

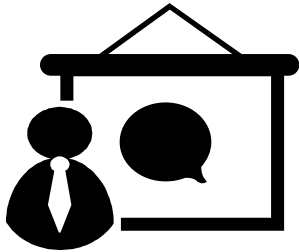
Welcome to the

**2021 IEDB Virtual User
Workshop – Day 1**

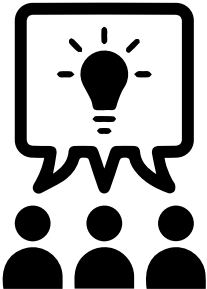
Wednesday, November 3, 2021

Annual IEDB User Workshop – Why?

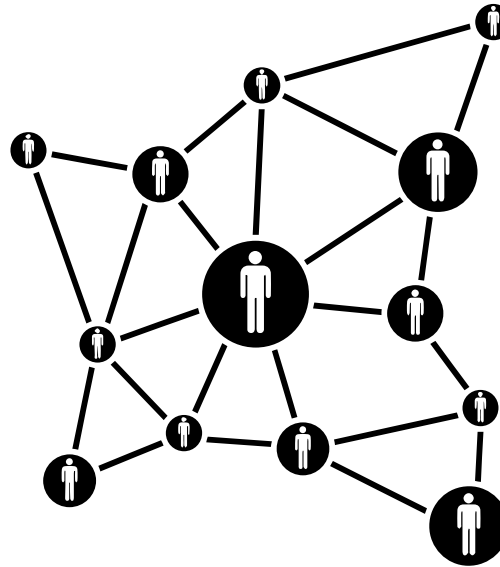
2 Day Event



IEDB and Tools overview with detailed research examples



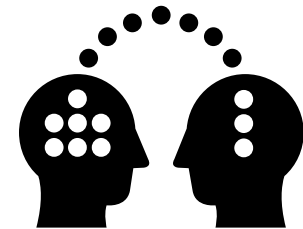
Improve our resources through user feedback



Engage with global user community



Answer user questions to facilitate learning



Share ideas to further scientific research



**We've
gone from this...**



To this...



New challenges create new opportunities!



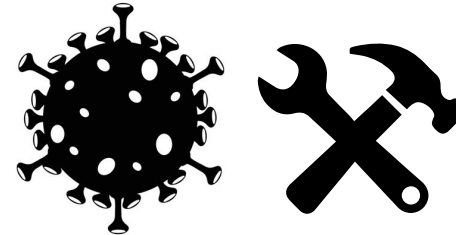
Completely virtual from the comfort of your own home



Two 2-day workshops to cater to global time zones



Registered and approved 510 attendees across the 2 workshops!



New presentation topics on SARS-CoV-2 research and new tools

ENGAGE | ENJOY | LEARN

Who You'll Hear From



Dr. Alessandro Sette
Principal Investigator



Dr. Bjoern Peters
Co-Principal Investigator



Dr. Randi Vita
*Lead Ontology & Quality
Manager*



Dr. Alba Grifoni
LJI Research Faculty/Instructor



Dr. Jason Greenbaum
Bioinformatics Core Director



Kelly Wheeler
Senior Software Engineer



Dr. Zeynep Koşaloğlu-Yalçın
Instructor

Who You'll Hear From



Dr. Raphael Trevizani
*Bioinformatics Postdoctoral
Researcher*



Dr. Marcus Mendes
*Bioinformatics Postdoctoral
Researcher*



Dr. William Chronister
*Bioinformatics Postdoctoral
Researcher*



Daniel Marrama
Bioinformatics Research Technician



Austin Crinklaw
Bioinformatics Research Technician



Dr. Paolo Marcatili
DTU Associate Professor



Who You'll Hear From



Dr. Brian Foley
Research Scientist



Dr. Elizabeth-Sharon Fung
Annotator, Editor



Dr. William Fischer
Staff Scientist

User Workshop Structure

Day 1

START YOUR SEARCH HERE

Epitope

Any Epitopes
 Linear Epitope
Exact Iv
 Discontinuous Epitopes
 Non-peptidic Epitopes

Assay

Positive Assays Only
 T Cell Assays
 B Cell Assays
 MHC Ligand Assays
Ex: neutralization

Antigen

Organism
Ex: influenza, peanut
Antigen Name
Ex: core, capsid, myosin

MHC Restriction

Any MHC Restriction
 MHC Class I
 MHC Class II
 MHC Nonclassical
Ex: HLA-A*02:01

Host

Any Host
 Humans
 Mice
 Non-human Primates
Ex: dog, camel

Disease

Any Disease
 Infectious Disease
 Allergic Disease
 Autoimmune Disease
Ex: asthma, diabet

Process Overview and Database

Day 2

IEDB Analysis Resource

[Overview](#) [T Cell Tools](#) [B Cell Tools](#) [Analysis Tools](#) [Tools-API](#) [Usage](#) [Download](#) [Data](#)

Epitope Prediction and Analysis Tools

Welcome to the Immune Epitope Database Analysis Resource. This site provides a collection of tools for the prediction and analysis of immune epitopes. It serves as a companion site to the [Immune Epitope Database \(IEDB\)](#), a manually curated database of experimentally characterized immune epitopes.

