**2023 Minority Science Programs (MSP) Research Symposium**

**School of Biological Sciences, University of California, Irvine**

**September 25-26, 2023**

**Monday, September 25, 2023**

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| **10:00** |  | **Welcoming: Dr. Luis Mota-Bravo** |
|  |  | **ORAL PRESENTATIONS (I) 4201 Natural Sciences II** |
|  |  |  |
| **10:10** | Title | No CAP Enrichment: A new method for host-associated microbial transcriptomics |
|  | Presenter | **Celeste Sanchez** |
|  | Principal Investigator | Dr. Daniel Mucida, Rockefeller University |
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| **10:20** | Title | Characterizing the adaptive immune response in a mouse model of Alzheimer's disease |
|  | Presenter | **Briana Morales** |
|  | Principal Investigator | Dr. Craig Walsh, School of Biological Sciences |
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| **10:30** | Title | Elucidating the function of eIF2D in the integrated stress response in ALS/FTD |
|  | Presenter | **Kevin Camey** |
|  | Principal Investigator | Dr. Raymond Roos and Dr. Paschalis Kratsios, University of Chicago |
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| **10:40** | Title | First report of an environmental *Escherichia coli* harboring rare pan-aminoglycoside resistance gene *rmtE1* |
|  | Presenter | **Isabel Suarez** |
|  | Principal Investigator | Dr. Luis Mota-Bravo, School of Biological Sciences |
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| **10:50** | Title | Engineering artificial Cu(II) metallo proteins using biotin-streptavidin technology |
|  | Presenter | **Devin Hemmans** |
|  | Principal Investigator | Dr. Andrew Borovik, School of Physical Sciences |
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| **11:00-11:10** |  | **BREAK** |
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| **11:10** | Title | Evolution of multidrug resistance region mediated by IS26 composite transposon in environmental *Escherichia coli* |
|  | Presenter | **Vanessa Encinas** |
|  | Principal Investigator | Dr. Luis Mota-Bravo, School of Biological Sciences |
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| **11:20** | Title | Structure and assembly of mammalian reovirus |
|  | Presenter | **Miriam Lepiz** |
|  | Principal Investigator | Dr. Z. Hong Zhou, University of California, Los Angeles |
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| **11:30** | Title | Virus-like quantum dots to probe the involvement of neutrophils in Neuro COVID |
|  | Presenter | **Jessica Ogu** |
|  | Principal Investigator | Dr. Harris Gelbard and Dr. Todd Krauss, University of Rochester |
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| **11:40** | Title | Neurexins regulate dopamine transmission |
|  | Presenter | **Sophia Zago** |
|  | Principal Investigator | Dr. Lulu Chen, School of Medicine |
| **11:50** | Title | A bacteroides associated interbacterial defense mechanism is mobilized by a novel integrative conjugative element |
|  | Presenter | **Jessica Mikhail** |
|  | Principal Investigator | Dr. Benjamin Ross, Dartmouth |
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| **12:00-1:00** |  | **LUNCH 1114 Natural Sciences I** |
