

How to set up a cell culture Lab

Frank Feyerabend

GKSS Research Centre Geesthacht GmbH,
Germany

Important Considerations

- How many people will work in the lab? Will there be an increase (third party funding)? **→ Lab Space**
- Which type of cells will be cultured (primary cells, pathogens, cell lines, transfected cells)? **→ Security Level**
- Is there enough funding for operating the lab (running expenses: service, repair, chemicals, medium, disposables)? **→ Min. 50.000 €**
- Is the infrastructure sufficient (waste disposal, electricity, IT, gas, space for instruments, security measures)?

Are you really willing to spend your time on this?????

Three Possibilities – One (Singapore)

Funding for establishing the lab: 2.000.000 €, budget for running costs: 200.000 €

New rooms, already with lab furniture

2 technical assistants (one extremely handsome / cute 😊)

2 PhD students, eagerly waiting to start their work

No teaching for half a year



Three Possibilities – Two (Hamburg)



Funding for establishing the lab: 100.000 €, budget for running costs: 10.000 €

Lab Space available, has to be refurbished

No technical assistants

1 PhD position, job posting to be done

10 hours of teaching per week

Don't
waste
your
time!

Three Possibilities – A case study



Old lab (lab space in good state) with basic instruments (2 incubators, clean bench, cell counter) available

Funding for establishing the lab: 85.000 € per year

No technical assistant

Working space in an established lab

No teaching

Three Possibilities – A case study



Primary Shopping List

Instruments: Water bath, Fridge, Thermomixer, Pipetter, Centrifuge, Microscope, Photometer

Chemicals: All needed (except NaCl no chemicals in the lab)

Cell Culture Material: Media, Serum, Pipettes, Flasks, Cryoware,

Value of primary shopping list: 180.000 €!!!!

Result: First work in the lab after 26 months

Three Possibilities – A case study

Milestones

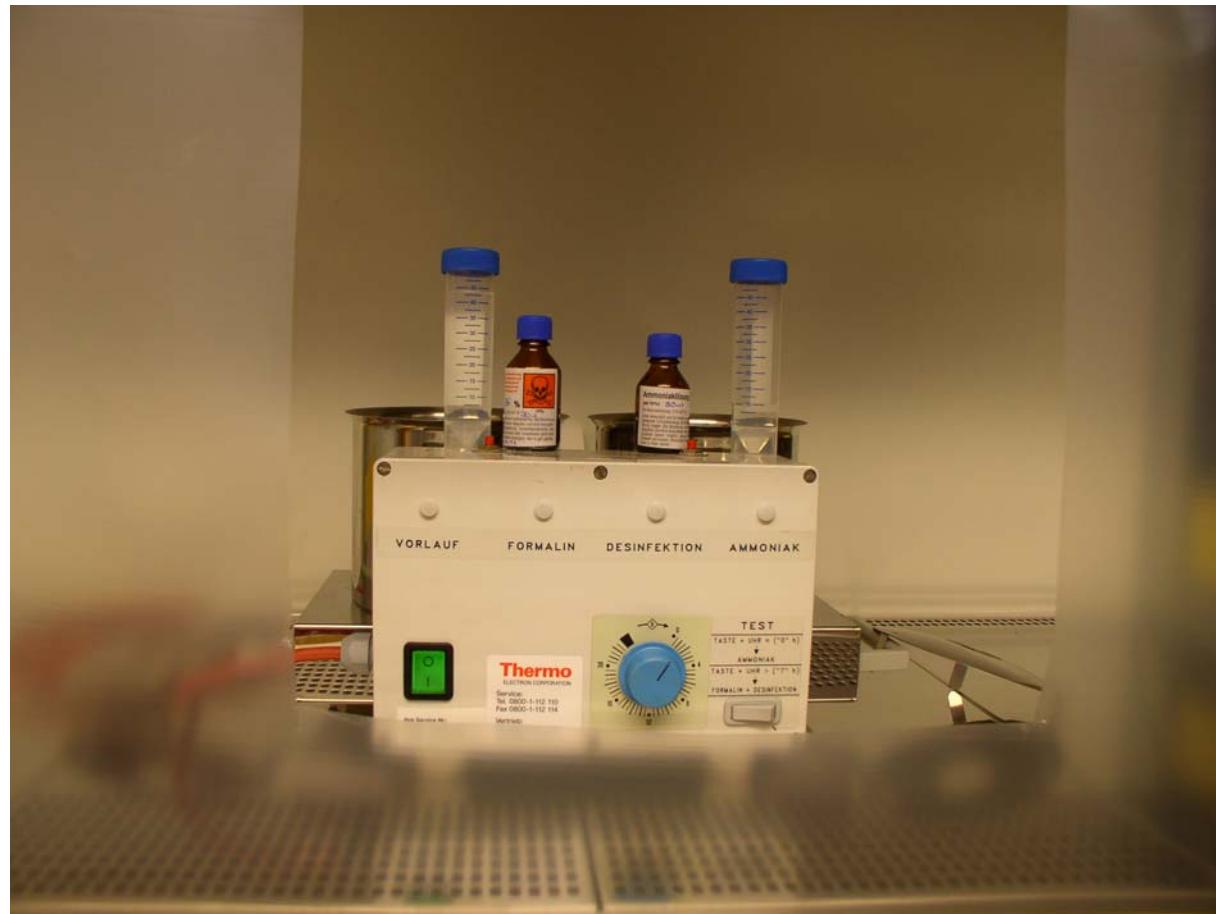
<i>01.01.2002</i>	<i>Start of Work</i>
<i>May 2002</i>	<i>All remnant waste disposed</i>
<i>October 2002</i>	<i>Defense of PhD thesis</i>
<i>February 2004</i>	<i>First Cell in the cell lab</i>
<i>October 2004</i>	<i>Grant application succesful (running expenses covered, 2 additional positions)</i>
<i>June 2004</i>	<i>Digital Scanning Calorimetry bought</i>
<i>June 2005</i>	<i>Enough money for technical assistant (third party funding)</i>
<i>June 2006</i>	<i>Laser Scattering instrument bought</i>
<i>April 2007</i>	<i>Grant application succesful for FACS</i>



