

PIRCHE

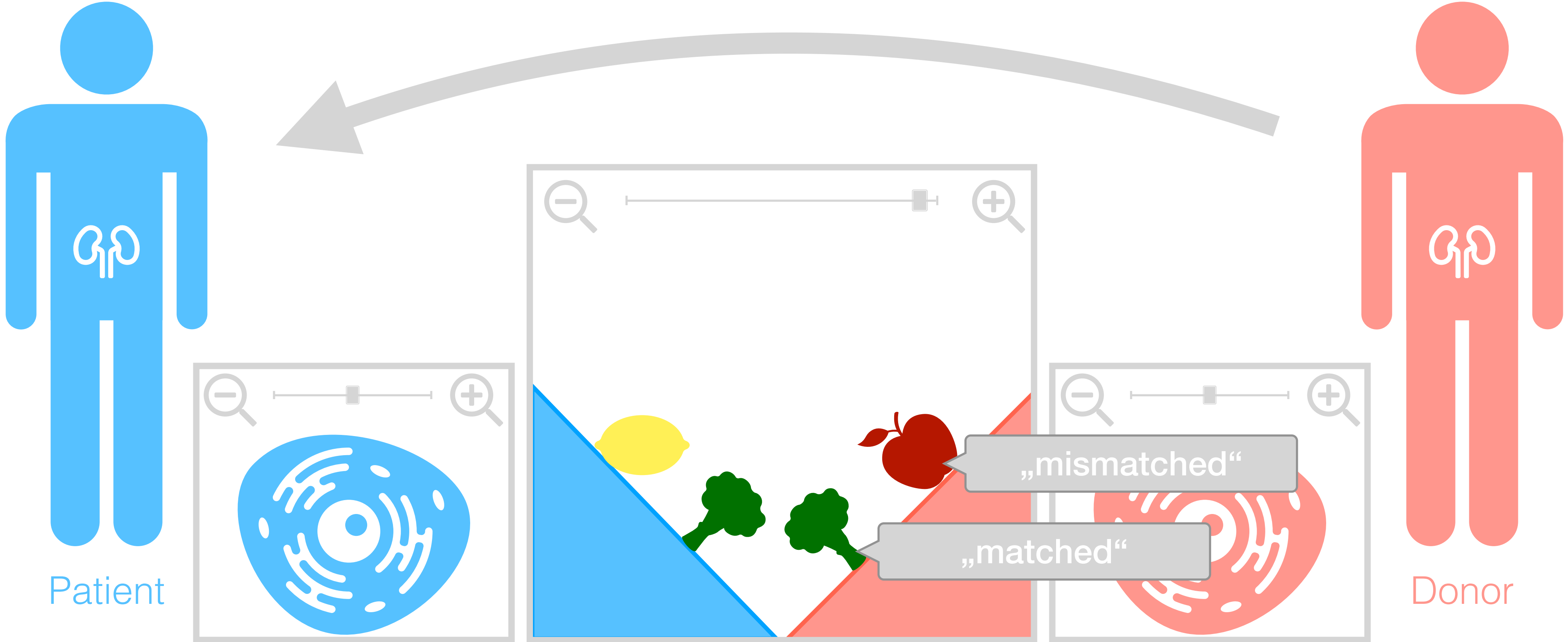
WP3 - Matching Algorithm

WP4 - Matching Benchmark

