

SIXTY SEVENTH ANNUAL MEETING
ARIZONA-NEVADA ACADEMY OF SCIENCE

April 18, 2026

**Arizona Museum of Natural History and The Post
Mesa, Arizona**

ABBREVIATED SCHEDULE OF PRESENTATIONS

POSTER SESSION /COFFEE BREAK

SESSION I 8:15-9:15

The Post: South Room

**#101 - ANNUAL FIELD REPORT OF THE MENEFEE PALEONTOLOGICAL
PROJECT FIELD EXPEDITIONS IN 2025**

Brent Adrian, Heather F. Smith, Benjamin F. Mohler, F. Joe Reavis, Sherman Mohler, Douglas Wolfe, Harrison Brand, Jessie Silverstein, Merlyn Heck, Tyler Greaves, Ezekiel O'Callahan, Ronni Chavez, Benjamin Spencer Goode, Kevin Prehm, Nicholas Counts, Kara Kelley, Timothy Allen, Christian Gheorghe, Brayton Brandis, Harvey Ortiz, Abhisht Sathyanarayana, and Carol Allen, Arizona State University, Tempe, AZ; Midwestern University, Glendale, AZ; University of Arizona, Tucson, AZ; Southwest Paleontological Society, Mesa, AZ; Zuni Dinosaur Institute of Geosciences; Southern Methodist University, Dallas, TX

**#102 - HUNTERS ARE THE HUNTED: OBSERVATION OF SCORPION-ON-
SCORPION PREDATION OF *HADRURUS ARIZONAE* UPON *PARAVAEJOVIS CF.*
CONFUSUS IN PAPAGO PARK, MARICOPA COUNTY, ARIZONA**

Gavin McCullough, Arizona Museum of Natural History, Mesa, AZ

**#103 - LOCATING SUBSURFACE FOSSILS USING STATISTICAL ANALYSIS OF
GAMMA DETECTION**

Merlyn Heck, Sherman Mohler, Craig Sickles, Jessica Noviello, Derek Hoffman, Larry Thrasher, Jenny Borst, Benjamin F. Mohler, Siamak Sorooshyari, and James Bennett, Southwest Paleontological Society, Mesa, AZ

**#104 - PASSIVE ELASTIC ASSISTANCE IN INVERTED PENDULUM SYSTEMS:
STABILITY, CONTROL, AND APPLICATIONS TO HUMAN BALANCE**

Nils H. Rose, Ottawa University Surprise, AZ

#105 - CAN LYSIS BOILING METHOD REPLACE ALLPREP QIAGEN DNA EXTRACTION FOR SMALL LAB RESEARCH IN MICROBIOMES RESEARCH?

Ana S. Rivera, Nijlah Johnson, Mari Santiago, Elias Urizabel, Dominic Wells, and Frank Emanuele, Cochise College, Douglas AZ

#106 - ADDRESSING ANTIBIOTIC RESISTANCE THROUGH ISOLATION AND CHARACTERIZATION OF BACTERIOPHAGES FROM SONORAN DESERT SOIL

Gillian Bennett, Alvaro Flores Angulo, Samuel Hernandez, Maria Fernanda Luque Reyes, Shantell Trotter, Marcus Zenith, Cassandra Palacios, Anna Marti-Subirana, and Robin Cotter, Phoenix College, Phoenix, AZ

#107 - FORENSIC ANALYSIS OF POLLEN RECOVERY FROM FABRICS

R. Adair, C. Bradley, A. Brossia, O. Carron, K. Christensen, K. Davenport, J. Del Cid, G. Dohrmann, M. Eastwood, M. English, S. Enright, T. Gaides, A. Garcia, M. Guzman, J. Hart, M. Hess, M. Hoover, E. Jones, T. Karam, T. Klee, A. Kovaleski, P. LaRue, L. Leon, M. Levy, J. Lopez, G. Mangum, M. Marasco, M. Maxson, J. Morgan, A. Moore, A. Neill, P. Neimeier, M. Ordenes, V. Ortega, V. Peeples, J. Prout, R. Rich, A. Rodriguez, A. Ruth, J. Shinske, K. Smith, C. Steckling, L. Teyechea, G. Thompson, A. Urbanczyk, C. Vanausdle, M. Winne, and and K. Sweat, Arizona State University, Glendale, AZ

#108- -AZEQUISCOPE: IDENTIFYING ARIZONA CARE GAPS

Ainsley Atherton, Emma Stinson, Unnati Agarwal, and Matthew Scotch, Arizona State University, Tempe, AZ

