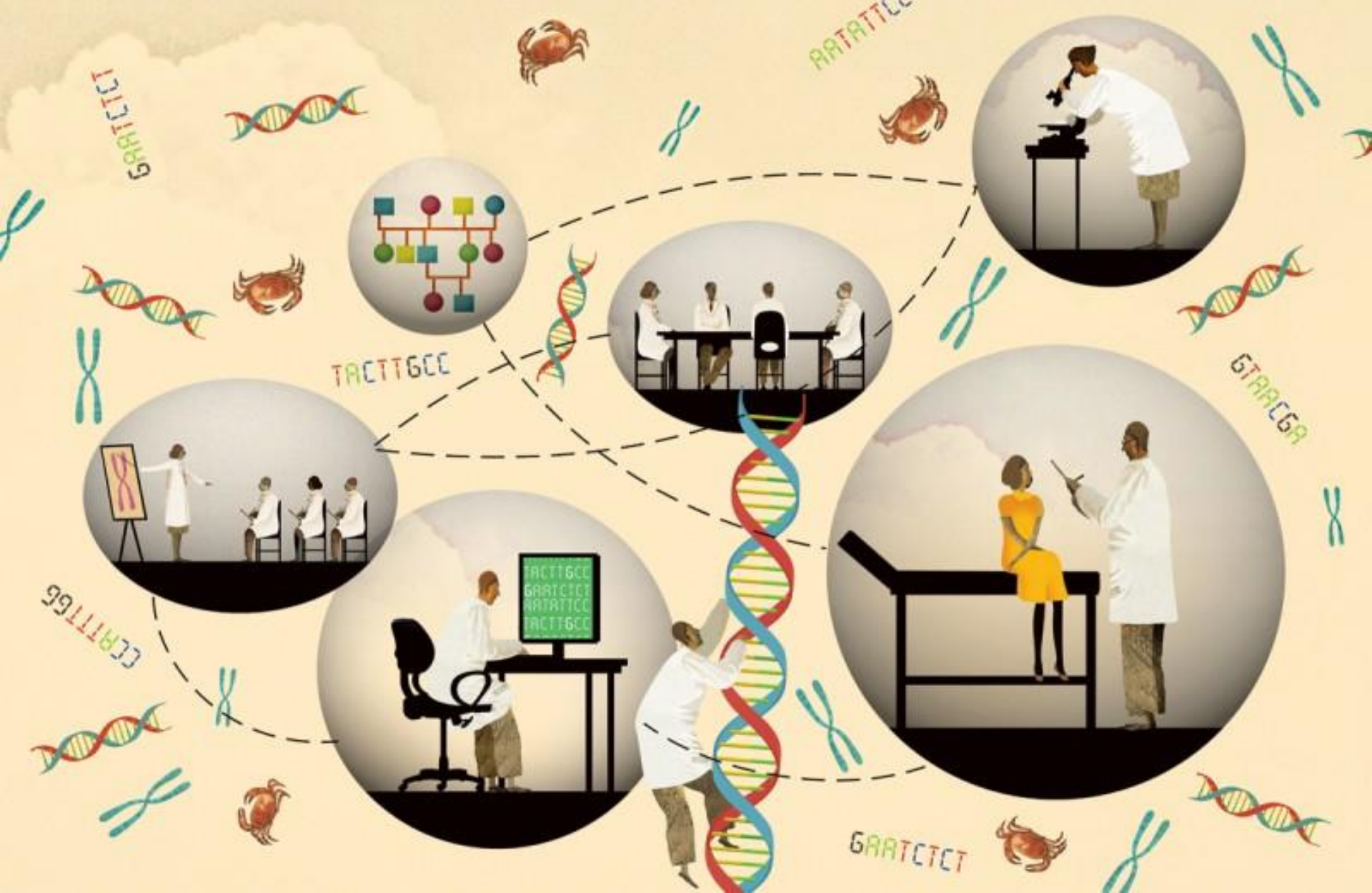


# Master Biomedical Sciences

Dr. Lars Eijssen





MBS Specialisation  
Genetics and Genomics

# Your team

## *Module coordinators*



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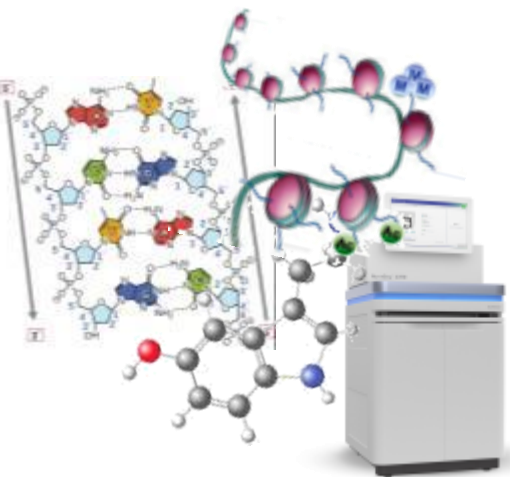