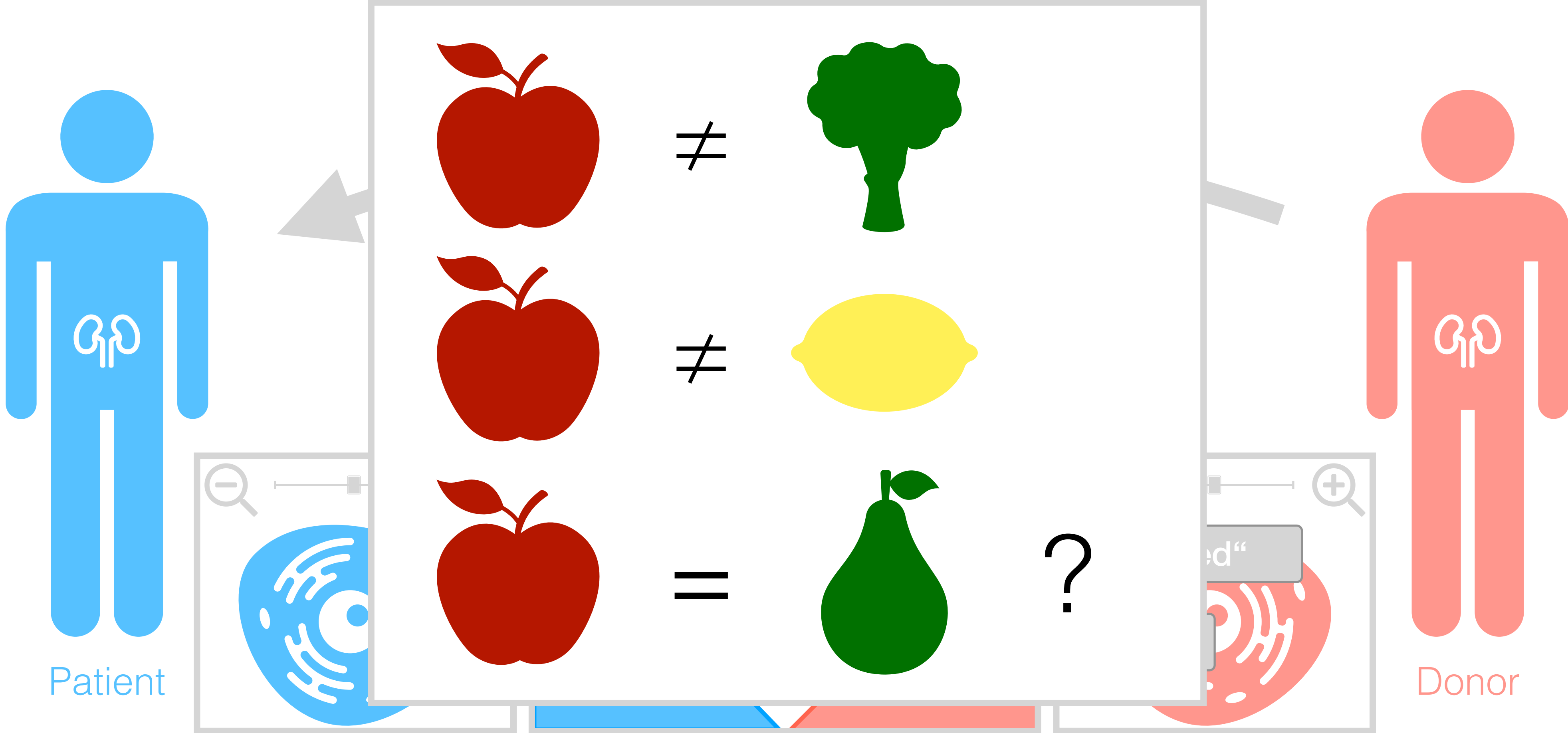
1st NephroCAGE Symposium

Matthias Niemann

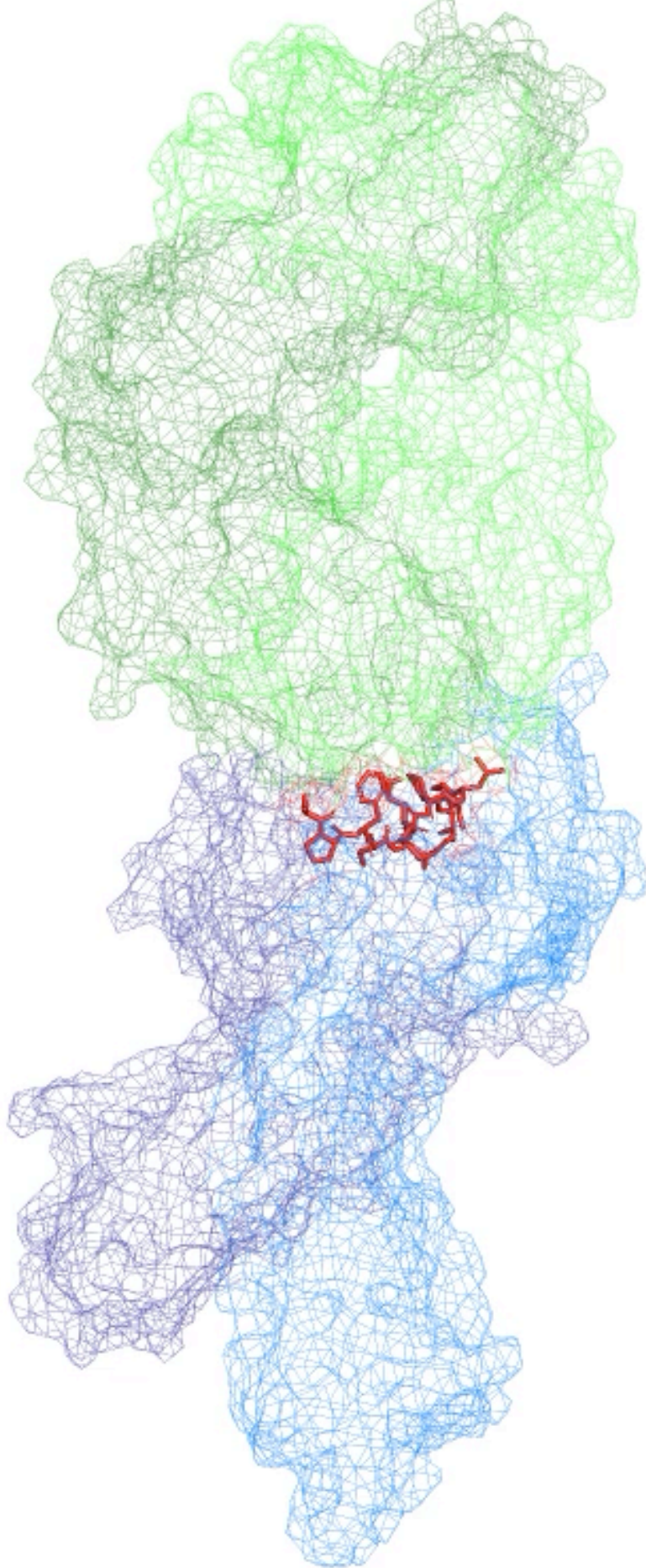
