



COURI SUMMER 2021 VIRTUAL SYMPOSIUM

TECHNICAL PROGRAM

August 4 – 6th | [OPENCONF.COURI.UTEP.EDU](https://openconf.couri.utep.edu)



ENGINEERING, COMPUTATIONAL & APPLIED SCIENCES

- 1A Mitochondrial targeting mediated chemotherapeutic to overcome multi-drug resistant cancer**
Efren Alvidrez*, Humayra Afrin, Md Nurunnabi#

- 2A Role of MJC13 as an inhibitor of prostate cancer**
Eduardo Anaya*, Pershang Farshi, Marc Cox#

- 3A Evaluation of 3D-Printing strategy for co-culture of neural progenitor cells and cardiomyocytes**
Stephanie Anujarerat*, Ines Bilicic, Binata Joddar#

- 4A Decadal landscape and species level greenness patterns in a northern Chihuahuan Desert Shrubland**
William Beamon*, Gesuri Ramirez, Craig Tweedie#, Marguerite Mauritz#

- 5A Evaluation of 3D-Printing strategy for co-culture of neural progenitor cells and cardiomyocytes**
Ines Bilicic*, Stephanie Anujarerat*, Binata Joddar#

- 7A Tools and techniques for efficient energy use in vertical farming**
Briana Cardenas*, Sreenath Chalil Madathil#

- 8A Application of deep learning for dynamic Memasurements of fragment size during ballistic impact**
Erwin Cazares*, Brian Elias Schuster#

- 10A Energy portfolio of power systems during winter storms**
Alfredo Chaidez*, Yuanrui Sang#

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#Faculty Mentor

- 11A Machine learning the ground state energy of iron-Vanadium alloys from molecular dynamics simulations via cluster expansions**
Cesar Diaz*, Jorge Munoz#
- 12A Increasing the accuracy of Anti-Sars-CoV-2 assay prediction models using multi-layer combinatorial fusion**
Michael Dong*, Suman Sirimulla#
- 13A Fabrication and characterization of high-temperature niobium alloy coatings**
Sourish Dutta*, Rebecca Romero, Paul Nalam, Debabrata Das#, Ramana Chintalapalle#
- 14A Simulation models for off-grid microgrid systems considering resilient operation**
Yuly Garcia*, Sreenath Chalil Madathil#
- 15A Leveraging social media data during pandemics: A visual analytics approach**
Arleth Guerrero*, Karen Gonzalez, Sergio Luna#
- 16A Investigating the effect of pulmonary arterial hypertension cells on cardiomyocyte cells cultured using biocompatible piezoelectric material**
Lina Hajir*, Arifur Khan#, Mahedi Hasan, Taslim Al-Hilal#
- 18A The development of a bypass valve targeted for use in a solid oxide fuel cell based system**
Nicolas Herrera*, Norman Love#
- 19A Synthesis and characterization of indium doped gallium oxide for optoelectronic applications**
Andrew Kwon*, Debabrata Das, Paul Gaurav Nalam, Francelia Sanchez, C.V. Ramana#
- 20A Analysis and visualization of national performance measures of El Paso Metropolitan Area infrastructure, traffic congestion, environmental sustainability and freight movement**
Alan Licerio*, Cesar Tirado#
- 21A Risk and resilience metrics for infrastructure systems optimization**
Jesús Maldonado*, Yuanrui Sang#
- 22A Software development for petal infill with varying geometry and composition Part 1: Hardware and Firmware Upgrades**
Alan Melendez*, Jonathan Slager, Roger Gonzalez#
- 23A Impact of selective laser sintering print parameters on multi-material/fiber parts**
Sarahi Mendivil*, Jonathan Slager, Joshua Green#

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- 24A An overview of blockchain in the energy industry**
Christian Odom*, Yuanrui Sang#
- 26A Simulation of isolated microgrids considering security-constraints and N-1 analysis**
Omar Rodriguez*, Sreenath Madathil#
- 27A Construction and evaluation of portable circuit laboratory**
Lisa Roth*, Cesar Yahir Sanchez Zambrano, Daniel Rodriguez, Raquel Zubia, Hector Erives-Contreras, David Zubia#
- 28A Thermoplastics and composites with radial and circumferential composition gradients**
Ian Rybak*, Jonathan Slager, Joshua Green, Roger Gonzalez#
- 29A Simulation models to optimize off-grid microgrids design and operation**
Benjamin Santiago Abreu*, Sreenath Chalil Madathil#
- 30A Testing and characterizing polylactic acid-hydroxyapatite composite filament for 3D Printing**
Caleb Tinajero*, Jonathan Slager, Joshua Green#
- 31A Additive manufacturing in space using robotics technology**
Andrea Vargas*, Jennifer Chavez, Angel Flores Abad#
- 32A Thermoforming sockets for amputees using 3D-printed sheets of thermoplastics**
Karla Vasquez*, Jonathan Slager, Joshua T Green#
- 34A Impact of charging element on performance of asphalt layer**
Roberto Villalobos*, Christian Rodriguez, Nazarian Soheil#