#109 - EXPERIMENTAL EVOLUTION REVEALS SHARED OXIDATIVE STRESS PATHWAYS IN *DEINOCOCCUS GOBIENSIS*

Shrusti Pandit, Emily Criste, Diya Chelluboyina, Chad Albert, Jonathan Hill, and James Tuohy, Glendale Community College, Glendale AZ

#110 - MANGANESE SUPPLEMENTATION REDUCES UV SURVIVAL IN *DEINOCOCCUS GOBIENSIS*: SPECIES-SPECIFIC RESPONSES TO METAL-ENHANCED GROWTH MEDIA

Emily Criste, Shrusti Pandit, Diya Chelluboyina, Jonathan Hill, Chad Albert, and James Tuohy, Glendale Community College, Glendale, AZ

#111 - INTERNSHIP EXPERIENCE AND SKILL BUILDING THROUGH BACTERIOPHAGE ISOLATION IN A CURE LAB AT GATEWAY COMMUNITY COLLEGE

Avery Sorensen, Jessica Bugarin, Gateway Community College, Phoenix, AZ

#112 - EFFECTS OF TEMOZOLOMIDE ON THE GROWTH AND DIVERSITY OF THE SKIN MICROBIOME

Corazon Santana Velarde, and Madhavi Chakravadhanula, Grand Canyon University, Phoenix, AZ

#113 - DESICCATION-PRIMED STRESS RESPONSES IN *DEINOCOCCUS GOBIENSIS* UNDER SIMULATED LOW EARTH ORBIT UV EXPOSURE

Diya Chelluboyina, Emily Criste, Shrusti Pandit, Chad Albert, and James Tuohy, Glendale Community College, Glendale, AZ

#114 - INHIBITION OF *STAPHYLOCOCCUS EPIDERMIDIS* BY *ACCA SELLOWIANA* LEAVES

Leianna Fout, and Karen Denzler, Grand Canyon University, Phoenix, AZ

#115 - ANALYZING THE CORRELATION BETWEEN *LARREA TRIDENTATA* DENSITY AND BIODIVERSITY IN THE HIGH CHIHUAHUAN DESERT USING THE SHANNON-WIENER INDEX

Daniel Torres, Alex Aguilera, Olivia Chavez, and Steven Merkley, Cochise College, Sierra Vista, AZ

#116 - HORTICULTURAL PARAMETERS AND IMMUNOMODULATORY APPLICATIONS OF *OCIMUM SANCTUM* AND *OCIMUM AFRICANUM* AGAINST VALLEY FEVER IN PHOENIX (ZONE 9B)

Rahul Reddy, and Ken Sweat, Arizona State University, Phoenix, AZ

#117 - OBSERVING PROTEIN MOTIONS: DETECTING CONFORMATIONAL CHANGES IN A GUT MICROBIAL GLUTAMATE DECARBOXYLASE

Emily Bragg, Pavani Dadi, and Dhara D. Shah, Arizona State University, Glendale, AZ and Biodesign Center for Fundamental and Applied Microbiomics, Arizona State University, Tempe, AZ

#118 - UTILIZING PHOTOGRAMMETRIC MODELS OF TURTLE SHELL FOSSILS TO 3D PRINT FIELD IDENTIFICATION KITS

Stephanie Tkacik, Benjamin Mohler, Sherman Mohler, Ronni Chavez, Brent Adrian, and Heather F. Smith, Arizona State University, Phoenix, AZ

#119 - VALIDATION OF OXIDATIVE STRESS INDUCTION IN AN SH-SY5Y ALZHEIMER'S DISEASE MODEL USING A ROS QUANTIFICATION ASSAY

Roderick Richards III, Aidan Clifford, Adnan Ahmetovic, Sherlin Moses, and Hikmet Nural-Guvener, Grand Canyon University, Phoenix, AZ

#120 - INVESTIGATING TWO COPIES OF RIBONUCLEOTIDE REDUCTASE WITHIN PHAGE *PANCHAALI* AND ITS FUNCTION IN VIRAL ASSEMBLY AND REPLICATION

Tyler Potter, Francesca De Martini, Department of Life Sciences, Mesa Community College, Mesa AZ

#121 - COMBINED EFFECTS OF TEMOZOLOMIDE WITH A-CEMBRENEDIOL ON THE MAPK PATHWAY IN PEDIATRIC ANAPLASTIC ASTROCYTOMA

Emily Flammang, Haydyn Wiesner, and Madhavi Chakravadhanula, Grand Canyon University, Phoenix, AZ

