

# R. Ken Coit College of Pharmacy Collaborations and Opportunities

Bonnie LaFleur ([blafleur@arizona.edu](mailto:blafleur@arizona.edu)) and Travis Wheeler ([wheelerlab.org](http://wheelerlab.org))



# Structure of the next 10 mins

- Me – who I am and how I got here
- My research areas
- Specific examples where VA data and collaborators might be a good fit

# Who am I (Bonnie Lafleur)

- I am a statistician by training
- Director of the Health Outcomes and Pharmacoeconomic (HOPE) Center in the R. Ken Coit College of Pharmacy
  - Research arm of the Health and Pharmaceutical Outcomes academic program
  - Provide access to Real-World Data to investigators across the University
  - Workforce development (MS, PhD, PharmD, MD, and fellows) in methods for data science and Real-World Evidence scientific problems
- Associate director in the Center for Biomedical Informatics and Biostatistics (CB2)
  - Enable reproducible research through infrastructure for data management, research portals, and analysis pipelines/tools
  - Grants and grant support for data hub and data sharing activities



# Research interests

- My primary methodologic interests are in enabling clinical decisions – typically by way of using biomarkers (broadly defined) to elucidate risk or benefit for treatment or interventions
- Expertise in methods for risk and prediction methods using genomic, proteomic, and immune biomarkers
- Currently have several extramurally funded grants studying mechanisms in immune and cognitive aging, and immunoprevention in non-melanoma skin cancers (specifically cSCC)
- Past focus areas in chemoprevention for CRC and in industry I enabled approval of several biomarkers used for anti-PD-L1/anti-PD1 therapies

# Seeking collaborations

- Looking to provide students and mentees with real-world experience in VA medicine for both the workforce development aspect; also, since these records have both healthcare provider and expenditure information there is a unique opportunity to improve patient outcomes
- Precision Aging Network (NIA funded grant) is examining biomarkers that can be used to improve normal cognitive aging – VA data would be a fantastic addition to our longitudinal cohort where we examine phenotype, genotype, imaging, and sensor trajectories that may be used to modify cognitive decline in older adults
- Skin PPG looking to develop “typical” costs (expenditures and health) associated with standard of care in people at high risk for non-melanoma skin cancer -- so we can determine who might benefit from immunopreventive therapies.

# Lastly

In addition to current collaborations with Sandesh through his research program, I am very excited about the possibility of working with crowdsourcing and VA AI and prediction challenges with faculty and students!

Questions?

