# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welcome</td>
<td>1-3</td>
</tr>
<tr>
<td>Sponsors</td>
<td>4</td>
</tr>
<tr>
<td>Keynotes</td>
<td>5</td>
</tr>
<tr>
<td>Week At A Glance</td>
<td>6</td>
</tr>
<tr>
<td>Schedule</td>
<td>7-11</td>
</tr>
<tr>
<td>URC Poster Presentations</td>
<td>12-50</td>
</tr>
<tr>
<td>Schedule</td>
<td>13-26</td>
</tr>
<tr>
<td>Index</td>
<td>27-50</td>
</tr>
<tr>
<td>URC Oral Presentations</td>
<td>51-56</td>
</tr>
<tr>
<td>Schedule</td>
<td>52-53</td>
</tr>
<tr>
<td>Index</td>
<td>54-56</td>
</tr>
<tr>
<td>Visual &amp; Performing Arts Exhibition</td>
<td>57-58</td>
</tr>
<tr>
<td>Schedule</td>
<td>58</td>
</tr>
<tr>
<td>TruE Affiliate Programs</td>
<td>59-60</td>
</tr>
<tr>
<td>Spark Conference</td>
<td>61-72</td>
</tr>
<tr>
<td>Schedule</td>
<td>62-63</td>
</tr>
<tr>
<td>Poster Showcase</td>
<td>64-68</td>
</tr>
<tr>
<td>iLaunch</td>
<td>69-72</td>
</tr>
<tr>
<td>Sponsor Ads</td>
<td>73-81</td>
</tr>
<tr>
<td>TTU Maps</td>
<td>82-84</td>
</tr>
<tr>
<td>Student Union</td>
<td>82-83</td>
</tr>
<tr>
<td>McKenzie-Merket Alumni Center</td>
<td>82</td>
</tr>
<tr>
<td>Innovation Hub</td>
<td>84</td>
</tr>
</tbody>
</table>

**Discoveries to Impact | Texas Tech University | Lubbock, TX**
It is my privilege to welcome you to the inaugural “Discoveries to Impact Week”: A Celebration of Research, Innovation, and Startups. The events taking place this week are made possible through an exciting new partnership between the Center for Transformative Undergraduate Experiences (TrUE), the Innovation Hub at Research Park, and the Center for Integration of STEM Education Research (CISER). The events will highlight and demonstrate the spectrum of research, innovation, and engagement occurring at Texas Tech University.

“Discoveries to Impact Week” embodies the institutions’ three strategic priorities: educate and empower a diverse student body; enable innovative research and creative activities; and transform lives and communities through strategic outreach and engaged scholarship. It recognizes the diverse scholarship of undergraduate students, connects innovators across all disciplines, and supports the expansion of a knowledge-based economy founded on Texas Tech’s research capabilities. It also highlights how engagement and partnerships with business, industry, and communities can be a catalyst for discovery, innovation, societal well-being, and economic development.

“Discoveries to Impact Week” includes the National Academy of Inventors Award Banquet, the 11th Annual TTU Undergraduate Research Conference, the 3rd Annual “Sparking the Future of Innovation” (Spark) Conference, CISER’s Undergraduate Research Scholars Banquet, and a Visual and Performing Arts exhibition at the First Friday Art Trail. The week showcases research that improves the quality and sustainability of life, supports technology transfer, and sparks innovations that affect communities and society in profound ways.

As an institution, Texas Tech will continue to challenge its faculty, staff, and students to be responsive to community and societal needs and to provide innovative solutions to the complex problems facing the region, state, nation, and the world.

Thank you for attending the 2019 “Discoveries to Impact Week.”

Sincerely,

Michael Galyean, Ph.D.
Provost and Senior Vice President for Academic Affairs
Welcome Texas Tech community! As the Senior Managing Director of the Innovation Hub at Research Park, we are excited to welcome you to Lubbock and we are honored to co-host the 2019 “Discoveries to Impact Week” celebrating research, innovation and startups.

This year’s conference builds on the success of the past! The Innovation Hub at Research Park is excited to announce the evolution of the Spark Conference, three years in the making. We have embarked on a new partnership with the Center for Transformative Undergraduate Experiences (TrUE) and the Center for Integration of STEM Education Research (CISER), as well as continuing our partnership with the Lubbock Economic Development Alliance (LEDA), Rawls College of Business, and the J.T. & Margaret Talkington College of Visual & Performing Arts which showcase the great things happening at Texas Tech University. The focus of our new partnerships is to expose Texas Tech undergraduate students to the entrepreneur mind-set, connect innovators across all disciplines, increase community engagement/awareness, and support the expansion of a knowledge-based economy through Texas Tech’s research capabilities. New this year, we worked with LEDA and TrUE to define a Commercialization Track to support students interested in the application of their research. The Innovation Hub’s industry mentors will judge the posters and the first place winner of the Commercialization Track will receive a $1,000. “Discoveries to Impact” partnerships are inspired by all three of our university’s strategic priorities: enable innovative research and creative activities, empower/educate student success/signature student experiences, and community engagement, as listed in TTU’s strategic plan, “A Foundation for the Next Century.”

As a conference attendee, over the week we hope you will be inspired by the Hub City’s entrepreneurial spirit while enjoying thought-provoking speakers, networking sessions, fun West Texas hospitality, and opportunities to experience the talent and ideas developing in our West Texas community.

“Discoveries to Impact” includes TrUE’s 11th Annual TTU Undergraduate Research Conference (URC), CISER’s Undergraduate Research Scholar Program Banquet, the National Academy of Inventors Dinner, and the Hub’s 3rd Annual “Sparking the Future of Innovation” (Spark) Conference. I hope you will have the time to explore the different activities and events and be a part of the Texas Tech “Discoveries to Impact” movement!

Sincerely,

Kimberly Gramm
Senior Managing Director, Innovation Hub
Texas Tech University
The Center for Transformative Undergraduate Experiences (TrUE) is delighted to welcome you to the 11th Annual TTU Undergraduate Research Conference (URC).

TrUE supports student success by ensuring every TTU undergraduate has the opportunity to engage in high impact learning experiences such as undergraduate research, service learning, field-based learning, and study away. Over the last five years, TrUE has awarded over $185,000 in travel funding in support of more than 230 undergraduate researchers to present their work at 138 regional, national, and international conferences. In that same time, more than $105,000 was provided to fund 167 undergraduate students for their work on TTU research projects. TrUE is proud to support many of the undergraduate researchers whose work you will have an opportunity to see presented over the next four days.

The TTU URC remains one of the largest interdisciplinary undergraduate research conferences in the world and is an astonishing showcase of undergraduate scholarship. URC presenters and performers represent a broad range of fields, including biological and chemical sciences, humanities, performing arts, physical sciences, and social sciences. Over the next few days, approximately 350 students from 12 institutions and 4 countries will share their knowledge and ingenuity. This year’s URC is part of TTU’s inaugural “Discoveries to Impact Week.” The week is the result of an exciting new partnership between TrUE and the Innovation Hub. “Discoveries to Impact” is a celebration of research, innovation and startups.

The URC kicks off with poster and oral presentations on Tuesday and Wednesday. This year, thanks to key support from our 2019 Innovation Sponsor, the Lubbock Economic Development Alliance, presenters had the opportunity to opt in to a commercialization track. The top URC presenters in this track will also participate in the Spark Conference poster showcase Thursday afternoon.

TrUE also looks forward to recognizing undergraduate researchers and faculty mentors during the awards ceremony Friday afternoon. The URC and “Discoveries to Impact Week” will close with an exhibition of visual and performing arts at Lubbock’s First Friday Art Trail at the Louise Hopkins Underwood Center for the Arts.

Thank you for attending the TTU URC and bringing your expertise to our gathering. We hope you enjoy all of the activities hosted this week.

Regards,

Erin Justyna
Director

Jerylme Robins
Administrator, Undergraduate Research, Center for Transformative Undergraduate Experiences
KEYNOTES

**Sherwin Greenblatt**
Former President & Chief Engineer
Bose Corporation

An alumnus of Massachusetts Institute of Technology, Greenblatt currently heads the MIT Venture Mentoring Service. His interests are in innovation and how to encourage people to be entrepreneurs.

Greenblatt was the first employee at Bose Corporation, according to MIT. As a project engineer, he worked on the early development of Bose high-fidelity loudspeakers and related electronic systems. Before retiring in 2000, he held the positions of Chief Engineer, Director of Engineering, Executive Vice President and, for 15 years, President. He received his B.S. and M.S. degrees, both in Electrical Engineering, from MIT.

April 3rd | TTU Student Union Matador Room | 11:30 am - 1:00 pm
April 3rd | TTU Innovation Hub | 4:00 pm - 5:00 pm

**Genevieve Thiers**
Renowned Speaker, Entrepreneur,
Investor, Activist, & Opera Singer

Genevieve Thiers is a disruptor, entrepreneur, speaker, and investor. Her first company, Sittercity.com, took America’s caregiving services online. Sittercity.com now has millions of users in the U.S. and is growing quickly in global locations, including the UK and Canada.

Thiers has mentored hundreds of entrepreneurs throughout her career. She is on the board of the CEC, which created 1871 – a co-working space in Chicago where Genevieve frequently mentors and teaches classes. She is also an investor in TechStars and the Firestarter fund, and in several new female-run tech startups that target women and lesser-known industries.

April 4th, 2019 | TTU Student Union Ballroom | 11:30 am - 1:00 pm
<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MONDAY, APRIL 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:30 PM - 8:00 PM</td>
<td>National Academy of Inventors Awards Banquet</td>
<td>TTU Merket Alumni Building</td>
</tr>
<tr>
<td><strong>TUESDAY, APRIL 2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:00 AM - 2:00 PM</td>
<td>Undergraduate Research Conference</td>
<td>Check-in</td>
</tr>
<tr>
<td>9:00 AM - 9:50 AM</td>
<td>“Discoveries to Impact Week” Kickoff &amp; Welcome</td>
<td>Student Union Ballroom- South</td>
</tr>
<tr>
<td>10:00 AM - 11:30 AM</td>
<td>Undergraduate Research Conference</td>
<td>Poster Presentations Day 1</td>
</tr>
<tr>
<td>2:00 PM - 3:40 PM</td>
<td>Undergraduate Research Conference</td>
<td>Oral Presentations Day 1</td>
</tr>
<tr>
<td>5:30 PM - 8:00 PM</td>
<td>Young Entrepreneurs Academy (YEA!) Investor Panel</td>
<td>TTU Innovation Hub 103-105</td>
</tr>
<tr>
<td><strong>WEDNESDAY, APRIL 3</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:00 AM - 1:00 PM</td>
<td>Undergraduate Research Conference</td>
<td>Check-in</td>
</tr>
<tr>
<td>9:00 AM - 10:00 AM</td>
<td>1 Million Cups</td>
<td>Innovation Hub Rooms 103-105</td>
</tr>
<tr>
<td>9:30 AM - 11:10 AM</td>
<td>Undergraduate Research Conference</td>
<td>Oral Presentations Day 2</td>
</tr>
<tr>
<td>11:30 AM - 1:00 PM</td>
<td>Performance Innovation Speaker Series Luncheon</td>
<td>“The Sound of Innovation”</td>
</tr>
<tr>
<td>1:30 PM - 3:00 PM</td>
<td>Undergraduate Research Conference</td>
<td>Poster Presentations Day 2</td>
</tr>
<tr>
<td>4:00 PM - 5:00 PM</td>
<td>Performance Innovation Speaker Series (2nd Showing)</td>
<td>“The Sound of Innovation”</td>
</tr>
<tr>
<td><strong>THURSDAY, APRIL 4</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:30 AM - 10:00 AM</td>
<td>Spark Conference Breakfast and Poster Showcase</td>
<td>Student Union Matador Lounge</td>
</tr>
<tr>
<td>8:30 AM - 4:30 PM</td>
<td>Spark Conference Check-In</td>
<td>Student Union Courtyard</td>
</tr>
<tr>
<td>10:00 AM - 11:15 AM</td>
<td>Spark Conference Panel</td>
<td>“Where Are They Now”</td>
</tr>
<tr>
<td>11:15 AM - 11:30 AM</td>
<td>Networking Break</td>
<td>Hospitality Room, Student Union Matador Lounge</td>
</tr>
<tr>
<td>11:30 AM - 1:00 PM</td>
<td>Spark Conference Keynote Luncheon</td>
<td>“Making Waves”</td>
</tr>
<tr>
<td>1:00 PM - 1:30 PM</td>
<td>Networking Break</td>
<td>Hospitality Room, Student Union Matador Lounge</td>
</tr>
<tr>
<td>1:30 PM - 2:45 PM</td>
<td>Spark Conference Panel</td>
<td>“It Takes a Community to Raise a Startup”</td>
</tr>
<tr>
<td>2:45 PM - 3:00 PM</td>
<td>Networking Break</td>
<td>Hospitality Room, Student Union Matador Lounge</td>
</tr>
<tr>
<td>3:00 PM - 4:15 PM</td>
<td>Spark Conference Panel</td>
<td>“Advocating for Innovation”</td>
</tr>
<tr>
<td>4:15 PM - 4:30 PM</td>
<td>Networking Break</td>
<td>Hospitality Room, Student Union Matador Lounge</td>
</tr>
<tr>
<td>4:30 PM - 6:00 PM</td>
<td>Spark Conference</td>
<td>Lightning Round Reception and Poster Showcase</td>
</tr>
<tr>
<td><strong>FRIDAY, APRIL 5</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:00 AM - 2:00 PM</td>
<td>Spark Conference Check-in</td>
<td>TTU Innovation Hub Atrium</td>
</tr>
<tr>
<td>9:00 AM - 12:30 PM</td>
<td>Spark Conference</td>
<td>Launch Competition</td>
</tr>
<tr>
<td>12:30 PM - 1:15 PM</td>
<td>Networking Lunch</td>
<td>TTU Innovation Hub Atrium</td>
</tr>
<tr>
<td>1:15 PM - 2:15 PM</td>
<td>“Discoveries to Impact Week” Closing and Awards</td>
<td>TTU Innovation Hub Atrium</td>
</tr>
<tr>
<td>6:00 PM - 8:30 PM</td>
<td>Undergraduate Research Conference</td>
<td>Visual &amp; Performing Arts Exhibition</td>
</tr>
</tbody>
</table>
**MONDAY, APRIL 1**

**TEXAS TECH UNIVERSITY**
**MERKET ALUMNI BUILDING**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:30 PM - 8:00 PM</td>
<td>National Academy of Inventors Awards Banquet</td>
</tr>
<tr>
<td></td>
<td>The National Academy of Inventors (NAI) Lubbock Chapter recognizes TTUS faculty for their inventions.</td>
</tr>
</tbody>
</table>

**TUESDAY, APRIL 2**

**TEXAS TECH UNIVERSITY**
**STUDENT UNION**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 AM - 2:00 PM</td>
<td>Undergraduate Research Conference</td>
</tr>
<tr>
<td></td>
<td>Check-in is for URC participants only.</td>
</tr>
<tr>
<td>9:00 AM - 9:50 AM</td>
<td>“Discoveries to Impact Week”</td>
</tr>
<tr>
<td></td>
<td>Join us as we kick off the 2019 “Discoveries to Impact Week!”</td>
</tr>
<tr>
<td></td>
<td>Speakers: Erin Justyna, Director, Center for Transformative Undergraduate Experiences Kimberly Gramm, Senior Managing Director, TTU Innovation Hub</td>
</tr>
<tr>
<td>10:00 AM - 11:30 AM</td>
<td>Undergraduate Research Conference</td>
</tr>
<tr>
<td></td>
<td>Conference attendees will have the opportunity to discuss new research findings with the poster presenters in the “come-and-go” atmosphere.</td>
</tr>
<tr>
<td>2:00 PM - 3:40 PM</td>
<td>Undergraduate Research Conference</td>
</tr>
<tr>
<td></td>
<td>Conference attendees are invited to go on a “listening tour” to hear presentations from undergraduate students on their research discoveries! You don’t want to miss your chance to be the first to hear about the exciting new research developments from our talented TTU students!</td>
</tr>
<tr>
<td>5:30 PM - 8:00 PM</td>
<td>Young Entrepreneurs Academy (YEAI)</td>
</tr>
<tr>
<td></td>
<td>The Lubbock Chamber of Commerce invites you to attend the YEAI Investor Panel. Come and hear middle and high school students pitch to investors for funding for their new businesses and social movements.</td>
</tr>
</tbody>
</table>
**Wednesday, April 3**

### Texas Tech University Student Union

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 AM - 1:00 PM</td>
<td>Undergraduate Research Conference</td>
</tr>
<tr>
<td></td>
<td>Check-in is for URC participants only.</td>
</tr>
<tr>
<td>9:30 AM - 11:10 AM</td>
<td>Undergraduate Research Conference</td>
</tr>
<tr>
<td></td>
<td>Conference attendees are invited to go on a “listening tour” to hear presentations from undergraduate students on their research discoveries! You don’t want to miss your chance to be the first to hear about the exciting new research developments from our talented TTU students!</td>
</tr>
<tr>
<td>11:30 AM - 1:00 PM</td>
<td>Performance Innovation Speaker Series Luncheon</td>
</tr>
<tr>
<td></td>
<td>Come and hear the inspiring story of how Dr. Amar Bose’s love for classical music inspired his creation of the first Bose speaker. He wanted the world to have the best acoustics to hear music as he did attending classical concerts. Sherwin Greenblatt, the first employee of Dr. Bose, will share the journey of how he assisted Dr. Bose in creating a multi-billion dollar company. This event is open to conference attendees that have pre-registered.</td>
</tr>
<tr>
<td></td>
<td><strong>Speakers:</strong> Dr. Noel Zahler, Dean, J.T. &amp; Margaret Talkington College of Visual &amp; Performing Arts Sherwin Greenblatt, Former President, Bose Corporation</td>
</tr>
<tr>
<td>1:30 PM - 3:00 PM</td>
<td>Undergraduate Research Conference</td>
</tr>
<tr>
<td></td>
<td>Conference attendees will have the opportunity to discuss new research findings with the poster presenters in the “come-and-go” atmosphere.</td>
</tr>
</tbody>
</table>

### Texas Tech University Innovation Hub

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00 AM - 10:00 AM</td>
<td>1 Million Cups</td>
</tr>
<tr>
<td></td>
<td>Enjoy a cup of coffee with the 1 Million Cups community and hear from two startups on their journey and the barriers that stand in the way of growing their business. You will have the opportunity to ask questions, provide feedback, or give advice to our presenters.</td>
</tr>
<tr>
<td></td>
<td><strong>Speakers:</strong> Taysha Williams, Program Director, TTU Innovation Hub Ayodele Aigbe, CEO &amp; Co-Founder, Hangio Cooper Williams, Founder, Freez!</td>
</tr>
<tr>
<td>4:00 PM - 5:00 PM</td>
<td>Performance Innovation Speaker Series (2nd showing)</td>
</tr>
<tr>
<td></td>
<td>Here’s your second opportunity to hear the inspiring story of how Dr. Amar Bose’s love for classical music inspired his creation of the first Bose speaker. He wanted the world to have the best acoustics to hear music as he did attending classical concerts. Sherwin Greenblatt, the first employee of Dr. Bose, will share the journey of how he assisted Dr. Bose in creating a multi-billion dollar company.</td>
</tr>
<tr>
<td></td>
<td><strong>Speaker:</strong> Sherwin Greenblatt, Former President, Bose Corporation</td>
</tr>
</tbody>
</table>
Spark Conference | Breakfast and Poster Showcase

8:30 AM - 10:00 AM
Student Union
Matador Lounge

Come and browse the poster showcase and ask questions of the presenters. Don’t forget to vote on your favorite poster for the $500 People’s Choice Award.

