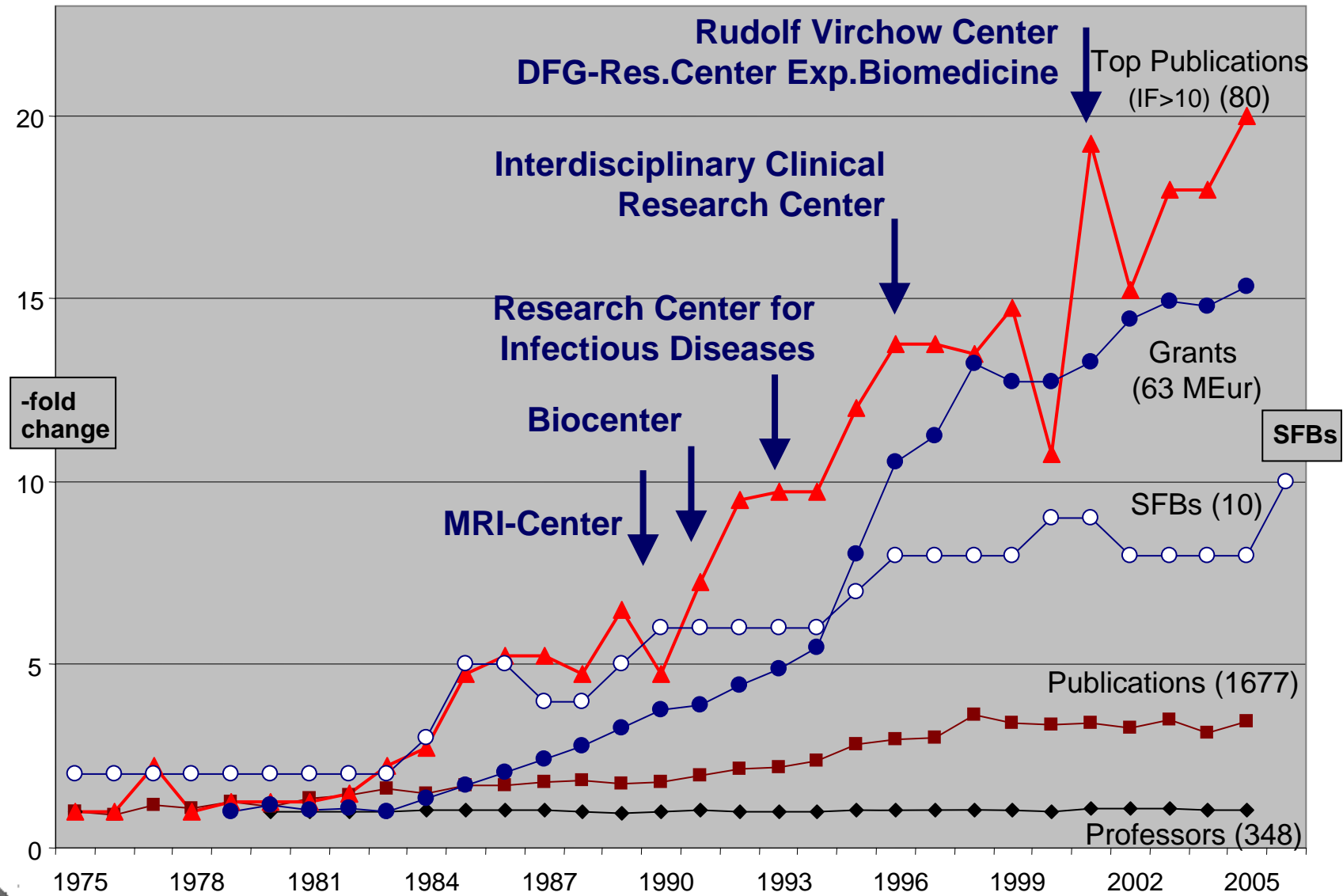
**Medizin & Forschung in der
Region Würzburg
- Möglicher Beitrag der Universität Würzburg
zum Cluster Medizintechnik**



**Prof. Dr. Axel Haase
Universität Würzburg**



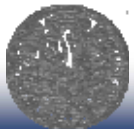
University of Würzburg – Research Figures



Research Center (Definition)