LIFE & BIOMEDICAL SCIENCES

- 35A Optimizing Co-Expression of Human Circadian Protein Complex CLOCK/BMAL1**
Sophia Adame*, Chuan Xiao#
- 36A Psychological stress induces depression-related behavior and increases BDNF in the hippocampus of adolescent male mice**
Esmeralda Aguilera*, Sergio Iñiguez#
- 37A Differences of the carotid artery between three intensities of the back squat and running treadmill (3x2 anova RM)**
Sabrina Arias*, Samuel Montalvo, Manuel Gomez, Alondra Lozano, Carlos De La Rosa, Corina Arroyo, Alvaro Gurovich#
- 38A Specific antibody characterization as a gateway to alternative therapies for cancer**
Ramon Benavides*, Jazmin Corral, Arlene Levario, Dr. Giulio Francia#
- 39A Phosphoprotein enrichment towards Jaks-Stat pathway to identify new phosphoregulatory domain**
conrad bencomo*, Georgialina Rodriguez#
- 40A Population genetic structure in forty-three Madrean “sky island” bird species, with a focus on Bushtits (*Psaltriparus minimus*)**
Bonnie Raechal Beres*, Michael Harvey#
- 42A A novel tool for assaying CQD intervention in the soluble-to-toxic transformation of amyloids**
Ana Sofia Carreon*, Daisy Wilson, Jyoti Ahlawat, Mahesh Narayan#
- 43A Using the soil microbiome to enhance dryland restoration**
Kimberly Casares*, Kelly Ramirez#

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- 44A The effects of eating a high fat diet on sensitivity of rats to methamphetamine-induced conditioned place preference**
Isabella Castro*, Kayla Galindo, Paloma Serna, Katherine Serafine#
- 45A Prediction of ligand activity at subcellular location**
Srija Chintalapalle*, Srijan Verma, Govinda KC, Giovanni Bocci, Tudor Oprea, Suman Sirimulla#
- 46A Early vascular aging, oxidative stress, and mental health in individuals recovering from Covid-19**
Carlos De La Rosa*, Samuel Montalvo, Manuel Gomez, Alondra Lozano, Corina Arroyo, Sabrina Arias, Alvaro Gurovich#
- 47A Alcohol and nicotine differentially modulate neurite length and morphology in human neuronal cells SHSY5Y: The possible role of G β y in cytoskeletal alterations**
Erika Denio*, Sara Bustamante, Michelle Aranda, Diana Olivas, Sukla Roychowdhury#
- 48A Social defeat stress induces depression-related behavior in male prairie voles**
Elizabeth Diaz*, Andrick Perez, Miriam Escobedo, Carolina Amaya, Samuel Castillo, Bruce Cushing#, Sergio Iñiguez#
- 50A Effects of sleep deprivation on alcohol responses in *Drosophila melanogaster***
David Esparza*, Dilean Murillo, Aldo Pizana, Erick Saldes, Paul Sabandal, Kyung-An Han#
- 51A Detection of cytotoxicity of novel compound NC2559 on cancer cell lines**
Cristina Guarena*, Edgar Borrego, Renato Aguilera#
- 52A Addressing the regulatory role played by the SUMO isoforms in an in vitro system**
Isabel Gutierrez Zubiata*, Rebeca Orozco Sepulveda, Alejandra Flores, German Rosas Acosta#
- 53A Innate immune receptor recognition to *Francisella tularensis***
Rebekah Hightower*, Charles Spencer#
- 54A Body condition of the Western Marbled Whiptail (*Aspidoscelis marmorata*) from far West Texas**
Matthew Jimenez*, Arturo Rocha, Vincente Mata-Silva#
- 55A Characterizing the function of mmachc during craniofacial development**
Lourdes Jimenez Madrigal*, David Paz, Barbara Castellanos, Anita Quintana#
- 56A Vegetation influences on phosphorus access and availability in the Chihuahuan Desert**
Mariana Lafon*, Kate Merrill*, Jennie McLaren#

