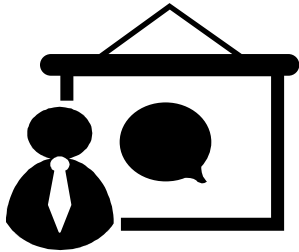# Welcome to the

# 2022 IEDB Virtual User Workshop – Day 2
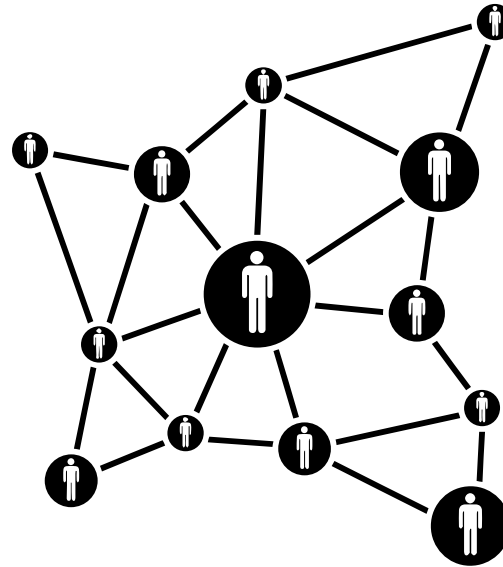
*Thursday, October 27, 2022*

# Annual IEDB User Workshop – Why?

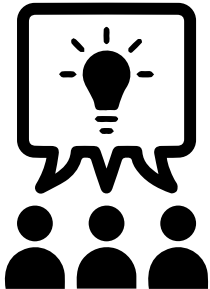**3 Day Event**

IEDB and tools overview with research examples and specialized topics
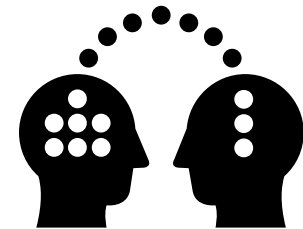
Improve our resources through user feedback