Spark Conference | Check-In

9:00 AM - 4:30 PM
Student Union
Courtyard

Check in to receive a t-shirt and all conference materials.

Spark Conference Panel | “Where Are They Now”

10:00 AM - 11:15 AM
Student Union
Matador Room

Hear the inspiring stories of entrepreneurs who have gone through Hub programs and have created successful companies. You will have the opportunity to ask questions to learn the secrets of their success, the struggles they overcame, and tips and tricks to making it as an entrepreneur. If you are an aspiring entrepreneur, you don’t want to miss this! Open to faculty, students, staff, and the public. Networking and refreshments following the session.

Speakers:
- Paul Arrington, Regional VP Strategic Services, Covenant Health
- Dr. Ronald Mitchell, Professor, TTU Rawls College of Business, Area of Management
- Dr. Siva Vanapalli, Professor, TTU College of Engineering
- Nikki Vanapalli, CFO, Nemalife
- Ayodele Aigbe, CEO & Co-Founder, Hangio
- Grant Andrews, Co-Founder, Braxley Bands
- Ron Frick, Sr. Application Developer, NuPark

Networking Break and Poster Showcase

11:15 AM - 11:30 AM
Hospitality Room,
Student Union
Matador Lounge

Enjoy refreshments while browsing the poster showcase. Don’t forget to vote on your favorite poster for the $500 People’s Choice Award.

Spark Conference Keynote Luncheon | “Making Waves”

11:30 AM - 1:00PM
Student Union
Ballroom

Genevieve Thiers will focus her talk on the intersections she sees right now between our national dividing lines and the critical need that technology and design need to fill to pull our country-and our people-together again. Hear the story of how Genevieve Thiers created the first online babysitting platform that now has millions of users. Be inspired by her journey as an entrepreneur and how she is disrupting the tech industry. This event is open to attendees who are pre-registered.

Speakers:
- Dr. Aliza Wong, Associate Professor, Associate Dean, TTU Honors College
- Genevieve Thiers, Disruptor, Entrepreneur, Speaker, and Investor

Networking Break and Poster Showcase

1:00 PM - 1:30 PM
Hospitality Room,
Student Union
Matador Lounge

Enjoy refreshments while browsing the poster showcase. Don’t forget to vote on your favorite poster for the $500 People’s Choice Award.

*Thursday continued on next page
## Spark Conference Panel I “It Takes a Community to Raise a Startup”

Hear how our community is working together to build a vibrant ecosystem and how you can be a part of it. Join community leaders and entrepreneurs from Chicago, Boston, Silicon Valley, and Lubbock. This fun and interesting talk will leave you inspired and proud of our community.

**Speakers:**
- Dr. Brent Lindquist, Dean, TTU College of Arts & Sciences
- Russell Thomasson, Vice-President, Lubbock National Bank, TTU Alumnus
- Kimberly Gramm, Senior Managing Director, TTU Innovation Hub
- Sherwin Greenblatt, Former President, Bose Corporation
- Genevieve Thiers, Disruptor, Entrepreneur, Speaker, and Investor
- Jim Messemer, Silicon Valley Executive, TTU Alumnus
- Norma Ritz Johnson, Executive Vice President, Lubbock Chamber of Commerce, TTU Alumna

## Networking Break and Poster Showcase

Enjoy refreshments while browsing the poster showcase. Don’t forget to vote on your favorite poster for the $500 People’s Choice Award.

## Spark Conference Panel I “Advocating for Innovation”

At Texas Tech, we are striving to be ready to ‘positively react to and encourage’ the translation of innovative discovery to new high-impact products and services, in many cases, through faculty-connected startups. Hear from teams extracting and supporting learning failures and why at Texas Tech, fail fast is important. Can you run breakthroughs alongside incremental innovation activities? Can faculty be connected to multiple startups? How does an entrepreneur or an existing company create relationships with innovative faculty? Hear from leaders making this possible and startups that have begun the journey to making founder history.

**Speakers:**
- Lance Anderson, Attorney, Dickinson Wright, PLLC
- Dr. David Snow, Senior Managing Director, TTU Office of Research Commercialization
- Dr. Siva Vanapalli, Professor, TTU College of Engineering
- Dr. Susan Bergeson, Associate Professor, Associate Dean, TTUHSC
- Dr. Suhas Pol, Assistant Professor, TTU College of Engineering

## Networking Break and Poster Showcase

Enjoy refreshments while browsing the poster showcase. Don’t forget to vote on your favorite poster for the $500 People’s Choice Award.

## Spark Conference | Lightning Round Reception and Poster Showcase

Enjoy appetizers and an open bar while you browse the poster showcase and network with students, faculty, investors, mentors, and community members. The top 10 iLaunch finalists will compete in a “Minute to Pitch It” event and attendees will vote on their favorite idea. Who will win the $1,000 People’s Choice Award?

**Speakers:**
- Kimberly Gramm, Senior Managing Director, TTU Innovation Hub
- Russell Thomasson, Vice-President, Lubbock National Bank, TTU Alumnus
# TEXAS TECH UNIVERSITY
## INNOVATION HUB

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 AM - 2:00 PM</td>
<td>Spark Conference</td>
<td>Innovation Hub Atrium</td>
<td>Check in to receive a t-shirt and all conference materials.</td>
</tr>
<tr>
<td>9:00 AM - 12:30 PM</td>
<td>iLaunch Competition</td>
<td>Innovation Hub Rooms 103-105</td>
<td>Come and be a part of TTU’s own “Shark Tank”-like event! As a conference attendee, you will see first-hand how startup founders pitch and the tough questions investors ask. Immediately following is a networking lunch and awards ceremony. Who will take home the $10,000 first place prize? Speaker: Kimberly Gramm, Senior Managing Director, TTU Innovation Hub * Top 10 iLaunch Finalist descriptions found on page 70 * Final Round Judges bios found on page 71</td>
</tr>
<tr>
<td>12:30 PM - 1:15 PM</td>
<td>Networking Lunch</td>
<td>Innovation Hub Atrium</td>
<td>Enjoy lunch and networking with conference attendees while the iLaunch Competition votes are being tallied.</td>
</tr>
<tr>
<td>1:15 PM - 2:15 PM</td>
<td>“Discoveries to Impact Week”</td>
<td>Innovation Hub Atrium</td>
<td>Join us to celebrate the winners of the iLaunch Competition, Poster Showcase, and the Undergraduate Research Presentations. These researchers, innovators, and entrepreneurs worked hard to get to this “nail-biting” awards event. Open to faculty, students, staff, and the public. Speakers: Calvin Davis, District Director, U.S. Small Business Administration Kimberly Gramm, Senior Managing Director, TTU Innovation Hub Jerylme Robins, Administrator for Undergraduate Research, TrUE * Photo ops with 1st, 2nd, 3rd place winners, TTU leadership, and LEDA</td>
</tr>
</tbody>
</table>

# LUBBOCK CULTURAL DISTRICT

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:00 PM - 8:30 PM</td>
<td>Undergraduate Research Conference</td>
<td>Louise Hopkins Underwood Center for the Arts, Icehouse (First Friday Art Trail)</td>
<td>The exhibition features a selection of artwork by Texas Tech University School of Art undergraduate students in the pursuit of their BFA in Art with a field of specialization in Studio Art. The students’ artwork exemplify the School of Art’s range and exploration into multiple mediums, ideas, and theories. Studio Art focuses on the development of students’ personal artistic expression and technical skills in both traditional and experimental art techniques. You will also have the opportunity to see ensembles featuring undergraduates from the TTU College of Visual and Performing Arts showcase their creative scholarship through performances in theatre, dance, and music. New this year, the exhibition and performances will occur as part of the Lubbock community’s First Friday Art Trail (FFAT). Enjoy the exhibition and then explore the rest of the trail.</td>
</tr>
</tbody>
</table>

*Meal Included*

*Registration Not Required*
Undergraduate Research Conference
Poster Presentations

Conference attendees have the opportunity to discuss new research findings with the poster presenters in this “come-and-go” atmosphere.

The following pages provide detailed descriptions and locations of each research project so you can plan your route. Poster Presentation Index by discipline can be found on pages 27-50.
<table>
<thead>
<tr>
<th>Poster 48</th>
<th>STRIPLOIN FLAVOR CHARACTERIZATION AFTER VARIED WASH, CHILL METHODS IN AUSTRALIA, AND EXTENDED AGING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poster 49</td>
<td>THE INFLUENCE OF RETAIL DISPLAY LIGHTING AND PACKAGING SYSTEM ON BEEF FLAVOR AND OXIDATION</td>
</tr>
<tr>
<td>Poster 50</td>
<td>VALIDATION OF THERMAL PROCESSING SCHEDULES TO REDUCING SHIGA TOXIN-PRODUCING ESCHERICHIA COLI (STEC) AND SALMONELLA ON WHOLE MUSCLE BEEF STRIPS WITH REDUCED MOISTURE</td>
</tr>
<tr>
<td>Poster 51</td>
<td>THE INFLUENCE OF A GLYPHOSATE-BASED HERBICIDE ON GROWTH OF THE HARMFUL ALGA, PRYMNESIUM PARVUM</td>
</tr>
<tr>
<td>Poster 52</td>
<td>POTENTIAL USE AND EFFICACY OF BENEFICIAL MICROORGANISMS TO ENHANCE COTTON PRODUCTIVITY AND SOIL HEALTH IN THE TEXAS SOUTHERN HIGH PLAINS</td>
</tr>
<tr>
<td>Poster 53</td>
<td>THE EFFECTS OF DUST PARTICULATE EXPOSURE ON HUMAN CELLS</td>
</tr>
<tr>
<td>Poster 54</td>
<td>EFFECTS OF NITROGEN SOURCE AND FIBROLYTIC ENZYME ON IN VITRO RUMINAL MICROBIAL EFFICIENCY</td>
</tr>
<tr>
<td>Poster 55</td>
<td>SENSORY AND TENDERNESS EVALUATION OF A NEW BRAND OF GRASS-FED BEEF STRIP LOINS</td>
</tr>
<tr>
<td>Poster 56</td>
<td>INVESTIGATING THE PHYSIOLOGICAL RESPONSES IN ARABIDOPSIS FKF1 MUTANT</td>
</tr>
<tr>
<td>Poster 58</td>
<td>GRAY REDHORSE COHORT STRENGTH ESTIMATIONS WITHIN THE LOWER COLORADO RIVER</td>
</tr>
<tr>
<td>Poster 59</td>
<td>A PILOT STUDY: GENERALIZATION OF OLFATORY THRESHOLD IN CANINES</td>
</tr>
<tr>
<td>Poster 60</td>
<td>COMPARISON OF AMERICANS GRASS FED BRANDS ON STRIP LOINS QUALITY GRADE</td>
</tr>
<tr>
<td>Poster 61</td>
<td>EATING QUALITY OF WET-AGED BEEF BRISKET AND ITS CORRELATION WITH THE USDA QUALITY GRADES</td>
</tr>
<tr>
<td>Poster 70</td>
<td>RELIABILITY AND RELATIONSHIP BETWEEN BALLISTIC PUSH-UP AND VERTICAL JUMP PEAK GROUND REACTION FORCE</td>
</tr>
<tr>
<td>Poster 71</td>
<td>AEROMONAS POPULATION DENSITY AND ANTIBIOTIC RESISTANCE IN PLAYA LAKES</td>
</tr>
<tr>
<td>Poster 72</td>
<td>THE EFFECTS OF DIETARY EICOSAPENTAENOIC ACID (EPA) ON COGNITIVE FUNCTION IN AMYLOID BETA TRANSCGENIC MICE</td>
</tr>
<tr>
<td>Poster 73</td>
<td>THE EFFECTS OF ENVIRONMENTAL VARIABLES ON BAT ACTIVITY: IMPLICATIONS FOR THE DESIGN OF ACOUSTIC SURVEYS</td>
</tr>
<tr>
<td>Poster 74</td>
<td>CRYSTAL STRUCTURE DETERMINATION OF A HETEROCYCLIC ORGANIC COMPLEX</td>
</tr>
<tr>
<td>Poster 76</td>
<td>USE OF NANOPARTICLE CHIPS AND THEIR ABILITY TO CAPTURE CANCER CELLS WITH THE USE OF CD71</td>
</tr>
<tr>
<td>Poster</td>
<td>Title</td>
</tr>
<tr>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>77</td>
<td>SYNTHESIS OF MULTI-PART RAD50 FOR NUCLEAR MAGNETIC RESONANCE SPECTROSCOPY ANALYSIS OF COILED-COIL DOMAIN IN FULL-LENGTH RAD50</td>
</tr>
<tr>
<td>78</td>
<td>THE EFFECT OF LIFE HISTORY STRATEGIES ON STOMATAL CHARACTERISTICS USING HERBARIUM SPECIMENS FROM GUADALUPE MOUNTAINS NATIONAL PARK</td>
</tr>
<tr>
<td>79</td>
<td>GLOW DISCHARGE OPTICAL EMISSION ELEMENTAL MAPPING METHOD DEVELOPMENT FOR THIN SECTIONS AND SOLUTIONS</td>
</tr>
<tr>
<td>80</td>
<td>GENOMIC AND TRANSCRIPTOMIC STUDY OF PLANT PARASITIC NEMATODES AND THEIR BACTERIAL ENDOSYMBIONTS</td>
</tr>
<tr>
<td>81</td>
<td>MAGNETIC SEPARATION OF CANCEROUS CELLS FROM LIQUID BIOPSIES USING MICROFLUIDIC TECHNIQUES</td>
</tr>
<tr>
<td>82</td>
<td>VALIDITY OF BODY VOLUME ESTIMATES FROM INFRARED 3-DIMENSIONAL SCANNING AND DUAL-ENERGY X-RAY ABSORPTIOMETRY AS COMPARED TO AIR DISPLACEMENT PLETHYSMOGRAPHY</td>
</tr>
<tr>
<td>83</td>
<td>PRESIDENTIAL BEHAVIOR IN REGARDS TO ENVIRONMENTAL POLICY</td>
</tr>
<tr>
<td>84</td>
<td>EFFICACY OF FERROMAGNETIC CATALYSTS SYNTHESIZED USING SONICATION</td>
</tr>
<tr>
<td>85</td>
<td>COMMISIONING OF A NEW DIGITAL IMAGER AT THE PRESTON GOTT SKYVIEW OBSERVATORY</td>
</tr>
<tr>
<td>86</td>
<td>ASSESSING COGNITIVE WORKLOAD IN THE LAPAROSCOPIC ENVIRONMENT USING PHYSIOLOGICAL MEASURES?CAN WE REDUCE SURGICAL ERRORS?</td>
</tr>
<tr>
<td>87</td>
<td>STRUCTURAL ANALYSIS OF A TUNGSTEN BASED HYDROGEN STORAGE MATERIAL</td>
</tr>
<tr>
<td>88</td>
<td>VARIATIONS IN THE REGULATION OF THE PHENAZINE OPERON BETWEEN P. AERUGINOSA STRAINS PAO1 AND PA14</td>
</tr>
<tr>
<td>89</td>
<td>TROY: ART, THEORY AND REALITY</td>
</tr>
<tr>
<td>90</td>
<td>THE COMBINATION OF ANTI-ANGIOGENESIS AND CHEMOTHERAPY TREATMENTS FOR CANCER WITH A MATHEMATICAL MODEL</td>
</tr>
<tr>
<td>91</td>
<td>THE RELATION BETWEEN VICTIMIZATION AND OFFENSE CHARACTERISTICS IN CROSSOVER YOUTH</td>
</tr>
<tr>
<td>92</td>
<td>DETECTION OF BACTERIAL SYMBIONTS IN CULICOIDES MIDGES</td>
</tr>
<tr>
<td>93</td>
<td>THE EFFECTS OF PYRIPROXYFEN ON THE FECUNDITY AND LONGEVITY OF THE FRUITFLY DROSOPHILA MELANOGASTER</td>
</tr>
<tr>
<td>94</td>
<td>PSEUDOCOCCIDAE DETOXIFICATION ABILITIES OF ERYTHROXYLUM COCA AND ERYTHROXYLUM NOVOGRANATENSE</td>
</tr>
<tr>
<td>95</td>
<td>AMMONIUM SULFATE IS A POTENTIAL ALTERNATIVE THERAPY TO TREAT PSEUDOMONAS AERUGINOSA INFECTIONS</td>
</tr>
</tbody>
</table>
**POSTER PRESENTATIONS**

Poster 96 - THE BENEFICIAL EFFECTS OF TOCOTRIENOLS ON TYPE 2 DIABETES MELLITUS

Poster 97 - GLOBAL TRENDS OF PRIVATE MILITARY SECURITY COMPANIES

Poster 98 - COMPARISON OF REGIONAL BODY COMPOSITION ESTIMATES OBTAINED FROM DUAL-ENERGY X-RAY ABSORPTIOMETRY AND SINGLE-FREQUENCY BIOELECTRICAL IMPEDANCE ANALYSIS

Poster 99 - EVALUATING EFFECTIVENESS OF MENTAL HEALTH PROGRAMS IN IMPROVING ADOLESCENT OFFENDERS’ MENTAL HEALTH

Poster 100 - FORENSIC TAPHONOMY - A PERSPECTIVE OF ACTIVE ODOR CHEMICALS IN DRY VS. SUBMERGED DECOMPOSITION PERSPECTIVES

Poster 101 - PRE-CRASTINATION AND PROCRASTINATION EFFECTS OCCUR IN A REACH-TO-GRASP TASK

Poster 102 - COMPONENTS OF FEMALE FITNESS IN SILENE VULGARIS

Poster 103 - STUDIES DIRECTED TO THE DETERMINATION OF THE THREE-DIMENSIONAL STRUCTURE OF THE PHYLA-SPECIFIC STEROIDAL ENZYMES STEROL C24-METHYLTRANSFERASE RESPONSIBLE FOR ERGOSTEROL-DEPENDENT DISEASE

