13th Annual Biological Sciences Symposium
Associated with the 2021 Petersheim Academic Exposition
Thursday April 29, 2021
BioSymposium Book of Abstracts 2021

2021 Keynote Lecture
Differential Clinical Impacts of Oxidative Stress and Nitrosative Stress: Therapeutic Implication
Professor Samuel H.H. Chan, Ph.D.
Institute for Translational Research in Biomedicine Chan Gung Memorial Hospital

Presenters

Graduate Research

1. 3:40-3:50 & 4:30-4:40 Zachary Cropley and Daniel Nichols: YEAST 2 HYBRID ANALYSIS OF MCV HOST IMMUNE EVASION PROTEINS

2. 3:50-4:00 & 4:40-4:50 Alexis Hernandez and Jessica Cottrell: CLINICALLY RELEVANT DOSAGE OF VANCOMYCIN DOES NOT NEGATIVELY IMPACT PERIOSTEUM DERIVED OSTEOBLAST PRECURSOR CELLULAR FUNCTIONS

3. 4:00-4:10 & 4:50-5:00 Shiyu Ma and Heping Zhou: THE EFFECT OF PALMITATE ON THE EXPRESSION OF INFLAMMATORY CYTOKINES IN BV2 CELLS

4. 4:10-4:20 & 5:00-5:10 Andrew Pulgiese, Allan Blake, and Jessica Cottrell: EFFECTS OF SODIUM ORTHOVANADATE ON LPS-INDUCED SENESCENT RAW264.7 CELLS

5. 4:20-4:30 & 5:10-5:20 Brian T. Reiss and Daniel Nichols: CHARACTERIZATION OF THE MOLLUSCUM CONTAGIOSUM VIRUS MC160 PROTEIN INHIBITION OF MAVS
Ayuni Yussof and Tinchun Chu: MOLECULAR DOCKING STUDY OF THEAFLAVIN ANTI-GERMINATION MECHANISM ON BACILLUS SPP.

Undergraduate Research

Margot Brown, Matthew Sunda, Isabella Somera, Zena M. Abukanan, Joseph Badillo, Suzanne Quartuccio Gantar: INDUCTION OF APOPTOSIS IN GLIOBLASTOMA CELLS THROUGH ACTIVATION OF PPARγ BY BIS INDOLYL METHANE COMPOUNDS

Zachary DiSanza, Adrian Bernal, and Suzanne Quartuccio Gantar: THE ONCOGENIC ROLE OF AURKC IN MITOTIC CELLS

Caitlin Gartley and Ruby Pasupuleti: CHARACTERIZATION OF INSULIN MIMETIC EFFECTS ON GENE EXPRESSION DURING THE ATDC5 CELL LINE

Karina Helou, Mackenzie McCann, Joshua Novello, Zena M. Abukanan, Joseph Badillo, Suzanne Quartuccio Gantar: ANTI-CANCEROUS BIS INDOLYL METHANE (BIM) COMPOUNDS PREVENT PROLIFERATION OF GLIOBLASTOMA CELLS

Christie Joshi, Viren Jadeja, Heping Zhou: MECHANISMS OF OBESITY AUGMENTED COVID-19 PATHOLOGIES

Myeong Gil Jun and Heping Zhou: MECHANISMS OF OBESITY-ASSOCIATED NONALCOHOLIC FATTY LIVER DISEASE BY META-ANALYSIS

Jillian Lazzara: LIFETIME ACCUMULATION OF RACISM-RELATED STRESS IN AFRICAN AMERICAN WOMEN AND ITS EFFECT ON ADVERSE BIRTH OUTCOMES

Michael Lutz, Albert Dimaculangan Jr., Christian Martinez, Danielle Maragh, and Tinchun Chu: THE EFFECTS OF NICKEL CHLORIDE ON CYANOBACTERIUM ANABAENA SPP.