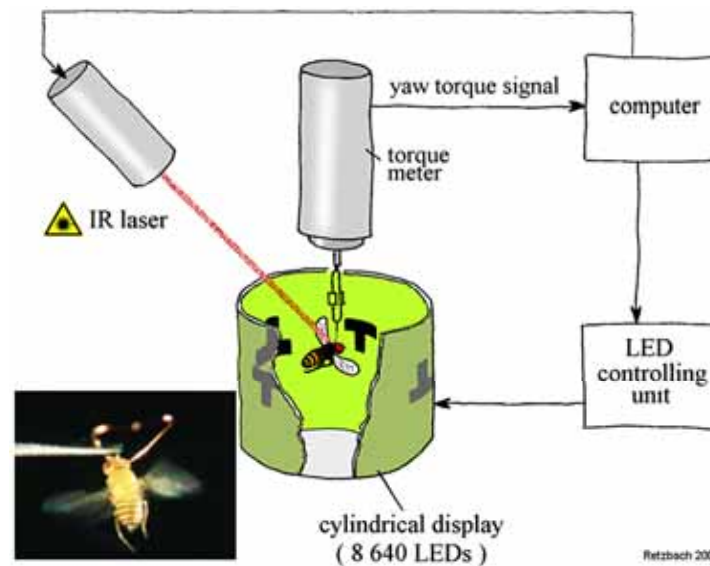
Research Centers are complex, long-term, interdisciplinary structures

- unite research groups from different disciplines
- usually comprise several collaborative grants
- are independent from and embrace several faculties
- contain elements for graduate training and independent junior groups
- are founded upon application of its members - after internal and external review

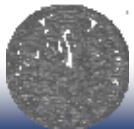


Research Centers

- Biocenter: Integrative and Molecular Biology Univ. Res. Ctr. (1991)



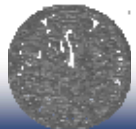
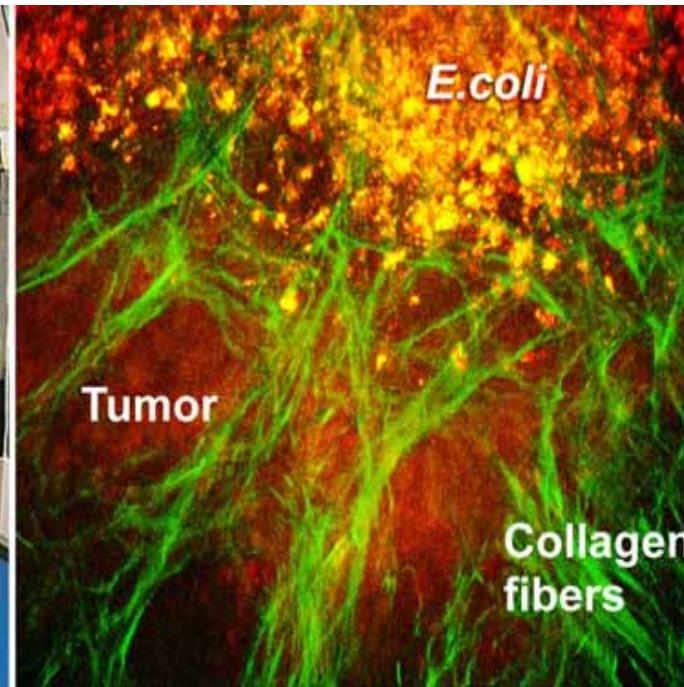
Connectivity of Molecules, Cells, and Organisms



Research Centers

- Rudolf Virchow Center

DFG-Res. Ctr. (2001)