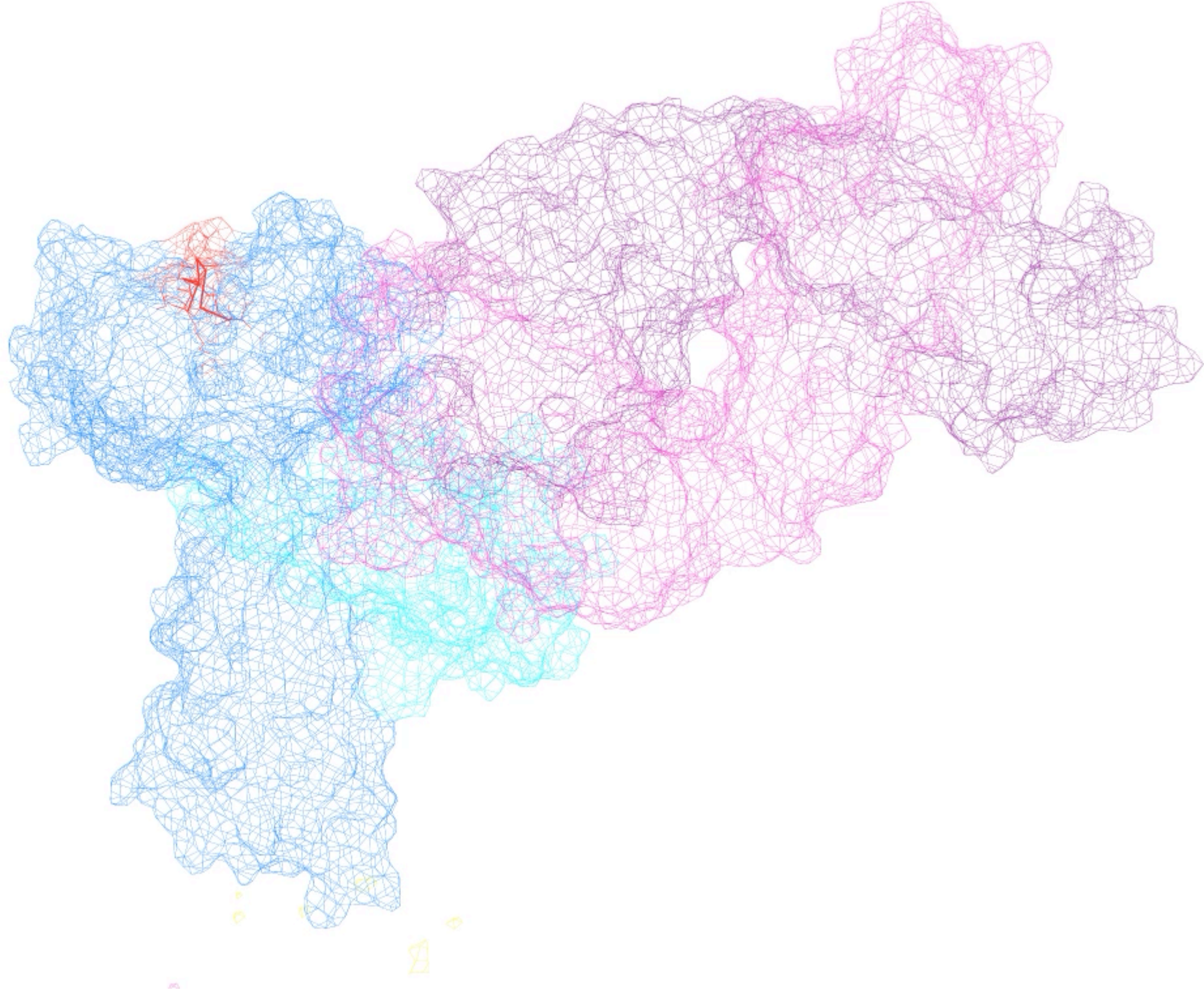
Histocompatibility in Kidney Transplantation



