



**CORNELL UNIVERSITY
COVID-19 SUMMIT
FINAL PROGRAM**



WEDNESDAY, NOVEMBER 4th

- 9:00 Welcome and Introduction, Paula Cohen, Associate Vice Provost for Life Sciences, Cornell University
- 9:05 Welcome from Augustine Choi, Stephen and Suzanne Weiss Dean of Weill Cornell Medicine and Provost for Medical Affairs, Cornell University
- 9:10 Welcome from Mike Kotlikoff, Provost, Cornell University

9:15 – 11:25 SESSION 1: Clinical Science and Epidemiology

Chair: Doug Nixon (WCM)
Rapporteur: Carrie Johnston (WCM)

- 9:15-9:30 **Roy Gulick (WCM):** *Current clinical situation, treatment, and prevention*
9:30-9:33 Questions
- 9:33-9:41 **Lars Westblade (WCM):** *Clinical Testing During the COVID-19 Pandemic: an Englishman in New York's Experience*
9:41-9:43 Questions
- 9:43-9:51 **Dora Kanellopoulos (WCM):** *Psychotherapy on the Front Lines: A Behavioral Treatment Program to Reduce Psychiatric Symptoms across the Continuum of Care for survivors of COVID-19 critical illness*
9:51-9:53 Questions
- 9:53-9:58 **Break**
- 9:58-10:13 **Lishomwa Ndhlovu (WCM):** *Novel indicators of COVID-19 Immunity guiding Discovery of Therapeutic Targets*
10:13-10:16 Questions
- 10:16-10:24 **Jenny Yang (WCM):** *COVID-19 in pregnancy*
10:24-10:26 Questions
- 10:26-10:41 **Michael Satlin (WCM):** *Impact of Viral Load on Outcomes of Hospitalized Patients with COVID-19*
10:41-10:44 Questions
- 10:44-10:52 **Alexander Merkler (WCM):** *Neurological Complications of Covid-19*
10:52-10:54 Questions
- 10:54-11:02 **Jiwon Kim (WCM):** *Cardiovascular Imaging for COVID-19: Insights Gained and Future Directions*
11:02-11:04 Questions

- 11:04-11:07 ***Claudio Zanettini (WCM):** *Influenza Vaccination and COVID-19 Mortality in the USA: an ecological study*
- 11:07-11:10 ***Bonnie Patchen (Ithaca):** *Genetically determined vitamin D and COVID-19: A Mendelian randomization analysis*
- 11:10-11:25 **Open Discussion**
- 11:25-11:30 **BREAK**
- 11:30 – 1:44** **SESSION 2: Molecular Virology and Host Biology**
Chair: Julie Blander (WCM)
Rapporteur: Ted Clark (Ithaca)
- 11:30-11:45 **Susan Daniel (Ithaca):** *New antiviral strategies and screening tools for coronavirus built on knowledge of the fusion peptide structure-function relationship with its host*
- 11:45-11:48 Questions
- 11:48-11:56 **Cynthia Leifer (Ithaca):** *Macrophages, coagulation, and COVID-19*
11:56-11:58 Questions
- 11:58-12:13 **Rob Schwartz (WCM):** *Development of Stem Cell/Organoids Models for COVID-19 Disease Modeling*
- 12:13-12:16 Questions
- 12:16-12:19 ***Luis Pedro Iñiguez Rábago (WCM):** *Increased Hypoxia Gene Signature in SARS-CoV-2 infection*
- 12:19-12:22 ***Tiffany Tang (Ithaca):** *Evaluation of furin-mediated fusion activation via the SARS-CoV-2 S1/S2 site*
- 12:22-12:27 **Break**
- 12:27-12:42 **Cedric Feschotte (Ithaca):** *A Single-Cell RNA Expression Map of Human Coronavirus Entry Factors*
- 12:42-12:45 Questions
- 12:45-12:53 **Heidi Stuhlmann (WCM):** *Impact of SARS-CoV-2 on placentation*
12:53-12:55 Questions
- 12:55-12:58 ***Manvendra Singh (Ithaca):** *Transcriptomic profiling of coronavirus entry factors during pregnancy suggests risk of placental SARS-CoV-2 infection peaks at mid-gestation and is increased with preeclampsia*
- 12:58-1:06 **Jack Freed (Ithaca):** *The activity of SARS-CoV-2 fusion peptide is Ca²⁺ dependent and the dependency is highly specific*
- 1:06-1:08 Questions

