

AGENDA FOR THE 65TH ANNUAL COCCIDIOIDOMYCOSIS STUDY GROUP MEETING

Host: University of Arizona- Zoom

Tucson, AZ

April 16th – 17th, 2021

FRIDAY, APRIL 16TH

8:00 — 10:00 AM

SESSION 1: ECOLOGY/GENOMICS

Moderator: Dr. Bridget Barker

8:00 AM — 8:10 AM

INTRODUCTION

8:10 AM

Invited Lecture: Dr. Matthew Fisher

FUNGAL GENOMICS AND COCCI – WHY BOTHER?

8:30 AM

COCCIWATCH: PRELIMINARY RESULTS OF AIR MONITORING FOR COCCIDIOIDES SPORES IN ARIZONA AND CALIFORNIA

Lalitha Gade¹, Rebecca Sunenshine², Shane Brady³, Kenneth Komatsu³, Kimberly Hernandez⁴, Duc Vugia⁵, Jolene Bowers⁶, [Anastasia Litvintseva](#)¹, David Engelthaler⁷

¹Centers for Disease Control and Prevention, Atlanta, USA. ²Maricopa County Department of Public Health, Phoenix, United States Minor Outlying Islands. ³Arizona Department of Health Services, Phoenix, USA. ⁴Kern County Public Health Services Department, Bakersfield, United States Minor Outlying Islands. ⁵California Department of Public Health, Richmond, USA. ⁶Translational Genomics Institute – North, Flagstaff, USA. ⁷Translational Genomics Institute – North, Flagstaff, United States Minor Outlying Islands

8:45 AM

THE AIR MYCOBIOME IS DECOUPLED FROM THE SOIL MYCOBIOME IN THE SAN JOAQUIN VALLEY COCCIDIOIDES IMMITIS ENDEMIC REGION

[Robert Wagner](#)¹, Liliam Montoya¹, Cheng Gao², John Taylor¹

¹University of California Berkeley, Berkeley, USA. ²Chinese Academy of Sciences, Beijing, China

9:00 AM

RECENT SOIL ANALYSIS CALLS FOR AN UPDATED REALIZED NICHE MAP OF *COCCIDIOIDES* SPP. IN THE WESTERN UNITED STATES

[Daniel Kollath](#)¹, Heather Mead¹, Karis Miller¹, Katy Parise¹, Bridget Barker¹

¹Pathogen and Microbiome Institute, Northern Arizona University, Flagstaff, USA

9:15 AM

LUNG TISSUES FROM WILD SOUTHWESTERN RODENTS HELP IN UNDERSTANDING THE GEOGRAPHIC DISTRIBUTION AND DISEASE ECOLOGY OF COCCIDIOIDES AND OTHER MEMBERS OF THE ONYGENALES

Paris Hamm¹, Kyana Montoya^{1,2}, John Taylor³, Schuyler Liphardt¹, Joseph Cook^{1,4}, Donald Natvig¹

¹University of New Mexico, Albuquerque, USA. ²Los Alamos National Laboratory, Los Alamos, USA. ³University of California Berkeley, Berkeley, USA. ⁴Museum of Southwestern Biology, Albuquerque, USA

9:30 AM

USING PRECIPITATION TO FORECAST COCCIDIOIDOMYCOSIS INCIDENCE IN THE SAN JOAQUIN VALLEY OF CALIFORNIA

Morgan E. Gorris¹, Patrick L. Kinney², James E. Neumann³, Marcus C. Sarofim⁴

¹Los Alamos National Laboratory, Los Alamos, USA. ²Boston University, Boston, USA. ³Industrial Economics, Cambridge, USA. ⁴Environmental Protection Agency, Washington D.C., USA

BREAK: 9:45 AM — 10:00 AM

10:00 — 12:00 AM

SESSION 2: EPIDEMIOLOGY

Moderator: Dr Susan Hoover

10:00 AM

Invited Lecture: Dr. Brendan Jackson

10:20 AM

GENOMIC EPIDEMIOLOGY OF *COCCIDIOIDES* LINKS NON-ENDEMIC COCCIDIOIDOMYCOSIS TO TRAVEL

Juan Monroy-Nieto¹, Anastasia Litvintseva², Lalitha Gade², Jolene Bowers¹, David Engelthaler¹, Nancy Chow²

