Special Edition 2020 Online SRS





9:30 AM - 11:00 AM ONLINE 3-MINUTE SPEECH COMPETITION Click to go to 3-MINUTE SPEECH GALLERY AND LIVE EVENT

Fluorescent lipid coated beads for the sensitive detection of disease biomarker Phospholipase A2 and Annexin-3

Author(s): Shahriare Hossain • NMT Chemistry

Lung deposition of respirable coal mine dust Author(s): Elham Rahimini • NMT Mining Engineering

Author(s): Susantha Ganegamage • NMT Chemistry

Author(s): Younes Shekarian • NMT Mining Engineering

Author(s): Qi Wang • NMT Chemistry

Mechanofluorescent N-Aryl-2,3-Napthalimide based dyes as structurally-sensitive probes for fluorescence lifetime characterization of G4 quadruplex topologies

Decomposition algorithms for scalable quantum annealing

Author(s): Elijah Pelofske • NMT Computer Science and Mathematics

A systematic review of occupational exposure to RCMD in the mining industry

Effects of breast cancer lipid changes on membrane oxygen permeability

Assessment of Wet Bulb Globe Temperature (WBGT) monthly changes in New Mexico – a case study Author(s): Arezou Rasti

NMT Mineral Engineering

Owens Corning's eLUGant Design Author(s): Francisco Gonzalez-Castillo • NMT Mechanical Engineering

Long-term effects of Cement Kiln Dust (CKD) on erosion control of slopes Author(s): Hamid Ranjkesh Adarmanabadi * NMT Mineral Engineering

A systematic review of occupational exposure to RCMD in the mining industry

Author(s): Younes Shekarian • NMT Mineral Engineering

Utilizing drone technology to improve safety and productivity in underground mining Author(s): Javad Shahmoradi • NMT Mineral Engineering

1:00 PM - 2:15 PM ONLINE POSTER SESSION 3 Click to go to POSTER GALLERY AND LIVE SESSIONS

Gunfire detection sensor network Room 1

Author(s): Christina Webb, Patrick Apodaca, Caleb Ellington, and Hayden Walker • NMT Electrical Engineering Department

Fracture strength in FCC/B2 bicrystals

Author(s): Audrey CampBell · NMT Mathematics Department, NMT Materials Engineering Department

Modeling fast breakdown responsible for lightning initiation Author(s): Alex Attanasio • NMT Mathematics Department, NMT Atmospheric Physics

Room 2 Social media marketing techniques in corporations and small businesses

Author(s): Jade Baca • NMT Technical Communication

Decomposition algorithms for scalable quantum annealing

Author(s): Elijah Pelofske • NMT Algorithms

Does driving an electrical load lower the temperature of a photovoltaic panel? Author(s): Kristopher Tanner • NMT Computer Science Department

Hybrid amphibious drones for aquatics environment with energy harvesting capabilities Author(s): Brenden Herkenhoff, Jarod Fisher, Christopher Dinelli, • NMT Computer Science Department

Examining potential geochemical indicators of fenitization in soil samples collected from the Gallinas Moun-Room 3

tains, Lincoln County, New Mexico Author(s): Keith Diegel, Virginia McLemore, • NMT Mineral Engineering Department

Utilizing drone technology to improve safety and productivity in underground mining Author(s): Javad Shahmoradi • NMT Mineral Engineering Department

Predicting types of vulnerabilities in IoT devices Author(s): Franklin Keithley • NMT Computer Science Department

Owens Corning's eLUGant Design Room 4

Author(s): Francisco Gonzalez-Castillo, Nicholas Baker, Amy Tattershall, Hunter Von Unschuld, and Sean Maloy • NMT Mechanical Engineering Department

Flock mutation and energy management of migratory birds Author(s): Niyem Bawana • NMT Mechanical Engineering Department

Leader selection protocol for the cluster swarm of drones in endangered environment Author(s): Mario Moran, Michelle Sherman • NMT Electrical Engineering Department

Room 5 Certain network hardware vondors are more prone to cyber threats Author(s): Kevin Helfert • NMT Computer Science Department

Creation and implementation of a modern private cloud infrastructure

Author(s): Kevin Helfert, Gilbert Carrillo • NMT Computer Science Department

Geochemistry of the Lemitar carbonatites Author(s): Ethan Haft * NMT Geology Department

Cone-in-cone structures in Central New Mexico Author(s): Ethan Haft * NMT Geology Department

2:30 PM - 3:45 PM ONLINE POSTER SESSION 4 Click to go to POSTER GALLERY AND LIVE SESSIONS

New algorithm for radical expressions for roots of unity Room 1

Author(s): Eric Binnendyk • NMT Mathematics Department

Identifying early indicators of cyber events from online discussion Author(s): Brendan Wilson, Shadron Gudmunson, Alexander Benson • NMT Computer Science Department

A highly collimated flow from a high-mass protostar: Preliminary results Author(s): Tatiana Rodríguez • NMT Astrophysics

Lung deposition of respirable coal mine dust Room 2

Author(s): Elham Rahimi, Shekarian Younes, Wei-Chung Su, and Pedram Roghanchi • NMT Mining Engineering Department

A systematic review of occupational exposure to RCMD in the mining industry Author(s): Younes Shekarian, Elham Rahimi, Pedram Roghanchi, Mohammad Rezaee · NMT Mining Engineering Department

Energy harvesting mechanisms for a Titan drone Author(s): Mariah Gammill, Mostafa Hassanalian • NMT Mechanical Engineering Department

Instability index and saturation fraction in mid-lattitudes Author(s): Sooraj Bhatia, Stipo Sentic • NMT Physics Department

Examining nutrient uptake in sorghum Room 3

Author(s): Devon Dotson, Kimberly McNair, Monica Engle • NMT Biology Department

Tracking the spread of carbapenem-resistant pathogens in the Rio Grande Author(s): Kimberly McNair • NMT Biology Department

Cooperative swarming fixed-wing drones with attachment capabilities: Bioinspiration and mutualism Author(s): Niyem Bawana • NMT Mechanical Engineering Department

Soil ion composition in relation to atmospheric aerosols Room 4 Author(s): Sabina Gulick • NMT Environmental Engineering Department

Bioinspired spider rolling robot for Mars exploration

Author(s): Ketul Tavare, Rodrigo Cervantes, Cole Dunning • NMT Mechanical Engineering Department

Resonator cavity for absolute position sensing

Author(s): Michelle Sherman, Rafael Estrada, Zane Frazier, Sandip Rai, Kevin Johnson • NMT Electrical Engineering and Mathematics Departments

Emulytics — Are certain hardware vendors more susceptible to cyberattack than others? Room 5 Author(s): Casey Haynes • NMT Computer Science Department

> Designing an educational game for teaching foundational concepts in propositional logic Author(s): Daniel Aranda and Alden Towler • NMT Computer Science Department

Analysis on firmware vulnerabilities in consumer hardware