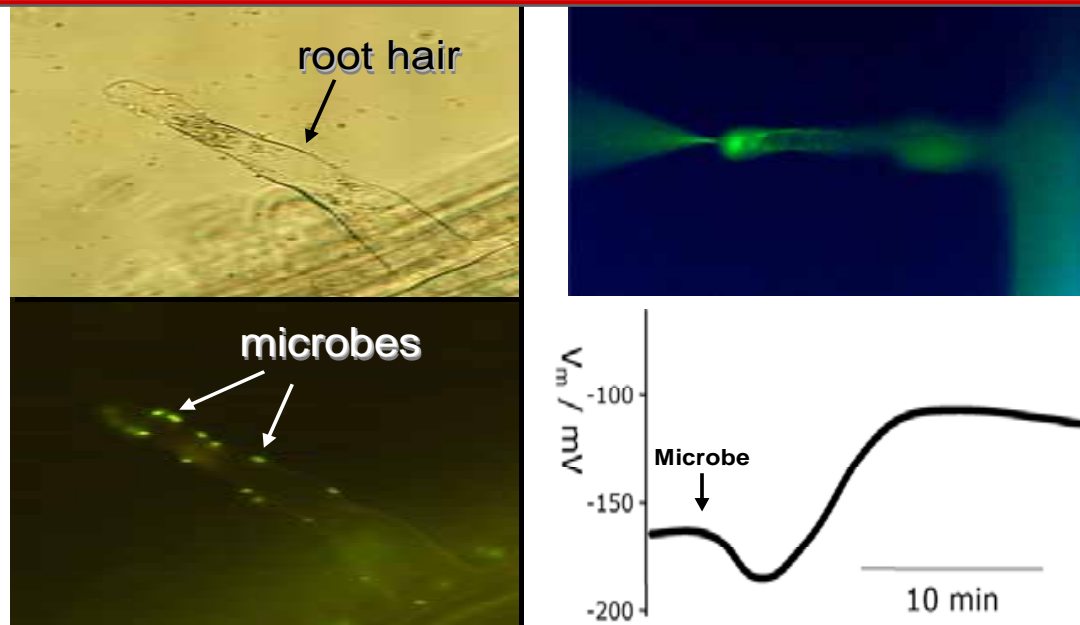


Target Proteins and Bio-Imaging

Bayerische Julius-Maximilians Universität Würzburg

Research Centers

- Infectious Diseases
- SFB 630 (Agents against infectious diseases) Univ. Res. Ctr. 1991

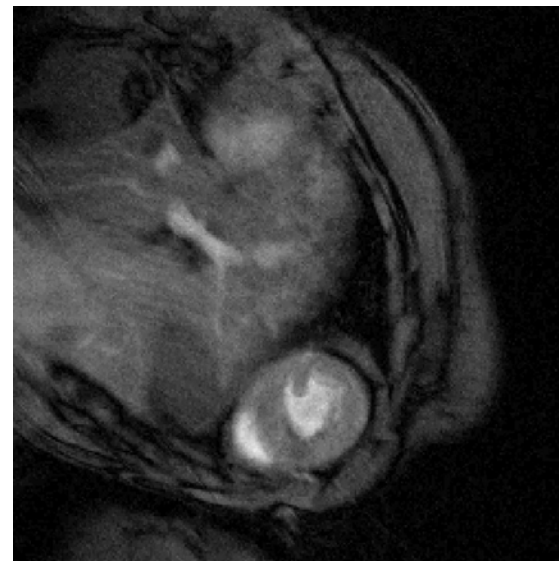
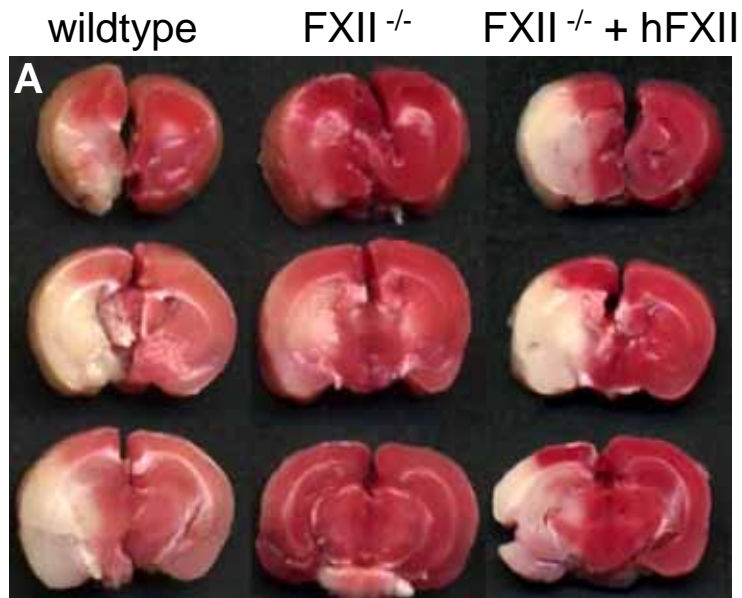


*Interactions of Vertebrates, Avertebrates and Plants
with Pathogenic, Commensal, and Symbiotic Microbes*

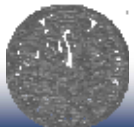
Research Campus Würzburg

Research Centers and SFB

- Cardiovascular Research Center



*Experimental and Clinical Approaches
to the Molecular Basis of Cardiovascular Diseases*





Permeable, mikroporöse
Hohlfasern



Biodegradierbare
Materialien



Dentale
Restaurationswerkstoffe

Fraunhofer-Institut für Silicatforschung ISC

Geschäftsfeld Life Science

Dr. Jörn Probst

Medizintechnik
Biotechnologie

Bulkmaterialien

(Nano-)Partikel

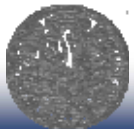
(Hohl-)Fasern

Folien

Sol-Gel-Beschichtungen

Biodegradierbare Werkstoffe

Materialentwicklungen im Bereich **nichtmetallischer** Werkstoffe auf Hybridpolymer-, Glas- und Keramik-Basis für medizintechnische und biotechnologische Anwendungen