Paige Murray and Heping Zhou: COVID-19 MODULATION OF NEUROINFLAMMATION IN MAJOR DEPRESSIVE DISORDER

Tatiana Rengifo and Sulie Chang: USING IPA TO STUDY THE EFFECTS OF EXCESS ALCOHOL CONSUMPTION ON CARDIAC CONDITIONS

Next-Generation Omics Research
17. 4:00-4:10 & 4:50-5:00 Sabrina Lopez and Tinchun Chu: A META-ANALYSIS OF THE EFFECTS OF EGCG ON BACILLUS SPP.

18. 4:10-4:20 & 5:00-5:10 Danielle L. Maragh and Tinchun Chu: EXPLORING THE ASSOCIATION BETWEEN CHRONIC ANATOXIN-A EXPOSURE AND SPORADIC AMYOTROPHIC LATERAL SCLEROSIS (ALS)

19. 4:20-4:30 & 5:10-5:20 Angelo Montero and Tinchun Chu: IDENTIFYING TLR-3 ACTIVATING MOLECULES AS NEW ADDITIONAL ACTIVE INGREDIENTS FOR THE FLU VACCINE

20. 4:40-4:50 & 5:10-5:20 Lorena Pena and Tinchun Chu: GENES INVOLVED IN METASTATIC GASTRIC ADENOCARCINOMA AND THE NTRK2 EXPRESSION IN DIFFERENT CANCER TYPES


22. 4:00-4:10 & 4:50-5:00 Elizabeth Wong and Tinchun Chu: REGULATION OF ANTIMICROBIAL PEPTIDES HAMP, CAMP, AND ALPHA-DEFENSINS TO COMBAT ANTIMICROBIAL RESISTANCE

Senior Seminar Capstone Projects

23. 4:10-4:20 & 5:00-5:10 Ashley Aiello and Sulie Chang: META-ANALYSIS ON THE INVOLVEMENT OF STAT1 IN CH25H INHIBITION OF SARS-CoV-2 INVASION INTO THE HOST CELLS


25. 3:40-3:50 & 4:30-4:40 Thanelie Bien-Aime and Sulie L. Chang: META-ANALYSIS OF COVID-19 MODULATION OF ACE 2 LEADING TO SARCOPENIA

26. 3:50-4:00 & 4:40-4:50 Danielle Brinckman and Danielle Camilleri: ANTERIOR CRUCIATE LIGAMENT SURGICAL GRAFT OPTIONS TO OPTIMIZE RECOVERY

27. 4:00-4:10 & 4:50-5:00 Ryan C. Camacho, Tanvi P. Patel, Heping Zhou and Sulie L. Chang: NETWORK META-ANALYSIS OF COVID-19 MODULATION OF AMYLOID PRECURSOR PROTEIN IN BRAIN ENDOTHELIEL

28. 4:10-4:20 & 5:00-5:10 Alyssa Caradonna, Sedra Alabed, Tanvi Patel, Matea Toleska and Sulie Chang: NETWORK META-ANALYSIS OF COVID-19 MODULATION OF ACE-2 LEADING TO ALZHEIMER’S DISEASE VIA SIMILARITIES IN INFLAMMATORY AND PLAQUE FORMATION PATHWAYS

30. 3:40-3:50 & 4:30-4:40 Cristina Casimiro: SUSTENTACULAR CELLS INVOLVEMENT IN SARS-COV-2 VIRUS ENTRY, HYOSMIA & ANOSMIA

31. 3:50-4:00 & 4:40-4:50 Divya Dadi and Sulie L. Chang: MODULATION OF CHLOROQUINE ON THE HEPATIC SYSTEM DUE TO COVID-19 TREATMENTS

32. 4:00-4:10 & 4:50-5:00 Ashley Diekemper and Christian Logan: CRISPR-CAS GENE EDITING SYSTEMS AND POTENTIAL THERAPEUTIC USES

