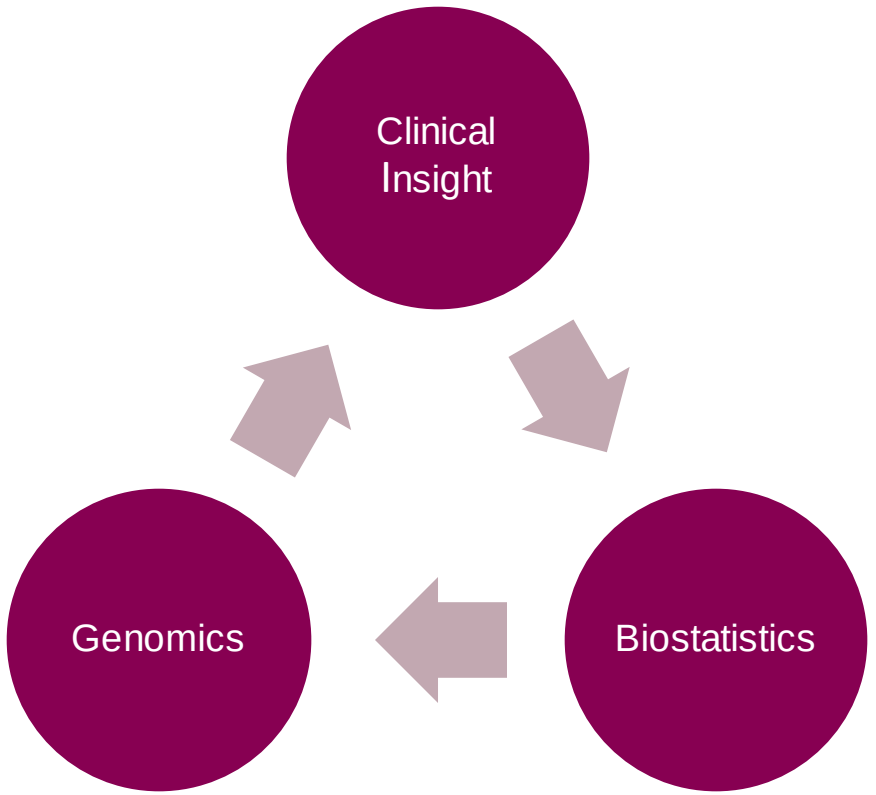
Welcome to Clinical Cancer Genomics, vt 2023

Who are we?

Henrik Grönberg



Martin Eklund

Johan Lindberg

Bioinformaticians @ MEB
Rebecka Bergström
Venkatesh Chellappa
Karthick Maniram
Sarath Murugan
Markus Mayrhofer