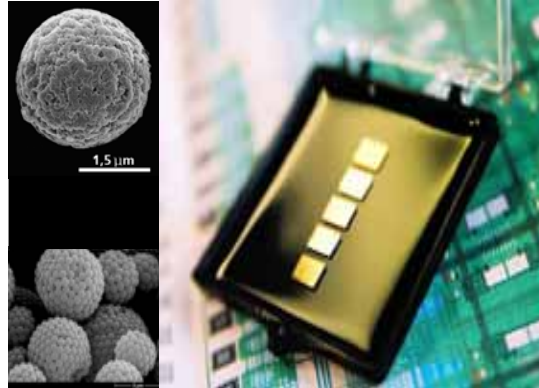


F&E-Schwerpunkte am Fraunhofer ISC im Bereich Life Science



Regenerative Medizin

- **bioresorbierbare Werkstoffe**
 - Trägerstrukturen (scaffolds)
 - Verstärkungsfasern
- **nicht resorbierbare Werkstoffe**
 - Trägerstrukturen
 - in-vitro Modelle, „Bioreaktoren“



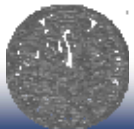
Nanobiotechnologie

- **Nanopartikel** („customized particles“)
 - Analytik (Chromatographie)
 - Therapie (Drug Delivery)
 - Diagnostik (Monitoring)
 - Kompositwerkstoff
- **Biosensoren / Lab-on a Chip**
 - multifunktionelle intrinsische Werkstoffe

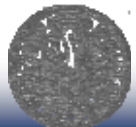
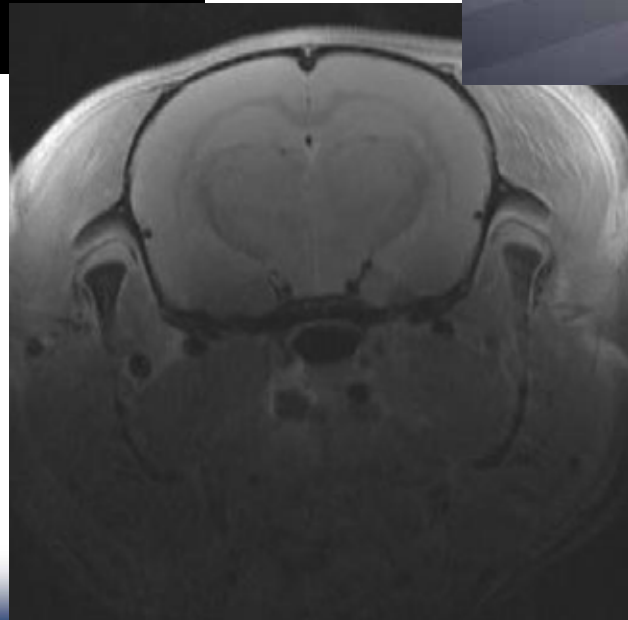
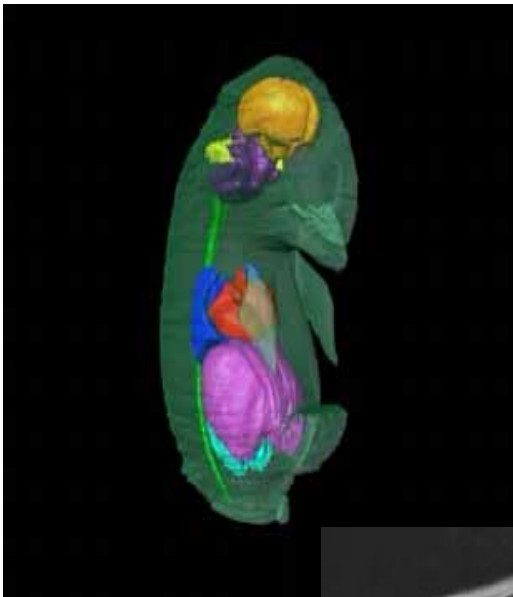


Biomaterialien

- **Dentale Restaurationsmaterialien**
 - (Hohl-)Fasern
 - Knochenzemente
 - „bioinspired“ Werkstoffe



Biomedical Imaging at the University of Würzburg





Magnetic Resonance
Imaging Research Labs



Clinical MRI



Magnetresonanz Bayern
(MRB) e.V.

Spin-off:
RAPID Biomedical GmbH



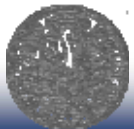
Innovationspool

**Rudolf-Virchow-
Center**

**University of
Würzburg**

**Biomedical Imaging Center
Würzburg**

**4 research groups
(e.g. optical imaging, X-ray imaging
PET, ... others)**



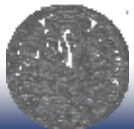
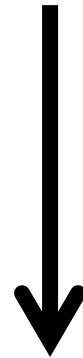
Physics
Imaging
Technology

Medicine
Clinical
Problem

Molecular
Imaging

Chemistry
Molecular
Probes

Biology
Animal Model
Cell Biology



MR, PET, Optics, ...

Bayerische Julius-Maximilians Universität Würzburg

MRI Cooperation (an example)