33. 4:10-4:20 & 5:00-5:10 Alaina Dorlon and Sulie L. Chang: THE ANALYSIS OF THE SARS2 COVID-19 MRNA VACCINE AND ITS POTENTIAL EFFECTS ON FEMALE FERTILITY

34. 4:20-4:30 & 5:10-5:20 Charlene Fermin and Ricardo Munoz: COMPARING THE GENDER DIFFERENCES IN MELANOMA SURVIVAL, OUTCOMES, DEVELOPMENT, RISK FACTORS, AND PROGRESSION

35. 3:40-3:50 & 4:30-4:40 Victoria Fox and Sulie L. Chang: NETWORK META-ANALYSIS OF SARS-COV-2 INFECTION CAUSING MYOCARDITIS

36. 3:50-4:00 & 4:40-4:50 Anna Furman and Sulie L. Chang: META-ANALYSIS OF GENETIC DELETION IN CAV 3 GENE AND CREATINE KINASE IN ITS EFFECT ON MORTALITY RATE IN COVID-19 INFECTED PATIENTS

37. 4:00-4:10 & 4:50-5:00 Dominick Gamarro and Kaitlyn Vega: EFFICACY OF COVID-19 VACCINES BASED ON VACCINE TYPE AND ADMINISTRATION SCHEDULE

38. 4:10-4:20 & 5:00-5:10 Caitlin Gartley and Ruby Pasupuleti: EFFECTS OF VANADIUM COMPOUNDS ON GENE EXPRESSION DURING BONE FRACTURE HEALING IN THE CHONDROGENIC ATDC5 CELL LINE

39. 4:20-4:30 & 5:10-5:20 Christina Gluch: THE LONG-TERM EFFECTS OF PROLONGED SCREEN USE ON THE EYES AND PREVENTATIVE MEASURES TO MITIGATE THESE EFFECTS

40. 3:40-3:50 & 4:30-4:40 Tatiana Gonzalez and Sulie L. Chang: META-ANALYSIS OF IL-10 IN COVID-19 PATHOLOGIES

41. 3:50-4:00 & 4:40-4:50 Tierney Summer G. and Sulie L. Chang: THE RELATION BETWEEN NICOTINE AND SUSCEPTIBILITY TO COVID-19

42. 4:00-4:10 & 4:50-5:00 Paige Hawco: CANCER IMMUNOTHERAPY: AN EXTENSIVE OVERVIEW OF THE PRESENT ADVANCES AND FUTURE POSSIBILITIES
43. 4:10-4:20 & 5:00-5:10 Angelina Iadarola: THE COLLAPSE OF CORAL REEFS: HOW VARIOUS STRESSORS, CORAL SURVIVABILITY, AND MANAGEMENT EFFECTS CORAL REEF ECOSYSTEMS

44. 4:20-4:30 & 5:10-5:20 Katherine Iovel and Sulie L. Chang: META-ANALYSIS ON THE MOLECULAR MECHANISMS UNDERLYING COVID-19 AUGMENTATION OF EPILEPSY

45. 3:40-3:50 & 4:30-4:40 Serina Johnson: THE EFFECTS OF CLIMATE CHANGE ON WILDLIFE CONSERVATION

46. 3:50-4:00 & 4:40-4:50 Michael Kao, Tanvi P. Patel, and Sulie L. Chang: NETWORK META-ANALYSIS OF COVID-19 MODULATION OF PSEN1 LEADING TO ALZHEIMER’S DISEASE

47. 4:00-4:10 & 4:50-5:00 Maha Khan and Sulie L. Chang: ANALYSIS ON TYPE 2 DIABETES MELLITUS AUGMENTATION OF COVID-19 PATHOLOGIES

48. 4:10-4:20 & 5:00-5:10 Alex Knight and Sulie L. Chang: NETWORK META-ANALYSIS OF DEHYDRATION EFFECT ON PATHOPHYSIOLOGY OF MYASTHENIA GRAVIS THROUGH ANALYSIS OF INTERLEUKIN 4