Lab-staff @ SciLIfe
Simon Sundling
Anastassija Andrijako

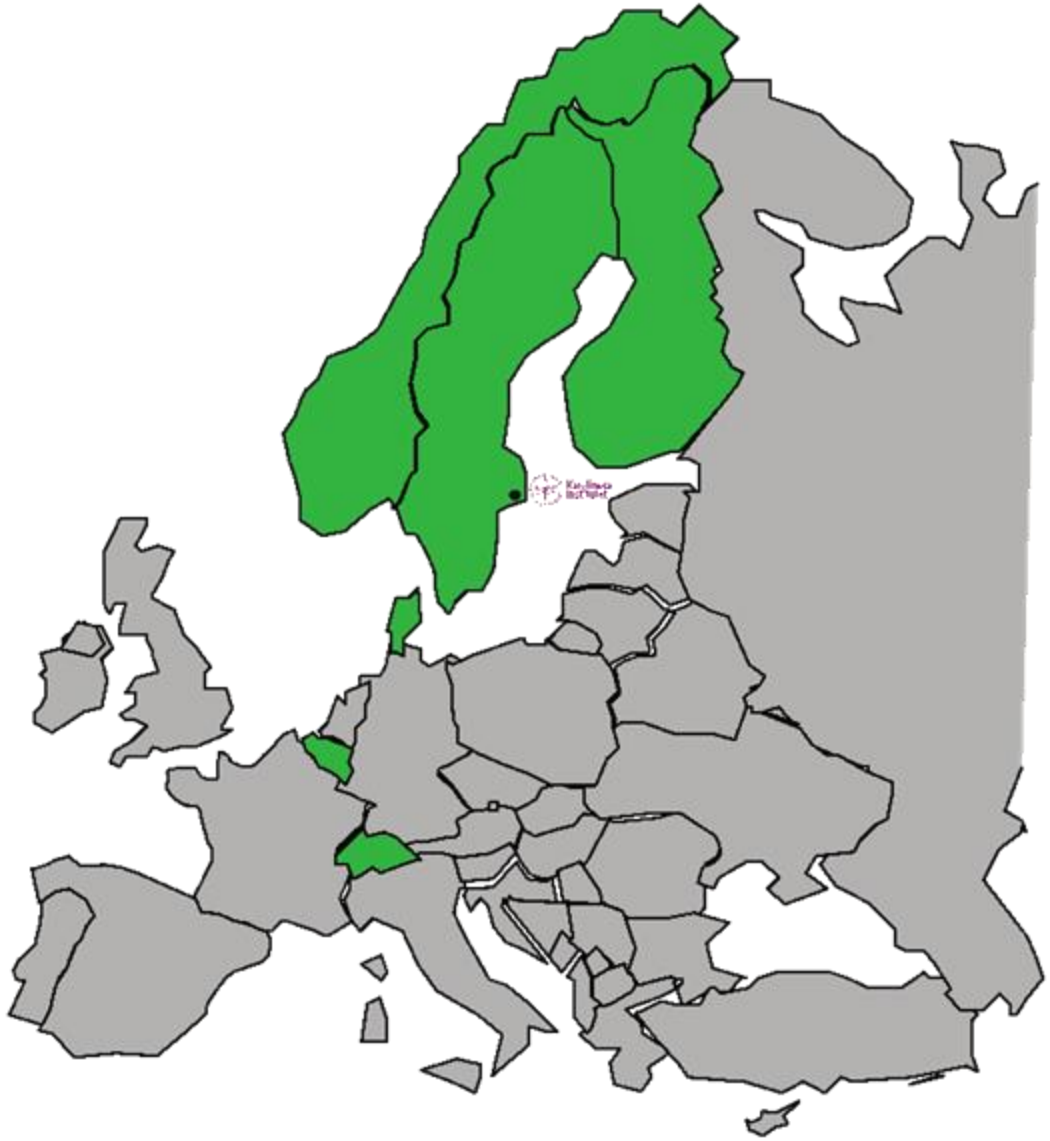
Academic postions
Konstantin Carlberg
Bram De Laere

ProBio statisticians
Alessio Crippa
Andrea Discacciati

Others … .

