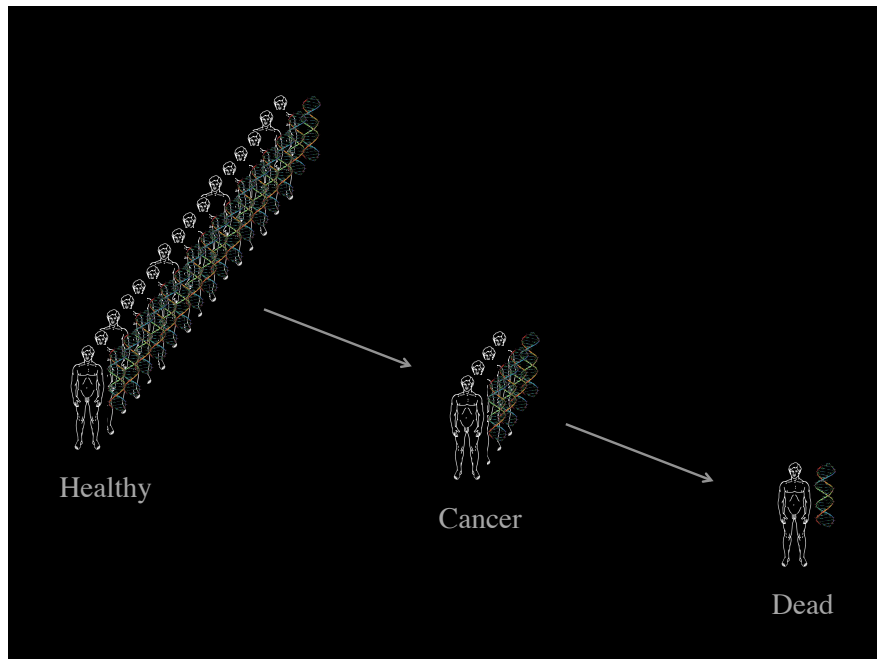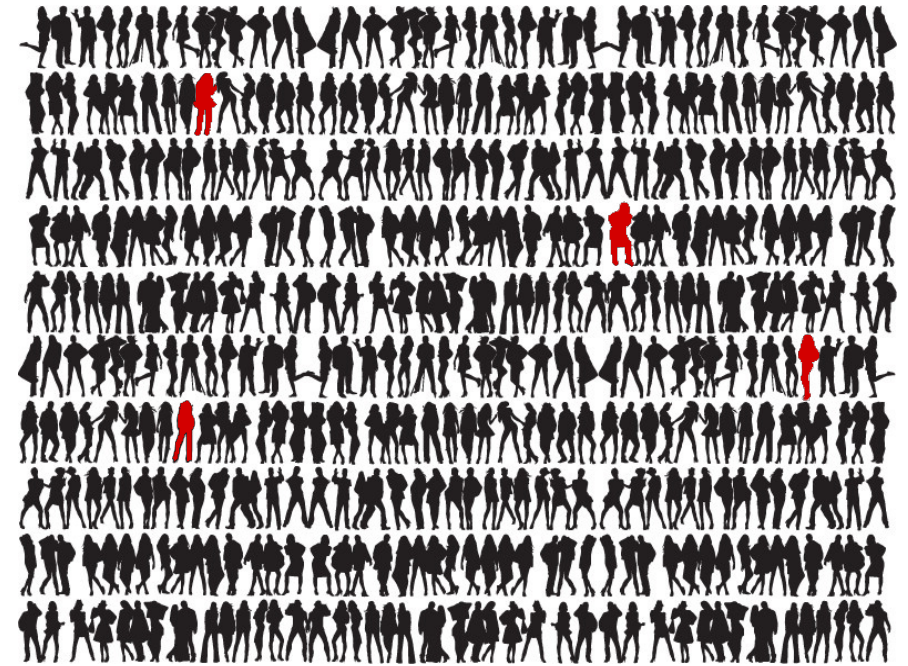# e-Science for Cancer Prevention and Cure
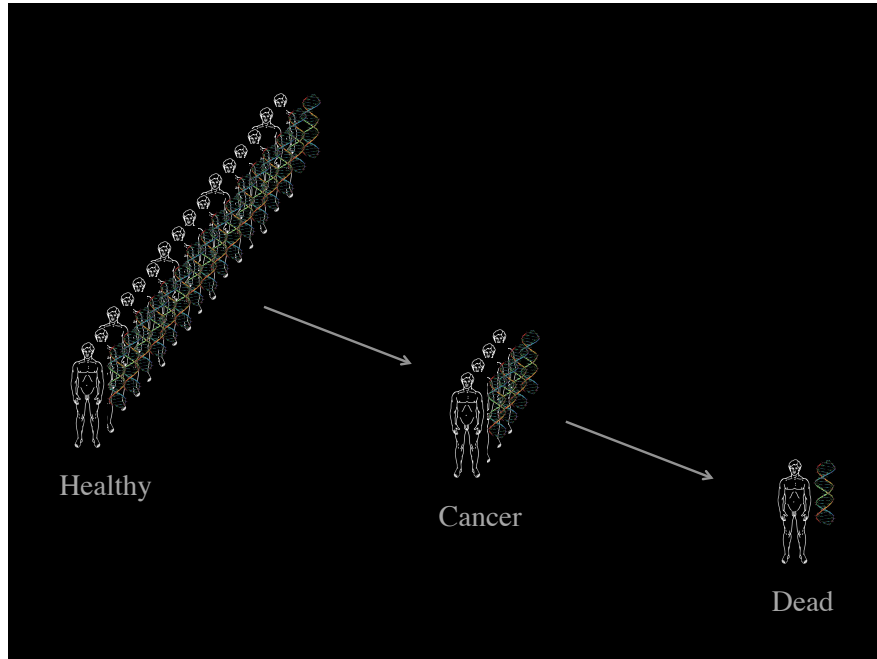
- a flagship project at the Swedish e-Science Research Center