- 1:08-1:23 **Michael Corley (WCM):** *Interplay between SARS-CoV-2 viral proteins and the innate immune system*
- 1:23-1:26 Questions
- 1:26-1:29 ***Melody Y. Zeng (WCM):** *Gut microbiome-derived short-chain fatty acids confer protection against SARS-CoV-2 infection*
- 1:29-1:44 **Open Discussion**
- 1:44-2:13 **LUNCH**
- 2:13 – 4:25** **SESSION 3: Vaccines, Anti-Virals, and other Therapeutics**
Chair: Deborah Fowell (Ithaca)
Rapporteur: Hector Aguilar-Carreno (Ithaca)
- 2:13-2:28 **Hector Aguilar-Carreno (Ithaca):** *Novel SARS-CoV-2 vaccine candidates tested in rodent models of disease*
- 2:28-2:31 Questions
- 2:31-2:39 **Pengbo Zhou (WCM):** *Small Molecule Inhibitor Rewires Cellular Protein to Augment its Anti-viral Activity against SARS-CoV-2*
- 2:39-2:41 Questions
- 2:41-2:56 **Shuibing Chen (WCM):** *Human Pluripotent Stem Cells-derive Organoids, COVID-19 and Drug Screen*
- 2:56-2:59 Questions
- 2:59-3:07 **Kristen Marks (WCM):** *Clinical trials of SARS-CoV2 Vaccines: What We Can (and Cannot) Expect to Know by Year's End*
- 3:07-3:09 Questions
- 3:09-3:14 **Break**
- 3:14-3:29 **Luis Schang (Ithaca):** *A workflow to identify broad spectrum antiviral molecules active against SARS CoV-2/ COVID19, from screen to animal models*
- 3:29-3:32 Questions
- 3:32-3:40 **Matt DeLisa (Ithaca):** *A synthetic immunology toolbox for rapid development of human antibodies against SARS-CoV-2*
- 3:40-3:42 Questions
- 3:42-3:57 **Chris Mason (WCM):** *Spatial transcriptome and shotgun profiling of COVID-19 patients at admission and autopsy*
- 3:57-4:00 Questions

4:00-4:08 **Ailong Ke (Ithaca):** *Neutralize SARS-CoV-2 using engineered tri-ACE2 receptor decoys*

4:08-4:10 Questions

4:10-4:25 **Open Discussion**

4:25-4:30 **BREAK**

4:30 – 6:19 **SESSION 4: The Materials/Biology/Virology interface: new tools and innovative strategies for understanding, diagnosing, and treating SARS-CoV-2**

Chair: Chris Mason (WCM)
Rapporteur: Chris Mason (WCM)

4:30-4:45 **Iwijn De Vlamincck (Ithaca):** *A liquid biopsy for COVID-19*

4:45-4:48 Questions

4:48-4:56 **Lois Pollack (Ithaca):** *Finding the structure of a therapeutic target: the frameshifting pseudoknot in the SARS-CoV-2 genome*

4:56-4:58 Questions

4:58-5:13 **Harel Weinstein (WCM):** *Illuminating the molecular dynamics of the SARS-CoV-2 Spike interaction with membranes to discover viral entry inhibitors*

5:13-5:16 Questions

5:16-5:24 **Guillaume Lambert (Ithaca):** *Enhanced CRISPR-Based Detection of SARS-CoV-2 Using Optimized RNA Targets*

5:24-5:26 Questions

5:26-5:41 **William Katt (Ithaca):** *Structural insights into allosteric inhibitors of glutaminase, an important target for COVID-19 treatment*

5:41-5:44 Questions

5:44-5:52 **Josh Turse (Ithaca):** *SARS-CoV-2 Nucleic Acids May Confound Surveillance*

5:52-5:54 Questions

5:54-6:02 **Bettina Wagner (Ithaca):** *Serological COVID-19 test development and antibody responses in the Ithaca/Cornell community*

6:02-6:04 Questions

6:04-6:19 **Open Discussion**

6:19 ADJOURN FOR THE DAY

THURSDAY, NOVEMBER 5th

- 8:30-8:35 Welcome
Praveen Sethupathy, Co-Chair of the Organizing Committee,
Director, Cornell Center for Vertebrate Genomics
- 8:35 - 10:40** **SESSION 5: One Health Perspectives**
Chair: Alex Travis (Ithaca)
Rapporteur: Daryl Van Nydam (Ithaca)
- 8:35-8:45 **Alex Travis (Ithaca): Introduction**
- 8:45-9:00 **Gary Whittaker (Ithaca): Bats, cats and proteases: activation of the coronavirus spike protein and the redirection of viral tropism and virulence**
- 9:00-9:03 Questions
- 9:03-9:18 **Diego Diel (Ithaca): The human-animal interface of SARS-CoV-2**
- 9:18-9:21 Questions
- 9:21-9:29 **Michael Stanhope (Ithaca): Multidisciplinary coronavirus risk assessment of wildlife in the NE USA**
- 9:29-9:31 Questions
- 9:31-9:36 **Break**
- 9:36-9:44 **Katie Fiorella (Ithaca): Feedbacks from human health to household reliance on natural resources during the COVID-19 pandemic**
- 9:44-9:46 Questions
- 9:46-10:01 **Krysten Schuler (Ithaca): Spillover & Spillback: Risks of COVID-19 in North American Wildlife**
- 10:01-10:04 Questions
- 10:04-10:19 **Oliver Gao (Ithaca): Air Quality and Health Implications of COVID-19 in California and Post-COVID Mobility in NYC Re-opening**
- 10:19-10:22 Questions
- 10:22-10:25 ***Alison Stout (Ithaca): Serosurveillance of SARS-CoV-2 in Cats presenting to an Animal Health Hospital in New York City**
- 10:25-10:40 **Open Discussion**
- 10:40-10:45 **BREAK**
- 10:45 – 1:10** **SESSION 6: Social Sciences and Modeling**
Chair: Maria Fitzpatrick (Ithaca)
Rapporteur: Peter Enns (Ithaca)