#122 - REVERSE ENGINEERING AND UNDERSTANDING CHEMORECEPTORS

Annia H. N'sougan, Bioscience High School, Phoenix, AZ

#123 - INVESTIGATING MUTATION ACCUMULATION IN ASEXUAL CHOLLA: A COMPARATIVE STUDY OF *CYLINDROPUNTIA FULGIDA*, *C. BIGELOVII*, AND *C. ACANTHOCARPA*

Jane Mason, Trinity Ortega, Mitzy Bejarano, Trevor Hyatt, and Ken Sweat, Arizona State University, Phoenix, AZ

#124 - EFFECTS OF MICROPLASTICS ON PEDIATRIC ANAPLASTIC ASTROCYTOMA

Morgan Dirks, Raylene Silva, and Madhavi Chakravadhanula, Grand Canyon University, Phoenix, AZ

#125 - DETERMINING THE PURITY OF BETA ALANINE COMMERCIALY AVAILABLE PRODUCTS

Jesus Munoz and Francisco Villa, Northern Arizona University, Yuma, AZ

#126 - BACTERIAL RESISTANCE OF NATIVE PLANT EXTRACTS

Jessica Carvajal, and Francisco Villa, Northern Arizona University, Yuma, AZ

#127 - PHENOTYPIC CHARACTERIZATION OF UNDERSTUDIED GENES REVEALS ROLES IN WING MORPHOLOGY AND PIGMENTATION IN *D. MELANOGASTER*

Jacob Ruelas, Arizona State University, Glendale, AZ

#128 - COMPLETE HYBRID GENOME SEQUENCE OF *DEINOCOCCUS SAHARENSIS HAN-23^T*, A RARE THERMOPHILIC MEMBER OF THE GENUS *DEINOCOCCUS*

Jonathan T.E. Hill, Leilani S. Boren, Evan J. Russell, Sudeep S. Vattikuti, Logan Young, Chad M. Albert, and James M. Tuohy Glendale Community College, Glendale, AZ

#129 - EXAMINING THE FUNCTION OF CG10694, CG7311, AND CG9316 IN WING MORPHOGENESIS IN THE COMMON FRUIT FLY, *DROSOPHILA MELANOGASTER*

Lily Zhang, and Jennifer Hackney, Arizona State University, Glendale, AZ

#130 - BEAVERS POSITIVELY INFLUENCE RIPARIAN HABITAT ON THE SAN PEDRO RIVER, ARIZONA

Caleb Whitney, and Steve Merkley, Cochise College, Sierra Vista, AZ

#131 -CG10694 AND TBRD-2 REGULATE WING DEVELOPMENT IN THE FRUIT FLY, *DROSOPHILA MELANOGASTER*

Anoushka Raghavan, and Jennifer Hackney, Arizona State University, Glendale, AZ, Desert Mountain High School, Scottsdale, AZ

#132 - ENVIRONMENTAL SITE ASSESSMENT OF ASU CAMPUS

Trevor Hyatt, Ronak Desi, Bien Alexandraye Aldiano, Bridget Turner, Evan Hopps, and Trinity Ortega, Arizona State University, Glendale AZ

#133 - INTEGRATED ANALYSIS OF MULTI-OMIC DATA PROVIDES INSIGHT INTO THE PATHOPHYSIOLOGY OF PEDIATRIC INFLAMMATORY BOWEL DISEASE (PIBD)

Andres J. Rodriguez-Galaviz, Anita H. DeSantis, Haiwai Gu, Brad A. Pasternak, Peter W. Jurutka, and Todd R. Sandrin, Arizona State University, Phoenix, AZ; Phoenix Children's Hospital, Phoenix, AZ; College of Medicine, University of Arizona, Phoenix, AZ; John Shufeldt School of Medicine and Medical Engineering, Phoenix, AZ; Center for Health through Microbiomes, Arizona State University, Phoenix, AZ

#134 - THE EFFECTS OF CLIMATE CHANGE AND POLLUTION ON THE GROWTH AND SURVIVAL OF *VIBRIO FISCHERI* BIOLUMINESCENT BACTERIA UNDER HEAT STRESS CONDITIONS OF ARIZONA

Kaylee Harvey, and Demelash Areda, Ottawa University, Surprise, AZ

#135 - INVESTIGATING THE EFFECTS OF EXERCISE ON T2D AND AD USING TRADITIONAL AND AI LITERATURE RESEARCH ENGINES

Trieu Vu Dinh, and Hikmet Nural-Guvener, Estrella Mountain Community College, Avondale, AZ