¹Translational Genomics Research Institute, Pathogen and Microbiome Div, Flagstaff, USA. ²Centers for Disease Control and Prevention, Mycotics Disease Branch, Atlanta, USA

10:35 AM

TESTING FOR COCCIDIOIDOMYCOSIS AND SARS-COV-2 BY INFECTIOUS DISEASE SPECIALISTS, UNITED STATES

Kaitlin Benedict¹, Samantha Williams¹, Susan E. Beekmann², Philip M. Polgreen², Brendan R. Jackson¹, Mitsuru Toda¹

¹CDC, Atlanta, USA. ²University of Iowa, Iowa City, USA

10:50 AM

EPIDEMIOLOGY OF COCCIDIOIDOMYCOSIS-ASSOCIATED HOSPITALIZATIONS AND IN-HOSPITAL DEATHS, CALIFORNIA, 2000–2017

Gail Sondermeyer Cooksey, Amanda Kamali, Duc Vugia, Seema Jain

Infectious Diseases Branch, California Department of Public Health, Richmond, CA, USA

11:05 AM

DISEASE TRIANGLE DYNAMICS OF COCCIDIOIDOMYCOSIS IN NORTHERN ARIZONA

Heather Mead¹, Dan Kollath¹, Marcus Teixeira², Chandler Roe¹, Paul Keim¹, Carmel Plude³, Joel Terriquez³, Nivedita Nandurkar³, Chelsea Donohoo⁴, Brettania L.W. O'Connor¹, Bridget Barker¹

¹Northern Arizona University, Flagstaff, USA. ²University of Brasilia, Brasilia, Brazil. ³Northern Arizona Health Care, Flagstaff, USA. ⁴Coconino County Health Department, Flagstaff, USA

11:20 AM

CHILDREN ARE OUR FUTURE: EDUCATING YOUTH TO REACH ADULTS ABOUT RISKS, PREVENTION, AND TREATMENT OF VALLEY FEVER

Alicia Pucci, Merle Baron, Lindsey Pandes, Stacy Hartmann, Kelsey OYong, Zachary Rubin, Dawn Terashita

Los Angeles County Department of Public Health, Los Angeles, USA

11:35 — 12:00 PM

BUSINESS MEETING

Moderator: Neil Ampel

Acknowledgement: Demosthenes Pappagianis

Remembrance: Peter Kelly

Setting the date and site for the 66th CSG Annual Meeting

12:00 — 12:30 PM

UPDATES FROM THE CDC AND NIH

SATURDAY, APRIL 17TH

8:00 — 8:10 AM

INTRODUCTION

8:10 — 10:00 AM

SESSION 3: BASIC SCIENCE

Moderator: Dr. Fariba Donovan

8:10 AM

Invited Lecture: Amy Hsu

COCCIDIOIDOMYCOSIS – THE FIRST STEP TO SOLVING ANY PROBLEM IS RECOGNIZING THERE IS ONE

8:30 AM

***ΔCPS1* LIVE AVIRULENT VACCINE PROTECTS DOGS AGAINST EXPERIMENTALLY INDUCED PULMONARY COCCIDIOIDOMYCOSIS**

Lisa Shubitz¹, Edward Robb², Daniel Powell^{1,3}, Richard Bowen⁴, Angela Bosco-Lauth⁴, Airn Hartwig⁴, Stephanie Porter⁴, Hien Trinh¹, Hilary Moale¹, Helle Bielefeldt-Ohmann⁵, James Hoskinson⁶, Marc Orbach⁷, Jeffrey Frelinger¹, John Galgiani^{1,8}