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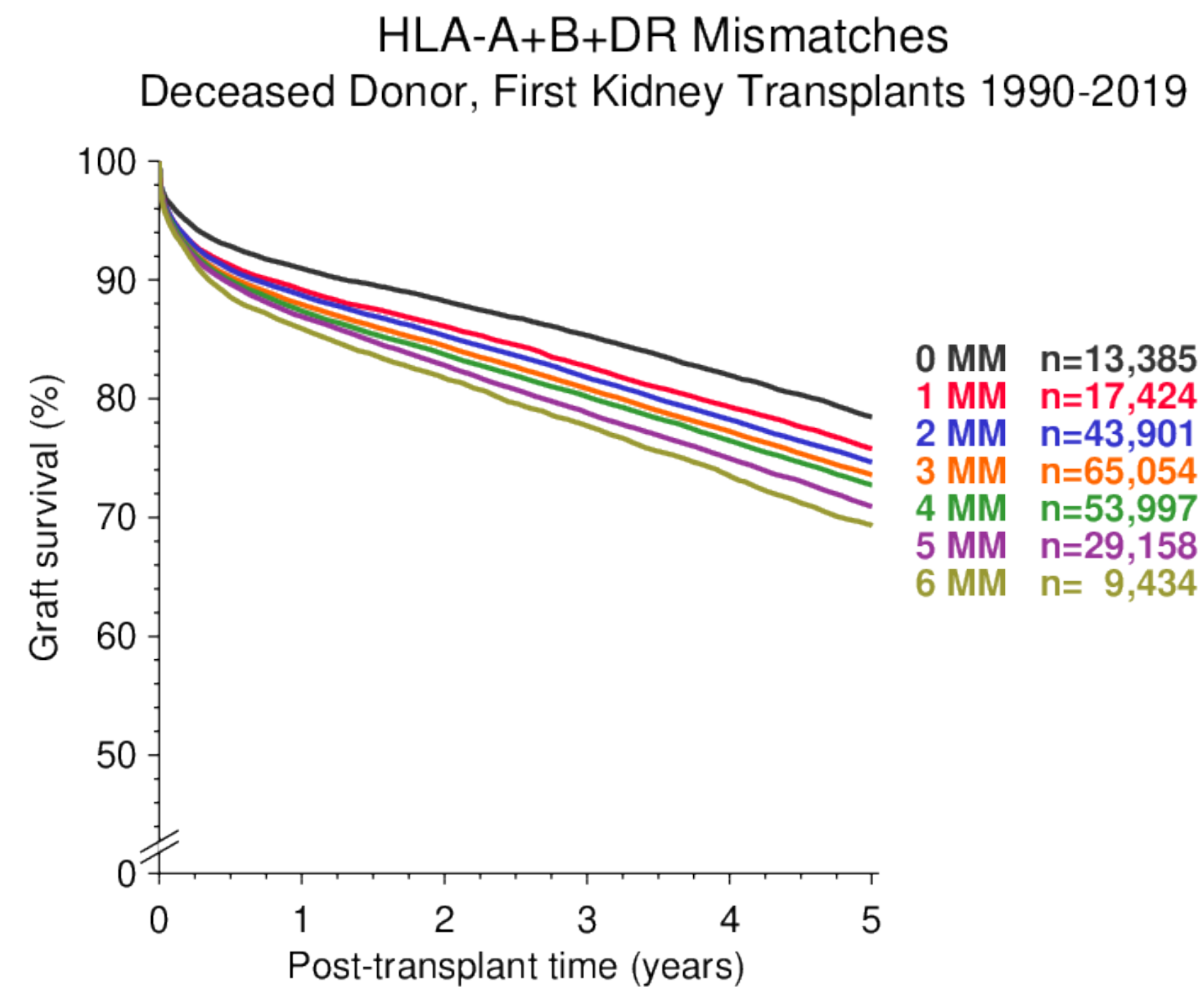
NephroCAGE

