UKRI CDT in Biomedical AI

Guido Sanguinetti, Director
At a glance

• 60 PhD studentships over 5 intakes
• £8.3M investment, largely from UKRI, with contributions from external partners in cash and in kind
• Part of a £100M investment in AI training by UKRI, consisting of 16 CDTs across country/disciplines
• Focus on knowledge extraction from biomedical data, connecting molecular mechanisms to translational applications (unique in the UK; other 3 CDT with healthcare focus)
• Capitalise on Edinburgh’s unique strengths in AI and basic/applied biomedical research
A truly interdisciplinary Centre

School of Informatics

School of Biological Sciences

Usher Institute – Population Health Sciences & Informatics
Research themes

AI/ML
- Interpretability
- Prior knowledge
- Uncertainty

Biomedicine
- EHRs
- Cancer

Cancer
- Mechanisms of AMR

Population health management

Responsible innovation
- Social, legal and ethical implications
- Promoting cross-disciplinarity

Uncertainty

Prior knowledge

Promoting cross-disciplinarity

Social, legal and ethical implications

Biomedicine
Course structure

- 1+3 formula: MSc(Res) followed by PhD
- PhD: 3 years embedded in a group, with shared supervision
- Multiple opportunities for leadership training
- Internship/ research visit
Management and advice

• Guido Sanguinetti (SoI), Meriem el Karoui (SBS), Chris Ponting (IGMM), Cathie Sudlow (Usher), Robin Williams (SSPS), Kathrin Cresswell (Usher), Michael Gutmann (SoI)

• EAB: Sheila McDonald (MRC Cambridge), Samuel Kaski (Aalto University), Giovanni Tonon (San Raffaele Institute, Milan), Philippe Sanseau (GSK), Fiona Reddington (CRUK), Gerald Lip (NHS Grampian), Paul Campbell (NHS/Scottish Government)

• Over 70 supervisors from across UoE
Partners

• Additional training and supervisory capacity, plus industrial internships/ research visits
• NHS Lothian
• Over 30 international partners, including academic (Harvard, Riken, ETH, etc), tech (Microsoft, IBM), pharma (UCB-Celltech, AstraZeneca), medical systems (Canon)
• Multiple opportunities for engagement through MSc(Res) projects/ PhD sponsorship/ co-supervision