Poster 104 - CRYSTAL GROWTH AND STRUCTURE DETERMINATION OF ORGANIC COMPLEXES CONTAINING AZIDE GROUPS

Poster 105 - CELL-BASED GROWTH STUDIES, IN VIVO MOUSE MODELING PHARMACOKINETICS AND STEROL ANALYSES OF TREATED CELLS INCUBATED WITH INHIBITORS OF AMOEBA STEROL METHYLTANSFERASE

Poster 106 - BACTERIAL FLUORESCENCE IMAGING DETECTS PLANKTONIC BACTERIA AND BIOFILM IN VITRO

Poster 107 - THE EFFECTS OF QUATERNARY AMMONIUM COMPOUNDS OF THE HUMAN MICROBIOTA

Poster 108 - SYNTHESIS, CHARACTERIZATION, AND REMEDIATION OF ?INHIBITED? NITROGEN HETERO CYCLIC LIGANDS FOR USE IN PHOTOCATALYSIS AND PHOTOCHEMISTRY

Poster 109 - BRAIN ACTIVATION DURING AN EMOTION FACE PROCESSING TASK IN MALTREATED YOUTH WITH POST TRAUMATIC STRESS SYMPTOMS

Poster 110 - HOLDING ATP SYNTHASE TOGETHER DURING ROTATION: THE STATOR STALK

Poster 111 - FACILITATING EDUCATOR LEARNING IN DESIGNING ACCESSIBLE INSTRUCTION AND COURSE SUPPORT

Poster 112 - STAT3: PROTEIN-PROTEIN INTERACTIONS ON THE RIBOSOME

Poster 113 - WHAT IS TAKING SO LONG: COMPETENCY PROCESS OF ONE SOUTHWESTERN COUNTY

Poster 114 - VIGILANCE IN 3D: CAN SPATIALIZED AUDIO AUGMENT SUSTAINED ATTENTION?
### POSTER PRESENTATIONS

**Poster 115** - Transinfection of an *Aedes albopictus* cell line with *Wolbachia* from *Drosophila melanogaster* (WMel)

**Poster 116** - Guiding first year composition instructors in accessibility concerns

**Poster 117** - The effects of acute injury on neuronal phenotype in *C. elegans* models

**Poster 118** - The direct humanitarian consequences and constraints of the Syrian civil war: The Syrian refugee crisis in Lebanon

**Poster 119** - Determination of combined effects of imidacloprid and graphene on earthworms

**Poster 120** - The smell of dog: Exploring canine olfactory investigation

**Poster 121** - Expression and purification of JMJC-1 (ROX1) to determine its roles in histidine hydroxylation

**Poster 122** - Development of laser Rayleigh scattering plasma diagnostic instrument for characterization of plasma gas kinetic temperature maps in plasmas used for chemical analysis

**Poster 124** - Characterization of the flowing atmospheric pressure afterglow ambient mass spectrometry desorption/ionization source for performing real-time derivatization reactions

**Poster 125** - Psychological correlates to home-based physical therapy adherence: A systematic review and meta-analysis

**Poster 126** - Burrowing as a genetic screen of neuromuscular functioning in *Caenorhabditis elegans*

**Poster 127** - The directing influence of the primary bond on secondary bond formation with the heavy pnictogens

**Poster 128** - Co-overexpression of ATCLCC and PP2AC5 genes to increase salt tolerance in *Arabidopsis thaliana*

**Poster 129** - An investigation of *Pseudomonas aeruginosa* cyan fluorescence with the Molecularight i:X bacterial fluorescence imaging device

**Poster 130** - Do visual system CRF receptors influence visually guided feeding?

**Poster 131** - Binding specificity in sterol C14-demethylase (CYP51) catalysis reveals conformational requirements in substrate demethylation

**Poster 133** - Aggressively unfriended: Examining the type of social media post and subsequent reaction

**Poster 134** - New directions for the cognitive reflection test: An item response theory approach
POSTER PRESENTATIONS

Poster 135 - SIMULTANEOUS PHOTOMETRY: VETTING EXOPLANETS VIA THE TRANSIT METHOD

Poster 136 - PHISHING ATTACKS USING LIFE DOMAINS AND TARGETING

Poster 138 - FACTORS OF ENVIRONMENTAL BEHAVIOR: ENVIRONMENTAL BEHAVIOR AT TEXAS TECH UNIVERSITY

Poster 139 - PREDICTING HYDROGEN BONDING PATTERNS IN CO-CRYSTALS OF ACETAZOLAMIDE

Poster 140 - THE MISSING MICROBE HYPOTHESIS EXPLORED IN TYPHLOCYBINAЕ AND ACANALONIIDAE INSECTS

Poster 141 - CHIRAL SEPARATION OF PHARMACEUTICALS USING CO-CRYSTALLIZATION AND MECHANOCHEMISTRY

Poster 143 - THE EFFECTS OF STRESS FROM VIGILANCE TASKS IN DYADS

Poster 144 - MUON TOMOGRAPHY

Poster 145 - ADVERSE CHILDHOOD EXPERIENCES AND STRESS IN ADULTHOOD

Poster 146 - PREPARATION AND CRYSTAL STRUCTURE DETERMINATION OF MARINE NATURAL PRODUCTS

Poster 147 - 0 NOVEL STEROIDAL ANTIBIOTICS TO TREAT AMOEBA INFECTION: ISOLATION, CHARACTERIZATION AND CELL-BASED POTENCY OF ACTIVITY OF CHOLESTA-5,7,22,24(25)-TETRAENOL AND ERGOSTA 5,7,22,24(28)-TETRAENOL

Poster 149 - NEUROBEHAVIORAL DYSFUNCTION INDUCED BY ACUTE STRESS IS AMELIORATED BY THE MYOKINE IRISIN IN MALE MICE

Poster 150 - GROWTH OF BETA-AMYLOID PLAQUE IN DIFFERENT STAGES OF AD

Poster 180 - TESTICULAR HISTOPATHOLOGY IN AN ALZHEIMER’S DISEASE MODEL

Poster 181 - CHARACTERIZATION OF COMPOUNDS THAT HAVE APPLICATIONS IN LIGHT-TO-ELECTRICITY CONVERSIONS

Poster 200 - RESEARCH IN ACTION: APPLYING ACCESSIBILITY FIELD STUDIES TO DEVELOPING INTERACTIVE EDUCATOR WORKSHOPS

Poster 201 - HUMANITIES-DRIVEN STEM: UNDERSTANDING ENGINEERING IDENTITY AND EMPATHY

Poster 203 - A FLEXIBLE STRAIN SENSOR FOR MONITORING BIOMECHANICAL DISORDERS

Poster 206 - LUBRICANT SIMULATION WITH MOLECULAR DYNAMICS

Poster 207 - THE HYDRODYNAMICS OF NEEDLE-FREE INTRADERMAL JET INJECTION

Poster 208 - REALIZING TD PHASE AT ROOM TEMPERATURE IN ULTRATHIN MOTE2

Poster 209 - MODELLING THE EFFECTS OF DWELL TIMES ON SHAPE RECOVERY
<table>
<thead>
<tr>
<th>POSTER PRESENTATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poster 210 - 4D PRINTING WITH PLA/PHA</td>
</tr>
<tr>
<td>Poster 211 - CONSTRUCTION OF ROBUST SATELLITE RELATIVE MOTION GEOMETRIES</td>
</tr>
<tr>
<td>Poster 212 - EVALUATION OF THE EFFECTIVENESS OF POLYBETAINES AS PARAFFIN INHIBITORS</td>
</tr>
<tr>
<td>Poster 213 - MICRORESONATOR-BASED FREQUENCY COMB GENERATION</td>
</tr>
<tr>
<td>Poster 214 - INVESTIGATING BUILD ACCURACY FOR 3D PARTS</td>
</tr>
<tr>
<td>Poster 215 - CHEMICALLY FUNCTIONALIZED PAPER-BASED MICROFLUIDIC DETECTION OF HEAVY METAL IONS IN WATER SAMPLES</td>
</tr>
<tr>
<td>Poster 216 - PRACTICAL METALLIZATION OF 3D PRINTED ANTENNAS FOR MICROGRAVITY</td>
</tr>
<tr>
<td>Poster 217 - DEBRIS IMPACT TORNADO CANNON UNCERTAINTIES</td>
</tr>
<tr>
<td>Poster 221 - FAMILY MEMBERS OF LOVED-ONES WITH A SUD: ASSOCIATIONS BETWEEN PFC AND FAMILY FUNCTIONING</td>
</tr>
<tr>
<td>Poster 222 - ADENOVIRAL PROTEIN E4ORF1 REQUIRES THE DISTAL INSULIN SIGNALING TO ENHANCE MOLECULAR SIGNALING FOR CELLULAR GLUCOSE UPTAKE</td>
</tr>
<tr>
<td>Poster 223 - PARENTAL LANGUAGE INPUT AND POSITIVE AFFECT: IMPLICATIONS FOR EMERGENT CHILD VOCABULARY</td>
</tr>
<tr>
<td>Poster 225 - MOTHER-CHILD CONVERSATION AND CHILDREN’S MEMORY/SUGGESTIBILITY FOR A MILD STRESSOR</td>
</tr>
<tr>
<td>Poster 226 - EMOTIONAL STROOP FOR COLOMBIAN CHILDREN WITH PTSD</td>
</tr>
<tr>
<td>Poster 227 - PROTECTIVE EFFECTS OF MATERNAL FISH OIL SUPPLEMENTATION ON INFLAMMATION AND METABOLIC DYSFUNCTIONS IN OFFSPRING</td>
</tr>
<tr>
<td>Poster 228 - BORROWING POWER: RESISTANCE IN U.S. CAPOEIRA GROUPS</td>
</tr>
<tr>
<td>Poster 229 - EXAMINING THE RELIABILITY AND VALIDITY OF RELATIONSHIP SATISFACTION, LOVE, CONFLICT, AND COMMITMENT SINGLE-ITEM MEASURES</td>
</tr>
<tr>
<td>Poster 230 - MEN, CHRONIC PAIN, AND PRESCRIPTION PAIN MEDICATION USE: THE ROLE OF GENDER ROLE BELIEFS</td>
</tr>
<tr>
<td>Poster 232 - ROUX-EN-Y GASTRIC BYPASS (RYGB) SURGERY RESTORES REWARD-RELATED GENES IN THE MESOLIMBIC PATHWAY IN DIET-INDUCED OBESE MICE</td>
</tr>
<tr>
<td>Poster 233 - DELTA-TOCOTRIENOL AND TART CHERRY ANTHOCYANIN REDUCES INFLAMMATION IN 3T3-L1 ADIPOCYTES</td>
</tr>
<tr>
<td>Poster 234 - ROLE OF ADIPOSE DERIVED HYPERTENSIVE HORMONE ANGIOTENSIN II IN BREAST CANCER CELL METABOLISM</td>
</tr>
</tbody>
</table>
Poster 236 - DESIGNING FOR GREEN BEHAVIOR

Poster 237 - AUTISM SYMPTOM SEVERITY AND PATTERNS OF INTELLIGENCE: A FOCUS ON PERFORMANCE VERSUS VERBAL IQ

Poster 238 - ASSESSING CAMPUS CLIMATE: IMPLICATIONS FOR MENTAL HEALTH AND WELL-BEING OF LGBTQ+ STUDENTS, FACULTY, AND STAFF

Poster 239 - TRANSITIONING IN LIFE

Poster 240 - HYPERTENSION, PHYSICAL HEALTH, RELATIONAL EXPERIENCES, AND ER VISITS

Poster 241 - ROLE OF SPHINGOMYELINASE IN CELL MEMBRANE REPAIR AFTER EXPOSURE TO BACTERIAL PORE FORMING TOXINS

Poster 242 - METABOLIC EFFECTS OF VITAMIN D AND FISH OIL ON OBESITY

Poster 243 - ANALYSIS OF SHORT-TERM MEMORY IN AN AGED APPSWE/PSEN1DE9 MOUSE MODEL OF ALZHEIMER’S DISEASE

Poster 244 - LOWER HEALTH-RELATED QUALITY OF LIFE (HRQL) IS ASSOCIATED WITH LESS FAT MASS REDUCTION DURING INITIAL WEIGHT LOSS: IMPLICATIONS FOR EARLY INTERVENTION

Poster 246 - DIFFERENCES IN REGIONAL GREY MATTER VOLUME PREDICT FASTER REACTION TIMES IN TASK PERFORMANCE: A VOXEL-BASED META-ANALYSIS
| Poster 1 | THE USE OF PORTABLE X-RAY FLUORESCENCE SPECTROMETRY FOR THE ASSESSMENT OF DIET DIGESTIBILITY IN SHEEP |
| Poster 2 | WATER FOR EDUCATION: THE RELATIONSHIP BETWEEN DOMESTIC WATER CARRYING AND EDUCATIONAL LEVELS OF WOMEN IN THE SOUTHERN NATIONS, NATIONALITIES, AND PEOPLE’S REGION OF ETHIOPIA |
| Poster 3 | VALIDATION OF THERMAL PROCESSING SCHEDULE TO CONTROL C. PERFRINGENS IN REDUCED MOISTURE BEEF PRODUCTS |
| Poster 4 | SAFETY VALIDATION FOR DEHYDRATING METHODS OF MALAWI, AFRICA USING NONPATHOGENIC SURROGATE BACTERIA |
| Poster 5 | X-RAY FLUORESCENCE SPECTROMETRY USE IN EXTERNAL MARKERS DETECTION ON BEEF CATTLRE SYSTEMS: A VALIDATION ATTEMPT |
| Poster 6 | THE ACUTE INCREASE IN SYSTOLIC BLOOD PRESSURE POST-MAXIMAL AEROBIC EXERCISE IS ASSOCIATED WITH CENTRAL ARTERIAL STIFFNESS THAT MAY BE DUE TO CHANGES IN CARDIAC BAROREFLEX SENSITIVITY |
| Poster 7 | CHRONIC STRESS ALTERS REARING BEHAVIOR AND HIPPOCAMPAL CA3 REGION STRUCTURE IN WILD TYPE MICE |
| Poster 8 | I’LL FEEL GUILTY IF I DON’T FOLLOW THROUGH: GOALS, SELF-CONTROL & ANTICIPATED GUILT |
| Poster 9 | INVESTIGATING THE EFFECTS OF SOCIAL INTERACTION IN MINIMIZING STRESS-INDUCED BEHAVIORAL CHANGES IN MICE |
| Poster 10 | BIOSYNTHETIC PRODUCTION OF TROPANE AND GRANATANE ALKALOIDS USING SYNTHETIC BIOLOGY APPROACHES |
| Poster 11 | IDENTIFYING CELL TYPES THAT INFLUENCE DNASE1L3 PRODUCTION |
| Poster 12 | INVESTIGATING THE ROLE OF CONTRACTILE APPARATUS GENES ON NEUROMUSCULAR HEALTH IN C. ELEGANS |
| Poster 13 | THE CLINICAL SIGNIFICANCE OF STAPHYLOCOCCUS AUREUS SMALL COLONY VARIANTS |
| Poster 14 | THE CLINICAL SIGNIFICANCE OF POLYMICROBIAL INTERACTIONS ON ANTIMICROBIAL SUSCEPTIBILITY IN THE DIAGNOSTIC LABORATORY |
| Poster 15 | STRUCTURAL INVESTIGATIONS INTO THE SERUM ENDONUCLEASE DNASE1L3, AS IT RELATES TO SYSTEMIC LUPUS ERYTHEMATOSUS |
| Poster 16 | CATALYTIC REDUCTION OF CO2 IN THE PRESENCE OF BORANES WITH VARIOUS BIPYRIDYL LIGANDS |
| Poster 17 | THE EFFECTS OF A PARENTAL HIGH SALT DIET ON COGNITIVE AND BEHAVIORAL DEFICITS |
| Poster 18 | EXPLORATION OF PYOMELANIN-MEDIATED COOPERATION IN CHRONIC INFECTIONS |
POSTER PRESENTATIONS