German-Canadian consortium on AI for improved kidney transplantation outcome
1st NephroCAGE Symposium, May 20, 2021

Supported by



Histocompatibility Matters

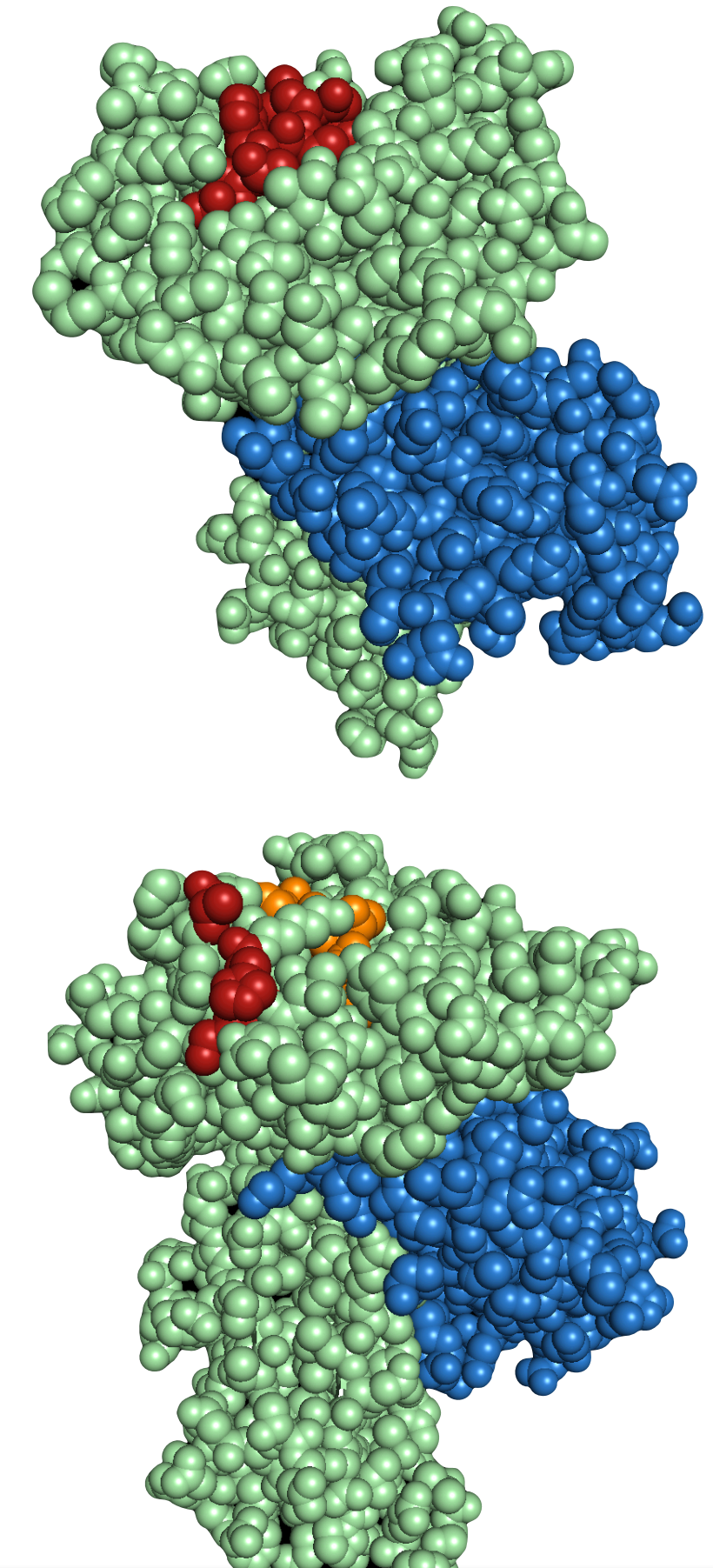


CTS Collaborative Transplant Study

K-21101-0221