#136 - DATA ANALYSIS FOR QUALITY MANAGEMENT IN RADIOLOGY

Nicodemo Valdez, Chloe W Yellowman, Daniel Thompson, Skyler DeLongchamp, Sharon Stefan, Paul Hardwick, Saman Jirijes, Wolfgang Stefan, and William F Sensakovic, Estrella Mountain Community College Avondale, AZ and Mayo Clinic Scottsdale, AZ

#137 - YBL029W: UNCOVERING THE FUNCTION OF AN UNCHARACTERIZED OPEN READING FRAME IN *SACCHAROMYCES CEREVISIAE*

Montero I. C., Ho C., Le J., Akarm H., Mathur M., Arizona State University, Glendale, AZ

#138 - REEVALUATING THE EXTINCT INSECTIVOROUS MAMMAL "*LEPTACODON*" *MUNUSCULUM*: IMPLICATIONS FOR THE UNDERSTANDING OF PLACENTAL MAMMAL DIVERSIFICATION

Alexandra J. Wilson, Derek den Ouden, and Matthew F. Jones, Arizona State University, Tempe, AZ

#139 - NEXT-GENERATION REXINOIDS REVEAL ENHANCED SYNERGY WITH VITAMIN D IN RXR-VDR SIGNALING FOR CANCER AND NEURODEGENERATIVE THERAPEUTICS

Murad Farooqi, Flavio F. Beas, Quang T. Nguyen, Umm-E-Hani Khan, Carl E. Wagner, Pamela A. Marshall, and Peter W. Jurutka Arizona State University, Phoenix, AZ; University of Arizona, College of Medicine, Phoenix, AZ; John Shufeldt School of Medicine and Medical Engineering, Phoenix, AZ

#140 - THE MYSTERIOUS CASE OF THE ASIONYCTIINE (MAMMALIA, *NYCTITHERIIDAE*) FROM NORTH AMERICA

Shelby Roberts, Cedar K. L. Siemann, K. Christopher Beard, and Matthew F. Jones, Arizona State University, Tempe, AZ; University of Kansas, Lawrence, KS

#141 - NON-LETHAL CAPTURE OF *NOMIA TETRAZONATA* USING TEMPERATURE TO AID IN ETHICAL RESEARCH WHEN IDENTIFICATION IS NECESSARY

Alyssa Benavides, Maddie Zepp, Natasha Chapman, and Thasanee Morrissey, Estrella Mountain Community College, Avondale, AZ

#142 - GLASS BRACELET ANALYSIS IN AL-BALEED

Aubrey Ray, Estrella Mountain Community College, Avondale, AZ

#143 - BRIDGING THE CYBER GAP: A RED VS. BLUE TEAM APPROACH TO HANDS-ON CYBERSECURITY EDUCATION

Nicolas Olcan, Adrien Camacho, Artamis Karrys, and George Hesswany, Arizona State University, Phoenix, AZ

#144 - PLASMAP2G: OPEN-AIR PLASMA SYNTHESIS OF LLZTO THIN FILMS FOR SOLID-STATE BATTERIES

Olneya Fong, Mohammed Sahal, Jinzhao Guo, Candace Chan, and Nicholas Rolston, Arizona State University, Tempe, AZ

ORAL PRESENTATIONS (9:00-10:00) (Two concurrent sessions)

Session I: Math and Conservation (The Post North Room)

Session II: Paleontology (AZMNH Auditorium)

SESSION I Math and Conservation

9:00-9:15

SUSTAINABLE INVENTORY CONTROL WITH DYNAMIC PRICING

Manjula Mahesh Kumara Ranpati Dewage, Alain Bensoussan, and Viswanth Ramakrishna, Ottawa University Arizona, Surprise, AZ

9:15-9:30

UNDERSTANDING GENERATIVE AI ADOPTION IN COMMUNITY CONTEXTS: DEMOGRAPHICS, ACCESS, AND USAGE BEHAVIOR

Milton Johnson, Abel Perales, Miraje Jemal, Lucas Flowers, Charlie Perrault Bioscience High School, Phoenix, AZ

9:30-9:45

***WALLPAPERS: HIDDEN PATTERNS OF THE PLANE**

Ethan L Pierson and Frank S Marfai, Phoenix College, Phoenix AZ

9:45-10:00

THE ARTIFICIAL INTELLIGENCE EMERGENCY

Garry Rogers, Agua Fria Open Space Alliance, Inc., Humboldt, AZ

SESSION II Paleontology

9:00-9:15

THESE FISH COULD DRIVE FOR NASCAR: LATERALITY IN THE DEVONIAN PLACODERM *ASTEROLEPIS*

Grant S. Boardman, and Brandon Nguyen, Arizona Museum of Natural History, Mesa, Arizona

