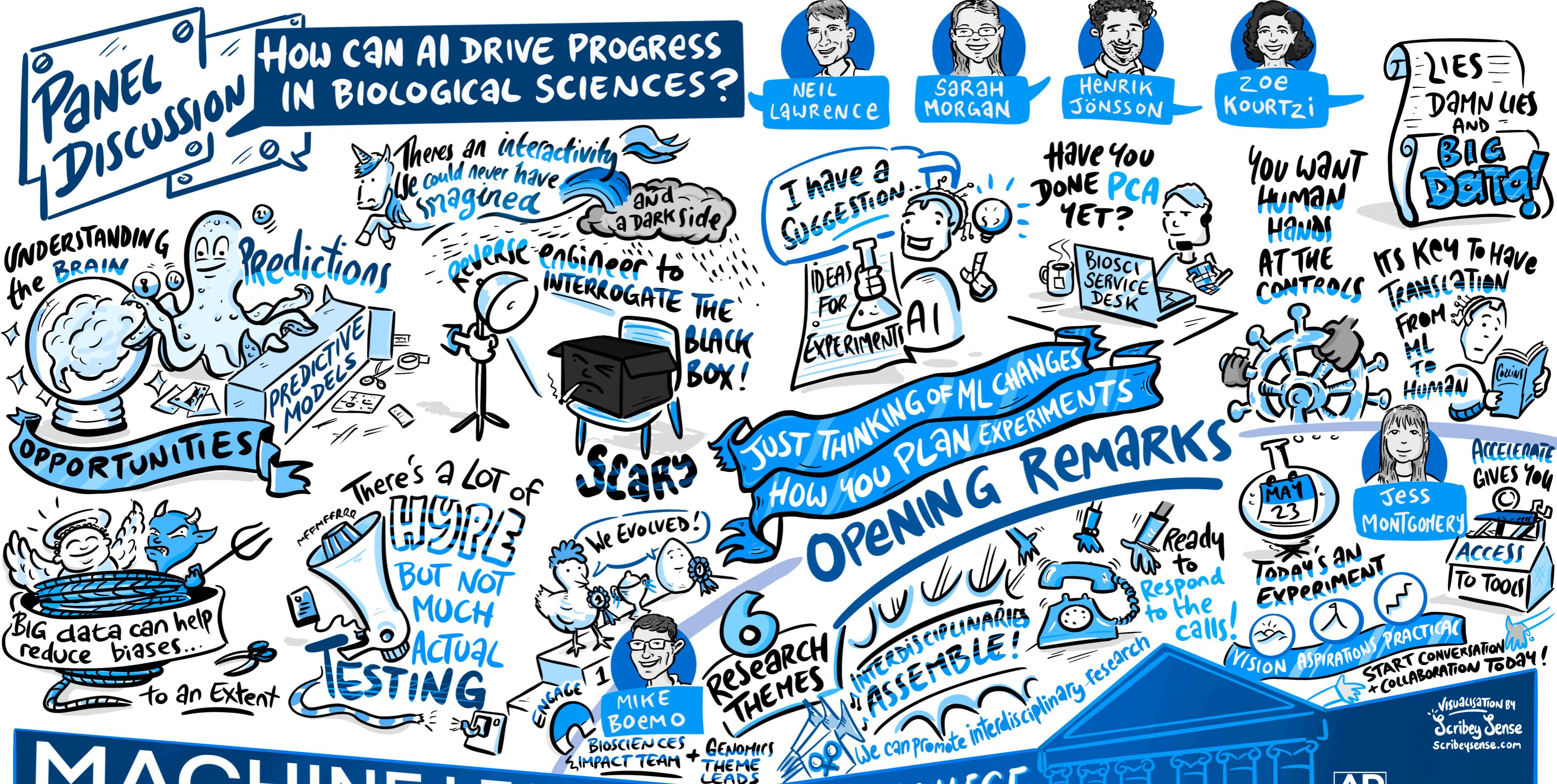


EXPLORING THE POTENTIAL OF AI IN THE BIOLOGICAL SCIENCES



MACHINE LEARNING,
AI AND BIOLOGY



DOWNING COLLEGE
23 MAY 2023



ACCELERATE
PROGRAMME
FOR SCIENTIFIC DISCOVERY



UNIVERSITY OF
CAMBRIDGE
School of Biological Sciences

EXPLORING THE POTENTIAL OF AI IN THE BIOLOGICAL SCIENCES

WHAT RESEARCH COULD AI HELP TACKLE?

(INFECTIOUS DISEASES) BRIDGING DATA + CLASSIFYING VARIANTS OF CONCERN
interpreting Serological data... multi-dimensional antibody relationship

AS A MODEL TO STUDY LEARNING IN OTHER SPECIES
APPLICATIONS IN GENETICS gene expression
open chromatin

BRIDGING MODELS MECHANISTIC
DATA DRIVEN

AUTOMATING TEDIOUS PARTS OF RESEARCH
IMAGE ANALYSIS
DIAGNOSTICS

CELL FATE TRANSFORMATION

CHALLENGES WITH IMPLEMENTATION

data Collection
STANDARDS & Communication

WE CAN OVERCOME THESE CHALLENGES!

Interacting with those who can change policy

STEPS TO ACHIEVE THE POTENTIAL OF AI

Focus GROUPS

Open data TRAINING
How can we share our data?
Theme/Subject PIs managing ML Specialists

HACKATHONS Funding
Genuine interdisciplinary work!