Ola Spjuth
ola.spjuth@ki.se

SERC

Healthy

Cancer

Dead

Healthy — Cancer — Dead

---

e-Science for Cancer Prevention and Cure

Complex Diseases

Data Management — Distributed and Parallel Techniques
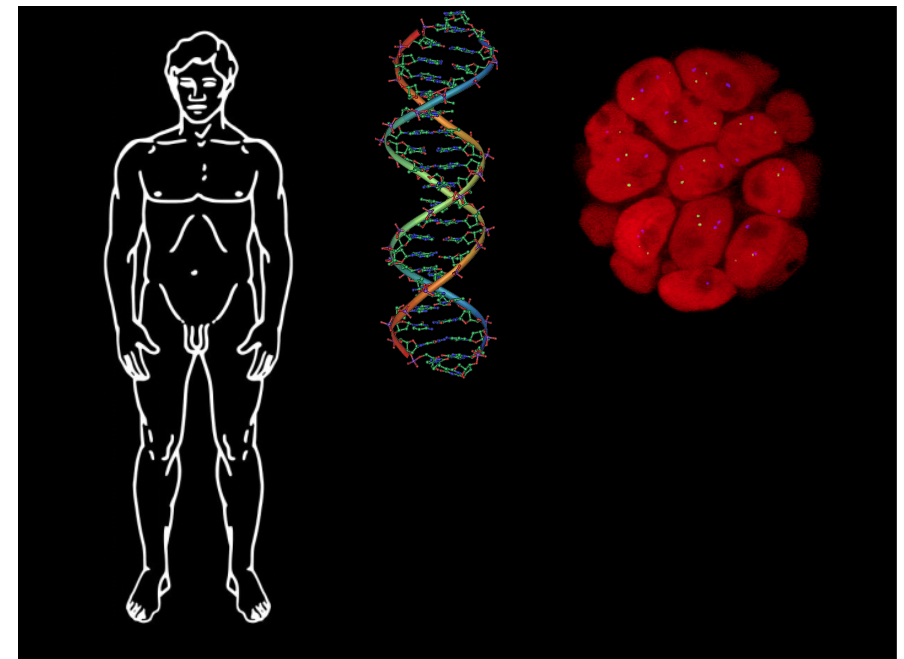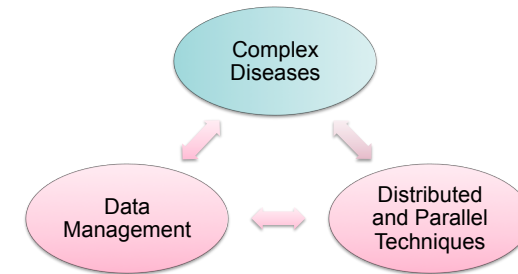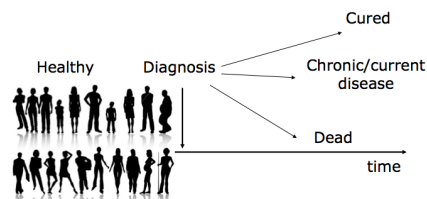
PIs: Juni Palmgren (COM), Jan-Eric Litton (DM)
Project leader: Ola Spjuth (DM)
Project co-leader: Martin Eklund (COM)

