

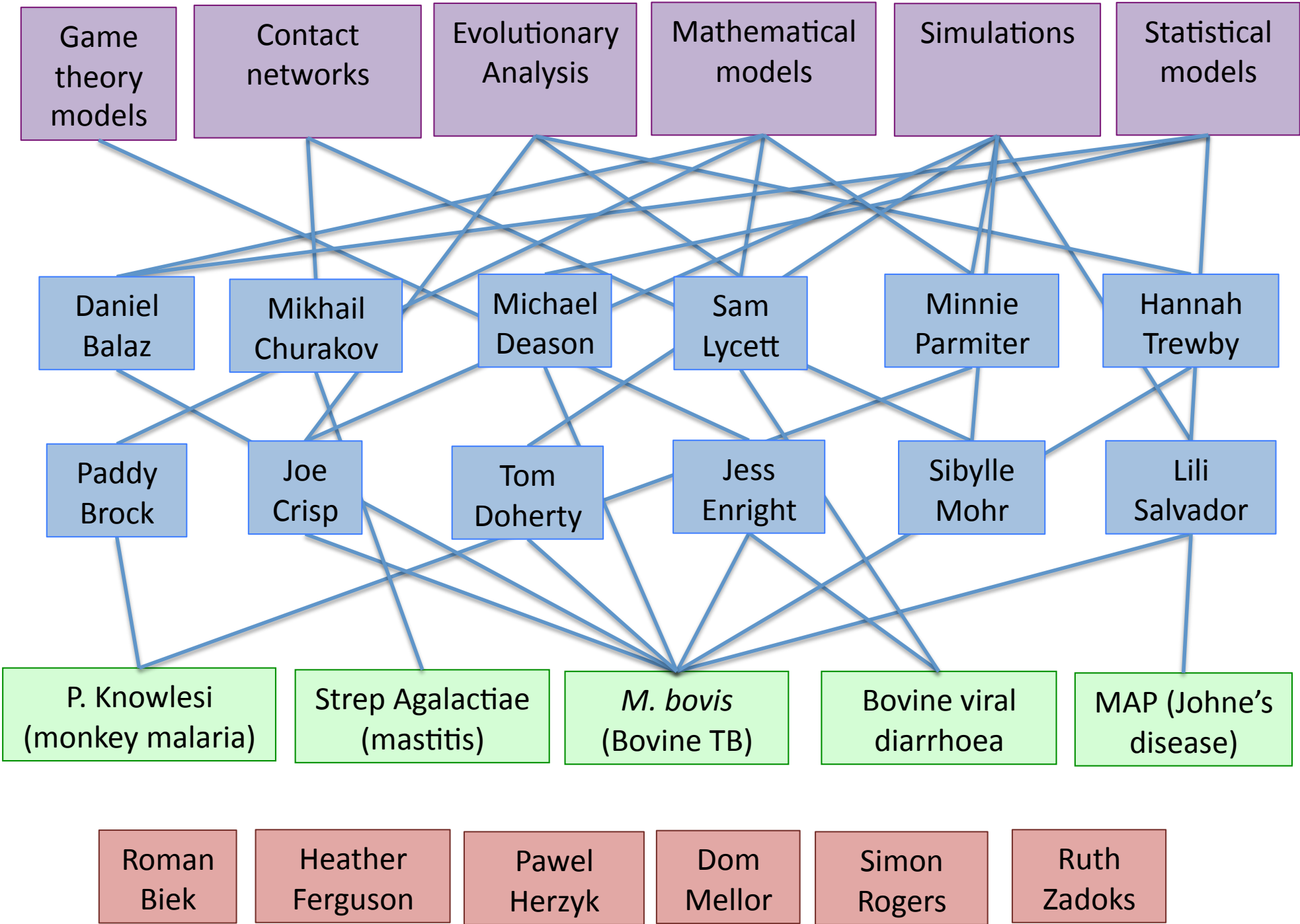


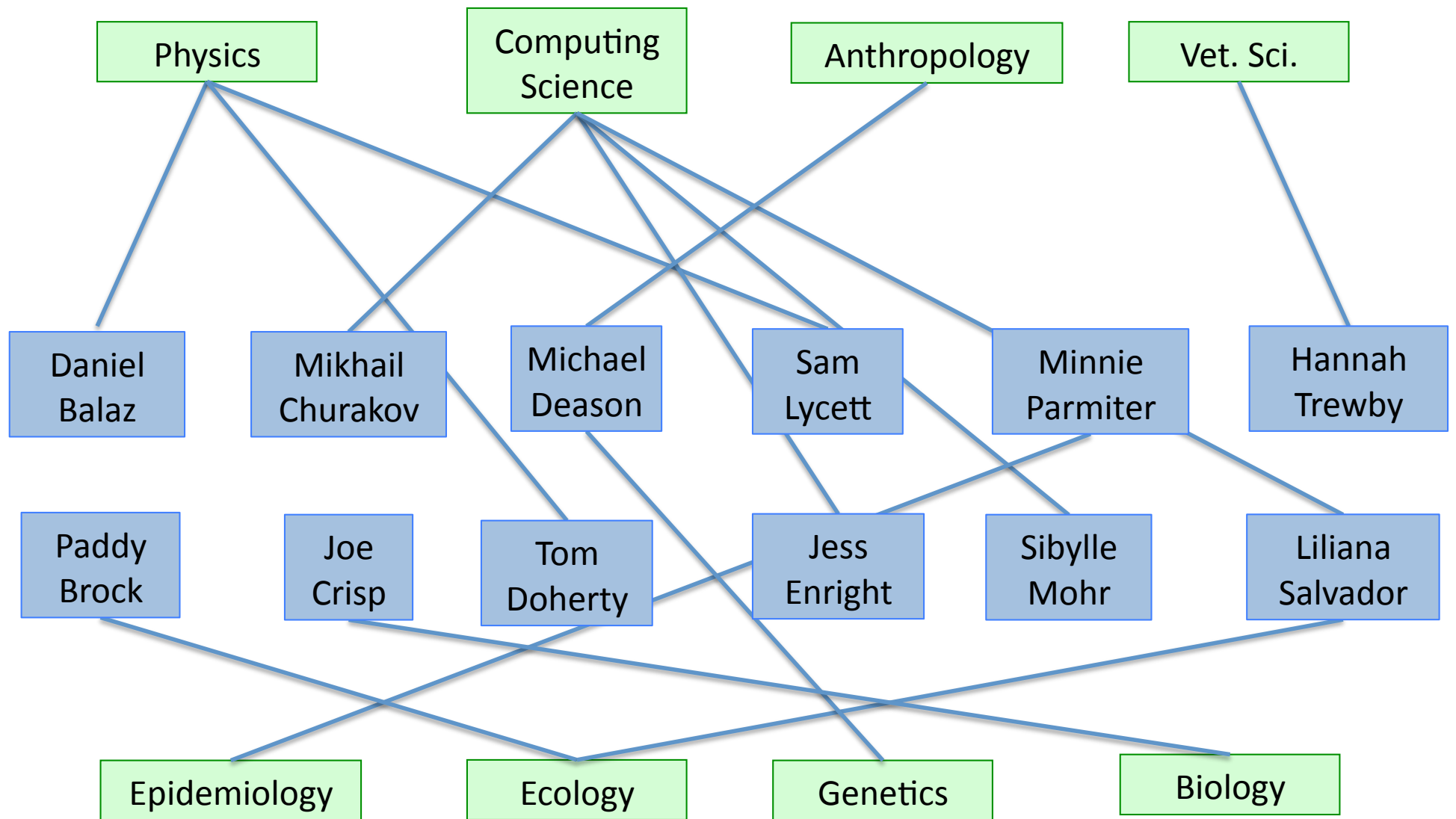
University
of Glasgow

EPIC, Bovine TB and me

or,

Can I get through 9 slides in 3 minutes?





Some Common themes

- Diseases of livestock (bTB, MAP, BVDV, Strep Ag)
 - Human behaviour and management critical
 - Socio-economic drivers
- Complex disease ecology (bTB, *P. Knowlesi*)
 - Multi-host pathogens
 - Heterogeneous contact
- Dense and extensive datasets ('big data' territory)
 - National databases
 - Dense sequence data
 - Multi-disciplinary projects
- Integration via quantitative (mathematical/statistical) models

GB is a big data playground!

Bovine Tuberculosis



Risk-based
Surveillance in
England and
Wales

Phylodynamics of *M.*
bovis in cattle and
badgers
AHVLA/AFBI



Risk-based
Surveillance in
Scotland
(EPIC)