Pump-Priming
Funding

Collaboration
Support that's centralised

FINDING THE RIGHT CONNECTIONS
Breaking down Dept Barriers

Co-supervising students across schools

1 FINDING FUNDING
Keeping up with the field is a challenge!
Understanding a tool's limitations

Barriers to interaction
Communication + PROCEDURAL

Language Model
Model

Barriers to interaction
Communication + PROCEDURAL

Barriers to interaction
Communication + PROCEDURAL

Barriers to interaction
Communication + PROCEDURAL

MACHINE LEARNING, AI AND BIOLOGY

DOWNING COLLEGE
23 MAY 2023

AP
SCI

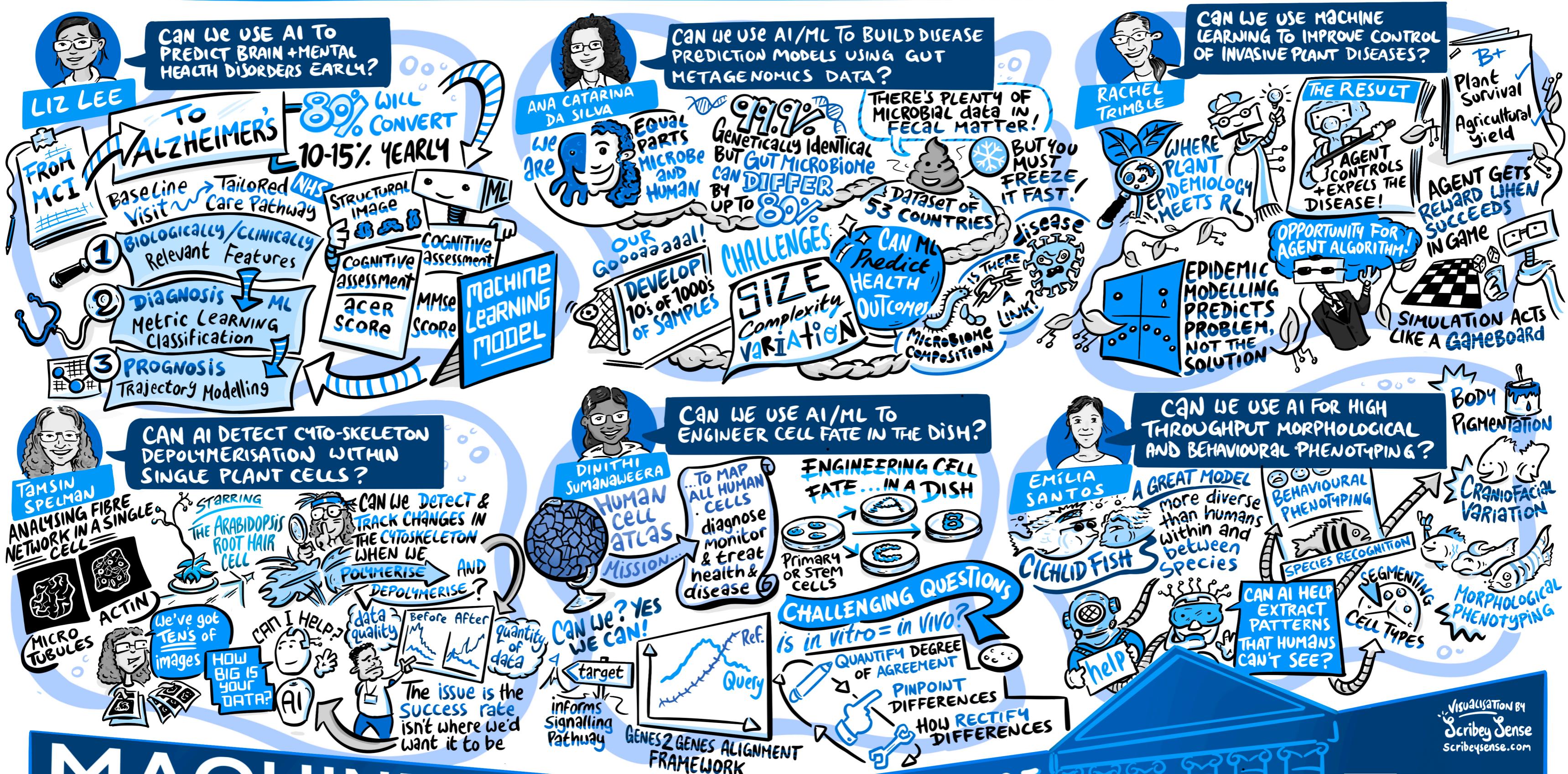
ACCELERATE PROGRAMME
FOR SCIENTIFIC DISCOVERY



UNIVERSITY OF CAMBRIDGE
School of Biological Sciences

Visualisation by
Scribey Sense
scribseysense.com

BIOLOGICAL QUESTIONS THAT COULD HAVE AI SOLUTIONS



**MACHINE LEARNING,
AI AND BIOLOGY**

DOWNING COLLEGE
23 MAY 2023



ACCELERATE
PROGRAMME
FOR SCIENTIFIC DISCOVERY



UNIVERSITY OF
CAMBRIDGE
School of Biological Sciences

ENGAGING WITH CAMBRIDGE RESOURCES TO SUPPORT RESEARCHERS