The tools contained fall into the following categories:

T Cell Epitope Prediction Tools

This set of tools includes MHC class I & II binding predictions, as well as peptide processing predictions and immunogenicity predictions.

B Cell Epitope Prediction Tools

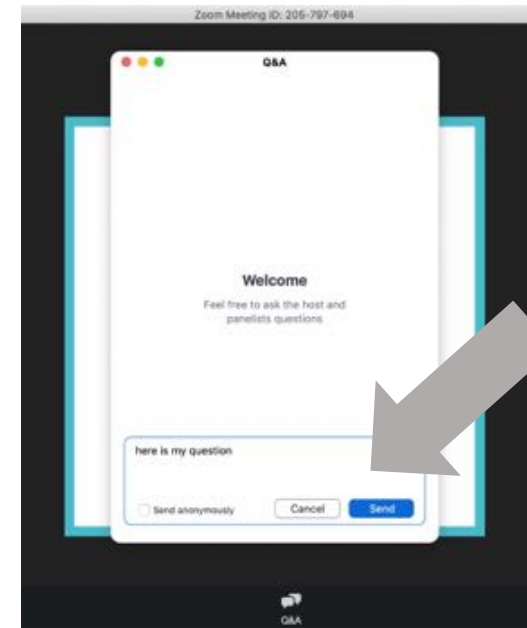
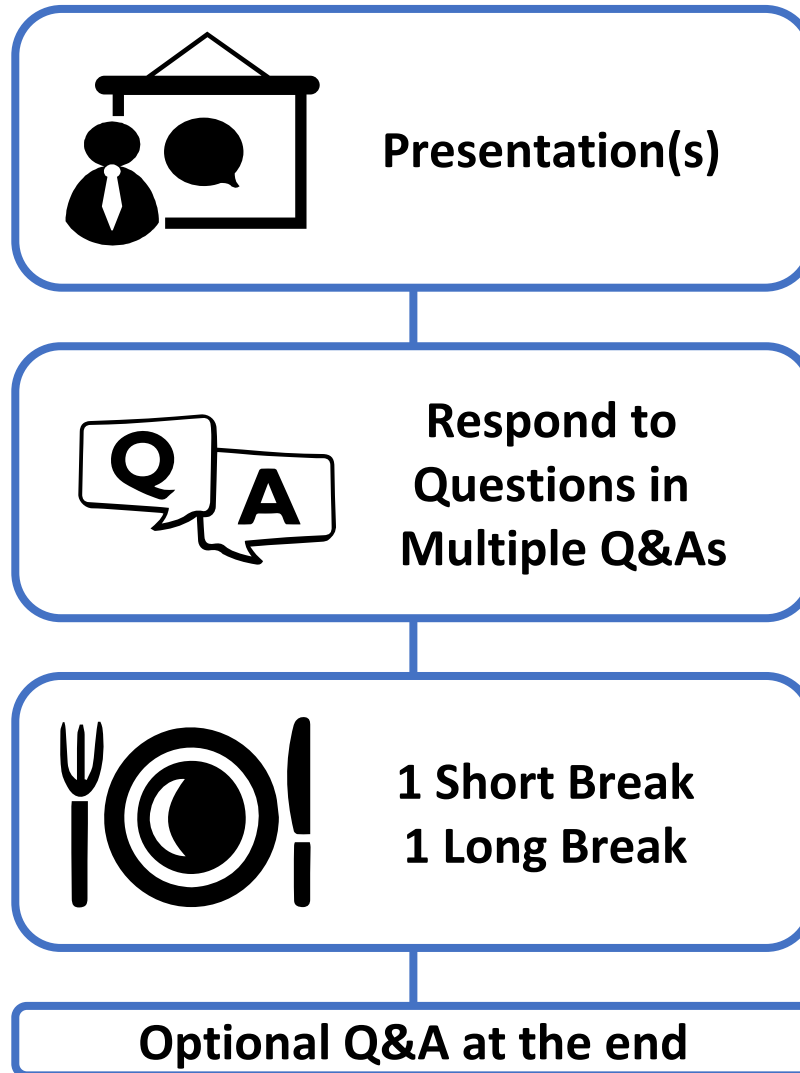
The tools here are intended to predict regions of proteins that are likely to be recognized as epitopes in the context of a B cell response.

Analysis Tools

The epitope analysis tools are intended for the detailed analysis of a known epitope sequence or group of sequences.