| **1:00 - 3:00** |  | **POSTER PRESENTATIONS (I) 1114 Natural Sciences I** |
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| **Poster 1** | Title | Progress towards the 7-47 TNA polymerase binary structure |
|  | Presenter | **Elionel Botello-Cornejo** |
|  | Principal Investigator | Dr. John Chaput, School of Pharmacy and Pharmaceutical Sciences |
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| **Poster 2** | Title | First report of an environmental *Raoultella planticola* carrying the antibiotic resistant gene *bla*KPC-2 in an ISPsy42 unit transposon |
|  | Presenter | **Etiana Castillo** |
|  | Principal Investigator | Dr. Luis Mota-Bravo, School of Biological Sciences |
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| **Poster 3** | Title | The effect of Tsc22d3 knockout on synapse density and cognitive performance following stress exposure during adolescence |
|  | Presenter | **Nolee Bugarin** |
|  | Principal Investigator | Dr. Gyorgy Lur, School of Biological Sciences |
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| **Poster 4** | Title | Three tandem repeats of the last resort antibiotic-resistance gene BlaKPC-2 found in the conjugative plasmid of an environmental *Citrobacter freundii* |
|  | Presenter | **Annette Ibarra-Kenny** |
|  | Principal Investigator | Dr. Luis Mota-Bravo, School of Biological Sciences |
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| **Poster 5** | Title | Direct synthesis of DGJNAc to identify glycan binding proteins |
|  | Presenter | **Priscilla Jones** |
|  | Principal Investigator | Dr. Matthew Griffin, School of Physical Sciences |
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| **Poster 6** | Title | First report of a chromosomal unit transposon in environmental Aeromonas conferring resistance to the last resort antibiotic–carbapenems |
|  | Presenter | **Oluwadara Ogundiwin** |
|  | Principal Investigator | Dr. Luis Mota-Bravo, School of Biological Sciences |
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| **Poster 7** | Title | The role of the endocannabinoid system and cholecystokinin in regulating anxiety and cognitive performance in fragile X syndrome |
|  | Presenter | **Luis Parada Ramirez** |
|  | Principal Investigator | Dr. Oswald Steward, School of Medicine |
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| **Poster 8** | Title | Environmental *Enterococcus* *faecalis* carries plasmid with large multidrug resistant region due to horizontal gene transfer |
|  | Presenter | **Noah Ramos** |
|  | Principal Investigator | Dr. Luis Mota-Bravo, School of Biological Sciences |
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| **Poster 9** | Title | Improving cancer therapeutics through deep learning and high temperature drug delivery |
|  | Presenter | **Melissa Plata** |
|  | Principal Investigator | Dr. David Mobley, School of Pharmacy & Pharmaceutical Sciences |
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| **Poster 10** | Title | First environmental *Klebsiella pneumoniae* reported in the US containing a mobilizable gene conferring resistance to last resort beta-lactams |
|  | Presenter | **Jacy Reyes** |
|  | Principal Investigator | Dr. Luis Mota-Bravo, School of Biological Sciences |