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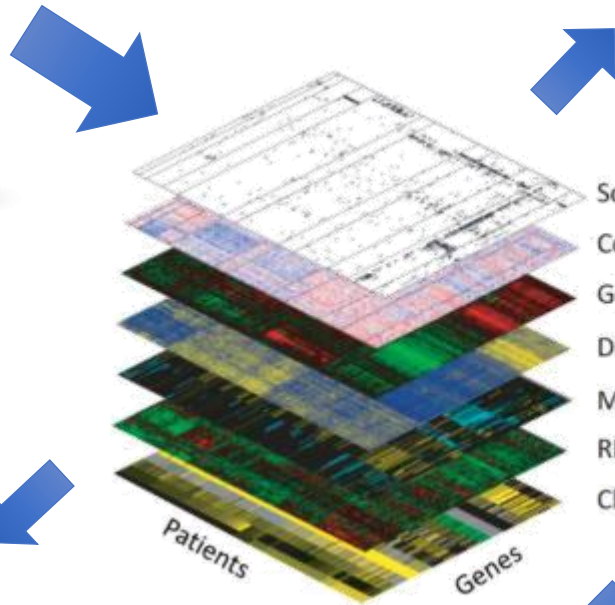


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# Measurements and Technologies



Model Systems



- Somatic mutations
- Copy number
- Gene expression
- DNA methylation
- MicroRNA
- RPPA
- Clinical data

