DIMACS workshop Immuno-epidemiology

Closing remarks
Observations

• We had an interesting and lively meeting
  → apparently we have something to say to each other
• Most epidemiology was on within-host dynamics
  → Dietz, Wodarz, Coombs, Ferguson, Medley, Ganusov, Kostova
  → reinforces the need for more crosstalk
Consensus

- We all agree that variability of hosts is crucial
  → Ganusov had variation on (host) parameters but no between host spread.
- Selection pressures within host and between hosts may conflict
  → Coombs. Think of HIV.
- Evolution of virulence influenced by the cycle between immunology and epidemiology
Open Questions

- How to model the variability between hosts?
  → Peters & Kesmir: MHC differences
  → Many other polymorphisms between hosts
- Mechanistic or statistical description of immune response?
  → Dietz was successful in describing Malaria data with simple phenomenological model
- Spatial models generated new selection pressures
- Competition between variants within one host (superinfection) may strongly influence between host transmission
  → Wodarz touched upon this, but this needs more work.
- What is the immune system for (Medley)?
Thanks!

**Speakers** clear interesting presentations

**Audience** lively discussion!

**DIMACS** proving funding, resources, and friendly help

**Hans Heesterbeek** for the organization