Engage with global user community

Answer user questions to facilitate learning

Share ideas to further scientific research

# User Workshop Structure



| Day 1 | Day 2 | Day 3 |
|-------|-------|-------|

Day 1: **Process Overview and Database**

Day 2: **Analysis Resource – Processing & Prediction Tools**

Day 3: **Specialized Topics – 3D Structures, Cancer, HIV**

# Who You'll Hear From



**Dr. Raphael Trevizani**
*Bioinformatics Postdoctoral Researcher*

**Dr. Bjoern Peters**
*Co-Principal Investigator*
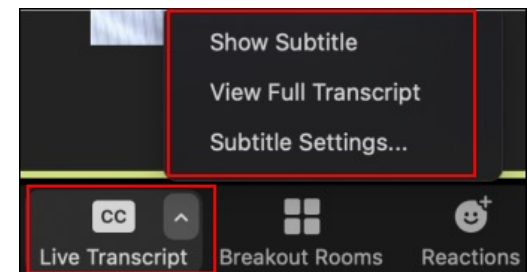
**Daniel Marrama**
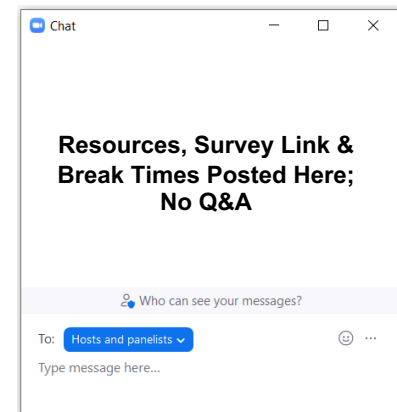*Associate Bioinformatics Specialist*
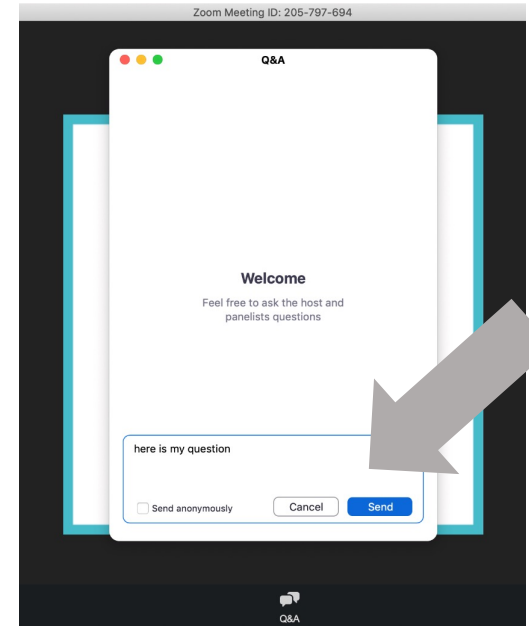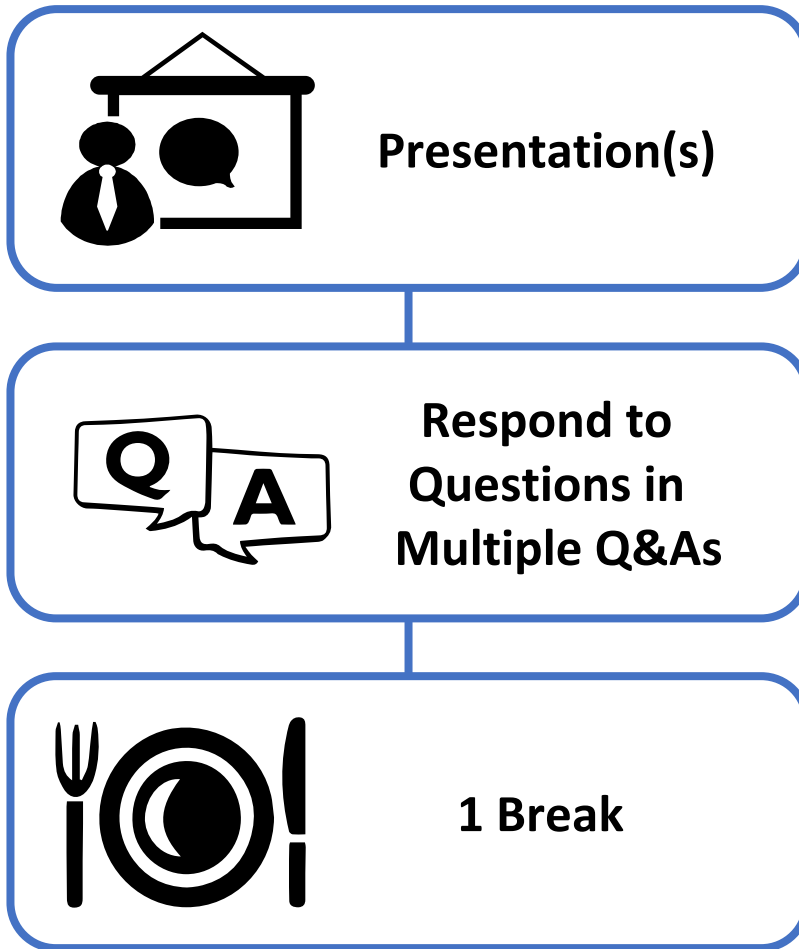
**Dr. Mahita Jarjapu**
*Bioinformatics Postdoctoral Researcher*

**Dr. Jason Greenbaum**
*Bioinformatics Core Director*

# User Workshop Structure

Presentation(s)