Aims in short

Use statistical modeling and data integration in cancer research

→Individualized prevention strategies
→Individualized treatments

Stora prostata-cancerstudien:
STHLM 2

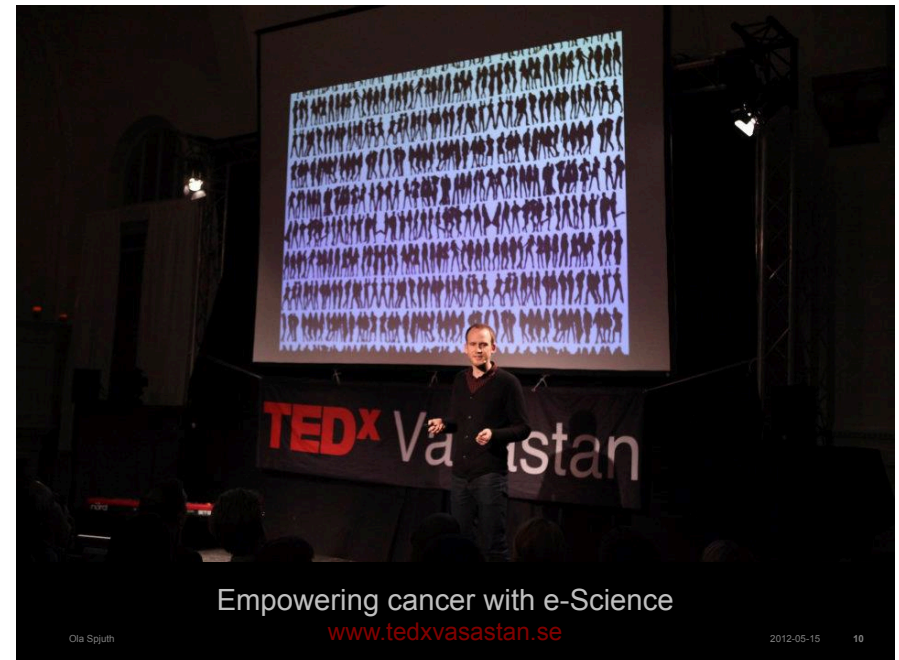Stora nationella bröstcancerstudien:
Karma

CRisP
The Cancer Risk Prediction Center

Healthy — Diagnosis → Cured / Chronic/current disease / Dead
time

---

eCPC work packages

- **WP1:** Platform and infrastructure development
  → PI: Ola Spjuth, Jan-Eric Litton

- **WP2:** Managing sensitive data in distributed environments
  → PI: Jim Dowling

- **WP3:** Cancer microsimulation
  → PI: Juni Palmgren

- **WP4:** Cancer systems biology
  → PI: Sampsa Hautaniemi

- **WP5:** Prediction and screening models
  → PI: Keith Humphreys

Slide 9

Deliverables

- Project start: Jan 2012 → Still at planning stage

- A general plugin-based system for cancer (disease modeling)
  → Start with breast, prostate, and cervix cancer
- A graphical end-user tool where researchers can test scenarios and hypothesis *in silico* regarding e.g. prevention strategies
- Towards decision support when selecting treatments (personalized medicine)

Slide 10

Empowering cancer with e-Science
www.tedxvasastan.se

Slide 11

- Thank you -

http://e-science.se/community/eCPC

Ola Spjuth
ola.spjuth@ki.se