10:45-11:00	Nathaniel Hupert (WCM): <i>Modeling Pandemics, or, How A Little Math Can Change the World</i>
11:00-11:03	Questions
11:03-11:11	Aditya Vashistha (Ithaca): <i>Examining Health Misinformation in Low-Resource Environments</i>
11:11-11:13	Questions
11:13-11:28	Melissa Davis (WCM): <i>Racial Disparities of COVID-19: Potential Social and Biological Determinants</i>
11:28-11:31	Questions
11:31-11:46	Peter Frazier (Ithaca): <i>Mathematical modeling for reopening Cornell</i>
11:46-11:49	Questions
11:49-11:52	*B. Shayak (Ithaca): <i>Potential spreading dynamics of COVID-19 with temporal immunity: a mathematical modeling study</i>
11:52-11:55	*Jodie Nghiem (WCM): <i>Emergency Medicine Physician Stressors and Wellness Resource Utilization During the COVID-19 Pandemic in New York City</i>
11:55-12:00	Break
12:00-12:15	Sarah Kreps (Ithaca): <i>The politics of COVID-19 public health policies</i>
12:15-12:18	Questions
12:18-12:26	Gen Meredith (Ithaca): <i>Multiple Methods to Support COVID-19 Prevention on Campus</i>
12:26-12:28	Questions
12:28-12:43	Monika Safford (WCM): <i>Models to guide clinical care</i>
12:43-12:46	Questions
12:46-12:49	*Harriet Okronipa (Ithaca): <i>COVID-19 impact on food insecurity and dietary diversity in Kenya</i>
12:49-12:52	*Daniela Marin-Hernandez (WCM): <i>Quantifying the impact of BCG vaccination on COVID-19 mortality in Germany: a mathematical model</i>
12:52-12:55	*Arnab Ghosh (WCM): <i>Association between housing overcrowdedness and covid-19 in New York City: a zip code-level analysis</i>
12:55-1:10	Open Discussion
1:10-1:40	LUNCH
<u>1:40 – 3:20</u>	SESSION 7: Variations in response to SARS-CoV-2 and Disease Interactions

Chair: Praveen Sethupathy (Ithaca)
Rapporteur: Cedric Feschotte (Ithaca)

- 1:40-1:55
1:55-1:58 **Andrew Clark (Ithaca):** *Human genetic variation in response to Covid-19*
Questions
- 1:58-2:06
2:06-2:08 **Praveen Sethupathy (Ithaca):** *ACE2 stratifies different subtypes of Crohn's disease*
Questions
- 2:08-2:11 ***Mirella Salvatore (WCM):** *Harnessing human covid-19 cohorts and immune-omics integration for disease predictions*
- 2:11-2:16 **Break**
- 2:16-2:31
2:31-2:34 **Olivier Elemento (WCM):** *Decoding COVID-associated immune responses in blood and tissue using single cell analyses*
Questions
- 2:34-2:42
2:42-2:44 **Ilana Brito (Ithaca):** *Superinfections, the microbiome and COVID-19*
Questions
- 2:44-2:59
2:59-3:02 **Haiyuan Yu (Ithaca):** *A 3D Structural Interactome to Explore the Impact of Evolutionary Divergence, Population Variation, and Small-molecule Drugs on SARS-CoV-2-Human Protein-Protein Interactions*
Questions
- 3:02-3:05 ***Maureen Hanson (Ithaca):** *Long-haul COVID19—possible relationship to Myalgic Encephalomyelitis/Chronic Fatigue Syndrome*
- 3:05-3:20 **OPEN DISCUSSION**
- 3:20-3:30 **BREAK**
- 3:30–5:30** **NOTE: THIS SESSION IS OPEN TO CURRENT CORNELL EMPLOYEES ONLY (FROM ANY CAMPUS)**
Brainstorming & Discussion Forum
Chairs: Paula Cohen and Gary Koretzky
- 5:30 Closing Remarks & End of Summit
Gary Koretzky, Vice Provost for Academic Integration

*Flash talk, selected from abstracts