9:15-9:30

***SPINOSAURUS MIRABILIS* (SERENO ET AL. 2026) ILLUSTRATES THE IMPORTANCE OF INTERNAL CONSISTENCY IN TAXONOMIC DESCRIPTION**

Brian Curtice and Robert McCord, Arizona Museum of Natural History, Mesa, AZ

9:30-9:45

PALEO-ONYCHOPHAGY? THE OCCURRENCE AND SIGNIFICANCE OF KERATOPHAGOUS MOTHS IN THE NORTH AMERICAN FOSSIL RECORD

Robert McCord and Brian Curtice, Arizona Museum of Natural History, Mesa, AZ

9:45-10:00

***NEW INSIGHTS INTO EVOLUTIONARY RELATIONSHIPS AMONG THE NORTH AMERICAN *PALAEORYCTIDS* (*MAMMALIA: PALAEORYCTIDAE*), AN ENIGMATIC GROUP OF EARLY CENOZOIC MAMMALS**

Cedar K. L. Siemann¹, K. Christopher Beard², and Matthew F. Jones¹,¹Arizona State University, Tempe, AZ; ²University of Kansas, Lawrence, KS

POSTER SESSION /COFFEE BREAK

SESSION II 10:00 am – 11 am

The Post: South Room

#201 - ANNUAL FIELD REPORT OF THE MENEFEE PALEONTOLOGICAL PROJECT FIELD EXPEDITIONS IN 2025

Natalie Villa, Northern Arizona University, Yuma, AZ

#202 - INVESTIGATING PLANT-BASED APOPTOTIC INDUCTION IN BREAST CANCER CELLS BY *ORIGANUM VULGARE*

Ana Camorlinga*, Arielle Weber, and Karen L. Denzler, Grand Canyon University, Phoenix, AZ

#203 - VALLEY FEVER PREVENTION WITH GREEN TEA

Ash Habbas, Bioscience High School, Phoenix, AZ

#204 - *BENTHIC MACROINVERTEBRATE COMMUNITY DYNAMICS AS INDICATORS OF STREAM HEALTH IN URBAN, SEMI-URBAN, AND WILD SAMPLE SITES (AZ)

Vanessa Mello, Gabriela Vasquez, Jaden Garay, Jj Johnson, Ethan Ramsumair, and Scott Milne
Estrella Mountain Community College, Avondale, AZ

#205 - FUNCTION OF THE ORFAN GENE YBR220C IN *SACCHAROMYCES CEREVISIAE*

Celeste Hernandez, Sammy Lampner, Belinda P. Murillo, and Kylie Smith, Arizona State University, Glendale, AZ

#206 - CHARACTERIZATION OF PREDICTED SCF-ASSOCIATED PROTEIN CATABOLIC GENES IN DEVELOPING *DROSOPHILA MELANOGASTER* TISSUES

C-era Walker, and Jennifer Hackney, Arizona State University, Glendale, AZ

#207 - TEMPERATURE AND AGING EFFECTS ON IMPEDANCE OF WHOLE FRUITS AND CITRUS LEAVES

Natalie Martalogu, Vy Lam, Fadea Hassan, Julieta Palomino, and Francisco J. Solis
Arizona State University, Glendale, AZ

#208 - IMPEDANCE OF YEAST SOLUTION WITH INTACT AND DAMAGED CELLS

Daniella Garza, Natalie Martalogu, Fadea Hassan, and Francisco J. Solis
Arizona State University, Glendale, AZ

#209 - IMPEDANCE OF YEAST SOLUTION WITH INTACT AND DAMAGED CELLS

*Vy A. Lam, Zaccaria A. Linggi, and Francisco J. Solis, Arizona State University, Glendale, AZ

#210 - PREVALENCE AND RISK FACTORS OF OBESITY AND HYPERTENSION AMONG COLLEGE STUDENTS: A CASE STUDY OF OTTAWA UNIVERSITY, AZ

Dyanna Mora, and Demelash Areda, Ottawa University, Surprise, AZ

#211 - MODELING OXIDATIVE AND METABOLIC STRESS IN SH-SY5Y CELLS TO INVESTIGATE MITOCHONDRIAL DYSFUNCTION IN ALZHEIMER'S DISEASE

Sophie Bricker, Natalie J. Conceicao Larson, Sherlin Moses, and Hikmet Guvener, Grand Canyon University, Phoenix, AZ