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- 58A Monitoring anxiety behavior in adult zebrafish carrying a heterozygous mutation in the hcfc1a gene using the novel tank diving test**
Hope Lopez*, Erika Quezada*, Victoria Castro, Anita Quintana#
- 59A Comparison of carotid endothelial shear stress across three resistance training modalities and intensities**
Alondra Lozano*, Samuel Montalvo, Manuel Gomez, Sabrina Arias, Corina Arroyo, Carlos De La Rosa, Alvaro Gurovich#
- 60A Vegetation influences on phosphorus access and availability in the Chihuahuan Desert**
Kate Merrill*, Mariana Lafon*, Jennie McLaren#
- 61A Characterization of Slfn family subgroup III and anti-HIV-1**
Valerie Moreno*, Carlos Valenzuela, Manuel Llano#
- 62A Social environment and dopamine interaction for alcohol-induced behavior**
Dilean Murillo Gonzalez*, Jose Alvarado, Paul Sabandal, Kyung-An Han#
- 63A Gam1 inhibition of cellular SUMOylation**
Ian Murphy*, Zhaobo Li, Chuan Xiao#
- 64A The effect of carbon quantum dots on the structure of intrinsically disordered proteins**
Gyan Narayan*, Salvador Valdez*, Sofia Fodor, Mahesh Narayan#
- 66A Assessing the correlation between SUMO levels and survival to stress**
Rebeca Orozco-Sepulveda*, Isabel Gutierrez Zubiata, Alejandra Flores, German Rosas-Acosta#
- 67A Monitoring anxiety behavior in adult zebrafish carrying a heterozygous mutation in the hcfc1a gene using the novel tank diving test**
Erika Quezada*, Hope Lopez*, Victoria L. Castro, Anita M. Quintana#
- 68A Evaluation of mechanical stratification on germination rates of short-lived Chihuahuan Desert perennial species**
Joshua Segoviano*, Kevin Floyd#, Michael Moody#
- 69A The role of Scully in aging-related synaptic plasticity**
Adrián Sosa Ontiveros*, Paul Sabandal, Kyung-An Han#
- 70A Developing a high resolution routine blood test**
Lham Tshering*, Afroz Karim, Chu-Young Kim#

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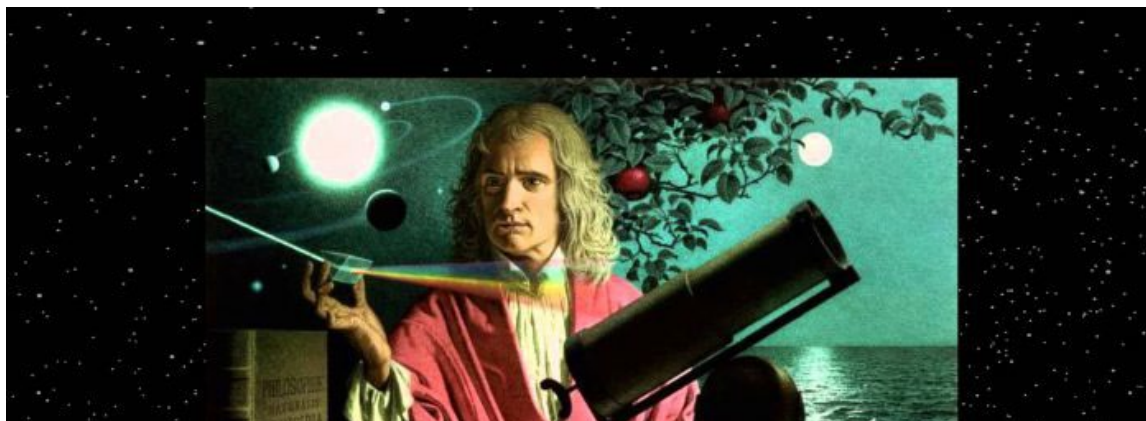
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71A The effect of carbon quantum dots on the structure of intrinsically disordered proteins