Analysis Resource

User Workshop Structure



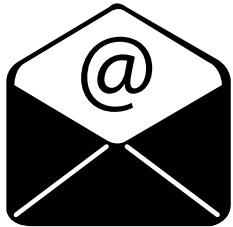
Agenda – Day 1

Start Time	End Time	Topic	Speaker
14:00	14:15	Welcome	Nina Blazeska <i>IEDB Project Manager</i>
14:15	14:45	Database Overview	Alessandro Sette <i>IEDB Principal Investigator</i>
14:45	15:15	Accessing the Data: Query, Reporting and Examples	Randi Vita <i>Lead Ontology and Quality Manager</i>
15:15	15:30	<u>Section 1</u> : Q&A with Drs. Sette and Vita	
15:30	15:45	Break	
15:45	16:05	SARS-CoV-2 and the ImmunomeBrowser	Alba Grifoni <i>LJI Research Faculty/Instructor</i>
16:05	16:25	New Database Features - Query API & Custom Exports	Jason Greenbaum <i>Bioinformatics Core Director</i> Kelly Wheeler <i>Leidos Senior Software Engineer</i>
16:25	16:35	<u>Section 2</u> : Q&A with Drs. Grifoni, Greenbaum & Wheeler	

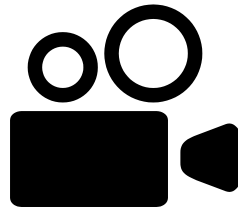
Agenda – Day 1

Start Time	End Time	Topic	Speaker
16:35	17:05	NIH Resources for Researchers: The LANL HIV Sequence Database	Brian Foley <i>Los Alamos National Laboratory</i>
17:05	17:15	<u>Section 3</u> : Q&A with Dr. Fischer	
17:15	17:45	Break	
17:45	18:00	The Cancer Epitope Database and Analysis Resource (CEDAR)	Zeynep Koşaloğlu-Yalçın <i>Instructor Cancer Bioinformatics</i>
18:00	18:30	Analysis Resource Overview	Bjoern Peters <i>IEDB Co-Principal Investigator</i>
18:30	19:00	Analysis Tools	Alessandro Sette <i>IEDB Principal Investigator</i>
19:00	19:15	<u>Section 4</u> : Q&A with Drs. Koşaloğlu-Yalçın, Peters and Sette	
19:15	19:30	Closing Remarks & Feedback Survey	Nina Blazeska <i>IEDB Project Manager</i>
19:30	20:00	<u>Optional Q&A Session</u> This will be to answer any remaining questions from the day	

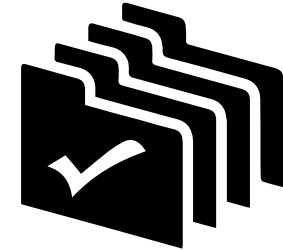
Other Event Logistics



You will receive a post-event email next week



Workshop recording will be shared with you



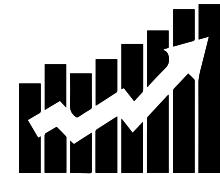
All presentations will be shared with you



Participation certificates will be provided upon request



Daily and post-event feedback survey



Be aware of IEDB slowness due to increased traffic



#iedbuw2021

Follow us @iedb_

Overview of the IEDB

The screenshot displays the IEDB website interface. At the top left is the YouTube logo. A search bar is located at the top center. The main header includes the IEDB logo and the text "IMMUNE EPITOPE DATABASE AND ANALYSIS RESOURCE". Navigation tabs for "Home", "Specialized Searches", and "Analysis Resource" are visible. The page is divided into several sections:

- Welcome:** A brief introduction to the IEDB as a freely available resource funded by NIAID, cataloging experimental data on antibody and T cell epitopes.
- Upcoming Events:** A list of events including an IEDB Case Study TB webinar recording (Sept 3), POCIS Virtual Booth (Oct 28-31), and a User Workshop (Nov 5-6).
- Summary Metrics:** A table showing the following data:

Peptidic Epitopes	671,177
Non-Peptidic Epitopes	3,039
T Cell Assays	380,795
B Cell Assays	540,640
MHC Ligand Assays	2,527,251
Epitope Source Organisms	3,969
Restricting MHC Alleles	939
References	21,517
- START YOUR SEARCH HERE:** A central panel with search filters for Epitope (Any Epitopes, Linear Epitope, Discontinuous Epitopes, Non-peptidic Epitopes), Assay (Positive Assays Only, T Cell Assays, B Cell Assays, MHC Ligand Assays), Antigen (Organism, Antigen Name), MHC Restriction (Any MHC Restriction, MHC Class I, MHC Class II, MHC Nonclassical), Host (Any Host, Humans, Mice, Non-human Primates), and Disease (Any Disease, Infectious Disease, Allergic Disease, Autoimmune Disease).
- Epitope Analysis Resource:** A sidebar with tools for T Cell Epitope Prediction (MHC I Binding, MHC II Binding, MHC I Processing, MHC I Immunogenicity), B Cell Epitope Prediction (Antigen Sequence Properties, Disruptor, EHPic), and Epitope Analysis Tools (Population Coverage, Conservation Across Antigens, Clusters with Similar Sequences).

At the bottom of the video player, the title "Overview of the Immune Epitope Database (IEDB)" and "38 views • 14 Oct 2020" are visible. Social media sharing icons for Like, Comment, Share, and Save are also present.

<https://youtu.be/JRoWhD3I8ko>

Without further ado...



Dr. Alessandro Sette
Principal Investigator

Database Overview