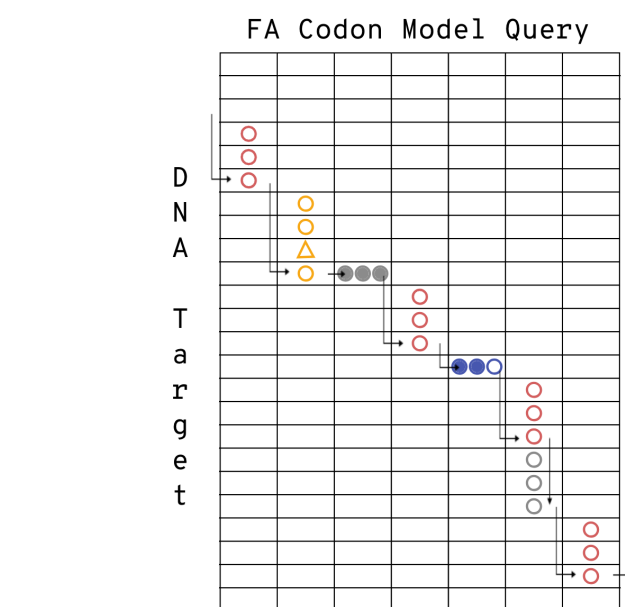
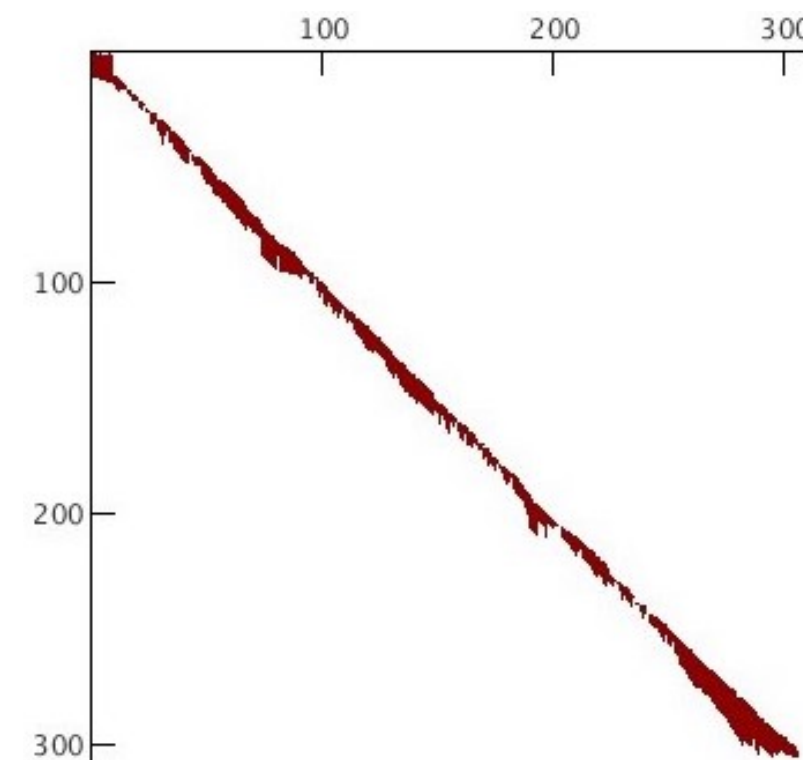
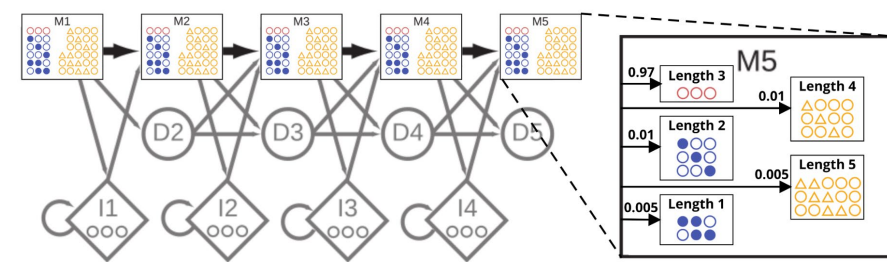