¹Valley Fever Center for Excellence, The University of Arizona, Tucson, USA. ²Anivive Lifesciences, Long Beach, USA. ³Department of Immunobiology, The University of Arizona, Tucson, USA. ⁴College of Veterinary Medicine and Biomedical Sciences, Colorado State University, Ft. Collins, USA. ⁵Chemistry and Molecular Biosciences, University of Queensland, Queensland, Australia. ⁶Hoskinson, DACVR, Berthoud, USA. ⁷School of Plant Sciences, The University of Arizona, Tucson, USA. ⁸Department of Medicine, The University of Arizona, Tucson, USA

8:45 AM

COMPARISON OF GENE EXPRESSION IN THE LUNGS OF RESISTANT AND SUSCEPTIBLE INBRED MICE INFECTED WITH COCCIDIOIDES IMMITIS

Sinem Beyhan^{1,2}, Suganya Viriyakosol², Sharon Okamoto², Theo Kirkland², Joshua Fierer²

¹J. Craig Venter Institute, La Jolla, USA. ²University of California San Diego, La Jolla, USA

9:00 AM

CHARACTERIZING *IN VITRO* AND *IN VIVO* BIOMARKERS FOR A VALLEY FEVER BREATH TEST

Emily A. Higgins Keppler^{1,2}, Heather Mead^{3,4}, Marley C. Van Dyke^{3,4}, Bridget M. Barker^{3,4}, Heather D. Bean^{1,2}

¹School of Life Sciences, Arizona State University, Tempe, AZ, USA. ²Center for Fundamental and Applied Microbiomics, The Biodesign Institute, Tempe, AZ, USA. ³Department of Biological Sciences, Northern Arizona University, Flagstaff, AZ, USA. ⁴The Pathogen and Microbiome Institute, Flagstaff, AZ, USA

9:15 AM

RECOMBINANT (GCP-RCPA1) VACCINE INDUCED IMMUNITY AGAINST COCCIDIOIDOMYCOSIS IN HUMANS

Althea Campuzano¹, Hao Zhang¹, Chrissy M. Leopold-Wager¹, Heidi Erickson², Josh Malo², Ken Knox², Neil Ampel², Gary Ostroff³, Chiung-Yu Hung¹

¹The University of Texas at San Antonio, San Antonio, USA. ²The University of Arizona, Tucson, USA. ³The University of Massachusetts Medical School, Worcester, USA

9:30 AM

MOUSE MODEL OF A HUMAN STAT4 POINT MUTATION THAT PREDISPOSES TO DISSEMINATED COCCIDIOIDOMYCOSIS

Daniel Powell¹, Lisa Shubitz¹, Christine Butkiewicz¹, Hien Trinh¹, Hilary Moale¹, Thomas Doetschman², Amy Hsu³, Marc Orbach⁴, Steven Holland³, John Galgiani¹, Jeffrey Frelinger¹

¹Valley Fever Center for Excellence, University of Arizona College of Medicine, Tucson, USA. ²Bio5 Institute, University of Arizona, Tucson, USA. ³National Institute of Allergy and Infectious Diseases, National Institute of Health, Bethesda, USA. ⁴School of Plant Sciences, University of Arizona, Tucson, USA

9:45 AM

**EFFICACY OF NIKKOMYCIN Z IN MURINE CENTRAL NERVOUS SYSTEM
COCCIDIOIDOMYCOSIS, MODELING SUSTAINED RELEASE DOSING**

Gabriele Sass¹, David J. Larwood^{1,2}, Marife Martinez¹, Pallabi Shrestha¹, David A. Stevens^{1,3}

¹California Institute for Medical Research, San Jose, USA. ²Valley Fever Solutions, Tucson, USA. ³Div. of Infectious Diseases and Geographic Medicine, Stanford Univ. Medical School, Stanford, USA

10:00 — 10:15 am

BREAK

10:15 — 12:15 pm

SESSION 4: VETERINARY AND CLINICAL SCIENCE

Moderator: Dr. Lisa Shubitz

10:15 AM — 10:35 AM

Invited Lecture: Dr. John Galgiani

**MANAGEMENT STRATEGIES FOR UNCOMPLICATED COCCIDIOIDOMYCOSIS IN ADDITION TO
OR INSTEAD OF ANTIFUNGAL DRUGS**

10:35 AM

COCCIDIOIDOMYCOSIS IN HORSES: A CASE SERIES AND REVIEW OF THE LITERATURE

Matthew Sheley¹, Melissa Macías-Rioseco², Francisco Uzal³

¹EasternVetPath, Knoxville, USA. ²UD Davis, California Animal Health and Food Safety Laboratory, Tulare, USA.