Poster 19 - REVEALING THE NEURAL BASIS OF REST SPACING EFFECTS IN MUSIC SEQUENCE LEARNING
Poster 20 - ADAPTIVE GRIP MECHANISM WITH GROSS AND FINE GRIP SWITCHABILITY FOR 3D-PRINTED PROSTHETIC HANDS
Poster 21 - DEVELOPMENT OF LASER RAMAN SCATTERING INSTRUMENT FOR MAPPING MOLECULAR ROTATIONAL TEMPERATURES IN PLASMAS USED FOR CHEMICAL ANALYSIS
Poster 22 - THE EFFECTS OF CHILDHOOD TRAUMA TYPE AND COMPLEXITY ON TIME IN DETENTION
Poster 23 - ORGANO-SELENIUM COATED TEXTILE INHIBITS GRAM-POSITIVE AND GRAM-NEGATIVE BACTERIAL BIOFILM FORMATION
Poster 24 - MULTI-OMIC STUDY OF MEMBRACID/ENDOSYMBIONT RELATIONSHIP
Poster 25 - GLUCOSE TOLERANCE IN AN APPSWE/PS1DE9 ALZHEIMER’S DISEASE MOUSE MODEL
Poster 26 - PROVIDING MEANING THROUGH BIG DATA: OBESITY
Poster 27 - DETERMINING THE EFFICACY OF MULTI-ENZYME COCKTAILS TO DEGRADE BIOFILMS
Poster 28 - EFFECTS OF PREDATOR ODOR AND HORMONES ON SHORT-TERM MEMORY IN AN APPSWE/PS1DE9 MOUSE MODEL OF ALZHEIMER’S DISEASE
Poster 29 - USING NATURE TO FIGHT NATURE: THE CREATION OF BIODEGRADABLE, PLANT-DERIVED ANTIMICROBIAL POLYMERS
Poster 30 - DOES GRINDING CHANGE DUST PARTICLES’ SIZE DISTRIBUTION?
Poster 31 - STYLEAI: A PERSONALIZED FASHION ASSISTANT
Poster 32 - THE EFFECTS OF OBJECT SURFACES AND SHAPES ON HAND GRIP FUNCTION FOR HEAVY OBJECTS
Poster 33 - 3-D PRINTED MULTI-LAYER MASK ALIGNMENT DEVICE FOR LOW COST MICROFABRICATION
Poster 34 - HOW IS IT POSSIBLE TO CREATE/DESIGN IMPROVED 3D SCAFFOLDS TO USE IN BONE TISSUE ENGINEERING?
Poster 35 - STUDY OF JET AND DROP STABILITY IN NON-NEWTONIAN FLUIDS FOR 3D PRINTING APPLICATIONS
Poster 36 - USES OF ELECTROSPUN NANOFIBERS IN BIOENGINEERING
Poster 37 - HOW IS IT POSSIBLE TO IMPROVE THE QUALITY OF THE NOVEL FOOD WITH THE HELP OF 3D PRINTING?
Poster 38 - GENERATIONAL DIFFERENCES ON FASHION INVOLVEMENT
Poster 39 - PROFILE OF FARMERS MARKET PARTICIPANTS IN LUBBOCK
<p>| Poster 40 | IMPROVEMENT IN CELLULAR GLUCOSE UPTAKE BY NANOLIPOSOME-MEDIATED DELIVERY OF AN ANTI DIABETIC PROTEIN E4ORF1 |
| Poster 41 | RE-VICTIMIZATION, EMOTIONAL DYSREGULATION, AND ALCOHOL USE |
| Poster 42 | PFP PROFESSIONAL DEVELOPMENT: COLLEGE TO CAREER |
| Poster 43 | AN INNOVATIVE SCHOOL NUTRITION INTERVENTION TO IMPROVE THE CONSUMPTION OF FRUITS AND VEGETABLES AMONG 6TH GRADERS |
| Poster 44 | THE UNIQUE AND JOINT CONTRIBUTIONS OF CHILD REGULATORY FUNCTIONING AND PARENTING PROCESSES TO CHILD BEHAVIOR PROBLEMS |
| Poster 45 | DO LEVELS OF UNCERTAINTY PREDICT AFFECTIVE STATES? |
| Poster 46 | THE UNIQUE AND JOINT CONTRIBUTIONS OF MOTHERS AND FATHERS TO CHILDREN’S SELF PERCEPTION AND SELF-WORTH |
| Poster 47 | DANCE INJURIES AND INTERVENTIONS |
| Poster 48 | METHANE EMISSIONS FROM PASTURE SOILS: RESPONSE TO LEGUME PRESENCE |
| Poster 49 | SOCIAL TRANSMISSION OF FOOD PREFERENCES IN CANINES |
| Poster 50 | TAXONOMIC CLASSIFICATION OF SOILS: A PROXIMAL SENSOR APPROACH |
| Poster 51 | RETRIEVING THE FULL HVI STRESS-STRAIN CURVE TO IMPROVE COTTON FIBER QUALITY EVALUATION |
| Poster 52 | IMPACT OF RETAIL DISPLAY CASE LIGHTING AND PACKAGING TYPE ON MICROBIAL GROWTH AND BEEF COLOR |
| Poster 53 | AN INVESTIGATION OF REPRODUCTIVE TRAITS AND PARASITE LOAD IN NON-NATIVE GULF KILLIFISH FUNDULUS GRANDIS |
| Poster 54 | INFLUENCE OF STRUCTURAL AND ANTHROPOGENIC CHARACTERISTICS ON HERON WINTER URBAN LAKE USE |
| Poster 55 | COMPARISON OF FATTY ACID CONTENT BETWEEN GRASS-FED AND GRAIN-FED BEEF ACROSS FIVE USDA QUALITY GRADES |
| Poster 56 | EFFECTS OF DUST STORM PARTICLES ON LUNG CELLS |
| Poster 57 | PHYLOGENY OF PEROMYSCUS MANICULATUS SPECIES GROUP USING NOVEL LYSIS-HI-C INTERACTOMICS: NEW SOLUTION FOR COMBATTING POLYMICROBIAL INFECTIONS |
| Poster 58 | RELATIONSHIP BETWEEN CORTICOSTERONE AND TIME IMMOBILE IN AN APPSWE/PS1DE9 MOUSE MODEL OF ALZHEIMER’S DISEASE |</p>
<table>
<thead>
<tr>
<th>Poster</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>137</td>
<td>VOTER TURNOUT AND THE DEMOCRATIC RANKING OF THE UNITED STATES</td>
</tr>
<tr>
<td>142</td>
<td>RIBOSOME-ASSOCIATED PROTEIN QUALITY CONTROL IN INSULIN BIOSYNTHESIS</td>
</tr>
<tr>
<td>148</td>
<td>EFFECTS OF DIETARY EICOSAPENTAENOIC ACID SUPPLEMENTATION ON COGNITIVE PERFORMANCE IN A BETA AMYLOIDGENIC MOUSE MODEL</td>
</tr>
<tr>
<td>151</td>
<td>ROBUSTIFICATION OF THE STUDENT’S T-TEST STATISTIC FOR COMPARING TWO MEANS</td>
</tr>
<tr>
<td>152</td>
<td>CHARACTERIZING THE MICROBIOME ALONG THE GUT-BRAIN AXIS IN AN INSECT MODEL, THE CRICKET</td>
</tr>
<tr>
<td>153</td>
<td>AN ANIMAL MODEL FOR NA,K ATPASE-RELATED CHARCOT-MARIE TOOTH DISEASE TYPE 2</td>
</tr>
<tr>
<td>154</td>
<td>FIRST AIRBORNE LIDAR MEASUREMENTS OF COLUMNAR CO2 CONTENT ACROSS SUMMERTIME FRONTAL BOUNDARY IN THE EASTERN US</td>
</tr>
<tr>
<td>155</td>
<td>THE EFFECTS OF PREDATOR-BASED STRESS IN THE DEVELOPMENT OF POST-TRAUMATIC STRESS DISORDER (PTSD) IN A MOUSE MODEL</td>
</tr>
<tr>
<td>156</td>
<td>USING CRISPR CAS13A TO COMBAT THE FLU VIRUS AT THE GENETIC LEVEL: A NEW APPROACH TO FLU TREATMENT</td>
</tr>
<tr>
<td>157</td>
<td>DOES GRINDING AFFECT THE DIVERSITY OF MICROBIAL SPECIES POPULATION IN CLAY SAMPLES FROM AROUND THE UNITED STATES?</td>
</tr>
<tr>
<td>158</td>
<td>EFFECTS ON SOCIABILITY AFTER PREDATOR SCENT EXPOSURE IN EARLY-LIFE STRESSED MICE</td>
</tr>
<tr>
<td>159</td>
<td>BICULTURAL STRESS ON SUICIDAL IDEATION AND ALCOHOL USE FOR MEXICAN DESCENT ADOLESCENTS AND EMERGING ADULTS: EXAMINING COPING STYLES</td>
</tr>
<tr>
<td>160</td>
<td>IDENTIFICATION OF DEFENSE MECHANISMS REQUIRED FOR PSEUDOMONAS AERUGINOSA SURVIVAL IN POLYMICROBIAL CONTEXTS</td>
</tr>
<tr>
<td>161</td>
<td>LIPID IMBALANCE LEADS TO REDUCED RNA AND PROTEIN LEVELS IN LEISHMANIA MAJOR PARASITE</td>
</tr>
<tr>
<td>162</td>
<td>THE ROLES OF IMPULSIVE PERSONALITY AND PROMISED MONETARY GAINS IN PHISHING EMAIL SUSCEPTIBILITY</td>
</tr>
<tr>
<td>163</td>
<td>THE ROLE OF SM-P80-SPECIFIC ANTIBODIES IN PROTECTION AGAINST SCHISTOSOMA MANSONI CHALLENGE INFECTION IN MICE</td>
</tr>
<tr>
<td>164</td>
<td>ANALYSIS OF THE TEXAS TECH ATMOSPHERIC MICROBIOME AND ITS CORRELATION TO WEATHER PATTERNS</td>
</tr>
<tr>
<td>165</td>
<td>INVESTIGATING ABERRANT EXPOSED SURFACE N-GLYCOSYLATION PATTERNS IN BREAST CANCER BRAIN METASTASIS</td>
</tr>
<tr>
<td>166</td>
<td>HEME TOXICITY IN THE HOST ENVIRONMENT SELECTS FOR ANTIBIOTIC RESISTANT STAPHYLOCOCCUS AUREUS</td>
</tr>
<tr>
<td>Poster 167</td>
<td>CAUSAL RELATIONSHIP BETWEEN PARENTAL ELEVATED SALT CONSUMPTION AND THE DEVELOPMENT OF AUTISM SPECTRUM DISORDER IN OFFSPRING</td>
</tr>
<tr>
<td>Poster 168</td>
<td>RELATIONSHIP AMONG CORTICOSTERONE, STRESS, ANXIETY, AND MEMORY IN AN APPSWE/PS1DE9 MOUSE MODEL OF ALZHEIMER'S DISEASE</td>
</tr>
<tr>
<td>Poster 169</td>
<td>LOVE IS BLIND IN A MIXED WORLD OF HYBRIDS: INVESTIGATING MAMMALIAN HYBRIDIZATION SYSTEMS</td>
</tr>
<tr>
<td>Poster 170</td>
<td>COMPARING PERIPHERAL ORGAN MASSES IN AN AMYLOID BETA-GENIC ALZHEIMER'S DISEASE MOUSE MODEL (APPSWE/PS1DE9)</td>
</tr>
<tr>
<td>Poster 171</td>
<td>SKIN TEMPERATURE AND HIGH DEW POINT IN HOT ENVIRONMENTS AFFECTS SELF-PACED EXERCISE</td>
</tr>
<tr>
<td>Poster 172</td>
<td>EXAMINING CHARACTER AND OUTCOME VALENCE IN CONfabulation FOR MISSING SCENES</td>
</tr>
<tr>
<td>Poster 173</td>
<td>IDENTIFYING THE SOURCE OF NORADRENERGIC INPUT TO THE DEFENSIVE MIDBRAIN</td>
</tr>
<tr>
<td>Poster 174</td>
<td>MORE THAN JUST A LEADER: HOW PERCEPTIONS PLAY THE MOST IMPORTANT LEADERSHIP ROLE</td>
</tr>
<tr>
<td>Poster 175</td>
<td>CONSERVATION GENOMICS OF PLANT POPULATIONS IN GUADALUPE MOUNTAINS NATIONAL PARK USING HERBARIUM SPECIMENS</td>
</tr>
<tr>
<td>Poster 176</td>
<td>CONVERSION OF IMINES TO SECONDARY AMINES USING IRON-CATALYSED HYDROSILYLATION</td>
</tr>
<tr>
<td>Poster 177</td>
<td>MECHANISMS OF UPREGULATION OF SLC6A14 IN PANCREATIC CANCER</td>
</tr>
<tr>
<td>Poster 178</td>
<td>DISCRIMINANT VALIDITY OF THE PROSOCIAL BEHAVIOR QUESTIONNAIRE</td>
</tr>
<tr>
<td>Poster 179</td>
<td>SEX DETERMINATION IN SALIX PHLEBOPHYLLA</td>
</tr>
<tr>
<td>Poster 182</td>
<td>THE FORMAL RULES OF INFORMAL SYNTAX: ARE ENGLISH GRAMMAR RULES RELEVANT IN 2019?</td>
</tr>
<tr>
<td>Poster 183</td>
<td>THE EFFECT OF DUST STORM PARTICLES ON HUMAN LUNG CELLS COLONIES BEHAVIOR</td>
</tr>
<tr>
<td>Poster 184</td>
<td>MUTAGENESIS OF THE PORE FORMING TOXIN STREPTOLYSIN O TO STUDY ROLE OF STRUCTURAL FEATURES IN MEMBRANE REPAIR RESPONSES AND CYTOTOXICITY</td>
</tr>
<tr>
<td>Poster 185</td>
<td>TEACHING SPECTROSCOPY TO NEW ASTRONOMERS</td>
</tr>
<tr>
<td>Poster 186</td>
<td>GREEN AFTER OPERATING A MACHINE: EVALUATING THE RESTORATIVE EFFECT IN A TSA BAGGAGE SCREENING TASK</td>
</tr>
<tr>
<td>Poster 187</td>
<td>REVERSED-BILAYER VESICLES SELF-ASSEMBLED FROM PNICTOGEN CAGES. QUANTIFYING THE INFLUENCE OF THE TAIL LENGTH AND NUMBER</td>
</tr>
<tr>
<td>Poster 188</td>
<td>ENZYMATIC SYNTHESIS OF DECARBOXYLATED S-ADENOSYL METHIONINE IN ERYTHROXYLUM COCA</td>
</tr>
<tr>
<td>Poster 189</td>
<td>BRAIN ACTIVATION IN MALTREATED YOUTH WITH POST TRAUMATIC STRESS SYMPTOMS DURING AN EMOTION WORD PROCESSING TASK</td>
</tr>
<tr>
<td>Poster</td>
<td>Title</td>
</tr>
<tr>
<td>--------</td>
<td>-------</td>
</tr>
<tr>
<td>190</td>
<td>Minimal Composition of the Stator Stalk of ATP Synthase</td>
</tr>
<tr>
<td>191</td>
<td>Assessing the Genetic Diversification of Bats</td>
</tr>
<tr>
<td>192</td>
<td>Increased Abiotic Stress Tolerance in Arabidopsis Thaliana Through Multiple Gene Overexpression</td>
</tr>
<tr>
<td>193</td>
<td>Knockout of MicroRNA Biogenesis Gene Leads to Changes in Ribosomal Content and Distribution in Colon Cancer Cells</td>
</tr>
<tr>
<td>194</td>
<td>Unedited Language Differences Between Dementia Patients and Caregivers</td>
</tr>
<tr>
<td>195</td>
<td>Modulating Halogen Bond Strength with a Redox Switch</td>
</tr>
<tr>
<td>196</td>
<td>Elucidating the Genetic Mechanisms Involved in Thermoregulation of Pseudomonas Aeruginosa Biofilms</td>
</tr>
<tr>
<td>197</td>
<td>GD2 Synthesis in Neuroblastoma Cells</td>
</tr>
<tr>
<td>198</td>
<td>Characterizing Novel Patient-Derived Cell Lines and Xenographs with the Alternative Lengthening of Telomeres Phenotype</td>
</tr>
<tr>
<td>199</td>
<td>The Impact of Project-Based Learning on Student Interest in STEM Through the Conservation of Sea Turtles</td>
</tr>
<tr>
<td>202</td>
<td>Evaluating the Impact of the Television Show Daniel Tiger’s Neighborhood on Children with Autism Spectrum Disorder</td>
</tr>
<tr>
<td>204</td>
<td>High Velocity Impact Testing for Evaluation of Intermetallic Projectiles</td>
</tr>
<tr>
<td>205</td>
<td>Determining and Comparing Optimal Ratio of SMA and ZSMA in Creating Nanodiscs for Membrane Protein Studies</td>
</tr>
<tr>
<td>218</td>
<td>Cyanide Sensing in Complex Aqueous Media</td>
</tr>
<tr>
<td>219</td>
<td>A Simple, Inexpensive Fluorescent Sensor for Cu2+</td>
</tr>
<tr>
<td>220</td>
<td>3-D Cell Microenvironment with Wound-On-A-Chip</td>
</tr>
<tr>
<td>224</td>
<td>Women in High Paying Positions: A Rare Breed</td>
</tr>
<tr>
<td>231</td>
<td>The Relationship of Personality Traits to Supernatural Beliefs, Religious Commitment, and One’s Willingness to Face Difficult Existential Questions</td>
</tr>
<tr>
<td>235</td>
<td>Compassion, Religious Commitment, and Religious Beliefs</td>
</tr>
<tr>
<td>245</td>
<td>The Effect of Reducing Sedentary Behavior on Stress and Anthropometric Outcomes: A Pilot Study</td>
</tr>
</tbody>
</table>
**WEDNESDAY, APRIL 3**

**TEXAS TECH UNIVERSITY**
**STUDENT UNION**

**POSTER PRESENTATIONS**

1:30 PM - 3:00 PM
Student Union
North Ballroom

Poster 247 - Establishing Microbial Baselines in Poultry Processing Facilities at Current and Increased Speed Lines

Poster 248 - The Nazi Politics of Imprisonment: An Inquest into Political Prisoners in the Nazi Concentration Camps

Poster 249 - Impact of Internet Platform Use on Email Phishing Actions Taken

Poster 250 - The Links Between Behavioral and Physiological Regulation and Children’s Problem Behavior

Poster 251 - 2018 NAGDCA Retirement Planning Competition

Poster 252 - Medical Systems Review: A Comparison of Healthcare Indicators in Japan and the US

Poster 253 - Goodness of Fit: Do Mothers’ Perceptions Contribute to Children’s Pro-Social Behaviors?