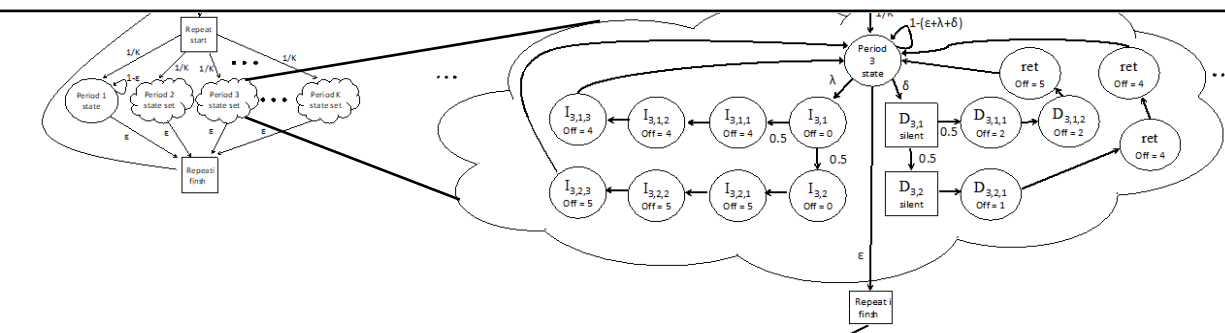
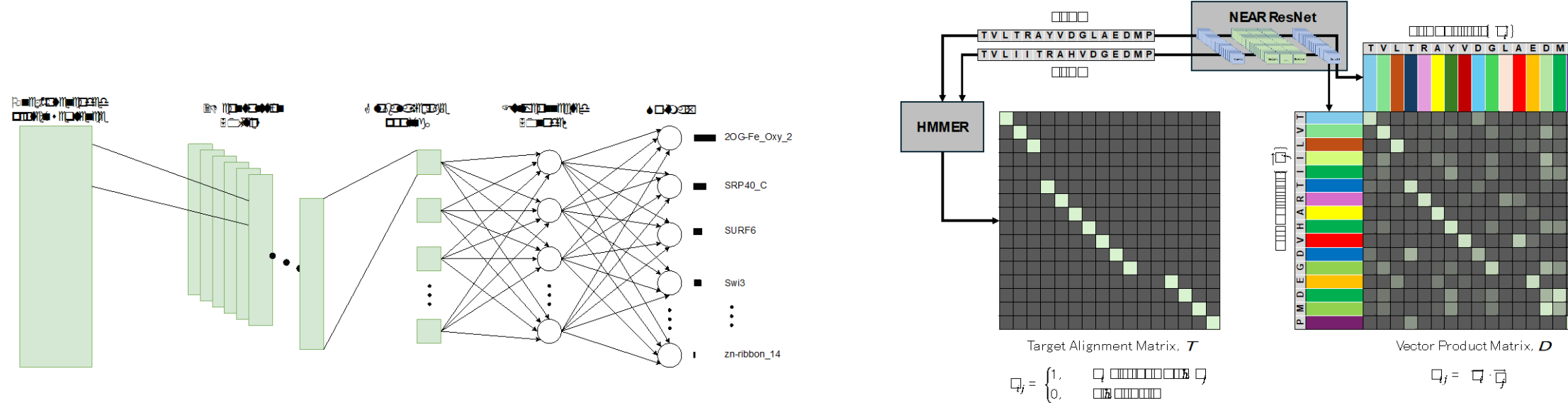
# Who am I (Travis Wheeler)