³UC Davis, California Animal Health and Food Safety Laboratory, San Bernardino, USA

10:50 AM

**A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED CLINICAL TRIAL OF
FLUCONAZOLE AS EARLY EMPIRIC TREATMENT OF COCCIDIOIDOMYCOSIS PNEUMONIA
(VALLEY FEVER) IN ADULTS PRESENTING WITH COMMUNITY-ACQUIRED PNEUMONIA IN
ENDEMIC AREAS (FLEET-VALLEY FEVER)**

Susanna Naggie, MD, MHS^{1,2}, Julia A. Messina, MD, MHS, MSc¹, Eileen K. Maziarz, MD¹, John Galgiani, MD³, Jonathan T. Truong, MD⁴, Aung K. Htoo, MD⁵, Aneesh T. Narang, MD⁶, Fariba M. Donovan, MD, PhD⁷, Marion Ewell, ScD⁸, Antonino Catanzaro, MD⁹, George R. Thompson III, MD¹⁰, Neil M. Ampel, MD³, John R. Perfect, MD¹, Emmanuel B. Walter, MD, MPH^{1,2,11}

¹Duke University School of Medicine, Durham, USA. ²Duke Clinical Research Institute, Durham, USA. ³Valley Fever Center for Excellence, Tucson, USA. ⁴Southern California Kaiser Permanente, Antelope Valley, USA.

⁵Southern California Kaiser Permanente, Kern County, USA. ⁶Banner University Medical Center Phoenix, Phoenix,

USA. ⁷Banner University Medical Center Tucson, Tucson, USA. ⁸Emmes, Rockville, USA. ⁹University of California San Diego Medical Center, San Diego, USA. ¹⁰University of California Davis School of Medicine, Sacramento, USA. ¹¹Duke Human Vaccine Institute, Durham, USA

11:05 AM

CONTRIBUTION OF BIOLOGIC RESPONSE MODIFIERS TO THE RISK OF COCCIDIOIDOMYCOSIS SEVERITY

Fariba Donovan^{1,2}, Ferris Ramadan³, Julia Buchfuhrer², James Lim², Rebia Khan⁴, Natalie DeQuillfeldt², Natalie Davis², Ashwini Kaveti², Melanie De Shadarevian⁵, Edward Bedrick³, John Galgiani^{1,2}

¹The Valley Fever Center for Excellence, University of Arizona, Tucson, USA. ²University of Arizona College of Medicine-Tucson, Tucson, USA. ³Department of Epidemiology and Biostatistics, University of Arizona College of Public Health, Tucson, USA. ⁴University of Arizona College of Medicine-Phoenix, Phoenix, USA. ⁵A.T. Still University School of Osteopathic Medicine, Mesa, USA

11:20 AM

COCCIDIOIDOMYCOSIS AND COVID-19: A SINGLE CENTER CASE SERIES

Daniel Huff, Neil Ampel, Holenarasipur Vikram, Robert Orenstein, Maria T. Seville, Juan Gea Banacloche, Amy Kole, Mark Burns, Janis Blair

Mayo Clinic Arizona, Phoenix, USA

11:35 AM

METABOLIC REPROGRAMMING AND IMMUNE RESPONSE REFLECTING DISEASE SPECTRUM IN PATIENTS WITH COCCIDIOIDES INFECTION AND WITH SARS-COV-2 CO-INFECTION

Clarissa Santos Rocha, Pedro Negri Bernardino, Kelly Crucillo, Elise Buser, Neil Capulong, Ian McHardy, Stuart Cohen, George Thompson, Sumathi Sankaran-Walters, Satya Dandekar

Department of Medical Microbiology and Immunology, Division of Infectious Diseases/IM, School of Medicine, University of California Davis.