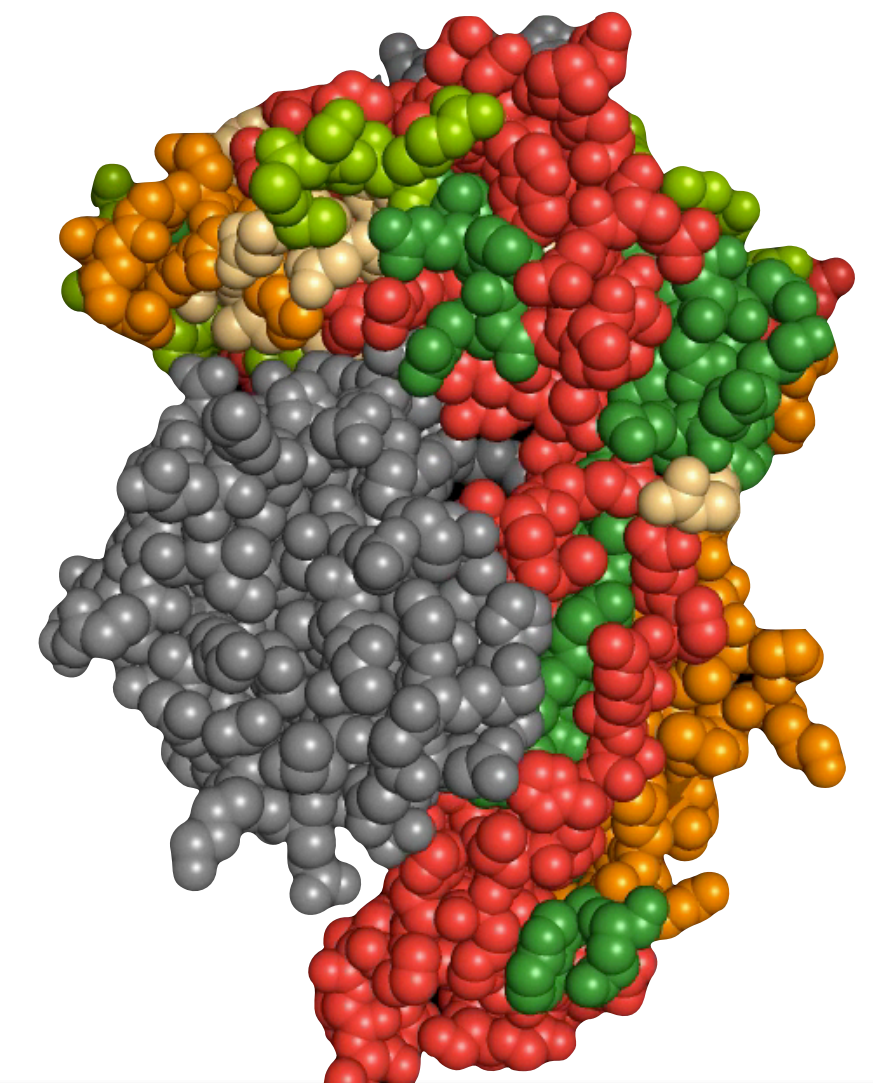
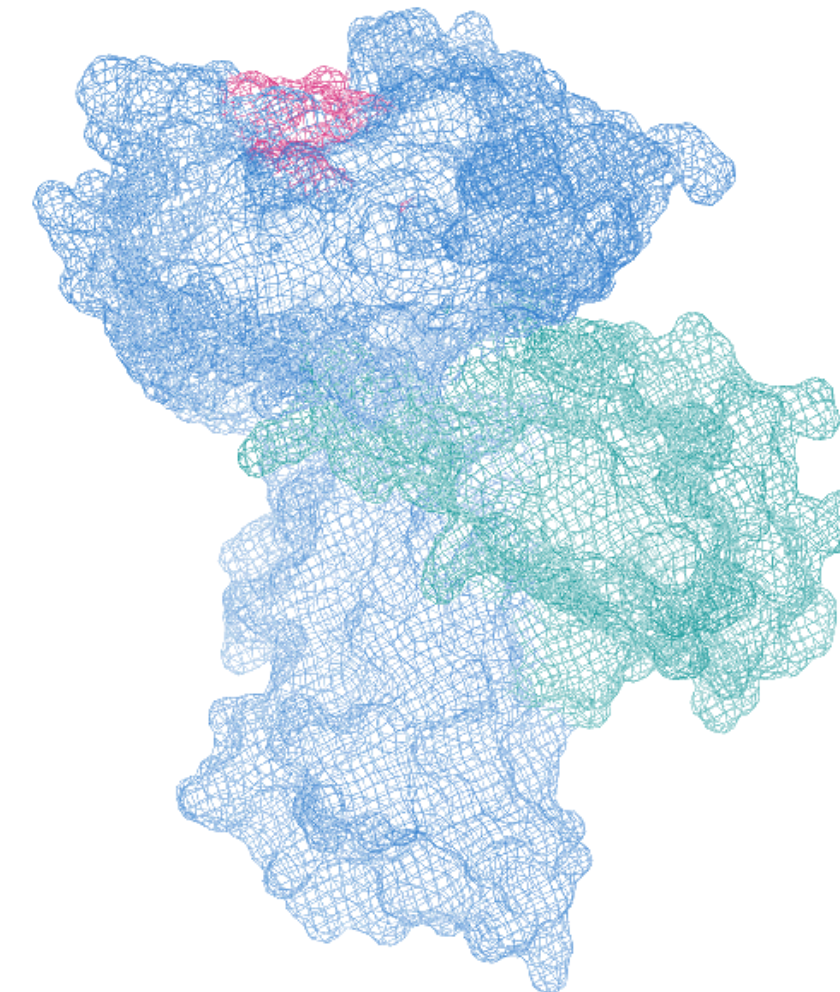
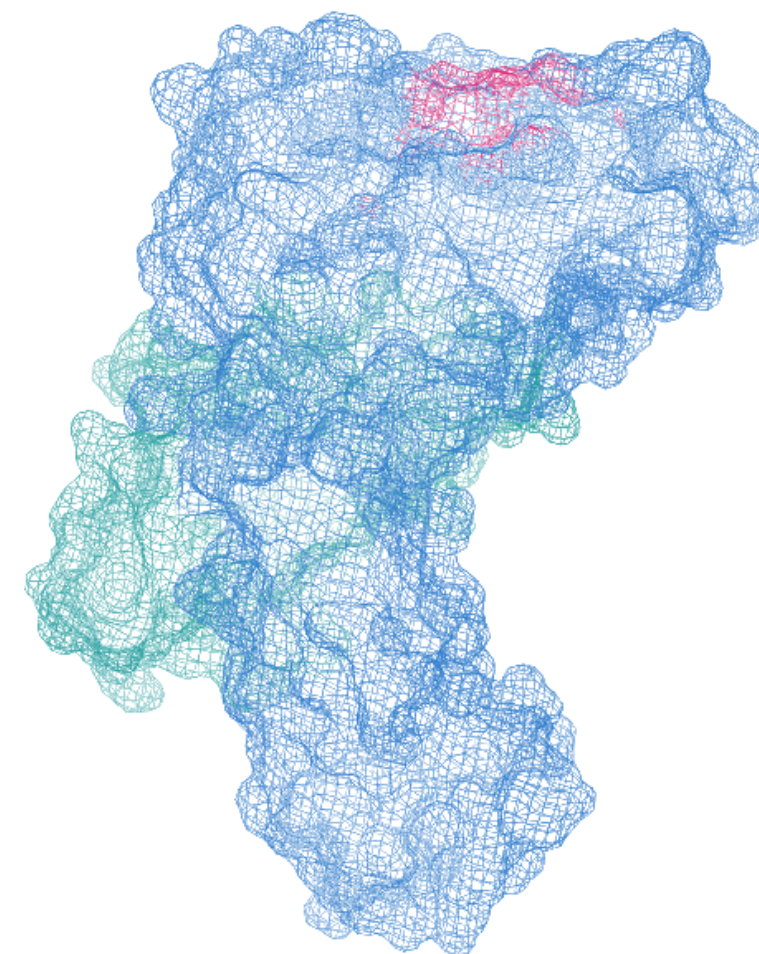
New Approaches for Matching