51. 3:50-4:00 & 4:40-4:50 Ruben Martinez, Tatiana Rengifo and Sulie L. Chang: ANALYSIS ON HOW COVID-19 AFFECTS PATIENTS WITH VALVULAR REGURGITATION

52. 4:00-4:10 & 4:50-5:00 Celine Mazzella: THE IMPACT OF THE GUT MICROBIOTA ON DEPRESSION

53. 4:00-4:10 & 4:50-5:00 Mackenzie McCann: SEXUAL DIMORPHISMS IN AUTISM SPECTRUM DISORDER: A COMPREHENSIVE REVIEW OF THE COMPONENTS ASSOCIATED WITH MALE PREVALENCE IN ASD


55. 3:40-3:50 & 4:30-4:40 Kevin Mulholland and Dr. Sulie Chang: ANALYSIS OF THE EFFECTS OF ADDERALL ON COVID-19 PATHOLOGY

56. 3:50-4:00 & 4:40-4:50 Steven Musto: CREATINE MONOHYDRATE, THE MOST POPULAR SUPPLEMENT USED BY ATHLETES, INTENDED USE AND EFFECTS
57. 4:10-4:20 & 5:00-5:10 Mary Nowak, Sedra Alabed, Suzanne M. Gantar, and Sulie L. Chang: T-LYMPHOCYTE EXHAUSTION IN COVID-19 AND STAGE I-II NON-SMALL CELL LUNG CANCER: A META-ANALYSIS

58. 4:10-4:20 & 5:00-5:10 Cassie Perez and Sulie L. Chang: EXAMINING MECHANISM UNDERLYING PERSISTENT COVID-19 PNEUMONIA ENHANCING RISK OF LUNG CANCER


60. 3:40-3:50 & 4:30-4:40 Alexis Reed and Sulie L. Chang: META-ANALYSIS OF COVID-19 IN DEVELOPMENT OF NEURODEGENERATIVE DISEASE

61. 3:50-4:00 & 4:40-4:50 Michael N. Romero and Sulie L. Chang: THE COVID-19 CYTOKINE STORM AND THE ASSOCIATION OF THIS CYTOKINE STORM WITH BROAD SPECTRUM ACUTE CORONARY SYNDROMES

62. 4:00-4:10 & 4:50-5:00 Samantha Russo: GENOME EDITING AND DE-EXTINCTION: THE APPLICATION OF CRISPR-CAS9 IN CONTEMPORARY SPECIES TO RESTORE EXTINCT GENOMES AND THE ECOLOGICAL IMPLICATIONS

63. 4:10-4:20 & 5:00-5:10 Larissa Sagha and Sulie L. Chang: THE ROLE OF SEROTONIN DYSFUNCTION IN COVID-19 AND PARKINSON’S DISEASE

64. 4:20-4:30 & 5:10-5:20 Benjamin Saxon and Sulie L. Chang: NETWORK META ANALYSIS OF COVID-19 MODULATION OF ACE2 LEADING TO PARKINSON’S DISEASE


66. 3:50-4:00 & 4:40-4:50 Elizabeth Sottung and Joseph Iannelli: THE IMPLICATIONS OF RHEUMATOID ARTHRITUS AND THE CONNECTS TO OTHER MALIGNACNIES

67. 4:00-4:10 & 4:50-5:00 Matea Toleska, Alyssa Caradonna, Sedra Alabed, Tanvi P. Patel, and Sulie L. Chang: PATHWAY ANALYSIS OF COVID-19 MODULATION OF ACE2 LEADING TO ALZHEIMER’S DISEASE VIA OVERLAPPING MOLECULES

68. 4:10-4:20 & 5:00-5:10 Lauren Treanor and Sulie L. Chang: CHRONIC OPIOID USE MODULATES IMMUNE FUNCTION LEADING TO INCREASED RISK OF SEVERE COVID-19
Samantha Vail and Alessia Lombardi: POTENTIAL THERAPEUTIC TREATMENTS USING BEE VENOM