Prospective clinical trials using genomics

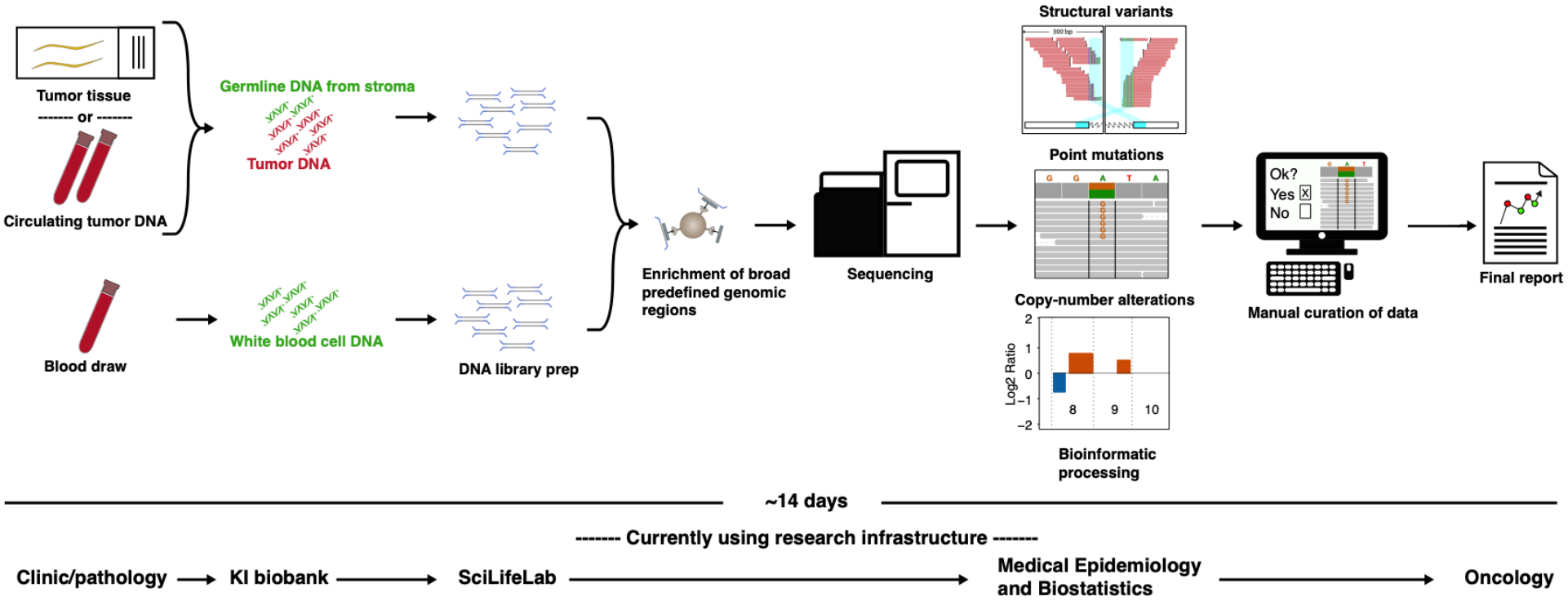
- Established infrastructure to enable the trials
- ~50 sites in 6 European countries ship biomaterial to KI



Genomics infrastructure

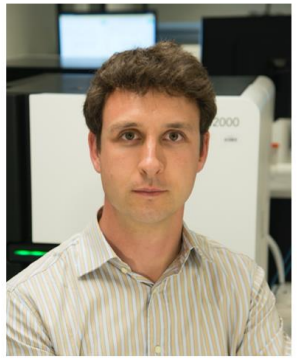
Experience

- > 4500 cases profiled using a validated research infrastructure/process
  - Research projects (DNA and RNA analysis)
  - Prospective clinical trials (DNA analysis)
  - Work towards accreditation and clinical implementation



Modified version of an existing course

- https://pmbio.org/course/
- Course content under MIT license and Creative Commons.



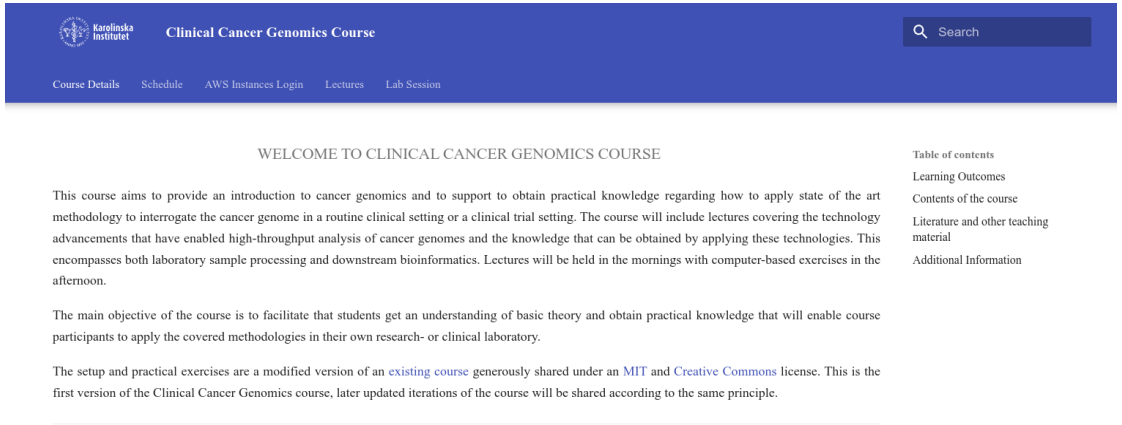
Malachi Griffith, PhD
Assistant Professor of Medicine
Assistant Professor of Genetics
Assistant Director, MGI

