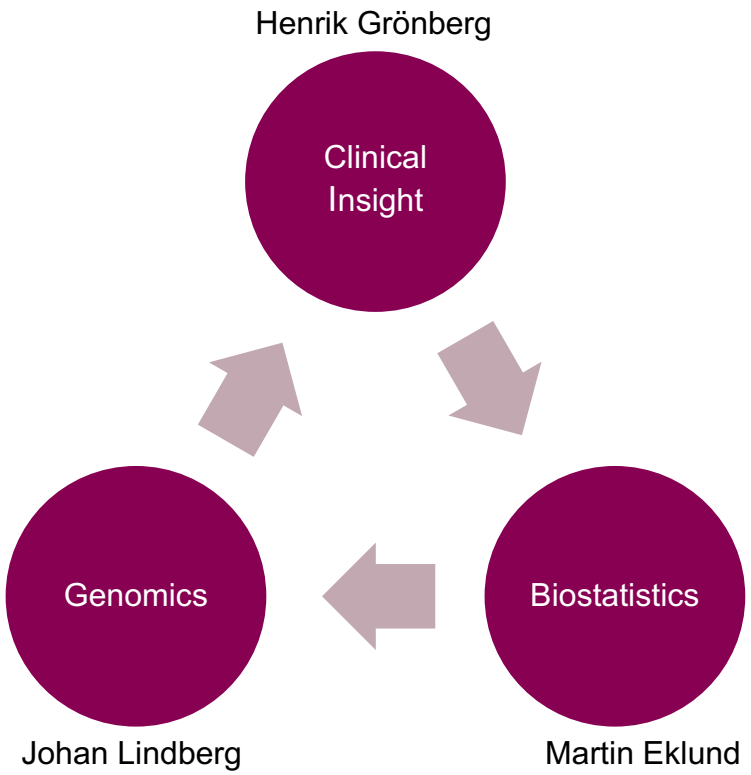
Welcome to Clinical Cancer Genomics, vt 2023

Who are we?



Bioinformaticians @ MEB
Venkatesh Chellappa
Sarath Murugan
Karthick Maniram
Rebecka Bergstrom
Markus Mayrhofer
Nawal Hamidi
Preeti Lakshman Kumar
Anupriya Sadhasivam

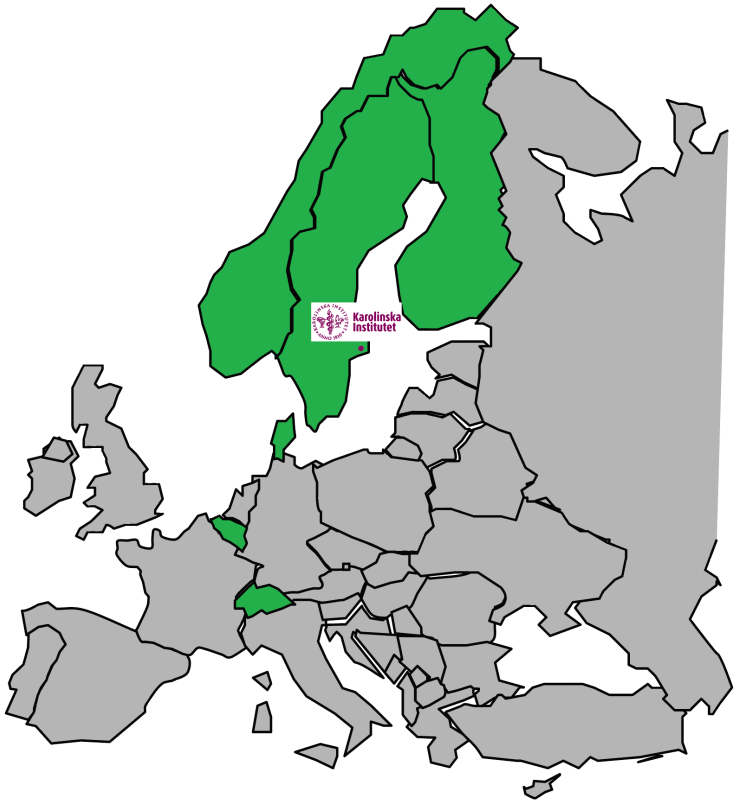
Lab-staff @ SciLIfe
Mahsan Banijamali
Anastassija Kotsalaynen

Academic postions
Konstantin Carlberg
Sinja Taavitsainen

ProBio statisticians
Alessio Crippa
Andrea Discacciati

Others … .

Cancer genomics team at KI



ALASCCA
Adjuvant ASA vid kolorektalcancer

ProBio

iPCM

PSFF program
(Pre-Screening För Fas-I)
ctDNA for patients referred to the Phase-I Unit