Poster 254 - Effects of Omega-3 Polyunsaturated Fatty Acids in Reducing Inflammation and Improving Metabolism in HepG2 Liver Cells

Poster 255 - The War Between Freedom and Profit: Fake News and Human Trafficking

Poster 256 - Political Storytelling: The Word on the Words

Poster 257 - “There are Two Sides to Every Story”: Conflicting Messages at the Mob Museum

Poster 258 - Creative Arts During Prenatal Education
POSTER PRESENTATIONS

INDEX

Agricultural Sciences & Natural Resources – COMMERCIALIZATION TRACK

※ ◆ 1 - THE USE OF PORTABLE X-RAY FLUORESCENCE SPECTROMETRY FOR THE ASSESSMENT OF DIET DIGESTIBILITY IN SHEEP
   Legrand Bouyi

※ ◆ 2 - WATER FOR EDUCATION: THE RELATIONSHIP BETWEEN DOMESTIC WATER CARRYING AND EDUCATIONAL LEVELS OF WOMEN IN THE SOUTHERN NATIONS, NATIONALITIES, AND PEOPLE’S REGION OF ETHIOPIA
   Fabio Antonio Escobar Vasquez

※ ◆ 3 - VALIDATION OF THERMAL PROCESSING SCHEDULE TO CONTROL C. PERFRINGENS IN REDUCED MOISTURE BEEF PRODUCTS
   Maria Elisa Lopez

※ ◆ 4 - SAFETY VALIDATION FOR DEHYDRATING METHODS OF MALAWI, AFRICA USING NONPATHOGENIC SURROGATE BACTERIA
   April Molitor

※ ◆ 5 - X-RAY FLUORESCENCE SPECTROMETRY USE IN EXTERNAL MARKERS DETECTION ON BEEF CATTLE SYSTEMS: A VALIDATION ATTEMPT
   Michael Sandes

Arts & Sciences – COMMERCIALIZATION TRACK

※ ◆ 6 - THE ACUTE INCREASE IN SYSTOLIC BLOOD PRESSURE POST-MAXIMAL AEROBIC EXERCISE IS ASSOCIATED WITH CENTRAL ARTERIAL STIFFNESS THAT MAY BE DUE TO CHANGES IN CARDIAC BAROREFLEX SENSITIVITY
   Kyleigh Allie

※ ◆ 7 - CHRONIC STRESS ALTERS REARING BEHAVIOR AND HIPPOCAMPAL CA3 REGION STRUCTURE IN WILD-TYPE MICE
   Fabiola Arzate

※ ◆ 8 - I’LL FEEL GUILTY IF I DON’T FOLLOW THROUGH: GOALS, SELF-CONTROL & ANTICIPATED GUILT
   Madeline Flores, Meggan Yancey

◆ = Tuesday Presentation: 10:00 a.m. - 11:30 a.m. North Ballroom
※ = Wednesday Presentation: 1:30 p.m. – 3:00 p.m. North Ballroom
◎ = Commercialization Track Presentations
POSTER PRESENTATIONS

INDEX

※ 9 - INVESTIGATING THE EFFECTS OF SOCIAL INTERACTION IN MINIMIZING STRESS-INDUCED BEHAVIORAL CHANGES IN MICE
   Sagufta Garasia

※ 10 - BIOSYNTHETIC PRODUCTION OF TROPANA AND GRANATANE ALKALOIDS
   Paula Garavito, Brandon Palomo

※ 11 - IDENTIFYING CELL TYPES THAT INFLUENCE DNASE1L3 PRODUCTION
   Colton Hernandez

※ 12 - INVESTIGATING THE ROLE OF CONTRACTILE APPARATUS GENES ON NEUROMUSCULAR HEALTH IN C. ELEGANS
   Karishma Kashyap

※ 13 - THE CLINICAL SIGNIFICANCE OF STAPHYLOCOCCUS AUREUS SMALL COLONY VARIANTS
   Klara Keim

※ 14 - THE CLINICAL SIGNIFICANCE OF POLYMICROBIAL INTERACTIONS ON ANTIMICROBIAL SUSCEPTIBILITY IN THE DIAGNOSTIC LABORATORY
   Andrea Lopez

※ 15 - STRUCTURAL INVESTIGATIONS INTO THE SERUM ENDONUCLEASE DNASE1L3, AS IT RELATES TO SYSTEMIC LUPUS ERYTHEMATOSUS
   Jon McCord

※ 16 - CATALYTIC REDUCTION OF CO2 IN THE PRESENCE OF BORANES WITH VARIOUS BIPYRIDYL LIGANDS
   Corey McDonald

※ 17 - THE EFFECTS OF A PARENTAL HIGH SALT DIET ON COGNITIVE AND BEHAVIORAL DEFICITS
   Varsha Misra

※ 18 - EXPLORATION OF PYOMELANIN-MEDIATED COOPERATION IN CHRONIC INFECTIONS
   Mariana Moncrief

◆ = Tuesday Presentation: 10:00 a.m. - 11:30 a.m. North Ballroom
※ = Wednesday Presentation: 1:30 p.m. – 3:00 p.m. North Ballroom
◎ = Commercialization Track Presentations
19 - REVEALING THE NEURAL BASIS OF REST SPACING EFFECTS IN MUSIC SEQUENCE LEARNING
   Tyson Oyler, Natalie Parks

20 - ADAPTIVE GRIP MECHANISM WITH GROSS AND FINE GRIP SWITCHABILITY FOR 3D-PRINTED
   PROSTHETIC HANDS
   SivaTeja Pati

21 - DEVELOPMENT OF LASER RAMAN SCATTERING INSTRUMENT FOR MAPPING MOLECULAR
   ROTATIONAL TEMPERATURES IN PLASMAS USED FOR CHEMICAL ANALYSIS
   Chad Pesek

22 - THE EFFECTS OF CHILDHOOD TRAUMA TYPE AND COMPLEXITY ON TIME IN DETENTION
   Leigha Puckett

23 - ORGANO-SELENIUM COATED TEXTILE INHIBITS GRAM-POSITIVE AND GRAM-NEGATIVE BACTERIAL
   BIOFILM FORMATION
   John Reed

24 - MULTI-OMIC STUDY OF MEMBRACID/ENDOSYMBIONT RELATIONSHIP
   Stephen Saltu

25 - GLUCOSE TOLERANCE IN AN APPSWE/PS1DE9 ALZHEIMER’S DISEASE MOUSE MODEL
   Madalynn Sealey

26 - PROVIDING MEANING THROUGH BIG DATA: OBESITY
   Brittany Tu

27 - DETERMINING THE EFFICACY OF MULTI-ENZYME COCKTAILS TO DEGRADE BIOFILMS
   Garrett Welch

28 - EFFECTS OF PREDATOR ODOR AND HORMONES ON SHORT-TERM MEMORY IN AN APPSWE/
   PS1DE9 MOUSE MODEL OF ALZHEIMER’S DISEASE
   Sabra Williams

29 - USING NATURE TO FIGHT NATURE: THE CREATION OF BIODEGRADABLE, PLANT-DERIVED
   ANTIMICROBIAL POLYMERS
   Theodora Winter

30 - DOES GRINDING CHANGE DUST PARTICLES’ SIZE DISTRIBUTION?
   Xueting Xia
POSTER PRESENTATIONS

INDEX

Engineering – COMMERCIALIZATION TRACK

* ◆ 31 - STYLEAI: A PERSONALIZED FASHION ASSISTANT
  Gautam Bakliwal

* ◆ 32 - THE EFFECTS OF OBJECT SURFACES AND SHAPES ON HAND GRIP FUNCTION FOR HEAVY OBJECTS
  Mario Garcia

* ◆ 33 - 3-D PRINTED MULTI-LAYER MASK ALIGNMENT DEVICE FOR LOW COST MICROFABRICATION
  Hilario Garza

* ◆ 34 - HOW IS IT POSSIBLE TO CREATE/DESIGN IMPROVED 3D SCAFFOLDS TO USE IN BONE TISSUE ENGINEERING?
  Fnu Md Moniruzzaman

* ◆ 35 - STUDY OF JET AND DROP STABILITY IN NON-NEWTONIAN FLUIDS FOR 3D PRINTING APPLICATIONS
  Juan Reimondo

* ◆ 36 - USES OF ELECTROSPUN NANOFIBERS IN BIOENGINEERING
  Kate Ripley

* ◆ 37 - HOW IS IT POSSIBLE TO IMPROVE THE QUALITY OF THE NOVEL FOOD WITH THE HELP OF 3D PRINTING?
  Khawja Mezbah Moin Uddin

Human Sciences – COMMERCIALIZATION TRACK

* ◆ 38 - GENERATIONAL DIFFERENCES ON FASHION INVOLVEMENT
  Francine Bruess

* ◆ 39 - PROFILE OF FARMERS MARKET PARTICIPANTS IN LUBBOCK
  Carter Janes

◆ = Tuesday Presentation: 10:00 a.m. - 11:30 a.m. North Ballroom
◆ = Wednesday Presentation: 1:30 p.m. – 3:00 p.m. North Ballroom
◆ = Commercialization Track Presentations
40 - IMPROVEMENT IN CELLULAR GLUCOSE UPTAKE BY NANOLIPOSOME-MEDIATED DELIVERY OF AN ANTI-DIABETIC PROTEIN E4ORF1
Sheeba Mathew

41 - RE-VICTIMIZATION, EMOTIONAL DYSREGULATION, AND ALCOHOL USE
Kimberly McGuire

42 - PFP PROFESSIONAL DEVELOPMENT: COLLEGE TO CAREER
Mari Kate Northcut

43 - AN INNOVATIVE SCHOOL NUTRITION INTERVENTION TO IMPROVE THE CONSUMPTION OF FRUITS AND VEGETABLES AMONG 6TH GRADERS
Flora Onyeahialam, Cynthia Okeke

44 - THE UNIQUE AND JOINT CONTRIBUTIONS OF CHILD REGULATORY FUNCTIONING AND PARENTING PROCESSES TO CHILD BEHAVIOR PROBLEMS
Seowon Song

45 - DO LEVELS OF UNCERTAINTY PREDICT AFFECTIVE STATES?
Taylor Swift

46 - THE UNIQUE AND JOINT CONTRIBUTIONS OF MOTHERS AND FATHERS TO CHILDREN'S SELF-PERCEPTION AND SELF-WORTH
Samantha Villarreal, Krystal Estrada

Visual & Performing Arts – COMMERCIALIZATION TRACK

47 - DANCE INJURIES AND INTERVENTIONS
Isabella Gonzales

Agricultural Sciences & Natural Resources

48 - STRIPLOIN FLAVOR CHARACTERIZATION AFTER VARIED WASH, CHILL METHODS IN AUSTRALIA, AND EXTENDED AGING
Fernanda Amaya

49 - THE INFLUENCE OF RETAIL DISPLAY LIGHTING AND PACKAGING SYSTEM ON BEEF FLAVOR AND OXIDATION
Sabrina Blandon

50 - VALIDATION OF THERMAL PROCESSING SCHEDULES TO REDUCING SHIGA TOXIN-PRODUCING ESCHERICHIA COLI (STEC) AND SALMONELLA ON WHOLE MUSCLE BEEF STRIPS WITH REDUCED MOISTURE
Daniela Chavez
POSTER PRESENTATIONS
INDEX

◆ 51 - THE INFLUENCE OF A GLYPHOSATE-BASED HERBICIDE ON GROWTH OF THE HARMFUL ALGA, PRYMNESIUM PARVUM
Haley De Selle, Ronan Waterson

◆ 52 - POTENTIAL USE AND EFFICACY OF BENEFICIAL MICROORGANISMS TO ENHANCE COTTON PRODUCTIVITY AND SOIL HEALTH IN THE TEXAS SOUTHERN HIGH PLAINS
Hannah Decker

◆ 53 - THE EFFECTS OF DUST PARTICULATE EXPOSURE ON HUMAN CELLS
Luna Derek

◆ 54 - EFFECTS OF NITROGEN SOURCE AND FIBROLYTIC ENZYME ON IN VITRO RUMINAL MICROBIAL EFFICIENCY
Evandro Dias

◆ 55 - SENSORY AND TENDERNESS EVALUATION OF A NEW BRAND OF GRASS-FED BEEF STRIP LOINS
Andres Donoso

◆ 56 - INVESTIGATING THE PHYSIOLOGICAL RESPONSES IN ARABIDOPSIS FKF1 MUTANT
Gabriella Hale

◆ 57 - METHANE EMISSIONS FROM PASTURE SOILS: RESPONSE TO LEGUME PRESENCE
Paxton Hughes, Hannah Decker

◆ 58 - GRAY REDHORSE COHORT STRENGTH ESTIMATIONS WITHIN THE LOWER COLORADO RIVER
Caroline Jurca

◆ 59 - A PILOT STUDY: GENERALIZATION OF OLFACTORY THRESHOLD IN CANINES
Claire Linker

◆ 60 - COMPARISON OF AMERICANS GRASS FED BRANDS ON STRIP LOINS QUALITY GRADE
Henry Lugo

◆ 61 - EATING QUALITY OF WET-AGED BEEF BRISKET AND ITS CORRELATION WITH THE USDA QUALITY GRADES
Harrison Meek

◆ = Tuesday Presentation: 10:00 a.m. - 11:30 a.m. North Ballroom
◆ = Wednesday Presentation: 1:30 p.m. – 3:00 p.m. North Ballroom
◆ ◇ = Commercialization Track Presentations
62 - SOCIAL TRANSMISSION OF FOOD PREFERENCES IN CANINES
Armando Mendez

63 - TAXONOMIC CLASSIFICATION OF SOILS: A PROXIMAL SENSOR APPROACH
Jose Prieto

64 - RETRIEVING THE FULL HVI STRESS-STRAIN CURVE TO IMPROVE COTTON FIBER QUALITY EVALUATION
Brooke Shumate

65 - IMPACT OF RETAIL DISPLAY CASE LIGHTING AND PACKAGING TYPE ON MICROBIAL GROWTH AND BEEF COLOR
Colton Smith

66 - AN INVESTIGATION OF REPRODUCTIVE TRAITS AND PARASITE LOAD IN NON-NATIVE GULF KILLIFISH FUNDULUS GRANDIS
Kaitlyn Swecker

67 - INFLUENCE OF STRUCTURAL AND ANTHROPOGENIC CHARACTERISTICS ON HERON WINTER URBAN LAKE USE
Madeleine Thornley

68 - COMPARISON OF FATTY ACID CONTENT BETWEEN GRASS-FED AND GRAIN-FED BEEF ACROSS FIVE USDA QUALITY GRADES
Kate Webster

69 - EFFECTS OF DUST STORM PARTICLES ON LUNG CELLS
Suha Abdullah

70 - RELIABILITY AND RELATIONSHIP BETWEEN BALLISTIC PUSH-UP AND VERTICAL JUMP PEAK GROUND REACTION FORCE
Chinonye Agu-Udemba

71 - AEROMONAS POPULATION DENSITY AND ANTIBIOTIC RESISTANCE IN PLAYA LAKES
Hamza Ahmad

72 - THE EFFECTS OF DIETARY EICOSAPENTANOIC ACID (EPA) ON COGNITIVE FUNCTION IN AMYLOID BETA TRANSGENIC MICE
Kaylee Alers Maldonado

73 - THE EFFECTS OF ENVIRONMENTAL VARIABLES ON BAT ACTIVITY: IMPLICATIONS FOR THE DESIGN OF ACOUSTIC SURVEYS
Kort Alexander
POSTER PRESENTATIONS

INDEX

◆ 74 - CRYSTAL STRUCTURE DETERMINATION OF A HETEROCYCLIC ORGANIC COMPLEX
   Clarisa Alvarado, Julia Goncalves

◆ 75 - PHYLOGENY OF PEROMYSCUS MANICULATUS SPECIES GROUP USING NOVEL
   Daysi Alvarez

◆ 76 - USE OF NANOPARTICLE CHIPS AND THEIR ABILITY TO CAPTURE CANCER CELLS WITH THE USE OF CD71
   Hermella Andarge

◆ 77 - SYNTHESIS OF MULTI-PART RAD50 FOR NUCLEAR MAGNETIC RESONANCE SPECTROSCOPY
   ANALYSIS OF COILED-COIL DOMAIN IN FULL-LENGTH RAD50
   Stephan Azatian

◆ 78 - THE EFFECT OF LIFE HISTORY STRATEGIES ON STOMATAL CHARACTERISTICS USING HERBARIUM
   SPECIMENS FROM GUADALUPE MOUNTAINS NATIONAL PARK
   Zachary Bailey

◆ 79 - GLOW DISCHARGE OPTICAL EMISSION ELEMENTAL MAPPING METHOD DEVELOPMENT FOR THIN
   SECTIONS AND SOLUTIONS
   Cody Baker

◆ 80 - GENOMIC AND TRANSCRIPTOMIC STUDY OF PLANT PARASITIC NEMATODES AND THEIR
   BACTERIAL ENDOSYMBIOTS
   Reagan Ball, Nickolas Weyandt

◆ 81 - MAGNETIC SEPARATION OF CANCEROUS CELLS FROM LIQUID BIOPSIES USING MICROFLUIDIC
   TECHNIQUES
   Brynn Bednarz

◆ 82 - VALIDITY OF BODY VOLUME ESTIMATES FROM INFRARED 3-DIMENSIONAL SCANNING AND DUAL-
   ENERGY X-RAY ABSORPTIOMETRY AS COMPARED TO AIR DISPLACEMENT PLETHYSMOGRAPHY
   Marqui Benavides

◆ 83 - PRESIDENTIAL BEHAVIOR IN REGARDS TO ENVIRONMENTAL POLICY
   Gabriel Billings

◆ = Tuesday Presentation: 10:00 a.m. - 11:30 a.m. North Ballroom

※ = Wednesday Presentation: 1:30 p.m. – 3:00 p.m. North Ballroom

◉ = Commercialization Track Presentations
84 - EFFICACY OF FERROMAGNETIC CATALYSTS SYNTHESIZED USING SONICATION
   Lindsey Bishop, Reed Amy

85 - COMMISIONING OF A NEW DIGITAL IMAGER AT THE PRESTON GOTT SKYVIEW OBSERVATORY
   Corey Bradshaw

86 - ASSESSING COGNITIVE WORKLOAD IN THE LAPAROSCOPIC ENVIRONMENT USING PHYSIOLOGICAL MEASURES? CAN WE REDUCE SURGICAL ERRORS?
   Samantha Brown

87 - STRUCTURAL ANALYSIS OF A TUNGSTEN BASED HYDROGEN STORAGE MATERIAL
   Daniel Bui, Christopher Holinej

88 - VARIATIONS IN THE REGULATION OF THE PHENAZINE OPERON BETWEEN P. AERUGINOSA STRAINS PA01 AND PA14
   Eric Bui

89 - TROY: ART, THEORY AND REALITY
   Nick Bursch

90 - THE COMBINATION OF ANTI-ANGIOGENESIS AND CHEMOTHERAPY TREATMENTS FOR CANCER WITH A MATHEMATICAL MODEL
   Reagan Collins

91 - THE RELATION BETWEEN VICTIMIZATION AND OFFENSE CHARACTERISTICS IN CROSSOVER YOUTH
   Kaylee Cook

92 - DETECTION OF BACTERIAL SYMBIONTS IN CULICOIDES MIDGES
   Hunter Covey, Hunter Hall

93 - THE EFFECTS OF PYRIPROXYFEN ON THE FECUNDITY AND LONGEVITY OF THE FRUITFLY DROSOPHILA MELANOGASTER
   Cameron Crabtree, Christopher Owen

94 - PSEUDOCOCCIDAE DETOXIFICATION ABILITIES OF ERYTHROXYLUM COCA AND ERYTHROXYLUM NOVOGRANATENSE
   Claire Crawford

95 - AMMONIUM SULFATE IS A POTENTIAL ALTERNATIVE THERAPY TO TREAT PSEUDOMONAS AERUGINOSA INFECTIONS
   Shane Cristy

96 - THE BENEFICIAL EFFECTS OF TOCOTRIENOLS ON TYPE 2 DIABETES MELLITUS
   Hannah Daniel

97 - GLOBAL TRENDS OF PRIVATE MILITARY SECURITY COMPANIES
   Yasmine Arabella De Joya
POSTER PRESENTATIONS

INDEX

- 98 - COMPARISON OF REGIONAL BODY COMPOSITION ESTIMATES OBTAINED FROM DUAL-ENERGY X-RAY ABSORPTIOMETRY AND SINGLE-FREQUENCY BIOELECTRICAL IMPEDANCE ANALYSIS
  Jacob Dellinger

- 99 - EVALUATING EFFECTIVENESS OF MENTAL HEALTH PROGRAMS IN IMPROVING ADOLESCENT OFFENDERS’ MENTAL HEALTH
  Victoria Dennis