#212 - NOVEL HYDROGEL FORMULATION FOR TRANSCATHETER DELIVERY FOR BRAIN ANEURYSMS

Aratrika Mondal*, Hamilton High School, Phoenix, AZ

#213 - ELECTRODE SIZE EFFECTS ON IMPEDANCE FOR BIOLOGICAL MEASUREMENTS

Yousif Dazaya, Fadea Hassan, Dustin D. Tran, Julieta Palomino, and Francisco J. Solis, Arizona State University, Phoenix, AZ

#214 - ANTIMICROBIAL ACTIVITY OF POLAR AND NONPOLAR EXTRACTS OF *HETEROMELES ARBUTIFOLIA* (TOYON)

Owen Swanson, Ramesh Velupillaimani, Grand Canyon University, Phoenix, AZ

#215 - ANTIBACTERIAL AND ANTIOXIDANT POTENTIAL OF FRUIT PEEL AND SEED EXTRACTS

Maame Osei-Fordwuo, Emily Molina, Zoe Obermuller, Annelise Scruggs, Allison Peschl, Michael Cunningham, Clarissa Suwandy, and Ramesh Velupillaimani, Grand Canyon University, Phoenix, AZ

#216 - CALIFORNIA WASH: A PRELIMINARY ANALYSIS OF FAUNAL EXPLOITATION AT TWO ROCKSHELTER SITES IN CLARK COUNTY, NEVADA

Laura Benedict, Arizona Museum of Natural History, Mesa, AZ

#217 - VARIABILITY IN ANTIMICROBIAL EFFICACY OF CULTURALLY SIGNIFICANT INDIAN PLANTS

Shagun Kamboj, and Miranda Cortez, Grand Canyon University, Phoenix, AZ

#218 - *CAENORHABDITIS ELEGANS* AS A MODEL TO STUDY IRON DEFICIENCY AND OVERLOAD

Marsha Nath, University High School, Tucson, AZ

#219- -STRESS TOYS AND HEART RATE: EFFECTIVENESS IN AN ACUTE STRESS SITUATION

Yarezi Lara Anguiano, Bioscience High School, Phoenix, AZ

#220 - POND TO PROTECTION - *CYANOBACTERIA* AS AN EFFECTIVE & SUSTAINABLE SUNSCREEN

Sahaana Sri, BASIS, Chandler, AZ

#221 - BEYOND THE RATTLE: DISTRIBUTION, MISCONCEPTIONS, AND CONSERVATION OF NATIVE VENOMOUS SNAKES

Lucus Perrone, Connor Fleury, Karah Mayer, and Ken Sweat, Arizona State University, Glendale, AZ

#222 - FROM UNKNOWN TO UNDERSTOOD: INVESTIGATING THE FUNCTION OF THE YEAST ORFAN GENE YLR358C

Mel Burton, Sarah D., Minh L., Alondra P., and Meghna Mathur, Arizona State University, Glendale, AZ

#223 - WITH A PHAGE? NO WAY! INVESTIGATION OF *PANCHAALI_94* GENE; EVIDENCE OF ENCODING DNA POLYMERASE PROTEIN AND PHAGE THERAPY

Miriam Mejia Medina*, Francesca De Martini*, Mesa Community College, Mesa, AZ

#224 - PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) IN NEVADA-ARIZONA REGIONAL WATERS: A MULTI-SITE ANALYSIS

Basma Awada, Peter Beck, Roberto Japa, Itzayana Parker, Joshua Monk, and Kenneth Drake*

College of Southern Nevada

#225 - PHYLOGENETIC PATTERNS OF SPIROTRICHONYMPHID SYMBIONTS IN TERMITES

Makayla Thomas, Francesca De Martini, and Gillian Giles, Mesa Community College, Mesa, AZ

#226 - PROMPT ENGINEERING WITH LARGE LANGUAGE MODELS FOR MRI SAFETY CLASSIFICATION OF ACTIVE IMPLANTED MEDICAL DEVICES

Mia Gonzalez Rivas, Justin Snelling, Jeremiah Sanders, and Meha Trivedi, Estrella Mountain Community College, Avondale, AZ

#227 - PHYSIOLOGICAL AND MOLECULAR RESPONSES TO ACUTE AND PROLONGED DESICCATION IN DESERT ADAPTED *DEINOCOCCUS SPECIES*

Violette Soto, Alex Hugenberg-Cox, Madison Jackson, Leilani Boren, Chad Albert, Jonathan Hill, and James Tuohy, Glendale Community College, Glendale, AZ