- Associate Professor
  - Pharmacy Practice & Science
  - Computer Science
  - Statistics & Data Science
  - Genetics
  - Information School
  - (more)
- Director of the UA Health Sciences Bioinformatics group
  - Group of informaticians established with a capacity-building mission
  - Collaborate on projects in need of bioinformatics expertise
    - Aid in analysis of existing datasets
    - Help develop plans for new analyses
- All of Us Research Program
  - Genetics and EHR for -> 1M people; diverse population
  - Team provides informatics support for Seed Grant projects



# Research interests

- Computational Biologist:
  - Algorithms & Machine Learning & Software Engineering
  - Genomics



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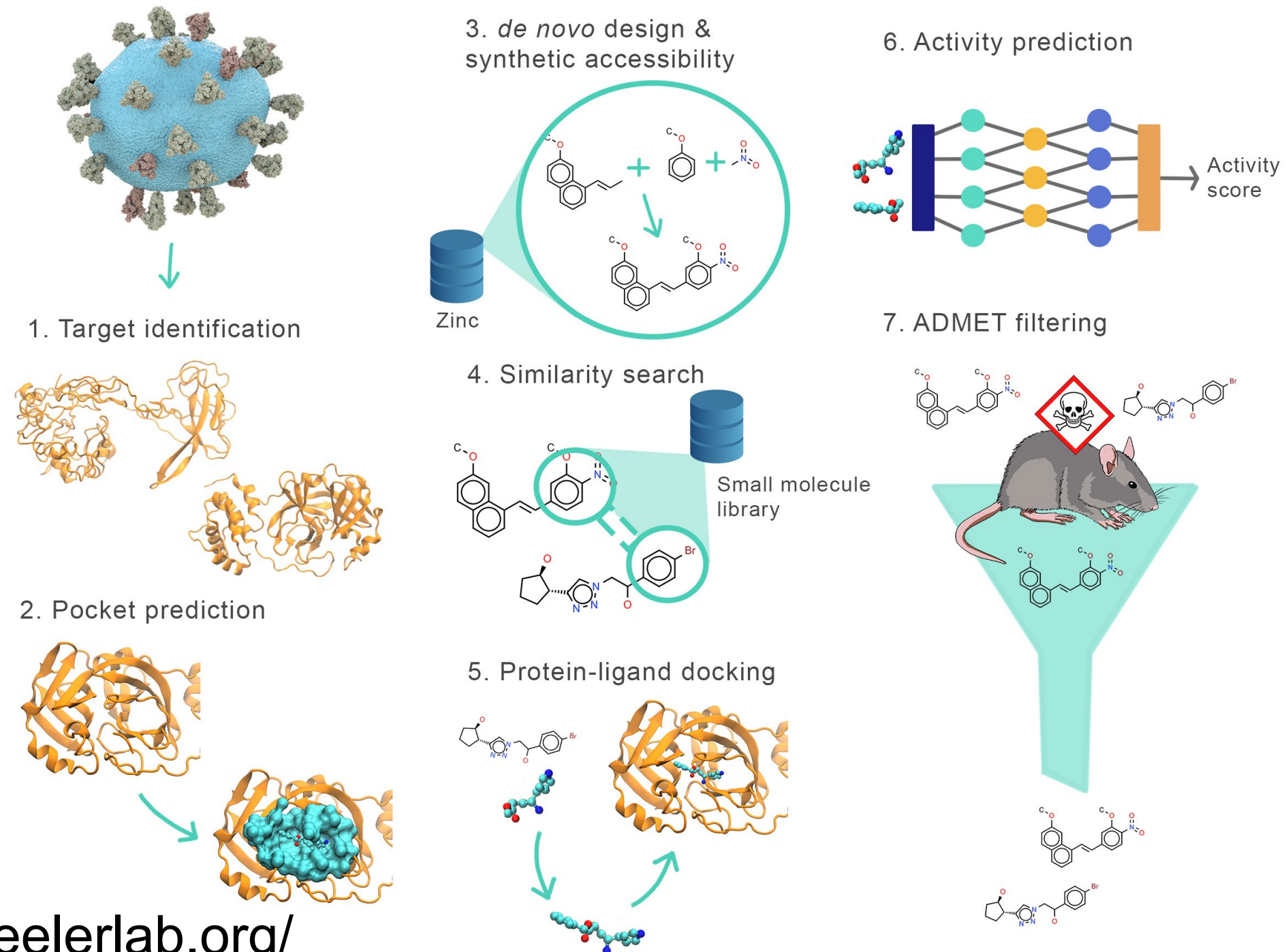
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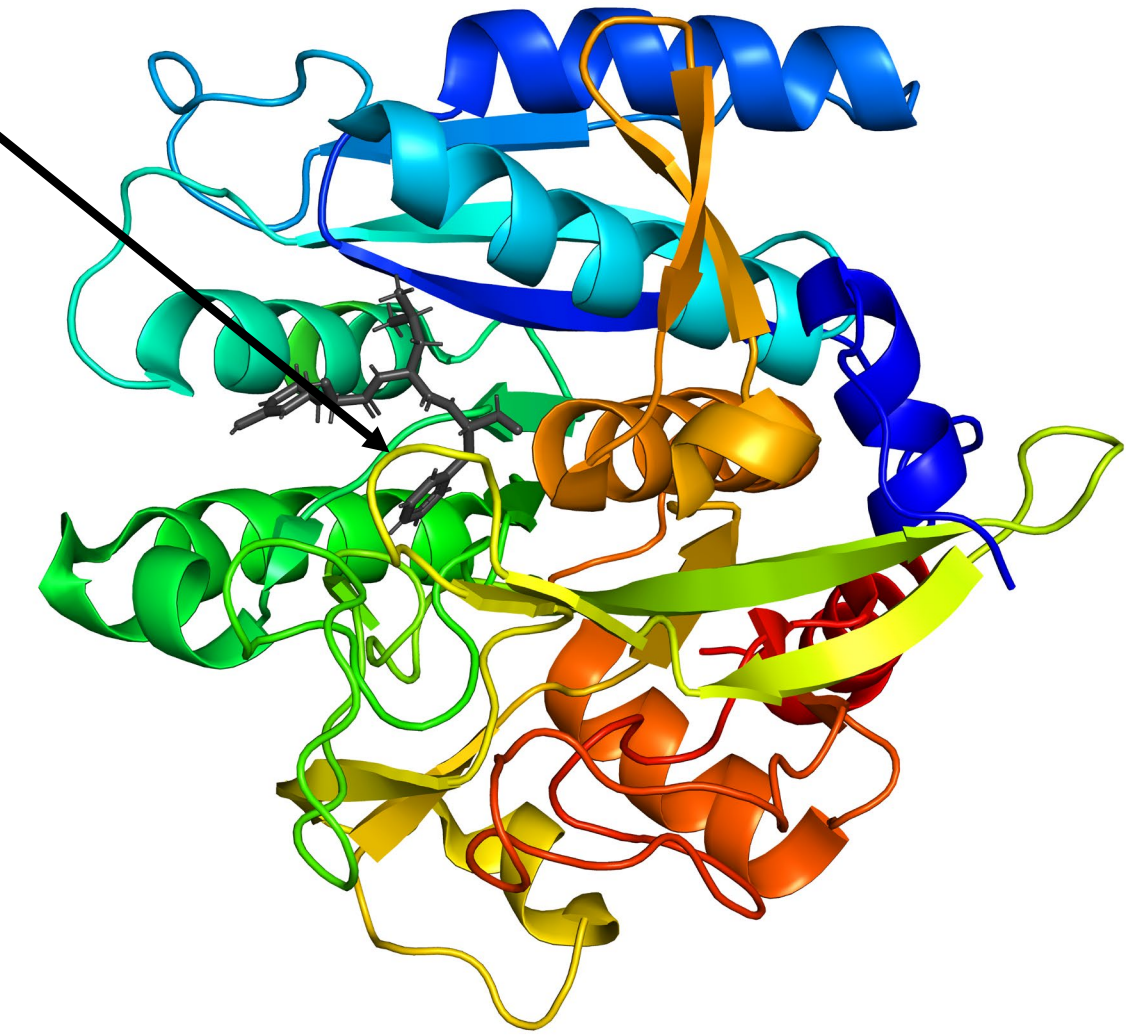