11:50 AM

DEVELOPMENT OF A COCCIDIOIDOMYCOSIS DIAGNOSTIC ALGORITHM FOR PRIMARY CARE PROVIDERS IN THE UNITED STATES

Rebecca Free, Mitsuru Toda, Brendan Jackson

Centers for Disease Control and Prevention, Atlanta, USA

12:05-12:20 BREAK

12:20 — 2:00 PM

BREAKOUTS AND POSTER VIEWING

Assign to Breakout Rooms For Poster Viewing – See next page.

2:00 PM

MEETING ADJOURNMENT

POSTER VIEWING: BREAKOUT ROOM ASSIGNMENTS

BREAKOUT ROOM 1

Time	Presenter first name	Presenter last name	Title	Category
12:20	Daniel	Powell	EFFECTS OF TNF-ALPHA INHIBITION ON A MOUSE MODEL OF CONTROLLED COCCIDIOIDES INFECTION	3 Basic Science
12:30	Heather	Mead	Differential Thermotolerance Adaptation between Species of Coccidioides	3 Basic Science
12:40	Anh	Diep	Monocyte and Dendritic Cell Responses to Coccidioides	3 Basic Science
12:50	Laela Maree	Booshehri	Inflammasome dependent and independent pathways in Coccidioidomycosis	3 Basic Science
13:00	Klaire	Laux	Deadly Recombination: Elucidating the Secret Sex Life of Coccidioides	3 Basic Science
13:10	Valerie	Arboleda	Incorporating Genetic Ancestry as a Biomarker for Disseminated Coccidioidomycosis (DCM)	3 Basic Science
13:20	Francisca	Grill	Development of a quantitative antigen assay to detect coccidioidal chitinase-1 (CTS1) in human serum	3 Basic Science
13:30	Marc	Orbach	TRANSCRIPTOMICS OF THE COCCIDIOIDOMYCOSIS VACCINE STRAIN Δ cps1 REVEALS INSIGHTS INTO CPS1 FUNCTION	3 Basic Science
13:40	Nikita	Ashcherkin	Impact of COVID-19 Pandemic on Diagnosis of Acute Primary Pulmonary Coccidioidomycosis	5 Clinical

BREAKOUT ROOM 2

Time	Presenter first name	Presenter last name	Title	Category
12:20	Alexis	Stephens	A Phase IIa Trial Study to Assess Safety and Efficacy of Interferon Gamma in the Treatment of Severe Pulmonary or Nonmeningeal Disseminated Coccidioidomycosis	5 Clinical
12:30	Terrie	Ahn	T helper cell phenotypic differences between Disseminated Coccidioidomycosis and Uncomplicated Valley fever	5 Clinical
12:40	Esa	Rayyan	Co3: CoVID, Cocci, and Co-infection.	5 Clinical
12:50	Vishal	Narang	CAVITARY COCCIDIOIDOMYCOSIS IN PATIENTS WITH DIABETES MELLITUS	6 Case Presentation
13:00	Yulia	Levkivaska	REACTIVATED COCCIDIOIDOMYCOSIS FOLLOWING GLUCOCORTICOID THERAPY: 2 PATIENTS	6 Case Presentation
13:10	Valerie	Civelli	A CASE REPORT OF COCCIDIOIDOMYCOSIS IN THE RENAL PARENCHYMA OF UNUSUAL SEVERITY	6 Case Presentation
13:20	Rupam	Sharma	COCCIDIOIDAL PERITONITIS: A REVIEW OF 13 CASES	6 Case Presentation
13:30	Barbara	Braz	Peritoneal coccidioidomycosis in a pediatric patient	6 Case Presentation
13:40	Nadia	Raza	HEPATIC ABSCESS IN A PATIENT WITH DISSEMINATED COCCIDIOIDOMYCOSIS: A CASE REPORT	6 Case Presentation
13:50	Maria del Mar	Lucio Paredes	RAPIDLY PROGRESSIVE COCCIDIOIDES MENINGITIS IN A PATIENT WITH RHEUMATOID ARTHRITIS ON HUMAN INTERLEUKIN-6 (IL-6) RECEPTOR ANTAGONIST (SARILUMAB)	6 Case Presentation