

## DRESDEN, IMMREP22

TCR specificity workshop July 28<sup>th</sup>- 30<sup>th</sup>

Organisers: Anne Eugster and Virag Sharma

### Program

Thursday, July28th:

9.30am

Anne Eugster, Short introduction

Presentation round by all on site participants

Short presentations on models from participants – 15 min

Chair: Anne Eugster

Alessandro Montemurro (Morten Nielsen), Similarity-based model (TCR-baseline) and NetTCR, (virtual)

Yoram Louzou, ERGO, (virtual)

Anna Weber (and Maria Rodriguez Martinez), TITAN and DECODE (virtual)

Barbara Bravi, Model to be announced (virtual)

Pieter Meysman, TCRex Random Forest, TCRmatch

11am

coffee break

11.30am

Thierry Mora, soNNIA

Liel Cohen, SETE and TCRGP

Vadim, pMTnet

Rose, ICON

Paul, TcellMatch

Eli, DeepTCR

??, iSMART

??, Triplet Network and Modal Alignment Network subunits.

tcrdist3

1pm

Lunch at the PKS

2pm

Chair: Pieter Meysman

Virag Sharma:

-Short presentation on training- and test data preparation

-Pieter Meysman, short presentation of the evaluation strategy

-Introduction of discussion points regarding goals we try to address with the working group:

1 What is the impact on the performance of models when including the alpha chain?

- 2 Do CDRs 1 and 2 impact predictive performance of models?
- 3 Should we do peptide or pan-specific models?
- 4 How do we best compare predictions between peptides (most relevant when defining the best peptide target for a given TCR)?
- 5 How to best construct negative data (swapped, negative controls, healthy controls, combinations)?
- 6 What baseline models to apply to demonstrate the value of "deep" models vs baseline models?

-Release of test data and start individual work on models and short intro to evaluation

Evening:

Dinner in town

Friday, July 29<sup>th</sup>:

Deadline to send modelling outputs: 7am

9.00am

Chair: Thierry Mora

Short presentation: Vadim Kurnakov own model

- Short feedback from each participant regarding the model used, technical issues?
- Evaluation of points regarding the goals we try to address -after the results
  - 1 What is the impact on the performance of models when including the alpha chain?
  - 2 Do CDRs 1 and 2 impact predictive performance of models?
  - 3 How do we best build models: clustering or classification/epitope specific models?
  - 6 How to best construct negative data (swapped, negative controls, healthy controls, combinations)?
  - 7 What baseline models to apply to demonstrate the value of "deep" models vs baseline models?

11am

coffee break

Pieter Meysman, Presentation of evaluation of results obtained by participants on each model

11.30am

Continuation of the discussion

1pm

Lunch at the PKS

2pm -4.30pm

Chair: Virag Sharma

Discussions around the used models:

- Can we group the top models, are there similarities?
- Can we crystallise out important parameters?
- Preparing the ideal next workshop" Dataset required?

Discussion and wrap up

Evening

Dinner individually

Saturday, July 30<sup>th</sup>

Continuation of discussion of required, else individual meetings or free time