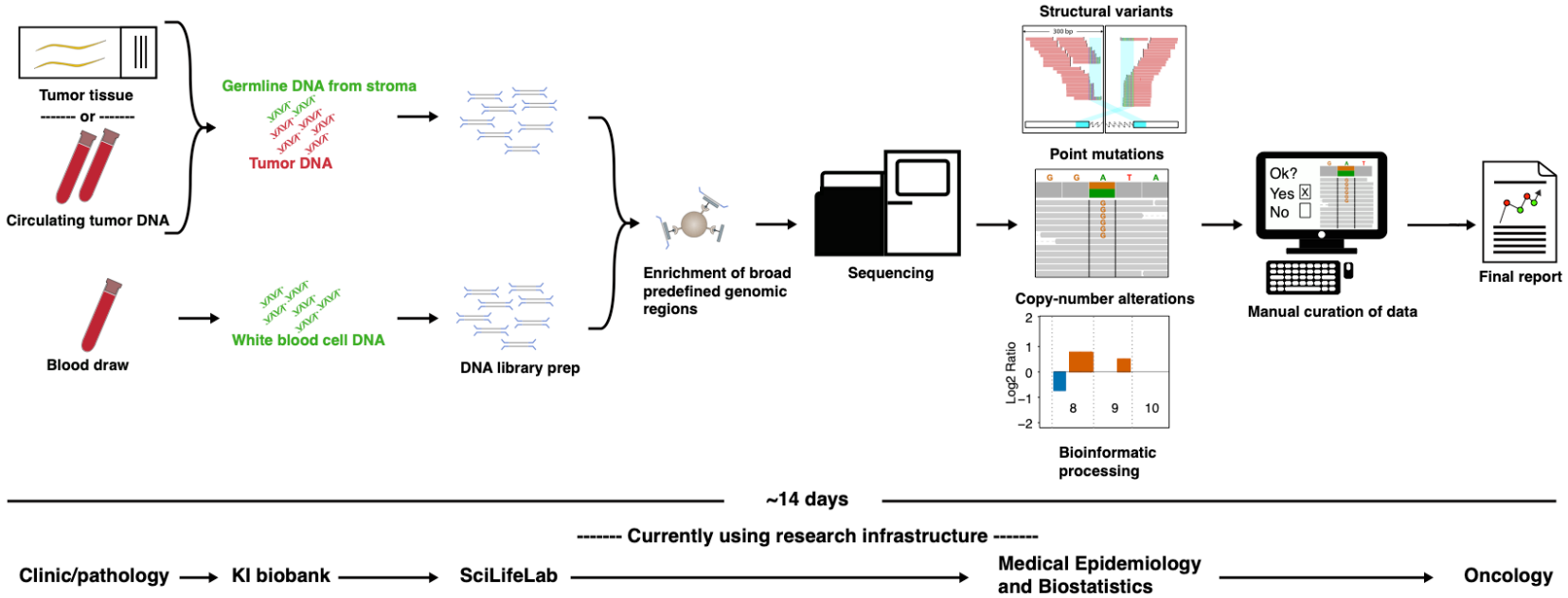
~50 sites in 6 European countries

Karolinska Institutet
>5000 cases analysed

Genomics infrastructure

Experience

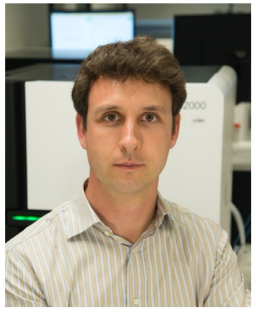
- > 5000 cases profiled using a validated research infrastructure/process
  - Research projects (DNA and RNA analysis)
  - Prospective clinical trials (DNA analysis)
  - Work towards accreditation and clinical implementation



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

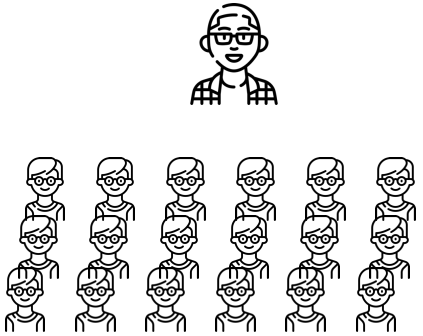


Obi Griffith, PhD
Assistant Professor of Medicine
Assistant Professor of Genetics
Assistant Director, MGI

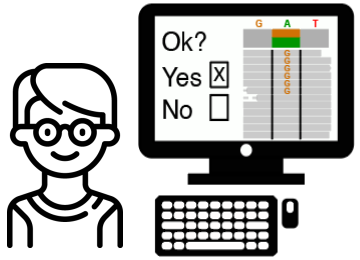
McDonnell Genome Institute, Washington University School of Medicine

Set-up

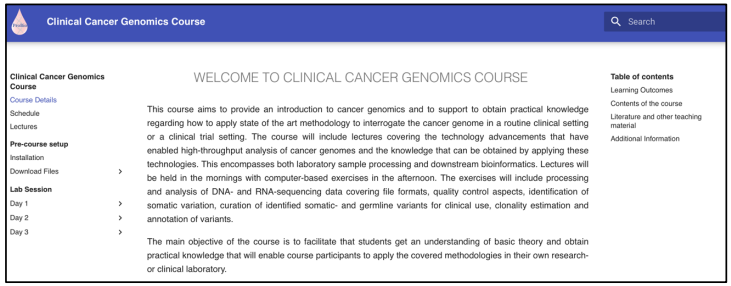
Lectures before lunch



Practical sessions after lunch



Course webpage, info, lectures and practical sessions.



Course web page

http://clinical-cancer-genomics.s3-website-us-east-1.amazonaws.com

Schedule

	Mon	Tues	Wed	Thur	Fri
AM	Lecture 1	Lectures about the cancer genome and how to interrogate it		Small variants (mutations)	Copy number alterations	Continue labwork
	Lecture 2		Guest lecture, Clinical Genomics	RNA sequencing	Structural variation	How to curate somatic- and germline variation for clinical use Joint curation of variants
	Lecture 3		Lab introduction	Lab introduction	Lab introduction	Curation demonstration, real samples Bioinformatics pipelines & HTC computing environments
PM	Labwork	Tutorials, basic tools for cancer genomics	Files, tools and running a basic bioinformatic pipeline	Calling and QC of somatic/germline variants RNAsequencing analysis	Analysis of copy number data Analysis of structural rearrangements	Continue leftover labwork Genomic Alteration Interpretation Depending on time: TCGA/ICGC integrated genomic analysis.

Set-up

- 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 with the course IRL – 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?

Menti!