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**Tuesday September 26, 2023**

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|  | |  | **ORAL PRESENTATIONS (II) 4201 Natural Sciences II** |
|  | |  |  |
| **10:00** | | Title | Vitamin B6 deficiency in colorectal cancer is driven by Wnt-induced metabolic enzyme degradation |
|  | | Presenter | **Marian Khalil** |
|  | | Principal Investigator | Dr. Lauren Albrecht, School of Pharmacy and Pharmaceutical Sciences |
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| **10:10** | | Title | Investigating the impact of early life adversity on glutamate axonal projections from the cortex to the dorsal striatum |
|  | | Presenter | **Makua Nweke** |
|  | | Principal Investigator | Dr. Lulu Chen, School of Medicine |
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| **10:20** | | Title | Novel SCCmec genomic island cluster found in a multidrug-resistant environmental *Staphylococcus epidermidis* |
|  | | Presenter | **Dana Mejia** |
|  | | Principal Investigator | Dr. Luis Mota-Bravo, School of Biological Sciences |
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| **10:30** | | Title | Estrogen receptor levels are positively correlated to Alzheimer’s disease pathology in the occipital cortex |
|  | | Presenter | **Freddy Gonzalez** |
|  | | Principal Investigator | Dr. Elizabeth Head, School of Medicine |
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| **10:40** | | Title | Reproductive hormones and cytokine analysis in older adults using saliva |
|  | | Presenter | **Abner Portillo** |
|  | | Principal Investigator | Dr. Michael Yassa, School of Biological Sciences |
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| **10:50-11:00** | |  | **BREAK** |
|  | | Title | Visualizing mitochondrial morphology in early development with ultrastructure expansion microscopy |
| **11:00** | | Presenter | **Miray Girguis** |
|  | | Principal Investigator | Dr. Mustafa Aydogan, University of California, San Francisco |
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|  | | Title | Assessing the role of adhesome gene CSRP1 in lung cancer metastasis *in vivo* |
| **11:10** | | Presenter | **Praise Oo** |
|  | | Principal Investigator | Dr. Michelle Digman, School of Engineering |
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|  | | Title | Blood-brain barrier neuropathology in people with down syndrome and Alzheimer’s disease |
| **11:20** | | Presenter | **Tai Donnell-Louis** |
|  | | Principal Investigator | Dr. Elizabeth Head, School of Medicine |
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|  | | Title | The Influence of lysergic acid diethylamide on neuromodulation in rodents |
| **11:30** | | Presenter | **Jenny Medina** |
|  | | Principal Investigator | Dr. Wilder Doucette, Dartmouth College |
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|  | | Title | Biomechanical shortcuts in sea star phototaxis |
| **11:40** | | Presenter | **Lenny Korob** |
|  | | Principal Investigator | Dr. Matt McHenry, School of Biological Sciences |
| **11:50-1:00** | |  | **LUNCH 1114 Natural Sciences I** |
| **1:00 - 3:00** | |  | **POSTER PRESENTATIONS (II) 1114 Natural Sciences I** |
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| **Poster 11** | Title | | Evaluating the effects of genetic variability in Parkinson’s disease physiology |
|  | Presenter | | **Erika Zagni** |
|  | Principal Investigator | | Dr. Stephanie Sandoval-Pistorius, University of California, San Francisco |
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| **Poster 12** | Title | | Evolution of a novel unit transposon harboring a multidrug resistance integron in an environmental *Klebsiella pneumoniae* |
|  | Presenter | | **Daniel Robles** |
|  | Principal Investigator | | Dr. Luis Mota-Bravo, School of Biological Sciences |
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| **Poster 13** | Title | | Analysis of spatial learning, memory, anxiety, and despair in GluA1 ∆CTD mice. |
|  | Presenter | | **Alexis Madrid** |
|  | Principal Investigator | | Dr. Javier Díaz-Alonso, School of Medicine |
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| **Poster 14** | Title | | Aquatic *Kluyvera ascorbate* harbors four unique antibiotic resistance genes never seen before in the *Kluyvera* genus |
|  | Presenter | | **Geoffrey Ortega** |
|  | Principal Investigator | | Dr. Luis Mota-Bravo, School of Biological Sciences |
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| **Poster 15** | Title | | Examining the role of neurexin 2 in excitatory synaptic transmission in hippocampal CA3 -> CA1 synapses |
|  | Presenter | | **Rekik Fikre** |
|  | Principal Investigator | | Dr. Lulu Chen, School of Medicine |

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| **Poster 16** | Title | First report of environmental *Klebsiella oxytoca* containing the trimethoprim resistance dfrA15 gene in a class 1 integron |
|  | Presenter | **Montserrat Solis Casillas** |
|  | Principal Investigator | Dr. Luis Mota-Bravo, School of Biological Sciences |
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| **Poster 17** | Title | Mechanical influence of non-alcoholic fatty liver disease progression through polyacrylamide hydrogels |
|  | Presenter | **Devin Johnson** |
|  | Principal Investigator | Dr. Quinton Smith, School of Engineering |
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| **Poster 18** | Title | SCCmec in a multidrug-resistant *Staphylococcus epidermidis* |
|  | Presenter | **Charli Taylor** |
|  | Principal Investigator | Dr. Luis Mota-Bravo, School of Biological Sciences |
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| **Poster 19** | Title | First report of a multidrug resistant Environmental *E. coli* ST410 isolate in the United States |
|  | Presenter | **Bryan Vasquez** |
|  | Principal Investigator | Dr. Luis Mota-Bravo, School of Biological Sciences |
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