Some Pictures



Some Pictures



Some Pictures



Some remnants



Some remnants



Some remnants

**Disposal costs:
800 €/ piece**



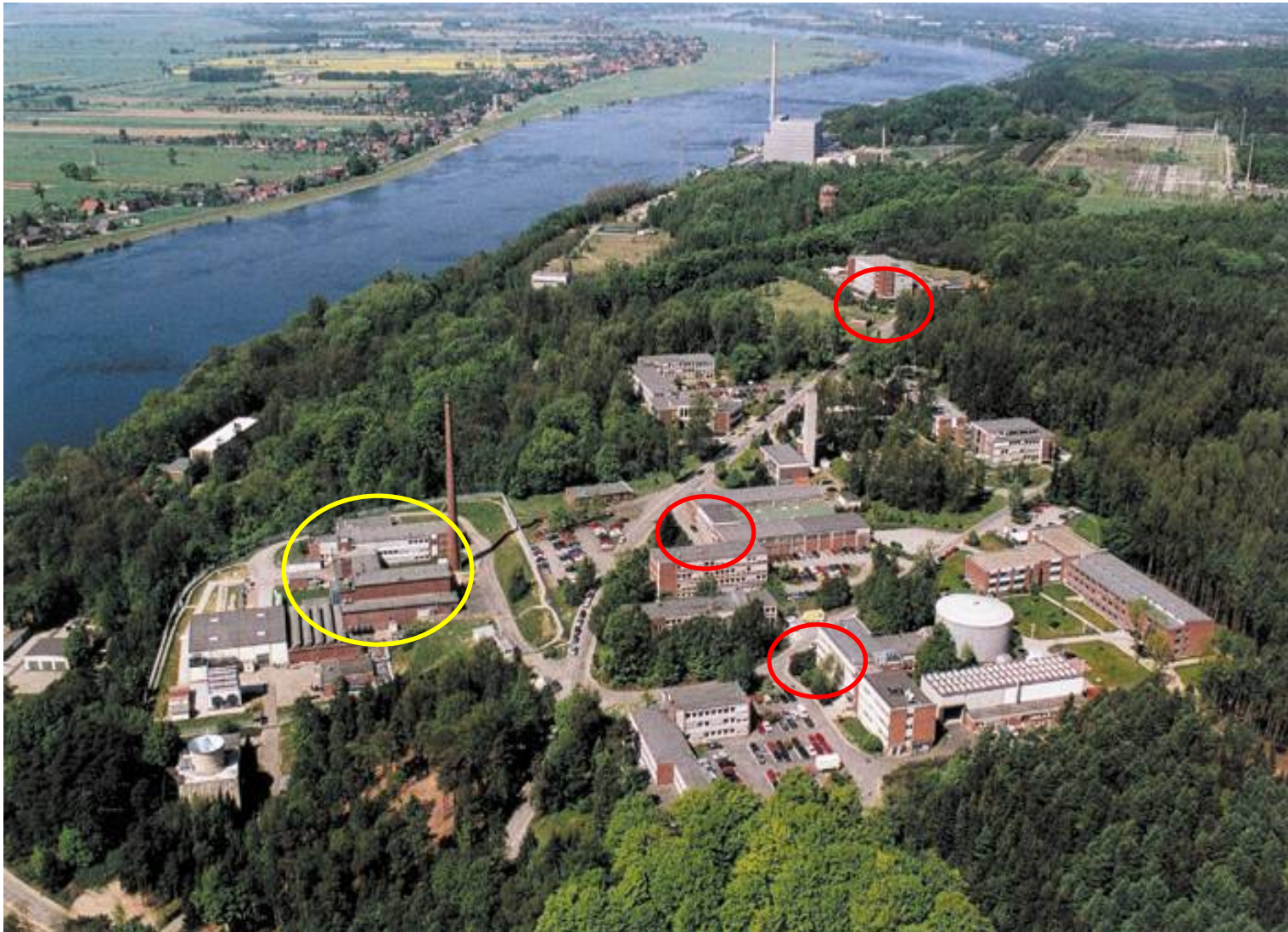
Three Possibilities – A case study



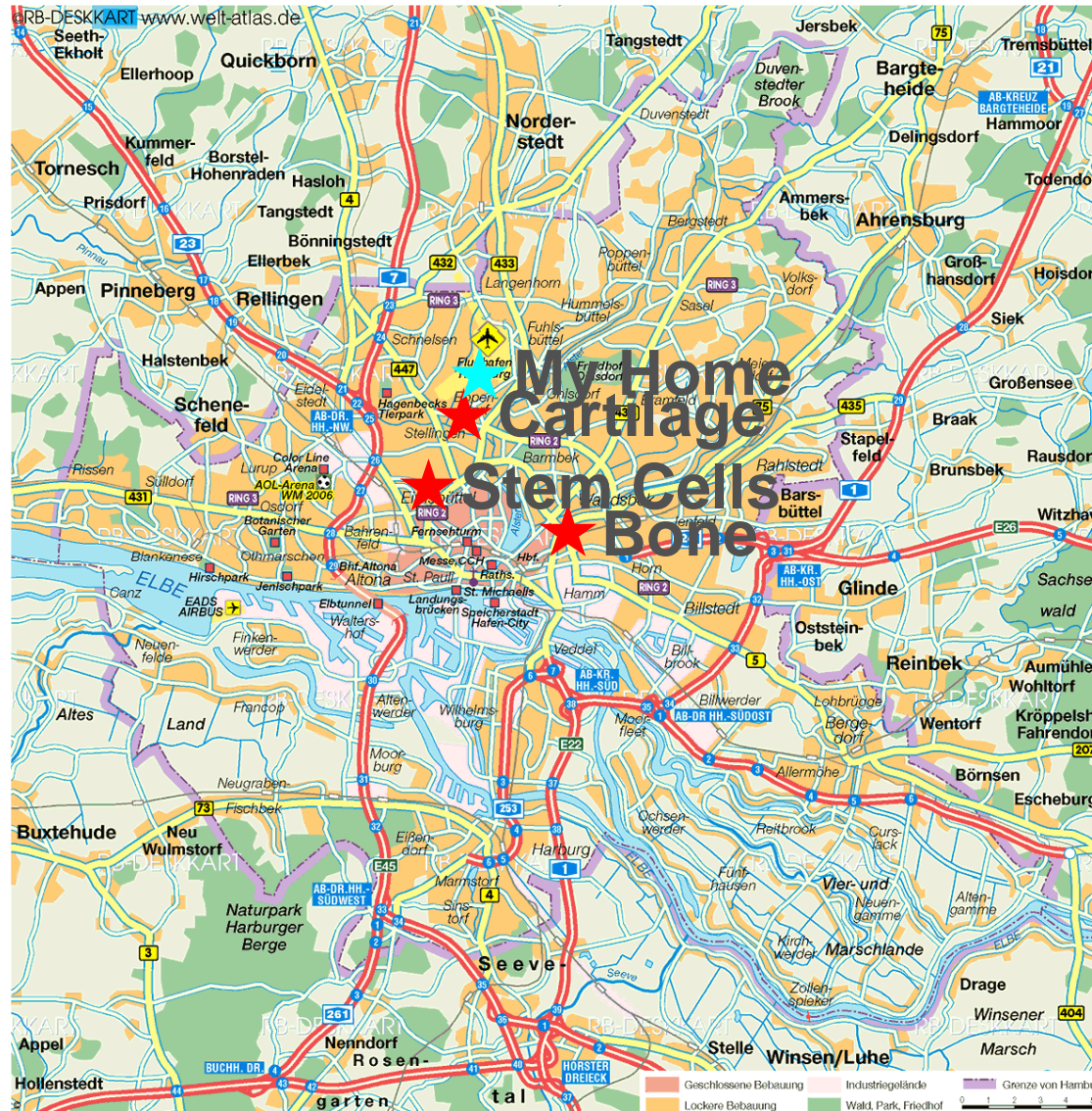
Milestones

01.01.2002	<i>Start of Work</i>
April 2008	<i>Grant application succesful for Real-time PCR and fluorecence microscope</i>
2008	<i>LEO-YES program starts (University of Wroclaw), internship for 3-6 months for polish students</i>
2009	<i>CSC-Grant application: 2 PhD students from China</i>
January 2010	<i>Program „Metallic Biomaterials“ starts: 1 Post-Doc, 1 Technical assistant, 2 PhD students</i>
August 2010	<i>Application for S1 status</i>
06.09.2010	<i>Closure of the lab</i>

Three Possibilities – A case study



And now for something completely different....



Bone: 80 km
Stem Cells 85 km
Cartilage: 90 km



To summarize:

- Try to avoid building up a cell culture lab, go into an established one
- If you are really willing to do this, be aware that it takes some time (and usually more than you think!)
- Be aware of the costs

Don't loose your nerves!

- *In urgent situations just call me or write an email, I can at least understand what you are going through and give you some good hints...*

My Calm-Downers

