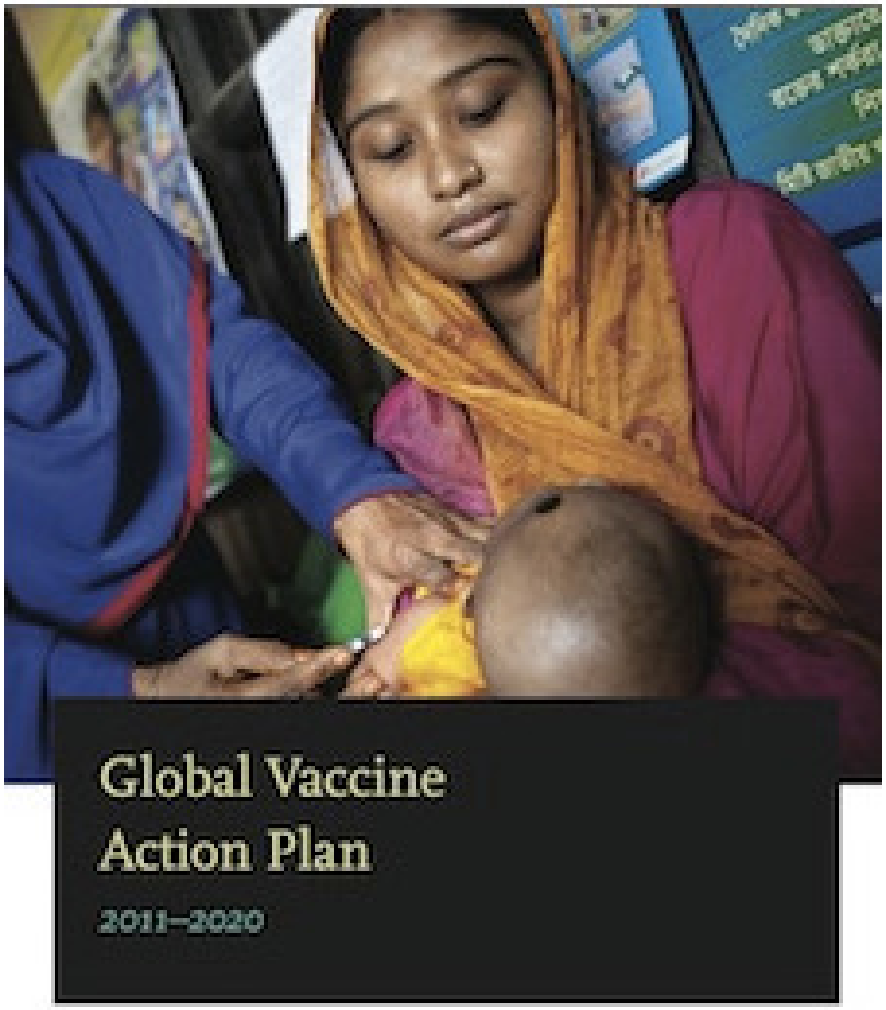
# Workshop 8

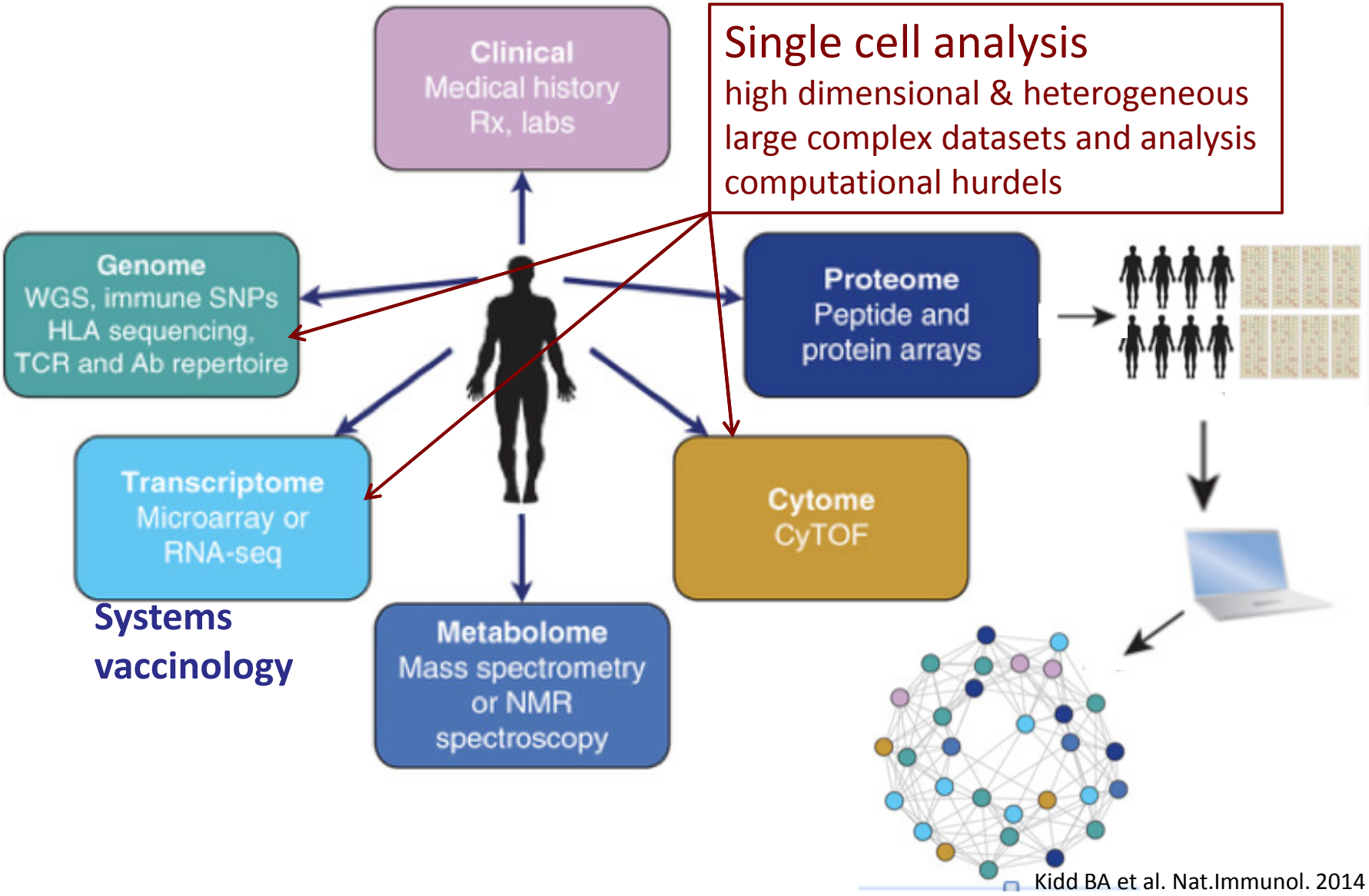
*How can recent technological advances in systems vaccinology accelerate next-generation vaccine development?*

## *Goal 4.* Develop and introduce new and improved vaccines and technologies

- **4.1.** licensure and launch of vaccine(s) against one or more major currently non-vaccine preventable disease by 2020
- **Milestones:** incremental progress on development to be reported and assessed by SAGE
  - no. of products in phase 1, 2 and 3 clinical trials



# *Advanced technologies for evaluation of vaccine responses*




Kidd BA et al. Nat.Immunol. 2014

# *Advanced Technologies*

- NIAID: Genomics and Advanced Technologies
- http://www.niaid.nih.gov/topics/pathogengenomics/Pages/Default.aspx
  - genomics, proteomics, and bioinformatics, hold great promise for developing new diagnostics, therapeutics, and vaccines to treat and prevent infectious and immune-mediated diseases.
- EU-FP7: Advanced Immunization Technologies (ADITEC) http://www.aditecproject.eu/home.html
  - aims to accelerate the development of novel and powerful immunisation technologies for the next generation of human vaccines: From basic research, new technologies to clinical trials and public health
- EU-IMI: BioVacSafe - Biomarkers for enhanced vaccines immunosafety http://www.biovacsafe.eu/
  - develop cutting edge tools to speed up and improve the testing and monitoring of vaccine safety

# *Key questions*

- How can technological advances, modelling and systems vaccinology accelerate vaccine development?
  - Biomarkers / predictors of vaccine efficacy and safety ?
- How to allow for smaller, faster and earlier clinical trials?

*Targetted outcomes:*

- Considerations for a scientific and regulatory framework for (proof of concept) clinical studies

# Panel

**Bali Pulendran,** Emory University

Systems vaccinology for the evaluation of vaccine response and identification of critical pathways

**Willem Hanekom,** SATVI, BMGF

Application of technological advances to clinical trials

**David Lewis**, University of Surrey

**Emmanuel Hanon**, GSK

**Pieter Neels**, Vaccine Advice BVBA