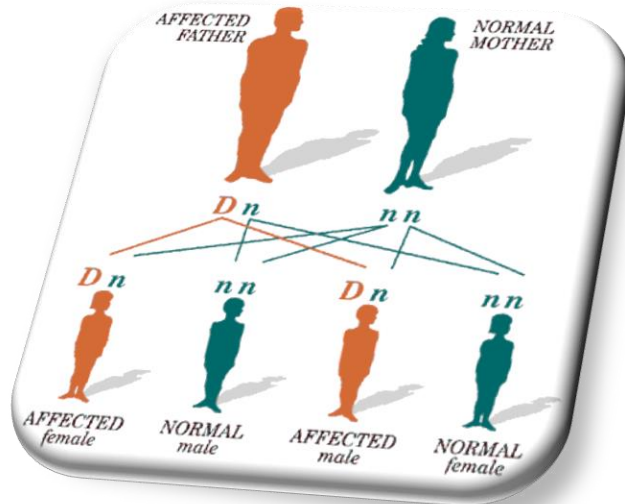


Toxins, Nutrients, Forensics

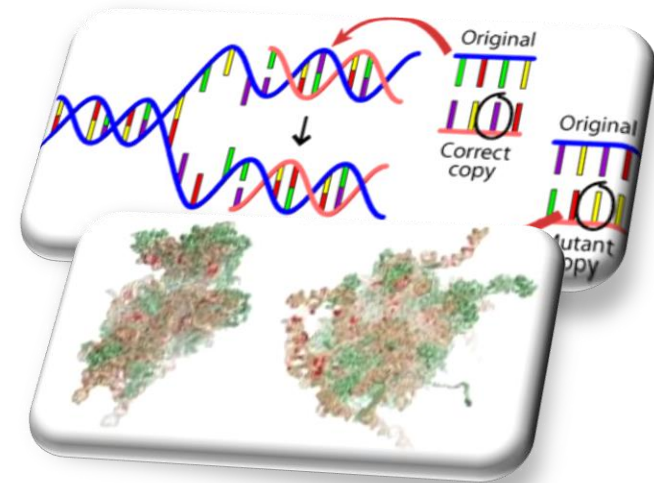


Clinical Genetics & Genomics

## HEREDITARY FACTORS

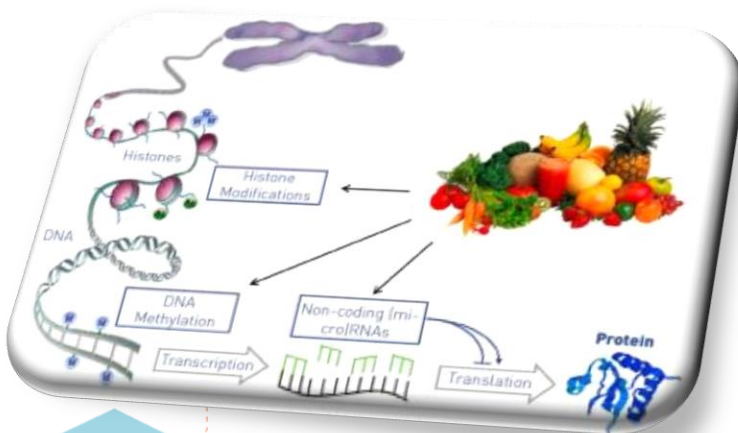


## GENETIC VARIANCE / GENE EXPRESSION

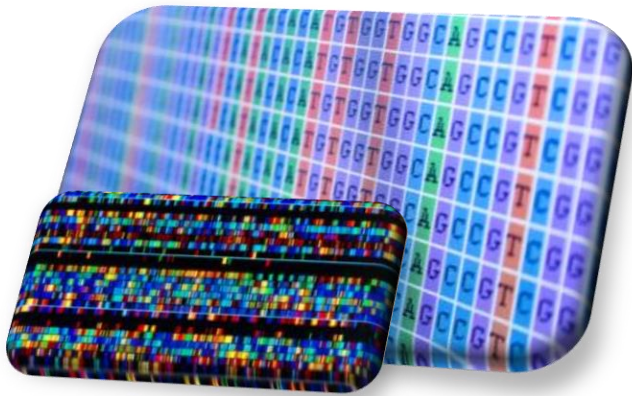


## ENVIRONMENTAL INFLUENCES

## COMPLEX GENE-ENVIRONMENT INTERACTIONS



## HIGH-THROUGHPUT MEASUREMENTS



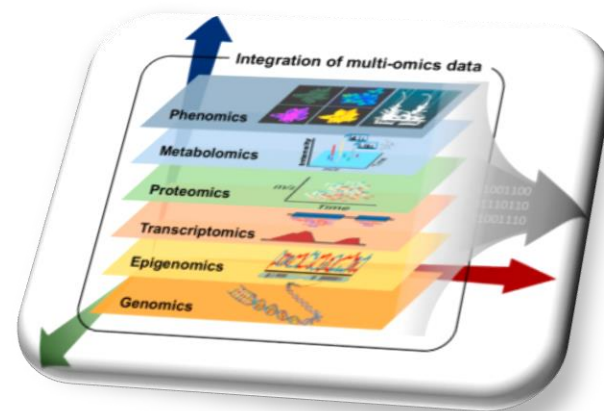
## DATA ANALYSIS



## LEGAL AND ETHICAL ASPECTS



## SYSTEMS BIOLOGY



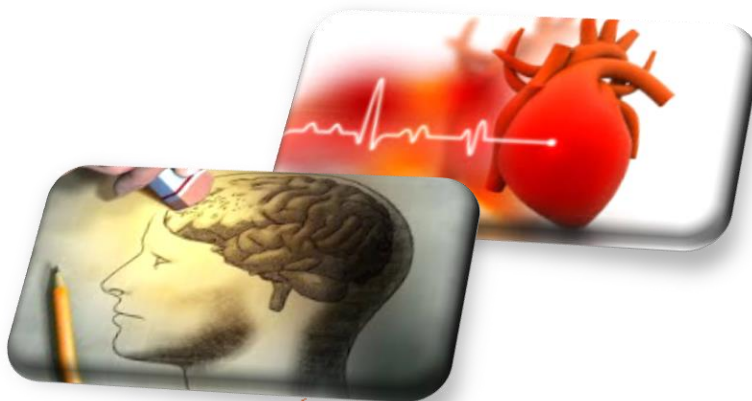
## MODEL SYSTEMS



## FORENICS



## CARDIOGENETICS & NEURODEGENERATIVE



## CANCER GENETICS


**THE BRCA GENE TEST**  
Angelina Jolie (in pic) underwent the BRCA gene test, a blood test that uses DNA analysis to identify harmful changes (mutations) in either one of the two breast cancer susceptibility genes — BRCA1 and BRCA2