#228 - HEADS OR TAILS: AN INVESTIGATION INTO GENE 81 OF THE *PANCHAALI* BACTERIOPHAGE

Kamryn Mallory, and Francesca De Martini, Mesa Community College, Mesa AZ

#229- -RE-ENGINEERING BEXAROTENE: EC50 SCREENING REVEALS NOVEL AND POTENT RXR AGONISTS WITH THERAPEUTIC PROMISE

Umm-E-Hani Khan, Flavio F. Beas, Quang T. Nguyen, Michael A. Sausedo, Olivia M. Neubert, Carl E. Wagner, Pamela A. Marshall, and Peter W. Jurutka, Arizona State University, Phoenix, AZ and University of Arizona, College of Medicine, Phoenix, AZ

#230 - HYPOTHETICAL PROTEIN GENE_109 / FURTHER ANNOTATIONS AND RESEARCH WITH PHYLOGENETIC ANALYSIS

William Hickey, and Francesca De Martini, Mesa Community College, Mesa, AZ

#231 - A NOVEL PROTEINASE-ASSISTED ASSAY FOR THE RAPID DETECTION OF TWITCHING MOTILITY IN *DEINOCOCCUS*

Evan Russell, Eduardo Leanos Hernandez, Noe Ibarra, Anjani Chakka, Sania Razvi, Chad Albert, Jonathan Hill, and James Tuohy, Glendale Community College, Glendale, AZ

#232 - THE SUSCEPTIBILITY OF SPECIALIST NATIVE BEE GENERA TO URBANIZATION IN THE WESTERN UNITED STATES

Arella Clark, Alexandra Sweet, Zalli Salaiz, Alyssa Benavides, Madalynn Zepp, Amari Crayton, and Jarod Raithel, Estrella Mountain Community College, Avondale, AZ

#233 - NEOTERMES SPECIES SYMBIONTS (*OXYMONADIDA*)

Julia Wright, Francesca De Martini and Gillian Gile, Mesa Community College, Mesa, AZ

#234- QPCR-BASED ANALYSIS OF OXIDATIVE STRESS & AGE-MEDIATED TRANSCRIPTIONAL RESPONSE IN AN SH-SY5Y ALZHEIMER'S DISEASE MODEL

Caleb Karg, Kyle Patrick, Luigi Akamangwa, Joshua Oliver, Sherlin Moses, and Hikmet Nural-Guvener, Grand Canyon University, Phoenix, AZ

#235 -TAXONOMIC REVISION OF *GHAMIDTHERIUM DIMAIENSIS* (CHIROPTERA) FROM THE LATE EOCENE OF EGYPT: SYNONYMY WITH *AEGYPTONYCTERIS KNIGHTAE* AND IMPLICATIONS FOR EARLY CHIROPTERAN OMNIVORY

Jaime E. Johnson, and Matthew F. Jones, Arizona State University, Tempe, AZ

#236 - COMPARISON OF NEURONAL STAINING IN MOUSE HIPPOCAMPAL SUBREGIONS CA1, CA3 AND DENTATE GYRUS USING DIFFERENT TECHNIQUES

*Erik Meggs-Ruckes, *Hector Barraza Sandoval, Andrea Gonzalez, Lirio Delgado, and Sudipta Biswas, South Mountain Community College, Phoenix, AZ

#237 - *GENOME ANNOTATION OF BACTERIOPHAGE *TRIXIEPHATTEL* (CLUSTER AU6)

Christina I. Hernandez, Tyler J. Potter, and Luke T. Mumaw, Mesa Community College, Mesa, AZ

#238 - INVESTIGATION INTO THE HYPOTHETICAL PROTEIN CODED FOR BY ARTHROBACTER PHAGE *PANCHAALI* GENE 63

Jake Eggen*and Francesca De Martini*, Mesa Community College, Mesa, AZ

#239 -ANALYZING HOW WELL BUGS BUNNY PORTRAYS THE NYC ACCENT FOR TECHNICAL ACCURACY AND PUBLIC PERCEPTION

*Ct. Calder W. Janss, Bioscience High School, Phoenix, AZ

#240 - STUDY OF SOIL AS SINK FOR INORGANIC CARBON

C. Boyer, Mesa Community College, Mesa Arizona

#241 - DETERMINING OPTIMAL STORAGE CONDITIONS FOR DIABETIC INSULIN: AN EXPERIMENTAL STUDY WITH NOVOLIN® N

Maddisen Rook, and Demelash Areda, Ottawa University, Surprise, AZ

#242 - THE EFFECTS OF LIGHT SOURCES ON CHLOROPHYLL AND SUGAR CONCENTRATIONS OF *SOLANUM LYCOPERSICUM* (ROMA) TOMATOES UNDER STRESS CLIMATIC CONDITIONS OF ARIZONA