Respond to Questions in Multiple Q&As

1 Break

**Q&A**

**Chat**

**Subtitles**

# Agenda – Day 2

| Start Time | End Time | Topic | Speaker |
|---|---|---|---|
| **08:00** | **08:15** | Welcome & Analysis Resource Overview | Nina Blazeska<br>*IEDB Project Manager* |
| **08:15** | **08:45** | MHC Binding Predictions | Raphael Trevizani<br>*Bioinformatics Postdoctoral Researcher* |
| **08:45** | **09:05** | T Cell Processing & Immunogenicity Predictions | Bjoern Peters<br>*IEDB Co-Principal Investigator* |
| **09:05** | **09:20** | Section 1: Q&A with Drs. Trevizani and Peters | |
| **09:20** | **09:40** | PEPMatch | Daniel Marrama<br>*Associate Bioinformatics Specialist* |
| **09:40** | **10:00** | TCRMatch | Raphael Trevizani<br>*Bioinformatics Postdoctoral Researcher* |
| **10:00** | **10:10** | Section 2: Q&A with Drs. Peters (in lieu of Daniel Marrama) and Trevizani | |
| **10:10** | **10:35** | **Break** | |

# Agenda – Day 2

| Start Time | End Time | Topic | Speaker |
|---|---|---|---|
| **10:35** | **11:05** | B Cell Epitope Prediction | Mahita Jarjapu *Bioinformatics Postdoctoral Researcher* |
| **11:05** | **11:35** | IEDB Tools 3.0: Future of Tools | Jason Greenbaum *Bioinformatics Core Director* |
| **11:35** | **11:50** | Section 3: Q&A with Drs. Jarjapu and Greenbaum | |
| **11:50** | **12:00** | Closing Remarks & Feedback Survey | Nina Blazeska *IEDB Project Manager* |
| | **12:00** | **End of Session** | |

# Other Event Logistics
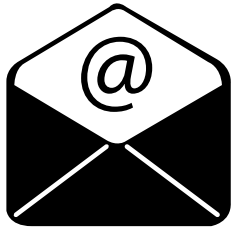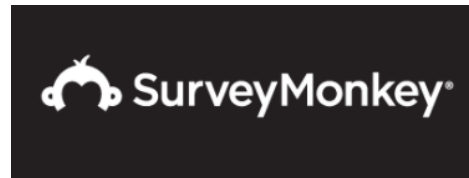
**You will receive a post-event email next week**
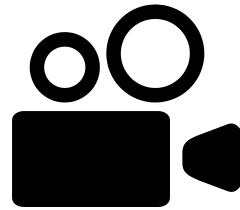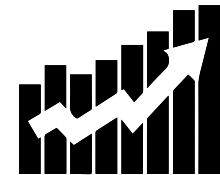
**Workshop recording will be shared with you**
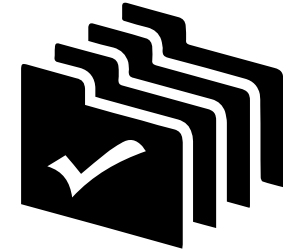
**All presentations will be shared with you**

**Participation certificates will be provided upon request**

**Daily and post-event feedback survey**

**Be aware of IEDB slowness due to increased traffic**

# #iedbuw2022

## Follow us @iedb_

# Brief Analysis Resource Overview

tools.iedb.org

# Accessing the Analysis Resource

# Available Resources

# IEDB Analysis Resource

**tools.iedb.org**

## T cell tools

### MHC binding prediction
- MHC I binding prediction
- MHC II binding prediction
- TepiTool

### MHC ligand prediction
- NetChop/NetCTL/NetCTLpan
- MHC-NP, MHCII-NP
- AXEL-F

### Immunogenicity prediction
- CD4 & CD8 T cell immunogenicity prediction tools

### Other
- Deimmunization tool
- TCRMatch

## B cell tools

### Linear epitope prediction
- BepiPred
- Other methods

### Discontinuous epitope prediction
- DiscoTope
- ElliPro

### Antibody and TCR structure prediction
- LYRA
- SCEptRe

## Analysis tools

### Population coverage of epitope set
- Population coverage tool

### Degree of conservation
- Conservancy analysis tool

### Group peptides based on sequence identity
- Cluster 2.0

### Infer restriction in HLA typed subjects
- RATE

### Aggregate heterogeneous immune response
- Immunome Browser

# **Without further ado…**



**Dr. Raphael Trevizani**
*Bioinformatics Postdoctoral Researcher*

## **MHC Binding Predictions**