**Genetic tests** can check for BRCA1 and BRCA2 mutations in people with a family history of cancer

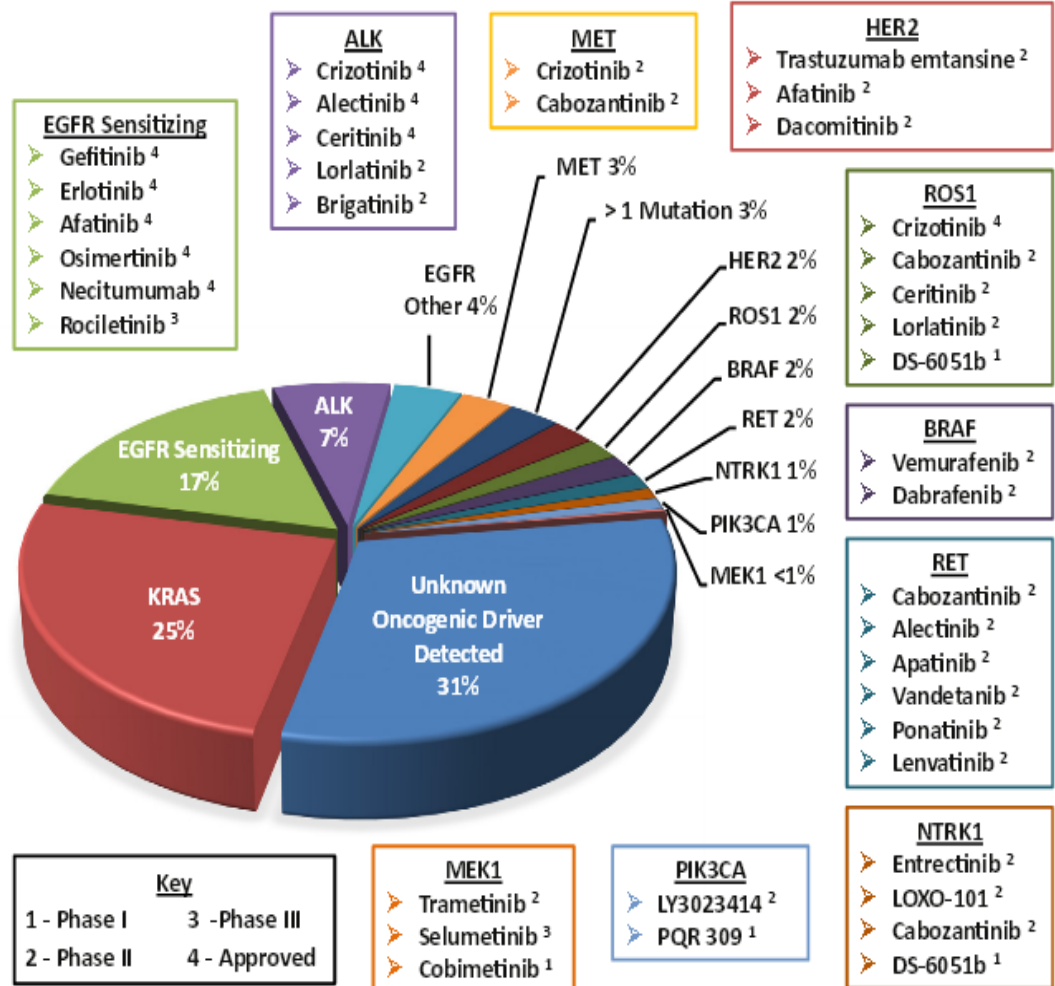
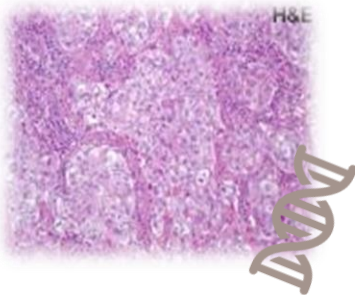
**Women** who have inherited mutations in these genes face a much higher risk of developing breast and ovarian cancer.