- Matching „epitopes“ between patient and donor
- Considering various pathways of allo-recognition
- However...
 - Models still to be improved
 - Combining independent models required

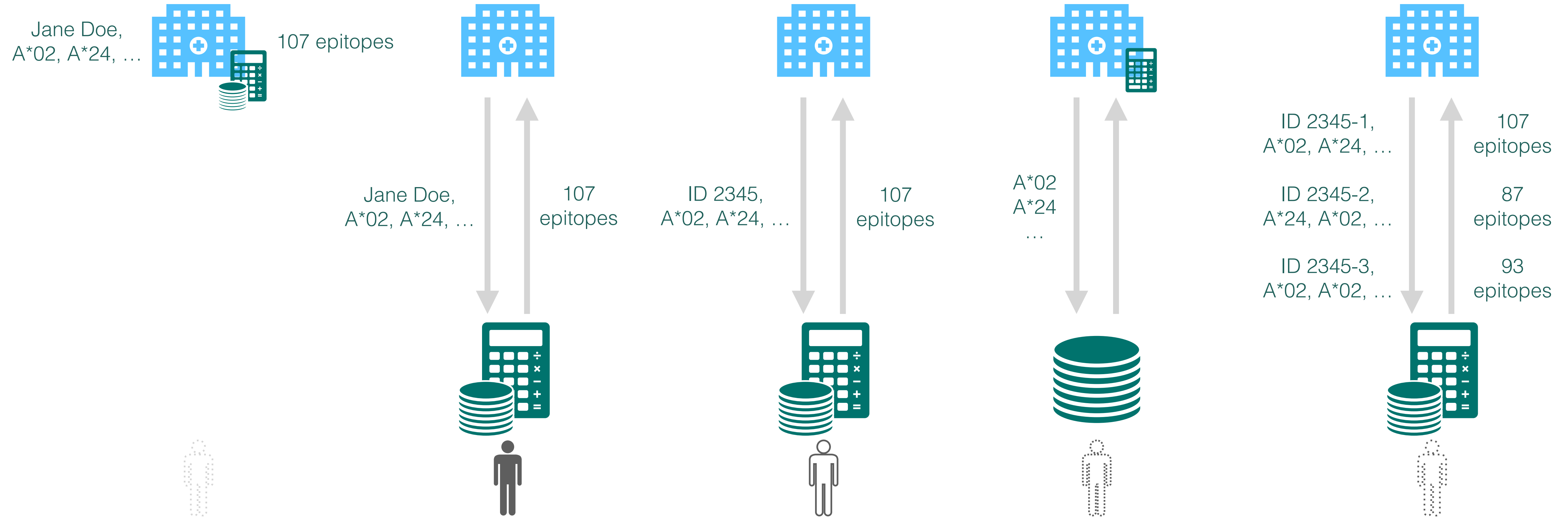


Improvements within NephroCAGE

- Predict B cell epitopes by HLA surface estimation from crystal structures
- Improve T cell epitope prediction pipeline by including human proteome data



Analyze Sensitive Data Remotely



Objectives in NephroCAGE

- Improve existing epitope matching algorithms
- Validate matching approaches
- Combine matching concepts
- Develop anonymization connectors for the matching service