



GRADUATE SHOWCASE

Congratulations to our Presenters

October 12, 2018

SHAIMAA ABDELHALEEM

Ph.D. student,
Department of
Geoscience

Advisor:
Dr. Wanda J. Taylor



Subsidence in Las Vegas fluctuated between few millimeters and 6 cm every year since the onset of ground water system depletion. If the amount of differential subsidence is too small to create the scarps of the Las Vegas valley Fault System, a seismic origin of the faults needs to be considered. Neglecting the potential seismic origin of the LVVFS may end up in a catastrophe for Las Vegas residents. Results showed that the fault zone acted as low permeability barriers to horizontal groundwater flow that generated an inhomogeneous state of effective stress over the basin, causing differential vertical subsidence. So, The faults were essentially formed by seismic activity prior to the onset of the basin subsidence.

TREVOR DOTSON



Graduate Student,
Department of Theatre

Advisor:
Dana Moran Williams



My research covers scenic design involving water. Incorporating water into a stage production can result in many issues. Being strategic about water sources, placement, and drainage will insure a successful design. In my design I included six running showers with full temperature and pressure control for each unit.

ERIC FRIES



Ph.D. student,
Department of
Anthropology

Advisor:
Dr. Arlen Chase



Eric studies ancient Maya settlement patterns using archaeology and geographic information systems, in order to understand how communities change and adapt over time. He works on a group of sites in western Belize, where local Maya populations used a variety of strategies to deal with their more powerful neighbors. His research aims to provide a better understanding of the long-term consequences of group decision making on a regional scale.

MARIA RAMOS GONZALEZ

Ph.D. candidate,
Department of
Mechanical
Engineering

Advisors:
Dr. Brendan O'Toole
Dr. Zhiyong Wang



Experimental Study of a Patient-Tailored Polycarbonate Urethane Knee Implant Using Custom-Designed Test Machine

According to the American Joint Replacement Registry 2017 Annual Report, osteoarthritis was the principal diagnosis in 97 percent of primary knee surgeries. A total knee replacement procedure can alleviate knee pain but at the cost of the knee joint's anatomy. This research takes a magnetic resonance image (MRI) of a patient's knee joint, converts it to 3D computer graphics, and models a thin, flexible, biocompatible knee implant shaped to fit the damaged femur. A custom-designed test machine will evaluate the implant for longevity. If validated, the implant will cushion the area of cartilage wear and alleviate knee pain without the need for an invasive knee replacement surgery.

TIFFANY PEREIRA



M.S. Biological
Sciences, School of
Life Sciences

Advisor:
Dr. Scott Abella



A key problem facing scientists is communication. How can scientific data be presented in a way that engages and impacts an audience, especially hard-to-reach individuals?

I firmly believe that it is not enough for your data to reach fellow individuals in the field. The public should have access to the material as well, in a way that they can comprehend and appreciate.

As an overlooked solution to this conundrum, I find that creative media can powerfully convey scientific fact. Therefore, my graduate project at UNLV will also contain a component dedicated to scientific illustration.

MARTA SOLIGO

Ph.D. student,
Department of
Sociology

Advisor:
Dr. David R. Dickens
Dr. Bo Bernhard



Looking at the Strip and its themed resorts, some sociologists define Las Vegas as a big, fake amusement park. But what is the meaning of these places for the people who populate them? This qualitative research focuses on MonteLago Village, an Italian-themed mall in Lake Las Vegas. Through observations, textual analysis, and interviews with people born and raised in Italy who now work and live in Lake Las Vegas, Marta Soligo tries to understand the role of authenticity and *italianness* in this setting. This study gives a new important contribution to fields like urban sociology, sociology of tourism, and cultural studies.