**IN NUMBERS**  
**1.5 lakh** Indian women who are diagnosed with breast or ovarian cancer every year; 5-10% (10,000) may have familial cancer and may benefit from BRCA1/BRCA2 gene test after genetic counselling

**46,661** ovarian cancer cases projected by National Cancer Registry Programme



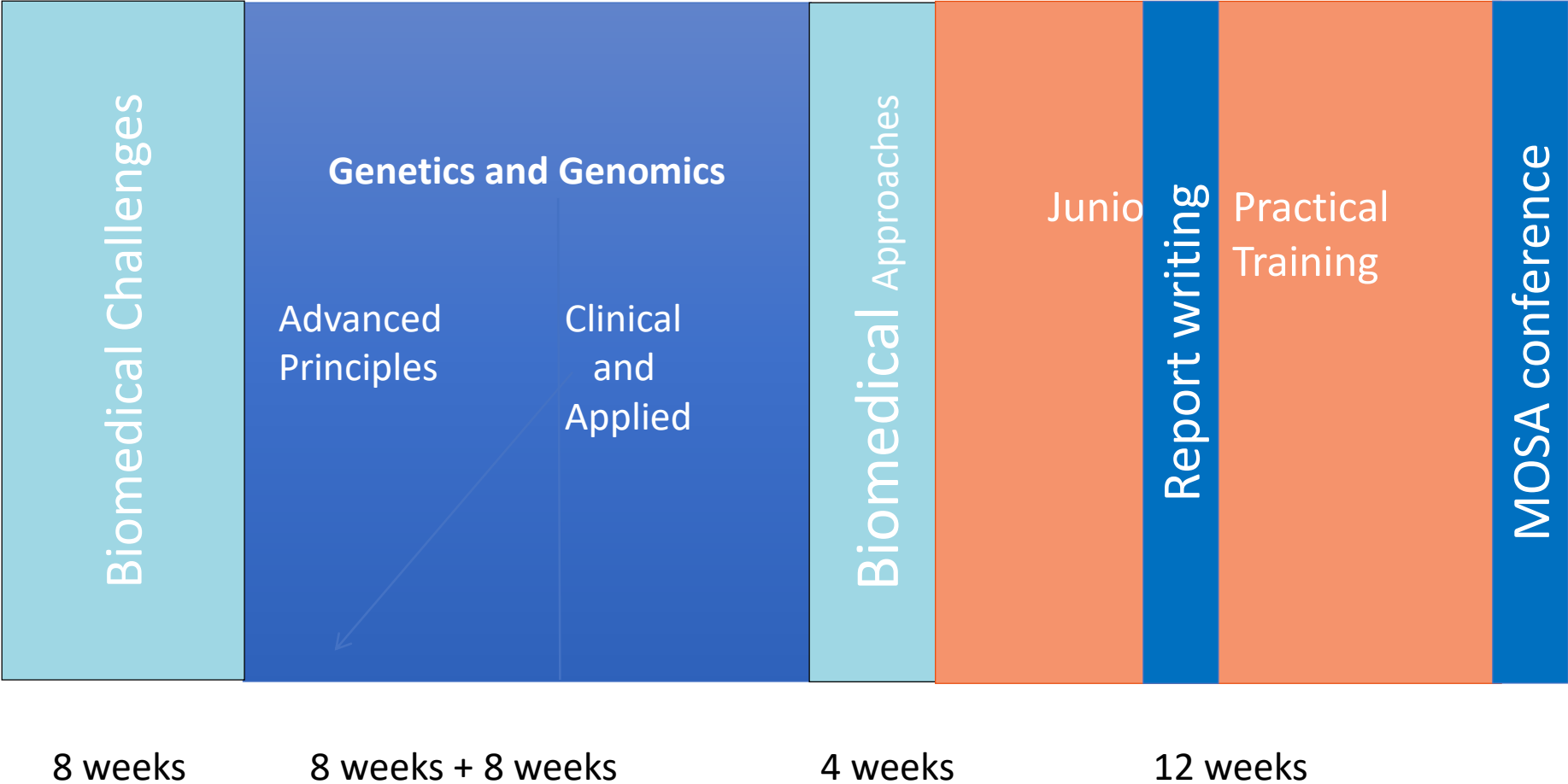
# Personalised medicine in lung cancer



August 2013:  
start first line erlotinib



# Course outline Year 1



# Student centered learning

## Teaching activity

Tutorial Group

Journal Club

Expert Lecture

Computer Lab

Career-related Session

Expert-guided Discussion

Site Visit

Essay

Research Project Writing

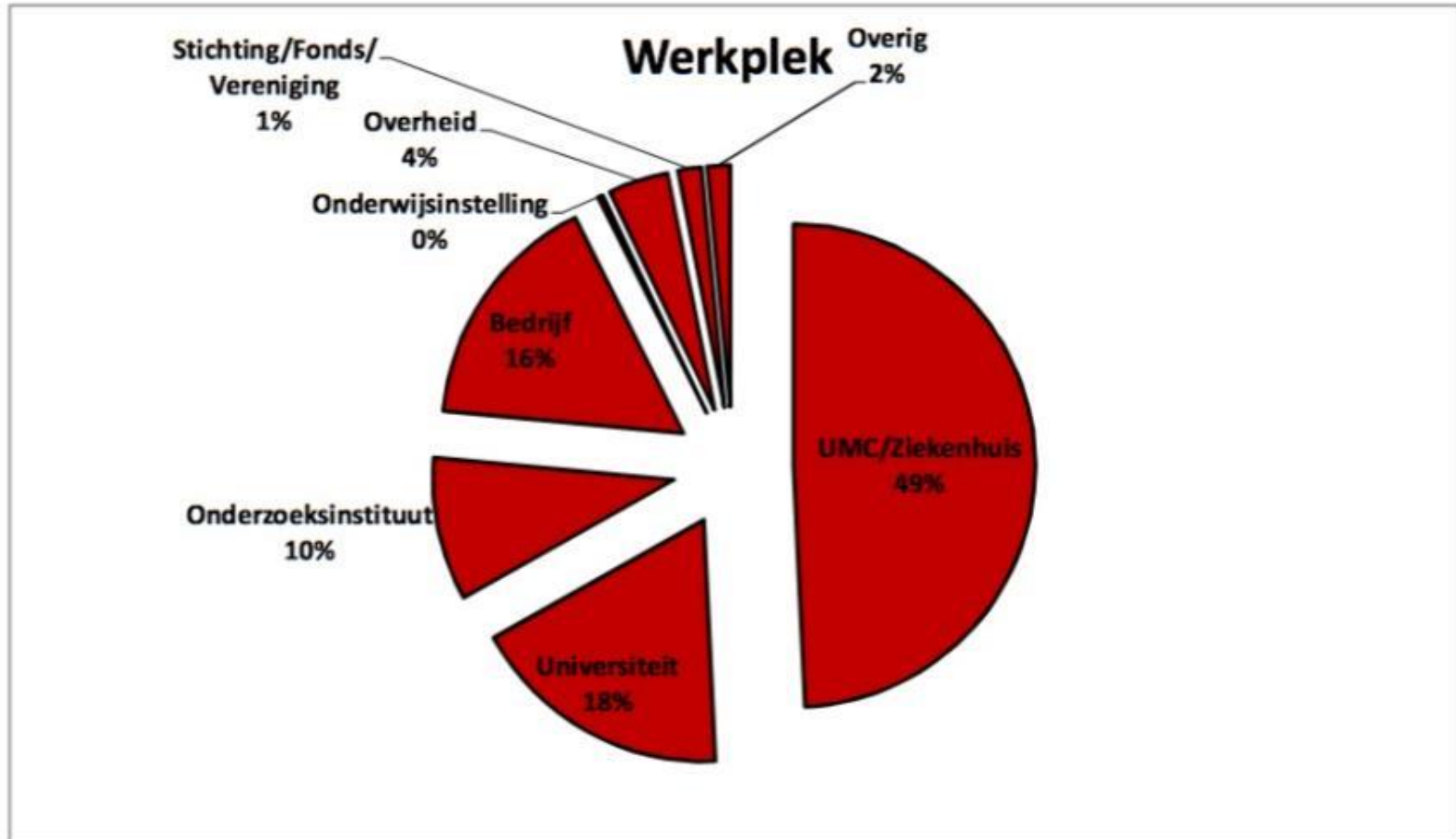


## Career perspectives



- **Prospects on labour market are good-excellent !**

# Career opportunities



NIBI enquête afgestudeerde masters biowetenschappen  
Afgestudeerd na 1 januari 2012, peildatum zomer 2015

## Admissions

### **Relevant university domains are:**

Biology, Biomedical Sciences, Biomedical Technology, Biotechnology, Health Sciences (Biology and Health), Life Sciences, Medical Natural Sciences, Medicine, Molecular Life Sciences, University College (depending on courses followed)

### **Relevant non-university domains are:**

Biological and Medical Laboratory Research, Applied Sciences (Science & Life), Biometry, Biotechnology

*Please visit the Admissions stand for more information*

# Questions?