- 100 - FORENSIC TAPHONOMY - A PERSPECTIVE OF ACTIVE ODOR CHEMICALS IN DRY VS. SUBMERGED DECOMPOSITION PERSPECTIVES
  Emily DeRuyter

- 101 - PRE-CRASTINATION AND PROCRASTINATION EFFECTS OCCUR IN A REACH-TO-GRASP Task
  Callie DeWinne

- 102 - COMPONENTS OF FEMALE FITNESS IN SILENE VULGARIS
  Matthew Duncan

- 103 - STUDIES DIRECTED TO THE DETERMINATION OF THE THREE-DIMENSIONAL STRUCTURE OF THE PHYLA-SPECIFIC STEROIDAL ENZYMES STEROL C24-METHYLTRANSFERASE RESPONSIBLE FOR ERGOSTEROL-DEPENDENT DISEASE
  Alex Duong

- 104 - CRYSTAL GROWTH AND STRUCTURE DETERMINATION OF ORGANIC COMPLEXES CONTAINING AZIDE GROUPS
  Jacqueline Funk, Sherlin Lira

- 105 - CELL-BASED GROWTH STUDIES, IN VIVO MOUSE MODELING PHARMACOKINETICS AND STEROL ANALYSES OF TREATED CELLS INCUBATED WITH INHIBITORS OF AMOEBA STEROL METHYLTRANSFERASE
  Amelia Gillespie

- 106 - BACTERIAL FLUORESCENCE IMAGING DETECTS PLANKTONIC BACTERIA AND BIOFILM IN VITRO
  Andre Gomez

- 107 - THE EFFECTS OF QUATERNARY AMMONIUM COMPOUNDS OF THE HUMAN MICROBIOTA
  Gustavo Gomez

= Tuesday Presentation: 10:00 a.m. - 11:30 a.m. North Ballroom
*= Wednesday Presentation: 1:30 p.m. – 3:00 p.m. North Ballroom
◎ = Commercialization Track Presentations
108 - SYNTHESIS, CHARACTERIZATION, AND REMEDIATION OF INHIBITED? NITROGEN HETEROCYCLIC LIGANDS FOR USE IN PHOTOCATALYSIS AND PHOTOCHEMISTRY
   Kerry Gonyeau

109 - BRAIN ACTIVATION DURING AN EMOTION FACE PROCESSING TASK IN MALTREATED YOUTH WITH POST TRAUMATIC STRESS SYMPTOMS
   Paige Gonzalez

110 - HOLDING ATP SYNTHASE TOGETHER DURING ROTATION: THE STATOR STALK
   Jon Goodart

111 - FACILITATING EDUCATOR LEARNING IN DESIGNING ACCESSIBLE INSTRUCTION AND COURSE SUPPORT
   Michelle Gregory

112 - STAT3: PROTEIN-PROTEIN INTERACTIONS ON THE RIBOSOME
   Alexander Ha

113 - WHAT IS TAKING SO LONG: COMPETENCY PROCESS OF ONE SOUTHWESTERN COUNTY
   Genesis Hernandez

114 - VIGILANCE IN 3D: CAN SPATIALIZED AUDIO AUGMENT SUSTAINED ATTENTION?
   Lucas Hess

115 - TRANSINFECTION OF AN Aedes albopictus CELL LINE WITH WOLBACHIA FROM DROSOPHILA MELANOGASTER (WMEL)
   George Ibarra

116 - GUIDING FIRST YEAR COMPOSITION INSTRUCTORS IN ACCESSIBILITY CONCERNS
   Angelica Islas

117 - THE EFFECTS OF ACUTE INJURY ON NEURONAL PHENOTYPE IN C. ELEGANS MODELS
   Hannah Jackson

118 - THE DIRECT HUMANITARIAN CONSEQUENCES AND CONSTRAINTS OF THE SYRIAN CIVIL WAR: THE SYRIAN REFUGEE CRISIS IN LEBANON
   Jad Zeitouni

119 - DETERMINATION OF COMBINED EFFECTS OF IMIDACLOPRID AND GRAPHENE ON EARTHWORMS
   Kathyleen Jander

120 - THE SMELL OF DOG: EXPLORING CANINE OLFACTORY INVESTIGATION
   Tatjana Jarvis
POSTER PRESENTATIONS

INDEX

◆ 121 - EXPRESSION AND PURIFICATION OF JMJC-1(RIOX1) TO DETERMINE ITS ROLES IN HISTIDINE HYDROXYLATION
   Esther Jimenez

◆ 122 - DEVELOPMENT OF LASER RAYLEIGH SCATTERING PLASMA DIAGNOSTIC INSTRUMENT FOR CHARACTERIZATION OF PLASMA GAS KINETIC TEMPERATURE MAPS IN PLASMAS USED FOR CHEMICAL ANALYSIS
   Lee Jong Min

※ 123 - LYSIS-HI-C INTERACTOMICS: NEW SOLUTION FOR COMBATING POLYMICROBIAL INFECTIONS
   Shrinidhi Joshi, Victor Delprincipe

◆ 124 - CHARACTERIZATION OF THE FLOWING ATMOSPHERIC PRESSURE AFTERGLOW AMBIENT MASS SPECTROMETRY DESORPTION/IONIZATION SOURCE FOR PERFORMING REAL-TIME DERIVATIZATION REACTIONS
   Zachry Kempf

◆ 125 - PSYCHOLOGICAL CORRELATES TO HOME-BASED PHYSICAL THERAPY ADHERENCE: A SYSTEMATIC REVIEW AND META-ANALYSIS
   Deylon Kirschling

◆ 126 - BURROWING AS A GENETIC SCREEN OF NEUROMUSCULAR FUNCTIONING IN CAENORHABDITIS ELEGANS
   Matthew LeBlanc

◆ 127 - THE DIRECTING INFLUENCE OF THE PRIMARY BOND ON SECONDARY BOND FORMATION WITH THE HEAVY PNICTOGENS
   Angela Lee

◆ 128 - CO-OVEREXPRESSION OF ATCLCC AND PP2AC5 GENES TO INCREASE SALT TOLERANCE IN ARABIDOPSIS THALIANA
   Lars Lindgren

◆ 129 - AN INVESTIGATION OF PSEUDOMONAS AERUGINOSA CYAN FLUORESCENCE WITH THE MOLECULIGHT I:X BACTERIAL FLUORESCENCE IMAGING DEVICE
   William Little

◆ = Tuesday Presentation: 10:00 a.m. - 11:30 a.m. North Ballroom
※ = Wednesday Presentation: 1:30 p.m. – 3:00 p.m. North Ballroom
◎ = Commercialization Track Presentations
130 - DO VISUAL SYSTEM CRF RECEPTORS INFLUENCE VISUALLY GUIDED FEEDING?
Ryann Lockwood, Allison Kennedy

131 - BINDING SPECIFICITY IN STEROL C14-DEMETHYLMASE (CYP51) CATALYSIS REVEALS CONFORMATIONAL REQUIREMENTS IN SUBSTRATE DEMETHYLATION
Michael Loftis

132 - RELATIONSHIP BETWEEN CORTICOSTERONE AND TIME IMMOBILE IN AN APPSWE/PS1DE9 MOUSE MODEL OF ALZHEIMER’S DISEASE
Amber Loya

133 - AGGRESSIVELY UNFRIENDED: EXAMINING THE TYPE OF SOCIAL MEDIA POST AND SUBSEQUENT REACTION
Aaron Martinez

134 - NEW DIRECTIONS FOR THE COGNITIVE REFLECTION TEST: AN ITEM RESPONSE THEORY APPROACH
Joseph Martis

135 - SIMULTANEOUS PHOTOMETRY: VETTING EXOPLANETS VIA THE TRANSIT METHOD
Ethan McGee

136 - PHISHING ATTACKS USING LIFE DOMAINS AND TARGETING
Adia McGhee

137 - VOTER TURNOUT AND THE DEMOCRATIC RANKING OF THE UNITED STATES
Sophia McGrath

138 - FACTORS OF ENVIRONMENTAL BEHAVIOR: ENVIRONMENTAL BEHAVIOR AT TEXAS TECH UNIVERSITY
Kelcie McKinley

139 - PREDICTING HYDROGEN BONDING PATTERNS IN CO-CRYSTALS OF ACETAZOLAMIDE
Kaylen Meers

140 - THE MISSING MICROBE HYPOTHESIS EXPLORED IN TYPHLOCYBINAE AND ACANALONIIDAE INSECTS
Brianna Mendoza

141 - CHIRAL SEPARATION OF PHARMACEUTICALS USING CO-CRYSTALLIZATION AND MECHANOCHEMISTRY
Lauren Miller
POSTER PRESENTATIONS
INDEX

※ 142 - RIBOSOME-ASSOCIATED PROTEIN QUALITY CONTROL IN INSULIN BIOSYNTHESIS
   Sarah Miller

◆ 143 - THE EFFECTS OF STRESS FROM VIGILANCE TASKS IN DYADS
   Kier Monteverde

◆ 144 - MUON TOMOGRAPHY
   Cristobal Moreno

◆ 145 - ADVERSE CHILDHOOD EXPERIENCES AND STRESS IN ADULthood
   Elizabeth Morger

◆ 146 - PREPARATION AND CRYSTAL STRUCTURE DETERMINATION OF MARINE NATURAL PRODUCTS
   LaQuze Morris

◆ 147 - A NOVEL STEROIDAL ANTIBIOTICS TO TREAT AMOEBA INFECTION: ISOLATION,
   CHARACTERIZATION AND CELL-BASED POTENCY OF ACTIVITY OF CHOLESTA-5,7,22,24(25)-TETRAENOL
   AND ERGOSTA-5,7,22,24(28)-TETRAENOL
   Nathan Morrison, Rana Ali

※ 148 - EFFECTS OF DIETARY EICOSAPENTAENOIC ACID SUPPLEMENTATION ON COGNITIVE
   PERFORMANCE IN A BETA AMYLOIDOGENIC MOUSE MODEL
   Philip Mounce

◆ 149 - NEUROBEHAVIORAL DYSFUNCTION INDUCED BY ACUTE STRESS IS AMELIORATED BY THE
   MYOKINE IRISIN IN MALE MICE
   Dominica Moussoki

◆ 150 - GROWTH OF BETA-AMYLOID PLAQUE IN DIFFERENT STAGES OF AD
   Yu Jung Nam

※ 151 - ROBUSTIFICATION OF THE STUDENT’S T-TEST STATISTIC FOR COMPARING TWO MEANS
   Bryan Navas

※ 152 - CHARACTERIZING THE MICROBIOME ALONG THE GUT-BRAIN AXIS IN AN INSECT MODEL, THE
   CRICKET
   Amelia Nutt, Rachel Lahowetz

◆ = Tuesday Presentation: 10:00 a.m. - 11:30 a.m. North Ballroom
※ = Wednesday Presentation: 1:30 p.m. – 3:00 p.m. North Ballroom
◆ = Commercialization Track Presentations
153 - ANIMAL MODEL FOR NA,K ATPASE-RELATED CHARCOT-MARIE TOOTH DISEASE TYPE 2
   Karrie Oliver

154 - FIRST AIRBORNE LIDAR MEASUREMENTS OF COLUMNAR CO2 CONTENT ACROSS SUMMERTIME
   FRONTAL BOUNDARY IN THE EASTERN US
   Orin Gotchey

155 - THE EFFECTS OF PREDATOR-BASED STRESS IN THE DEVELOPMENT OF POST-TRAUMATIC
   STRESS DISORDER (PTSD) IN A MOUSE MODEL
   Kajal Parikh

156 - USING CRISPR CAS13A TO COMBAT THE FLU VIRUS AT THE GENETIC LEVEL: A NEW APPROACH
   TO FLU TREATMENT
   Matthew Parker

157 - DOES GRINDING AFFECT THE DIVERSITY OF MICROBIAL SPECIES POPULATION IN CLAY SAMPLES
   FROM AROUND THE UNITED STATES?
   Radha Patel

158 - EFFECTS ON SOCIABILITY AFTER PREDATOR SCENT EXPOSURE IN EARLY-LIFE STRESSED MICE
   Alyssa Patterson

159 - BICULTURAL STRESS ON SUICIDAL IDEATION AND ALCOHOL USE FOR MEXICAN DESCENT
   ADOLESCENTS AND EMERGING ADULTS: EXAMINING COPING STYLES
   Cynthia Perez

160 - IDENTIFICATION OF DEFENSE MECHANISMS REQUIRED FOR PSEUDOMONAS AERUGINOSA
   SURVIVAL IN POLYMICROBIAL CONTEXTS
   Brenley Perez, Jeremie Morris

161 - LIPID IMBALANCE LEADS TO REDUCED RNA AND PROTEIN LEVELS IN LEISHMANIA MAJOR
   PARASITE
   Andrea Perez

162 - THE ROLES OF IMPULSIVE PERSONALITY AND PROMISED MONETARY GAINS IN PHISHING EMAIL
   SUSCEPTIBILITY
   Sibbie Priestly

163 - THE ROLE OF SM-P80-SPECIFIC ANTIBODIES IN PROTECTION AGAINST SCHISTOSOMA MANSONI
   CHALLENGE INFECTION IN MICE
   Madison Rattan

164 - ANALYSIS OF THE TEXAS TECH ATMOSPHERIC MICROBIOME AND ITS CORRELATION TO WEATHER
   PATTERNS
   Nandini Ray
POSTER PRESENTATIONS

INDEX

* 165 - INVESTIGATING ABERRANT EXPOSED SURFACE N-GLYCOsyLATION PATTERNS IN BREAST CANCER BRAIN METASTASIS
  Akhila Reddy

* 166 - HEME TOXICITY IN THE HOST ENVIRONMENT SELECTS FOR ANTIBIOTIC RESISTANT STAPHYLOCOCCUS AUREUS
  Kate Rentschler

* 167 - CAUSAL RELATIONSHIP BETWEEN PARENTAL ELEVATED SALT CONSUMPTION AND THE DEVELOPMENT OF AUTISM SPECTRUM DISORDER IN OFFSPRING
  Noah Reyes

* 168 - RELATIONSHIP AMONG CORTICOSTERONE, STRESS, ANXIETY, AND MEMORY IN AN APPSWE/PS1DE9 MOUSE MODEL OF ALZHEIMER’S DISEASE
  Breanna Roberts

* 169 - LOVE IS BLIND IN A MIXED WORLD OF HYBRIDS: INVESTIGATING MAMMALIAN HYBRIDIZATION SYSTEMS
  Marissa Rodríguez

* 170 - COMPARING PERIPHERAL ORGAN MASSES IN AN AMYLOID BETA-GENIC ALZHEIMER’S DISEASE MOUSE MODEL (APPswe/PS1DE9)
  Neel Roy

* 171 - SKIN TEMPERATURE AND HIGH DEW POINT IN HOT ENVIRONMENTS AFFECTS SELF-PACED EXERCISE
  Paolo Miguel Salvador

* 172 - EXAMINING CHARACTER AND OUTCOME VALENCE IN CONfabULATION FOR MISSING SCENES
  Shashidhar Sastry

* 173 - IDENTIFYING THE SOURCE OF NORADRENERGIC INPUT TO THE DEFENSIVE MIDBRAIN
  Rachel Scott

* 174 - MORE THAN JUST A LEADER: HOW PERCEPTIONS PLAY THE MOST IMPORTANT LEADERSHIP ROLE
  Ashley Shockley, Bailey Smith

◆ = Tuesday Presentation: 10:00 a.m. - 11:30 a.m. North Ballroom
★ = Wednesday Presentation: 1:30 p.m. – 3:00 p.m. North Ballroom
◉ = Commercialization Track Presentations
175 - CONSERVATION GENOMICS OF PLANT POPULATIONS IN GUADALUPE MOUNTAINS NATIONAL PARK USING HERBARIUM SPECIMENS
   Madeline Slimp

176 - CONVERSION OF IMINES TO SECONDARY AMINES USING IRON-CATALYSED HYDROSILYLATION
   Cecilia Smith

177 - MECHANISMS OF UPREGULATION OF SLC6A14 IN PANCREATIC CANCER
   Logan Smoot

178 - DISCRIMINANT VALIDITY OF THE PROSOCIAL BEHAVIOR QUESTIONNAIRE
   Deborah Sodipe

179 - SEX DETERMINATION IN SALIX PHLEBOPHYLLA
   Samantha M Soto

180 - TESTICULAR HISTOPATHOLOGY IN AN ALZHEIMER’S DISEASE MODEL
   Emily Stephens

181 - CHARACTERIZATION OF COMPOUNDS THAT HAVE APPLICATIONS IN LIGHT-TO-ELECTRICITY CONVERSIONS
   Nihmal Sukran

182 - THE FORMAL RULES OF INFORMAL SYNTAX: ARE ENGLISH GRAMMAR RULES RELEVANT IN 2019?
   Michael Tagliabue

183 - THE EFFECT OF DUST STORM PARTICLES ON HUMAN LUNG CELLS COLONIES BEHAVIOR
   Ayomide Tairu

184 - MUTAGENESIS OF THE PORE FORMING TOXIN STREPTOLYSIN O TO STUDY ROLE OF STRUCTURAL FEATURES IN MEMBRANE REPAIR RESPONSES AND CYTOTOXICITY
   Darron Tharp

185 - TEACHING SPECTROSCOPY TO NEW ASTRONOMERS
   Daniel Thomas

186 - GREEN AFTER OPERATING A MACHINE: EVALUATING THE RESTORATIVE EFFECT IN A TSA BAGGAGE-SCREENING TASK
   Alexandra Travis, Raelyn Curiel

187 - REVERSED-BILAYER VESICLES SELF-ASSEMBLED FROM PNICTOGEN CAGES. QUANTIFYING THE INFLUENCE OF THE TAIL LENGTH AND NUMBER
   Henry Trubenstein
**POSTER PRESENTATIONS**

**INDEX**

※ 188 - ENZYMATIC SYNTHESIS OF DECARBOXYLATED S-ADENOSYL METHIONINE IN ERYTHROXYLUM COCA
   Nikke Tweet

※ 189 - BRAIN ACTIVATION IN MALTREATED YOUTH WITH POST TRAUMATIC STRESS SYMPTOMS DURING AN EMOTION WORD PROCESSING TASK
   Leni Varghese

※ 190 - MINIMAL COMPOSITION OF THE STATOR STALK OF ATP SYNTHASE
   Carina Vasquez

※ 191 - ASSESSING THE GENETIC DIVERSIFICATION OF BATS
   Irene Vasquez

※ 192 - INCREASED ABIOTIC STRESS TOLERANCE IN ARABIDOPSIS THALIANA THROUGH MULTIPLE GENE OVEREXPRESSION
   Christine Vu

※ 193 - KNOCKOUT OF MICRORNA BIOGENESIS GENE LEADS TO CHANGES IN RIBOSOMAL CONTENT AND DISTRIBUTION IN COLON CANCER CELLS
   Tingzeng Wang