Obi Griffith, PhD
Assistant Professor of Medicine
Assistant Professor of Genetics
Assistant Director, MGI

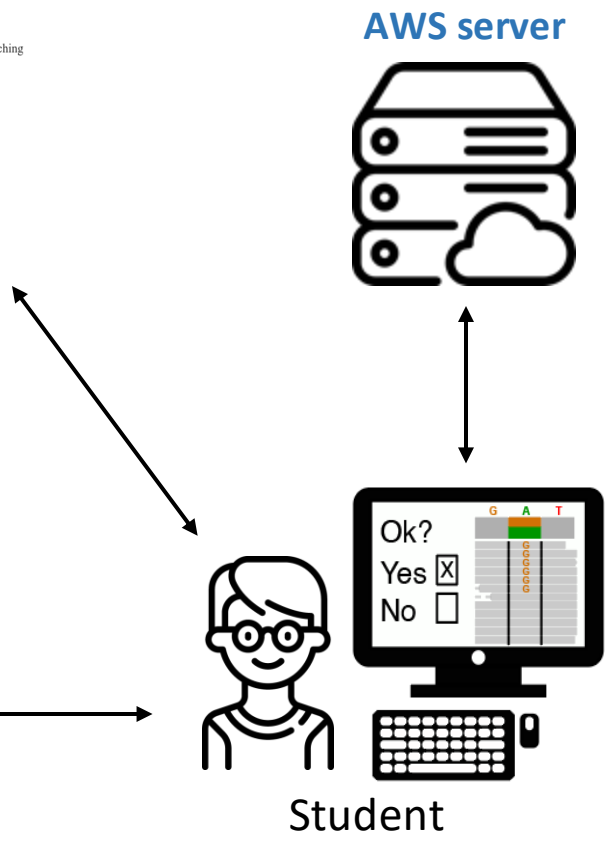
McDonnell Genome Institute, Washington University School of Medicine

Online set-up

Course webpage, info, lectures and practical sessions.



Lectures, labwork supervision and breakout sessions via Zoom.



Hands-on exercises

Schedule

	Mon	Tues	Wed	Thur	Fri
Lecture 1	Lectures about the cancer genome and how to interrogate it.		Bioinformatics pipelines and high-throughput computing environments	Copy number alterations	How to curate somatic- and germline data in a clinical trial setting
Lecture 2		Guest lecture, Clinical Genomics	QC and somatic and germline (small) mutation variant callers.	Structural variantion	Clinical trials
Lecture 3		Lab introduction	Lab introduction	RNA-sequencing and lab introduction	Annotating, interpreting and reporting somatic- and germline variation.
Labwork	Tutorials, basic tools for cancer genomics	Files, tools and running a basic bioinformatic pipeline.	Calling and QC of somatic/germline variants	Analysis of copy number data, structural rearrangements and RNAseq data.	Investigating databases and working with data interpretation. Finishing off any remaining labwork from previous days

AM

PM

- Examination – show for a course instructor each day that you have completed and understood the labwork.
  - During the exercises you get questions …

- This is our first time – have patience!
  - Any ideas/things you want to discuss for your own projects – let us know during the practical sessions, we can have a project brainstorm.

Questions?