Salvador Valdez*, Gyan Narayan*, Sofia Fodor, Mahesh Narayan#

72A Extracting DNA from duck fecal samples to determine diet composition

Maya Vernick*, Marissa Kaminski, Flor Hernández, Joshua Brown, Philip Lavretsky#



PHYSICAL SCIENCES

- 74A Data driven design of single-center molecular magnets**
Melinda Alvarado*, Zahra Hooshmand, Mark Pederson
- 75A Exchange bias of FeO and Fe₃O₄ in a CoO shell.**
Arturo Andujo*, Ahmed El-Gendy#
- 76A Using multi-scale computational approaches to study dengue virus**
Hector Apodaca*, Alan E Lope-Hernandez, Yixin Xie, Lin Li#
- 77A Differences in the carotid artery shear stress between three intensities of the bench press and arm crank**
Corina Arroyo*, Samuel Montalvo, Manuel Gomez, Sabrina Arias, Alondra Lozano, carlos de la rosa de la rosa, Dr. Alvaro Gurovich#
- 78A Synthesis and characterization of an ibuprofen based chiral nematic liquid crystal**
Jessica Gomez*, Jose Rosales, Jeffrey Richards, James Salvador#
- 79A Analysis of ash after prescribed forest fires**
Glen Montoya*, Jessica Gomez, James Salvador#
- 80A Lead-free piezoelectric ceramics**
Omar Salas*, Hari Nair#



SOCIAL & BEHAVIORAL SCIENCES

- 82A COVID-19 vaccination hesitation among pregnant women**
Kimberly Anaya*, Carina Heckert#
- 83A Behavioral changes caused By neurological activity disorders measured by decision-making tasks**
Karen Arzola*, Andrea Macias, Gustavo Martínez, Rodrigo Ibanez-Alcala, Alexander Friedman#
- 84A Investigating the impact of COVID-19 on older adults' use of technology and their access to services at senior centers in El Paso**
Daniel Calvo*, Christian Ruiz, Diana Becerra, Brianna Contreras, Gina Nunez-Mchiri, Natalia Villanueva-Rosales, Oscar Mondragon, Kelvin Cheu, Ashley S. Bangert#
- 85A The relationship between individual adherence indicators, sociodemographics and personality traits during COVID-19 in a Latinx U.S. college student sample**
Luis Corona*, Theodore Cooper#
- 86A Homelessness during the time of COVID-19**
Samuel Davenport*, Eva Moya#
- 87A Assessing the quality of articles chosen for a systematic review on patient-provider prenatal satisfaction**
Francisco Estrella*, Margaret Gomez, Ophra Leyser-Whalen#
- 89A Comparing the efficacy of an online to a face-to-face research foundation course on students perception of their ability to conduct research and the probability to pursue**

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a career in science

Paulina Flores*, Jonathan Tipó, Christina D'Arcy, Thomas McCabe#

- 91A Assessing the quality of articles for a systematic review on patient-provider prenatal care satisfaction**
Margaret Gomez*, Francisco Estrella, Ophra Leyser Whalen#
- 92A Female rats display greater approach responses to a port that delivers nicotine vapor exposure as compared to males**
Isabella Liano*, Veronika Espinoza, Priscilla Giner, Ian Mendez, Laura O'Dell#
- 93A The sociolinguistic perception of ch weakening in Chihuahua Mexican Spanish**
Valeria Macias*, Natalia Mazzaro#
- 94A Stress-induced decision-making affected by addiction, PTSD, and depression.**
Gustavo Martínez*, Neftali Reyes, Juan Garcia, Rodrigo Ibanez-Alcala, Kryssia Villarreal Rodriguez, Alexander Friedman#
- 95A How do mentors benefit by participating in the "Yes, She Can" program?**
Maria Morales*, Diane Golding#
- 96A Dietary and drug use habits of college students during the COVID-19 pandemic**
Guillermo Ornelas*, Raymond Mendoza, Nora Charles, Stephanie Strong, Lauren Burns, Margaret Bullerjahn, Emily Cordova, Katherine Serafine#
- 97A Insulin resistance enhances the reinforcing effects of nicotine in a sex-dependent manner**
Sebastian Ortegon*, Bryan Cruz, Priscilla Giner, Laura O'Dell#
- 99A The associations between social media addiction and ENDS use and psychosocial factors and personality factors in Latinx college students**
Kevin Sandoval Medina*, Theodore Cooper#
- 100A The public understanding about inheritance among those who use fertility treatments**
Andrea Sarinana*, Ophra Leyser-Whalen#
- 101A An examination of bilingual university students' use of the native language in rehearsing new content**
Yadira Torres*, Ana Schwartz#
- 102A Effects of nicotine vapor exposure on motivation for rewards in adolescent male rats**
Miguel Urbina*, Lilliana Maynez-Anchondo, Olga Rohrer, Ian Mendez#

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103A Perceptions, attitudes, and behavioral intentions related to e-cigarette in young adults and potential impact of the COVID-19 pandemic on use

Luis Urrea*, Dessaray Gorbett, Jessica Shenberger-Trujillo#