※ 194 - UNEDITED LANGUAGE DIFFERENCES BETWEEN DEMENTIA PATIENTS AND CAREGIVERS
   Jaclyn Paige Williams

※ 195 - MODULATING HALOGEN BOND STRENGTH WITH A REDOX SWITCH
   Vivian Woh

※ 196 - ELUCIDATING THE GENETIC MECHANISMS INVOLVED IN THERMOREGULATION OF PSEUDOMONAS AERUGINOSA BIOFILMS
   Kiddist Yihunie, Alex Luecke

※ 197 - GD2 SYNTHESIS IN NEUROBLASTOMA CELLS
   Christina Zhu

◆ = Tuesday Presentation: 10:00 a.m. - 11:30 a.m. North Ballroom
※ = Wednesday Presentation: 1:30 p.m. – 3:00 p.m. North Ballroom
◎ = Commercialization Track Presentations
Education

* 198 - CHARACTERIZING NOVEL PATIENT-DERIVED CELL LINES AND XENOGRAPHS WITH THE ALTERNATIVE LENGTHENING OF TELOMERES PHENOTYPE
  Charles Zhu

* 199 - THE IMPACT OF PROJECT-BASED LEARNING ON STUDENT INTEREST IN STEM THROUGH THE CONSERVATION OF SEA TURTLES
  Brianna Crosier

* 200 - RESEARCH IN ACTION: APPLYING ACCESSIBILITY FIELD STUDIES TO DEVELOPING INTERACTIVE EDUCATOR WORKSHOPS
  Alixandria Gavin

* 201 - HUMANITIES-DRIVEN STEM: UNDERSTANDING ENGINEERING IDENTITY AND EMPATHY
  Hannah Keaty

* 202 - EVALUATING THE IMPACT OF THE TELEVISION SHOW DANIEL TIGER’S NEIGHBORHOOD ON CHILDREN WITH AUTISM SPECTRUM DISORDER
  George Kirtana, Abdi Novin

Engineering

* 203 - A FLEXIBLE STRAIN SENSOR FOR MONITORING BIOMECHANICAL DISORDERS
  Bolutito Babatunde

* 204 - HIGH VELOCITY IMPACT TESTING FOR EVALUATION OF INTERMETALLIC PROJECTILES
  Colton Cagle

* 205 - DETERMINING AND COMPARING OPTIMAL RATIO OF SMA AND ZSMA IN CREATING NANODISCS FOR MEMBRANE PROTEIN STUDIES
  Adam Castillo

* 206 - LUBRICANT SIMULATION WITH MOLECULAR DYNAMICS
  Benjamin Dankesreiter

* 207 - THE HYDRODYNAMICS OF NEEDLE-FREE INTRADERMAL JET INJECTION
  Justin Davis

* 208 - REALIZING TD PHASE AT ROOM TEMPERATURE IN ULTRATHIN MOTE2
  Ye Gaihua

* 209 - MODELLING THE EFFECTS OF DWELL TIMES ON SHAPE RECOVERY
  Garrett Gruss
POSTER PRESENTATIONS

INDEX

◆ 210 - 4D PRINTING WITH PLA/PHA
Elizabeth Gomez

◆ 211 - CONSTRUCTION OF ROBUST SATELLITE RELATIVE MOTION GEOMETRIES
Jackson Kulik

◆ 212 - EVALUATION OF THE EFFECTIVENESS OF POLYBETAINES AS PARAFFIN INHIBITORS
Anam Mahmood

◆ 213 - MICRORESONATOR-BASED FREQUENCY COMB GENERATION
Bridget Mann

◆ 214 - INVESTIGATING BUILD ACCURACY FOR 3D PARTS
Christopher O’Neal

◆ 215 - CHEMICALLY FUNCTIONALIZED PAPER-BASED MICROFLUIDIC DETECTION OF HEAVY METAL IONS IN WATER SAMPLES
Tehya Pavelka

◆ 216 - PRACTICAL METALLIZATION OF 3D PRINTED ANTENNAS FOR MICROGRAVITY
Karen Rucker

◆ 217 - DEBRIS IMPACT TORNADO CANNON UNCERTAINTIES
Eva Schexnider

♦ 218 - CYANIDE SENSING IN COMPLEX AQUEOUS MEDIA
Akash Sharma

♦ 219 - A SIMPLE, INEXPENSIVE FLUORESCENT SENSOR FOR CU2+
Chidera Ugwu

♦ 220 - 3-D CELL MICROENVIRONMENT WITH WOUND-ON-A-CHIP
Caulen Ward

◆ = Tuesday Presentation: 10:00 a.m. - 11:30 a.m. North Ballroom
♦ = Wednesday Presentation: 1:30 p.m. – 3:00 p.m. North Ballroom
★ = Commercialization Track Presentations
Human Sciences

- **221 - FAMILY MEMBERS OF LOVED-ONES WITH A SUD: ASSOCIATIONS BETWEEN PFC AND FAMILY FUNCTIONING**
  Hannah Agner, Kipp Bennett-Chew

- **222 - ADENOVIRAL PROTEIN E4ORF1 REQUIRES THE DISTAL INSULIN SIGNALING TO ENHANCE MOLECULAR SIGNALING FOR CELLULAR GLUCOSE UPTAKE**
  Genesy Aickareth

- **223 - PARENTAL LANGUAGE INPUT AND POSITIVE AFFECT: IMPLICATIONS FOR EMERGENT CHILD VOCABULARY**
  Kimberly Brown, Ashley Klingensmith

- **224 - WOMEN IN HIGH PAYING POSITIONS: A RARE BREED**
  Buie Jordan

- **225 - MOTHER-CHILD CONVERSATION AND CHILDREN’S MEMORY/SUGGESTIBILITY FOR A MILD STRESSOR**
  Mari Carrillo

- **226 - EMOTIONAL STROOP FOR COLOMBIAN CHILDREN WITH PTSD**
  Breanna Chavez, Jennifer Adjei-Mosi

- **227 - EFFECTS OF MATERNAL FISH OIL SUPPLEMENTATION ON METABOLIC SYNDROME AND LIVER INFLAMMATION IN OFFSPRING**
  Stephani Clevenger

- **228 - BORROWING POWER: RESISTANCE IN U.S. CAPOEIRA GROUPS**
  Sydney Crowley

- **229 - EXAMINING THE RELIABILITY AND VALIDITY OF RELATIONSHIP SATISFACTION, LOVE, CONFLICT, AND COMMITMENT SINGLE-ITEM MEASURES**
  Karsen Davis. Kenzi Callaway

- **230 - MEN, CHRONIC PAIN, AND PRESCRIPTION PAIN MEDICATION USE: THE ROLE OF GENDER ROLE BELIEFS**
  Betsaida Delgado

- **231 - THE RELATIONSHIP OF PERSONALITY TRAITS TO SUPERNATURAL BELIEFS, RELIGIOUS COMMITMENT, AND ONE’S WILLINGNESS TO FACE DIFFICULT EXISTENTIAL QUESTIONS**
  Jared Grover, Tidwell Emma
POSTER PRESENTATIONS

INDEX

◆ 232 - ROUX-EN-Y GASTRIC BYPASS (RYGB) SURGERY RESTORES REWARD-RELATED GENES IN THE MESOLIMBIC PATHWAY IN DIET-INDUCED OBESE MICE
    Christyn Harkins

◆ 233 - DELTA-TOCOTRIENOL AND TART CHERRY ANTHOCYANIN REDUCES INFLAMMATION IN 3T3-L1 ADIPOCYTES
    Lexie Harlan

◆ 234 - ROLE OF ADIPOSE DERIVED HYPERTENSIVE HORMONE ANGIOTENSIN II IN BREAST CANCER CELL METABOLISM
    Arelys Hernandez

★ 235 - COMPASSION, RELIGIOUS COMMITMENT, AND RELIGIOUS BELIEFS
    Molly Hoehn, Jenny Shaw

◆ 236 - DESIGNING FOR GREEN BEHAVIOR
    Kayla Johnson

◆ 237 - AUTISM SYMPTOM SEVERITY AND PATTERNS OF INTELLIGENCE: A FOCUS ON PERFORMANCE VERSUS VERBAL IQ
    Jiyeon Kim

◆ 238 - ASSESSING CAMPUS CLIMATE: IMPLICATIONS FOR MENTAL HEALTH AND WELL-BEING OF LGBTQ+ STUDENTS, FACULTY, AND STAFF
    Matthew Koehl

◆ 239 - TRANSITIONING IN LIFE
    Alexandra Kuehler

◆ 240 - HYPERTENSION, PHYSICAL HEALTH, RELATIONAL EXPERIENCES, AND ER VISITS
    Darian Lopez

◆ 241 - ROLE OF SPHINGOMYLINASE IN CELL MEMBRANE REPAIR AFTER EXPOSURE TO BACTERIAL PORE FORMING TOXINS
    Leonardo Lopez

◆ = Tuesday Presentation: 10:00 a.m. - 11:30 a.m. North Ballroom
★ = Wednesday Presentation: 1:30 p.m. – 3:00 p.m. North Ballroom
◎ = Commercialization Track Presentations
242 - METABOLIC EFFECTS OF VITAMIN D AND FISH OIL ON OBESITY
Brennan Mabry

243 - ANALYSIS OF SHORT-TERM MEMORY IN AN AGED APPSWE/PSEN1DE9 MOUSE MODEL OF ALZHEIMER’S DISEASE
Jordan Myers

244 - LOWER HEALTH-RELATED QUALITY OF LIFE (HRQL) IS ASSOCIATED WITH LESS FAT MASS REDUCTION DURING INITIAL WEIGHT LOSS: IMPLICATIONS FOR EARLY INTERVENTION
Hannah Olvera

245 - THE EFFECT OF REDUCING SEDENTARY BEHAVIOR ON STRESS AND ANTHROPOMETRIC OUTCOMES: A PILOT STUDY
Hannah Olvera

246 - DIFFERENCES IN REGIONAL GREY MATTER VOLUME PREDICT FASTER REACTION TIMES IN TASK PERFORMANCE: A VOXEL-BASED META-ANALYSIS
Jason Peirce

247 - ESTABLISHING MICROBIAL BASELINES IN POULTRY PROCESSING FACILITIES AT CURRENT AND INCREASED SPEED LINES
Indhira Pulinario

248 - THE NAZI POLITICS OF IMPRISONMENT: AN INQUEST INTO POLITICAL PRISONERS IN THE NAZI CONCENTRATION CAMPS
Michael Richardson

249 - IMPACT OF INTERNET PLATFORM USE ON EMAIL PHISHING ACTIONS TAKEN
Audrianna Rojas

250 - THE LINKS BETWEEN BEHAVIORAL AND PHYSIOLOGICAL REGULATION AND CHILDREN’S PROBLEM BEHAVIOR
Arlene Salazar

251 - 2018 NAGDCA RETIREMENT PLANNING COMPETITION
Cogan Sarah

252 - MEDICAL SYSTEMS REVIEW: A COMPARISON OF HEALTHCARE INDICATORS IN JAPAN AND THE US
Pheem Sopontammarak

253 - GOODNESS OF FIT: DO MOTHERS’ PERCEPTIONS CONTRIBUTE TO CHILDREN’S PRO-SOCIAL BEHAVIORS?
Katheryn Webb, Alexandra Abide
POSTER PRESENTATIONS

INDEX

* 254 - EFFECTS OF OMEGA-3 POLYUNSATURATED FATTY ACIDS IN REDUCING INFLAMMATION AND IMPROVING METABOLISM IN HEPG2 LIVER CELLS
  Savanna Wilson

Media and Communications

* 255 - THE WAR BETWEEN FREEDOM AND PROFIT: FAKE NEWS AND HUMAN TRAFFICKING
  Sydney Brammer

* 256 - POLITICAL STORYTELLING: THE WORD ON THE WORDS
  Taylor Plate

* 257 - “THERE ARE TWO SIDES TO EVERY STORY”: CONFLICTING MESSAGES AT THE MOB MUSEUM
  Caroline Whittenburg

Visual & Performing Arts

* 258 - CREATIVE ARTS DURING PRENATAL EDUCATION
  Lilian Pham

◆ = Tuesday Presentation: 10:00 a.m. - 11:30 a.m. North Ballroom
✿ = Wednesday Presentation: 1:30 p.m. – 3:00 p.m. North Ballroom
◉ = Commercialization Track Presentations
Undergraduate Research Conference
Oral Presentations

Conference attendees are invited to go on a “listening tour” to hear presentations from undergraduate students on their new and exciting research discoveries!

The following pages provide detailed descriptions and locations of each research project to help you plan which presentations you are interested in hearing. Oral Presentation Index by discipline can be found on pages 54-56.
<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Title</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00 PM - 3:40 PM</td>
<td>Student Union Canyon Room</td>
<td><strong>ORAL PRESENTATIONS - PANEL 1</strong></td>
<td></td>
</tr>
<tr>
<td>259</td>
<td></td>
<td>CASE STUDIES IN THE UNDERGRADUATE CLASSROOM: PREPARING STUDENTS FOR SUCCESS</td>
<td>Lauren Brawley, Heavenly Freeman</td>
</tr>
<tr>
<td>273</td>
<td></td>
<td>¿SI SE PUEDE?: AN IN-DEPTH EXAMINATION OF RURAL WASHINGTON LATINX STUDENTS EXPERIENCES IN HIGHER EDUCATION</td>
<td>Ereisa Morales</td>
</tr>
<tr>
<td>274</td>
<td></td>
<td>RETENTION RATES FOR FIRST GENERATION MALE HISPANIC STUDENTS AT FOUR YEAR PUBLIC UNIVERSITIES</td>
<td>Alejandra Viveros</td>
</tr>
<tr>
<td>2:00 PM - 3:40 PM</td>
<td>Student Union Mesa Room</td>
<td><strong>ORAL PRESENTATIONS - PANEL 2</strong></td>
<td></td>
</tr>
<tr>
<td>262</td>
<td></td>
<td>INVESTIGATION OF BOUNDARY LAYER MIXING OF PASSIVE TRACERS AFTER EVENING TRANSITION PERIOD</td>
<td>Nicholas Clark</td>
</tr>
<tr>
<td>269</td>
<td></td>
<td>ANTI-INFLAMMATORY EFFECTS OF TART CHERRY IN ADIPOSE TISSUE</td>
<td>Alexandra Miranda</td>
</tr>
<tr>
<td>283</td>
<td></td>
<td>EFFECTS OF FISH OIL AND ROLE OF UNCOUPLING PROTEIN 1 IN BROWN ADIPOSE TISSUE METABOLISM IN THERMONEUTRAL ENVIRONMENT</td>
<td>Emily Miller</td>
</tr>
<tr>
<td>284</td>
<td></td>
<td>MECHANISMS MEDIATING THE PROTECTIVE EFFECTS OF CURCUMIN IN HIGH FAT DIET-INDUCED OBESITY IN MICE</td>
<td>Robin Okpara</td>
</tr>
<tr>
<td>2:00 PM - 3:40 PM</td>
<td>Student Union Playa Room</td>
<td><strong>ORAL PRESENTATIONS - PANEL 3</strong></td>
<td></td>
</tr>
<tr>
<td>280</td>
<td></td>
<td>THE MORAL STATUS OF ARTIFICIALLY INTELLIGENT ENTITIES</td>
<td>Gavin House</td>
</tr>
<tr>
<td>281</td>
<td></td>
<td>COGNITIVE DISTORTION IN THE RELIABILITY OF PERFORMANCE APPRAISALS OF IT PROFESSIONAL</td>
<td>Mayra Maldonado</td>
</tr>
<tr>
<td>285</td>
<td></td>
<td>FORNICATION OVER PROCREATION: THE RELATIONSHIP OF ABSTINENCE-BASED SEX EDUCATION AND SOCIOSEXUALITY</td>
<td>Taylor Perry-Crawford</td>
</tr>
<tr>
<td>287</td>
<td></td>
<td>A STUDY OF BLIND SUBMISSIONS AT UNIVERSITY PRESSES</td>
<td>Jordan Butler</td>
</tr>
<tr>
<td>2:00 PM - 3:40 PM</td>
<td>Student Union Traditions Room</td>
<td><strong>ORAL PRESENTATIONS - PANEL 4</strong></td>
<td></td>
</tr>
<tr>
<td>265</td>
<td></td>
<td>WOUNDS, MEDICINE, AND THE SOUL IN LUCRETIUS</td>
<td>Colby Gordon</td>
</tr>
<tr>
<td>267</td>
<td></td>
<td>TRANSFORMATION AND THE SOUL IN OVID’S METAMORPHOSES</td>
<td>Emma McSpadden</td>
</tr>
<tr>
<td>270</td>
<td></td>
<td>ANALYZING EXPERT AND NOVICE WRITERS’ LANGUAGE USE IN FICTION</td>
<td>Shashidhar Sastry</td>
</tr>
</tbody>
</table>
| 288          |                 | AN EPIC COLLABORATION: PISCATOR’S CONTRIBUTION TO BRECHTIAN THEATRE   | McKenzie Pearce
### ORAL PRESENTATIONS - PANEL 5

**9:30 AM - 11:10 AM**
Student Union  
Canyon Room

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>263</td>
<td>CASE STUDIES FOR STUDENTS GOING INTO TECHNICAL INDUSTRIES</td>
<td>Heavenly Freeman</td>
</tr>
<tr>
<td>266</td>
<td>ENGAGING IN LEARNING AND LEARNING WHILE ENGAGING: A VLA HANDS-ON ACTIVITY ON THE MULTI MESSENGER DISCOVERY OF GW170817</td>
<td>Heather Harbin, Priyadarshini Rajkumar</td>
</tr>
<tr>
<td>271</td>
<td>IMPACT OF AUTOMATION IN ACCOUNTING AND ITS EFFECTS ON NEW GRADUATES</td>
<td>Tien Hoang</td>
</tr>
<tr>
<td>272</td>
<td>EXPLORING MINORITY ENTREPRENEURSHIP FROM THE INSIDE OUT</td>
<td>Kiera Nevels-Washington</td>
</tr>
</tbody>
</table>