Takiya Hill, and Demelash Areda, Ottawa University Surprise, AZ

#243 - OPTIMIZATION OF DNA EXTRACTION OF ARIZONA BACTERIOPHAGE

Yoojeung Kim*, Sophie Maxwell*†, Jake Eggen*, Tyler Potter*, Russel Cline*, Julia Wright*, and Francesca De Martini*, Mesa Community College, Mesa, AZ

#244 - UNDERSTANDING GENERATIVE AI ADOPTION IN COMMUNITY CONTEXTS: DEMOGRAPHICS, ACCESS, AND USAGE BEHAVIOR

Milton Johnson, Abel Perales, Miraje Jemal, Lucas Flowers, and Charlie Perrault, Bioscience High School, Phoenix, AZ

ORAL PRESENTATIONS (11:00-12:00) (Two concurrent sessions)

Session III: Microbiology (The Post North Room)

Session IV: General Biology and Cellular Biology (AZMNH Auditorium)

SESSION III Microbiology

11:00-11:15

FORECASTING THE INCIDENCE OF VALLEY FEVER IN ARIZONA THROUGH 2050 USING AI-BASED MODELS: IMPLICATIONS FOR PUBLIC HEALTH INTERVENTION
Demelash Arede Ottawa University, Surprise, AZ

11:15-11:30

***EFFECTS OF TEMOZOLOMIDE ON THE SKIN MICROBIOME**
Sarah Jones and Madhavi Chakravadhanula, Grand Canyon University, Phoenix, AZ

11:30-11:45

A GGT TRINUCLEOTIDE CORE AT CRISPR ARRAY BOUNDARIES SUGGESTS A NONCANONICAL SIGNAL FOR CRISPR TRANSCRIPTION INITIATION
*Trey Gonzalez, Chad Albert, Jonathan Hill, and James Tuohy, Glendale Community College, Glendale, AZ

11:45-12:00

INVESTIGATING SOIL, WATER AND LETTUCE MICROBIOME AS PART OF A STUDENT-LEAD UNDERGRADUATE RESEARCH INITIATIVE
Sudipta Biswas, Saul Lopez-Salas, Theresa Morales, Theodore Ransome, and Marianne Smith South Mountain Community College, Chandler, AZ

SESSION IV General Biology and Cellular Biology

11:00-11:15

INVESTIGATING APOPTOSIS AND NEUROTRANSMITTER RELATED GENE EXPRESSION IN PARKINSON'S DISEASE
Maya Splittorff, Logan Fuchsberger, Isaiah Phillips, Noah Barnes, Emily Ledezma Perez, Aaron Millet, Ashley Aguilares, Shagun Kamboj, David Fitzpatrick, Randall Ordovich-Clarkson, and Maurice Jabbour, Grand Canyon University, Phoenix, AZ

11:15-11:30

*** *CG34168*, A NOVEL MEMBER OF THE MALE-SPECIFIC RNA (MST) FAMILY OF GENES, REGULATES WING DEVELOPMENT AND FERTILITY IN THE FRUIT FLY, *DROSOPHILA MELANOGASTER***
Karah Mayer, Safoora Syeda, Zollee Williams, Jennifer Hackney Arizona State University, Glendale, AZ

11:30-11:45

**QPCR-BASED ANALYSIS OF OXIDATIVE STRESS & AGE-MEDIATED
TRANSCRIPTIONAL RESPONSE IN AN SH-SY5Y ALZHEIMER'S DISEASE MODEL**

Caleb Karg, Kyle Patrick, Luigi Akamangwa, Joshua Oliver, Guna Sherlin David Moses, and
Hikmet Nural-Guvener, Grand Canyon University, Phoenix, AZ

11:45-12:00

FLORA OF THE SIERRA BACHA, SONORA, MEXICO

Thomas R. Van Devender and Ana Lilia Reina-Guerrero, University of Arizona, Tucson, AZ

12:30-1:15 LUNCHEON AND BUSINESS MEETING: THE POST

1:15-2:15 KEYNOTE SPEAKER

Ismael Sanchez Morales (Arizona Museum of Natural History)

**HUNTING MEGAFUNA AND CAMPING BY THE MARSHES: CURRENT
ARCHAEOLOGICAL RESEARCH INTO THE ICE-AGE HUNTER-GATHERERS OF
SONORA AND ARIZONA**

2:15-2:30 AWARDS PRESENTATIONS

2:45-3:30 STUDENT DEVELOPMENT SESSION