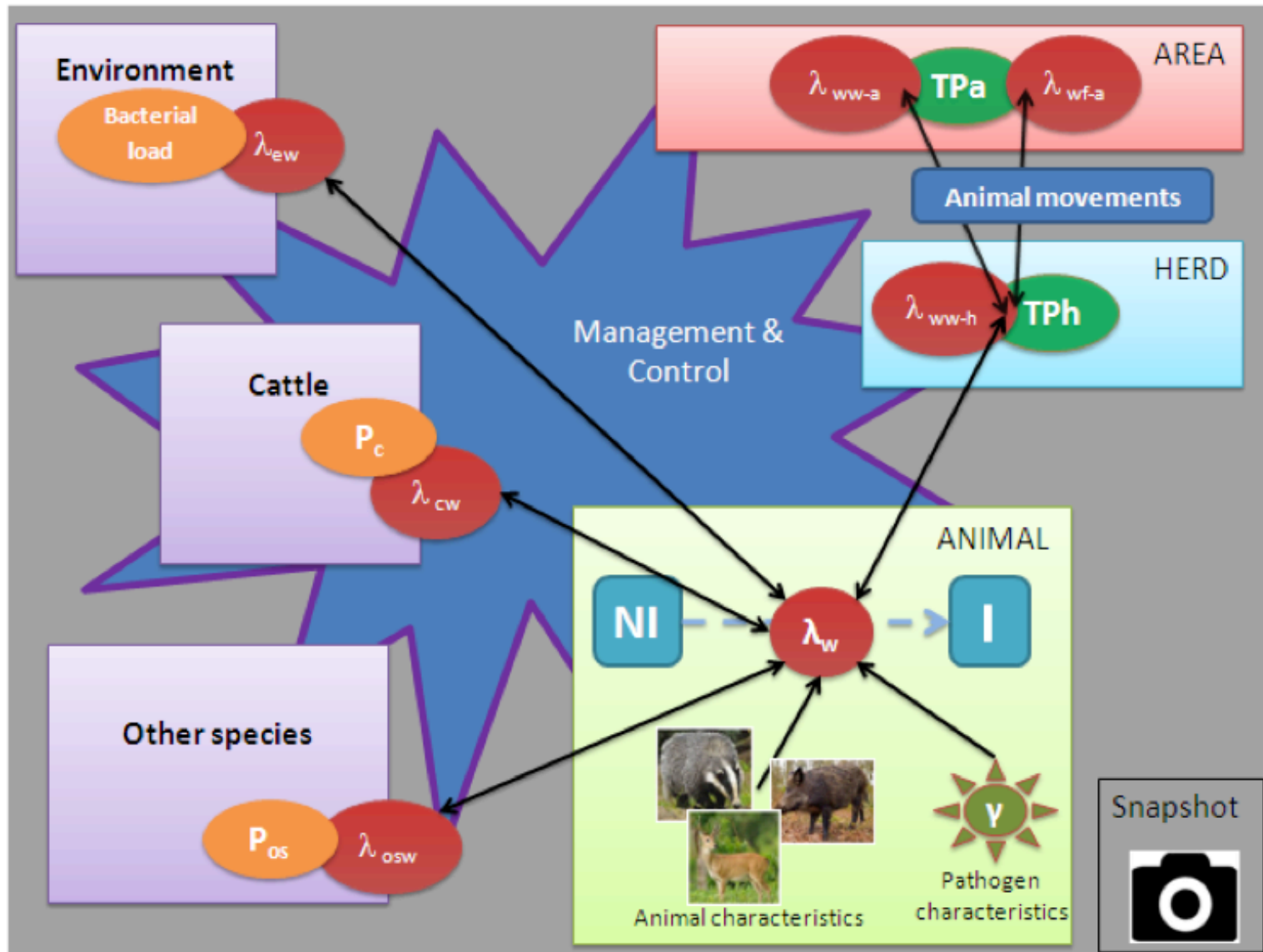
Mathematical
Modelling Initiative
AHVLA/Cambridge/
Warwick/York

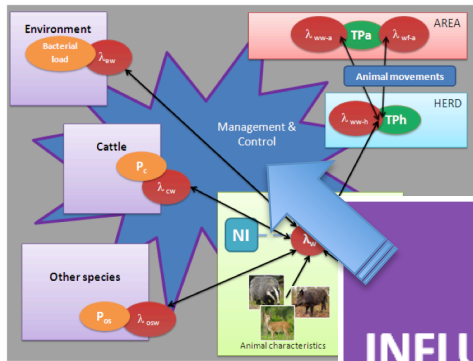


Ecology of Mycobacterial
Diseases (bTB/MAP)
AFBI/Cornell/Michigan/
Wisconsin



Bovine TB is a complex problem





NON-BIOLOGICAL CONTEXT

INFLUENCERS

INFLUENCES

- Legislators
- International organisations
- NGOs
- Wider public
- Risk managers
- Veterinary practitioners
- Farmers
- Other stakeholders

- **Political, economic & cultural** significance of agriculture
- Available **resource** framework
- **Advocacy, awareness, mobilisation**
- **Societal attitudes** towards wildlife vectors, animal welfare, agriculture

AREA level

- **Organizational structure** – relationships between regulators and regulatees.

HERD level

- **Technical capacity**– availability of resources, testing infrastructure, training & skills. Professional efficacy, confidence & trust.

- Farmer **intrinsic and extrinsic** factors – beliefs, attitudes, norms, motivations, efficacy, resources.

Definition bTB policy

Implementation bTB policy

Agricultural context



Scottish Centre of Expertise for Animal Disease Outbreaks



THE UNIVERSITY
of EDINBURGH

THE **ROYAL (DICK) SCHOOL OF
VETERINARY STUDIES**



Mark Woolhouse
Mark Bronsvort
George Gunn



University
of Glasgow

Institute of Biodiversity,
Animal Health and
Comparative Medicine

School of
Veterinary Medicine

Dom Mellor
Louise Matthews



Steve Albon
Pete Goddard
Iain McKendrick



Moredun

Julie Fitzpatrick
Ruth Zadoks



Scottish Centre of Expertise for Animal Disease Outbreaks

Module 1
Outbreak Response
Resource coordination
Communication
Real time analysis

Lisa Boden

Module 2
Preparedness
Silent spread/livestock movements
Data coordination & management
Analytical tool development
Endemic diseases

Tom Doherty, Jess Enright, Sam Lycett, Sibylle Mohr

Module 3
Socio-economic drivers
Industry interactions

Rodney Beard

Module 4
Horizon scanning
Exotic threats and emergent diseases

Module 5
Knowledge Exchange
Government, Industry and Public Engagement

Everyone