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  - Genomics
  - Drug Discovery



Drug



MDRepo

 THE UNIVERSITY OF ARIZONA

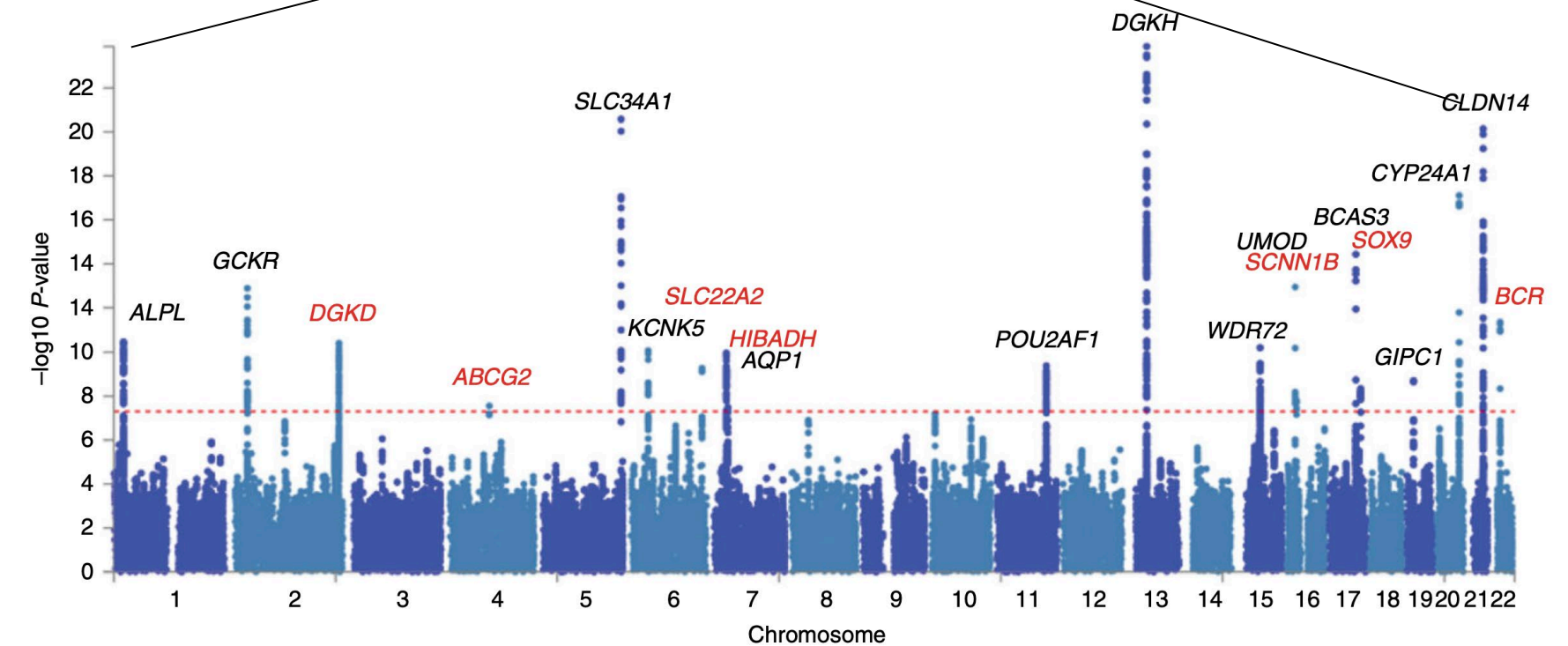
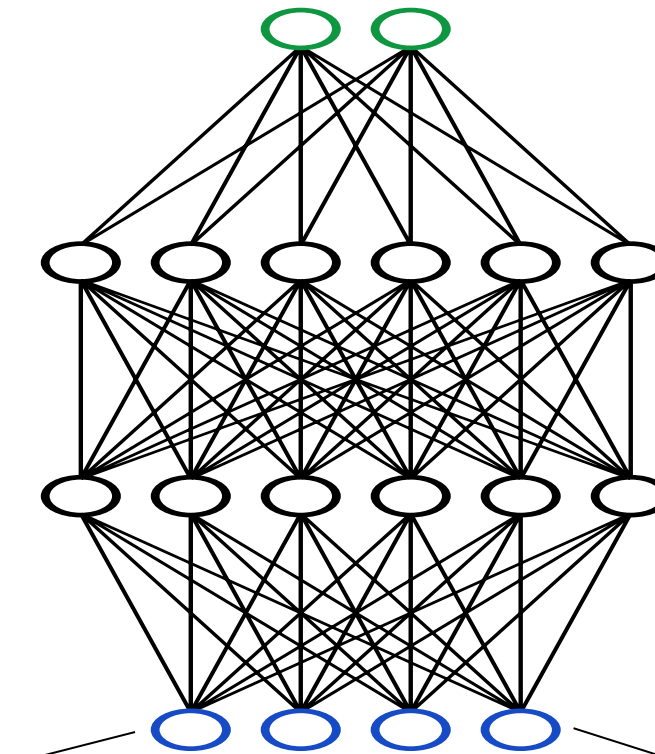
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  - Animal tracking & behavior



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  - Genomics
  - Drug Discovery
  - Animal tracking & behavior
  - Health Outcomes



**All of Us** Research Hub



# Open to collaborations

Where are we useful?

- Current analysis methods are either inaccurate or slow
- Modes of analysis missing from current tools
  - especially: understanding uncertainty
- Huge datasets

We build

- Algorithms
- Artificial Intelligence (aka Machine Learning) methods
- Open source software
- Complex data repositories