### ORAL PRESENTATIONS - PANEL 6

**9:30 AM - 11:00 AM**
Student Union  
Mesa Room

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>261</td>
<td>THE RADICAL INCEL MOVEMENT</td>
<td>Austin Stubblefield</td>
</tr>
<tr>
<td>275</td>
<td>HOW BICYCLE SADDLE ERGONOMICS AFFECTS MEN’S HEALTH</td>
<td>Elizabeth Jackson</td>
</tr>
<tr>
<td>276</td>
<td>EFFECTS OF SPARK LOCATION ON IGNITION PROCESS OF AN ANNULAR MULTI-INJECTOR COMBUSTOR</td>
<td>Tristan Smits, Rosa Moreno</td>
</tr>
<tr>
<td>277</td>
<td>RAMAN FINGERPRINT OF TWO TERAHERTZ SPIN WAVE BRANCHES IN A TWO-DIMENSIONAL HONEYCOMB ISING FERROMAGNET</td>
<td>Eric Wauer</td>
</tr>
</tbody>
</table>

### ORAL PRESENTATIONS - PANEL 7

**9:30 AM - 11:00 AM**
Student Union  
Playa Room

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>278</td>
<td>A SYNOPSIS OF SOCIAL DETERMINANTS OF HEALTH AND OF EFFECTIVE HEALTHCARE DELIVERY</td>
<td>Adrian Falco</td>
</tr>
<tr>
<td>279</td>
<td>TURNING HEADS: THE ETHNOGRAPHIC BUSTS AND ARTWORK AT THE ROYAL MUSEUM FOR CENTRAL AFRICA</td>
<td>Joanne Aire-Oaihimore</td>
</tr>
<tr>
<td>282</td>
<td>GREENING THE GHETTO</td>
<td>Kennedy Miller</td>
</tr>
</tbody>
</table>

### ORAL PRESENTATIONS - PANEL 8

**9:30 AM - 11:00 AM**
Student Union  
Traditions Room

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>260</td>
<td>THE EFFECTS OF GUN LAWS ON GUN VIOLENCE</td>
<td>Brice Brown</td>
</tr>
<tr>
<td>264</td>
<td>SELF-CONCEPT CLARITY IN BIRACIAL INDIVIDUALS: ASSOCIATIONS WITH WELL-BEING</td>
<td>Mercedez Fuentes</td>
</tr>
<tr>
<td>268</td>
<td>TECH MODEL UNITED NATIONS REPRESENTING ETHIOPIA AT MODEL UNITED NATIONS FAR WEST</td>
<td>Luis Meade, Marisa Carrion</td>
</tr>
<tr>
<td>286</td>
<td>TOWARDS THE IMPROVEMENT OF GOVERNMENT POLICIES IN HELPING INDIGENT PEOPLE IN METRO MANILA</td>
<td>Healy Mareh Reyes, Maria Danica Rina Constantino</td>
</tr>
</tbody>
</table>
259 - CASE STUDIES IN THE UNDERGRADUATE CLASSROOM: PREPARING STUDENTS FOR SUCCESS
Lauren Brawley, Heavenly Freeman (Panel 1)

260 - THE EFFECTS OF GUN LAWS ON GUN VIOLENCE
Brice Brown (Panel 8)

261 - THE RADICAL INCEL MOVEMENT
Austin Stubblefield (Panel 6)

262 - INVESTIGATION OF BOUNDARY LAYER MIXING OF PASSIVE TRACERS AFTER EVENING TRANSITION PERIOD
Nicholas Clark (Panel 2)

263 - CASE STUDIES FOR STUDENTS GOING INTO TECHNICAL INDUSTRIES
Heavenly Freeman (Panel 5)

264 - SELF-CONCEPT CLARITY IN BIRACIAL INDIVIDUALS: ASSOCIATIONS WITH WELL-BEING
Mercedez Fuentes (Panel 8)

265 - WOUNDS, MEDICINE, AND THE SOUL IN LUCRETIUS
Colby Gordon (Panel 4)

266 - ENGAGING IN LEARNING AND LEARNING WHILE ENGAGING: A VLA HANDS-ON ACTIVITY ON THE MULTI-MESSENGER DISCOVERY OF GW170817
Heather Harbin, Priyadarshini Rajkumar (Panel 5)

267 - TRANSFORMATION AND THE SOUL IN OVID’S METAMORPHOSES
Emma McSpadden (Panel 4)

268 - TECH MODEL UNITED NATIONS REPRESENTING ETHIOPIA AT MODEL UNITED NATIONS FAR WEST
Luis Meade, Marisa Carrión (Panel 8)

269 - ANTI-INFLAMMATORY EFFECTS OF TART CHERRY IN ADIPOSE TISSUE
Alexandra Miranda (Panel 2)

270 - ANALYZING EXPERT AND NOVICE WRITERS’ LANGUAGE USE IN FICTION
Shashidhar Sastry (Panel 4)
Business Administration

271 - IMPACT OF AUTOMATION IN ACCOUNTING AND ITS EFFECTS ON NEW GRADUATES
Tien Hoang (Panel 5)

272 - EXPLORING MINORITY ENTREPRENEURSHIP FROM THE INSIDE OUT
Kiera Nevels-Washington (Panel 5)

Education

273 - ¿SI SE PUEDE?: AN IN-DEPTH EXAMINATION OF RURAL WASHINGTON LATINX STUDENTS EXPERIENCES IN HIGHER EDUCATION
Ereisa Morales (Panel 1)

274 - RETENTION RATES FOR FIRST GENERATION MALE HISPANIC STUDENTS AT FOUR YEAR PUBLIC UNIVERSITIES
Alejandra Viveros (Panel 1)

Engineering

275 - HOW BICYCLE SADDLE ERGONOMICS AFFECTS MEN’S HEALTH
Elizabeth Jackson (Panel 6)

276 - EFFECTS OF SPARK LOCATION ON IGNITION PROCESS OF AN ANNULAR MULTI-INJECTOR COMBUSTOR
Tristan Smits, Rosa Moreno (Panel 6)

277 - RAMAN FINGERPRINT OF TWO TERAHERTZ SPIN WAVE BRANCHES IN A TWO-DIMENSIONAL HONEYCOMB ISING FERROMAGNET
Eric Wauer (Panel 6)

Human Sciences

278 - A SYNOPSIS OF SOCIAL DETERMINANTS OF HEALTH AND OF EFFECTIVE HEALTHCARE DELIVERY
Adrian Falco (Panel 7)

279 - TURNING HEADS: THE ETHNOGRAPHIC BUSTS AND ARTWORK AT THE ROYAL MUSEUM FOR CENTRAL AFRICA
Joanne Aire-Oaihimire (Panel 7)

280 - THE MORAL STATUS OF ARTIFICIALLY INTELLIGENT ENTITIES
Gavin House (Panel 3)
281 - COGNITIVE DISTORTION IN THE RELIABILITY OF PERFORMANCE APPRAISALS OF IT PROFESSIONAL
Mayra Maldonado (Panel 3)

282 - GREENING THE GHETTO
Kennedy Miller (Panel 7)

283 - EFFECTS OF FISH OIL AND ROLE OF UNCOUPLING PROTEIN 1 IN BROWN ADIPOSE TISSUE METABOLISM IN THERMONEUTRAL ENVIRONMENT
Emily Miller (Panel 2)

284 - MECHANISMS MEDIATING THE PROTECTIVE EFFECTS OF CURCUMIN IN HIGH FAT DIET-INDUCED OBESITY IN MICE
Robin Okpara (Panel 2)

285 - FORNICATION OVER PROCREATION: THE RELATIONSHIP OF ABSTINENCE-BASED SEX EDUCATION AND SOCIOSEXUALITY
Taylor Perry-Crawford (Panel 3)

286 - TOWARDS THE IMPROVEMENT OF GOVERNMENT POLICIES IN HELPING INDIGENT PEOPLE IN METRO MANILA
Healy Mareh Reyes, Maria Danica Rina Constantino (Panel 8)

Media and Communications

287 - A STUDY OF BLIND SUBMISSIONS AT UNIVERSITY PRESSES
Jordan Butler (Panel 3)

Visual & Performing Arts

288 - AN EPIC COLLABORATION: PISCATOR’S CONTRIBUTION TO BRECHTIAN THEATRE
McKenzie Pearce (Panel 4)
Undergraduate Research Conference
Visual & Performing Arts Exhibition

Conference attendees are invited to see an exhibition of artwork by Texas Tech University School of Art. The students’ artwork exemplifies the School of Art’s range and exploration into multiple mediums, ideas, and theories. Attendees will also have the opportunity to see ensembles featuring undergraduates from the TTU College of Visual and Performing Arts showcase their creative scholarship through performances in theatre, dance, and music.

Visual & Performing Arts Session
Friday April 5, 2019
6:00 p.m. – 8:30 p.m.
LHUCA Icehouse
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:05 PM - 6:25 PM</td>
<td>Jacob Nalle (TTU Composition Major)</td>
</tr>
<tr>
<td>LHUCA Icehouse</td>
<td></td>
</tr>
<tr>
<td>6:30 PM - 6:50 PM</td>
<td>Hannah Haeussler &amp; Juliet Wallace</td>
</tr>
<tr>
<td>LHUCA Icehouse</td>
<td></td>
</tr>
<tr>
<td>6:55 PM - 7:15 PM</td>
<td>TTU Theatre Student Performance</td>
</tr>
<tr>
<td>LHUCA Icehouse</td>
<td></td>
</tr>
<tr>
<td>7:20 PM - 7:40 PM</td>
<td>TTU Tango Orchestra</td>
</tr>
<tr>
<td>LHUCA Icehouse</td>
<td></td>
</tr>
<tr>
<td>7:45 PM - 8:05 PM</td>
<td>TTU Theatre Student Performance</td>
</tr>
<tr>
<td>LHUCA Icehouse</td>
<td></td>
</tr>
<tr>
<td>8:10 PM - 8:30 PM</td>
<td>Dancers with Soul</td>
</tr>
<tr>
<td>LHUCA Icehouse</td>
<td></td>
</tr>
<tr>
<td>8:30 PM - 8:35 PM</td>
<td>Closing Remarks</td>
</tr>
<tr>
<td>LHUCA Icehouse</td>
<td></td>
</tr>
</tbody>
</table>
TrUE AFFILIATED PROGRAMS

**CISER Scholars**
- Suha Abdullah
- Daysi Alvarez
- Colton Cagle
- Adam Castillo
- Brianna Crosier
- Adrian Falco
- Paula Garavito
- Elizabeth Jackson
- Shrinidhi Joshi
- Klara Keim
- Andrea Lopez
- Amber Loya
- Alex Luecke
- Sarah Miller
- Mariana Moncrief
- Philip Mounce
- Cynthia Okeke
- Brandon Palomo
- SivaTeja Pati
- Brenley Perez
- Juan Reimondo
- Kate Rentschler
- Breanna Roberts
- Samantha M Soto
- Darron Tharp
- Madeleine Thornley
- Nikke Tweet
- Irene Vasquez
- Xueting Xia

**Honors URS**
- Suha Abdullah
- Hannah Agner
- Chinonye Agu-Udembra
- Hamza Ahmad
- Genesys Aickareth
- Alexandra Abide
- Hermella Andarge
- Stephan Azatian
- Bolutito Babatunde
- Zachary Bailey
- Cody Baker
- Gautam Bakliwal
- Reagan Ball
- Brynn Bednarz
- Lindsey Bishop
- Samantha Brown
- Eric Bui
- Jordan Butler
- Nicholas Clark
- Reagan Collins
- Claire Crawford
- Shane Cristy
- Raelyn Curiel
- Hannah Daniel
- Benjamin Dankesreiter
- Justin Davis
- Yasmine Arabella De Joya
- Haley De Selle
- Betsaida Delgado
- Jacob Dellinger
- Victoria Dennis
- Callie DeWinne
- Adrian Falco
- Sagufta Garasia
- Mario Garcia
- Amelia Gillespie
- Andre Gomez
- Elizabeth Gomez
- Paige Gonzalez
- Jon Goodart
- Orin Gotchey
- Garrett Gruss
- Alexander Ha
- Gabriella Hale
- Heather Harbin
- Christyn Harkins
- Lexie Harlan
- Lucas Hess
- Gavin House
- George Ibarra
- Hannah Jackson
- Kathyleen Jander
- Tatjana Jarvis
- Shrinidhi Joshi
- Karishma Kashyap
- Hannah Keaty
- Klara Keim
- Jiyeon Kim
- George Kirtana
- Matthew Koehl
- Jackson Kulik
- Matthew LeBlanc
- Angela Lee
- Lars Lindgren
- William Little
- Michael Loftis
- Andrea Lopez
- Alex Luecke
- Brennan Mabry
- Anam Mahmood
- Bridget Mann
- Aaron Martinez
- Sheeba Mathew
- Corey McDonald
- Ethan McGee
- Emma McSpadden
- Kaylen Meers
- Armando Mendez
- Brianna Mendoza
- Alexandra Miranda
- Kier Monteverde
- Elizabeth Morger
- Jeremie Morris
- Dominica Moussoki
- Jordan Myers
- Abdi Novin
- Cynthia Okeke
- Karrie Oliver
- Flora Onyeahialam
- Christopher Owen
- Tyson Oyler
- Matthew Parker
- Natalie Parks

#TTUDTI | like us | follow us | tag us
### TrUE AFFILIATED PROGRAMS

<table>
<thead>
<tr>
<th>McNair</th>
<th>Pi2 Scholars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sidney Abeyta</td>
<td>Christopher Allen</td>
</tr>
<tr>
<td>Marqui Benavides</td>
<td>Gensey Aikareeth</td>
</tr>
<tr>
<td>Legrand Bouyi</td>
<td>Hermalla Andarge</td>
</tr>
<tr>
<td>Legrand Bouyi</td>
<td>Ashley Banuelos</td>
</tr>
<tr>
<td>Mercedez Fuentes</td>
<td>Brynn Bednarz</td>
</tr>
<tr>
<td>Paige Gonzalez</td>
<td>Nicholas Clark</td>
</tr>
<tr>
<td>Gabriella Hale</td>
<td>Sydney Crowley</td>
</tr>
<tr>
<td>Genesis Hernandez</td>
<td>Emily DeRuyter</td>
</tr>
<tr>
<td>Colton Hernandez</td>
<td>Colby Gordon</td>
</tr>
<tr>
<td>Tien Hoang</td>
<td>Heather Harbin</td>
</tr>
<tr>
<td>Mayra Maldonado</td>
<td>Lexie Harlan</td>
</tr>
<tr>
<td>Bryan Navas</td>
<td>Shrinidhi Joshi</td>
</tr>
<tr>
<td>Kiera Nevels-Washington</td>
<td>Sumeet Kuthari</td>
</tr>
<tr>
<td>Alejandra Viveros</td>
<td>Brennan Mabry</td>
</tr>
<tr>
<td></td>
<td>Bridget Mann</td>
</tr>
<tr>
<td></td>
<td>Emma McSpadden</td>
</tr>
<tr>
<td></td>
<td>Ethan Michaelson</td>
</tr>
<tr>
<td></td>
<td>Cristobal Moreno</td>
</tr>
<tr>
<td></td>
<td>Flora Onyeahialam</td>
</tr>
<tr>
<td></td>
<td>Taylor Plate</td>
</tr>
<tr>
<td></td>
<td>Kaitlyn Swecker</td>
</tr>
<tr>
<td></td>
<td>Katheryn Webb</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mentor Tech</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercedez Fuentes</td>
</tr>
<tr>
<td>Andrea Lopez</td>
</tr>
<tr>
<td>Breanna Roberts</td>
</tr>
<tr>
<td>Xueting Xia</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SACNAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amber Loya</td>
</tr>
<tr>
<td>Samantha M Soto</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SOWER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fernanda Amaya</td>
</tr>
<tr>
<td>Sabrina Blandon</td>
</tr>
<tr>
<td>Daniela Chavez</td>
</tr>
<tr>
<td>Andres Donoso</td>
</tr>
<tr>
<td>Fabio Antonio Escobar Vasquez</td>
</tr>
<tr>
<td>Maria Elisa Lopez</td>
</tr>
<tr>
<td>Henry Lugo</td>
</tr>
<tr>
<td>Harrison Meek</td>
</tr>
<tr>
<td>Jose Prieto</td>
</tr>
<tr>
<td>Indhira Pulinario</td>
</tr>
<tr>
<td>Kate Webster</td>
</tr>
</tbody>
</table>

**CISER** = Center for the Integration of STEM Education & Research  
**Honors URS** = Honors College Undergraduate Research Scholar  
**SACNAS** = Society for Advancement of Chicanos and Native Americans in Science  
**SOWER** = Sustaining Our World through Education and Research
Spark Conference

The 3rd Annual “Sparking the Future of Innovation” (Spark) Conference brings together inventors, investors, and industry to showcase innovation & entrepreneurship at Texas Tech. Conference attendees are invited to hear from two dynamic entrepreneur speakers, attend three thought-provoking panel discussions, vote on your favorite startup idea during the Lightning Round Reception, and get a front row seat to TTU's own “Shark Tank™-Like” competition.

The pages that follow will give detailed descriptions and locations of all Spark Conference events.
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 AM - 10:00 AM</td>
<td>Spark Conference</td>
</tr>
<tr>
<td>8:30 AM - 4:30 PM</td>
<td>Spark Conference</td>
</tr>
<tr>
<td>10:00 AM - 11:15 AM</td>
<td>Spark Conference</td>
</tr>
<tr>
<td>11:15 AM - 11:30 AM</td>
<td>Networking Break and Poster Showcase</td>
</tr>
<tr>
<td>11:30 AM - 1:00 PM</td>
<td>Spark Conference</td>
</tr>
<tr>
<td>1:00 PM - 1:30 PM</td>
<td>Networking Break and Poster Showcase</td>
</tr>
<tr>
<td>1:30 PM - 2:45 PM</td>
<td>Spark Conference</td>
</tr>
<tr>
<td>2:45 PM - 3:00 PM</td>
<td>Networking Break and Poster Showcase</td>
</tr>
<tr>
<td>3:00 PM - 4:15 PM</td>
<td>Spark Conference</td>
</tr>
<tr>
<td>4:15 PM - 4:30 PM</td>
<td>Networking Break and Poster Showcase</td>
</tr>
<tr>
<td>4:30 PM - 6:00 PM</td>
<td>Spark Conference</td>
</tr>
</tbody>
</table>

**Breakfast and Poster Showcase**

Come and browse the poster showcase and ask questions of the presenters. Don’t forget to vote on your favorite poster for the $500 People’s Choice Award.

**Check-In**

Check in to receive a t-shirt and all conference materials.

**Panel | “Where Are They Now”**

Hear from entrepreneurs who have gone through Innovation Hub programs and have created successful companies. If you are an aspiring entrepreneur, you don’t want to miss this.

**Networking Break and Poster Showcase**

Enjoy refreshments while browsing the poster showcase. Don’t forget to vote on your favorite poster for the $500 People’s Choice Award.

**Keynote Luncheon | “Making Waves”**

Hear the story of how Genevieve Thiers created the first online babysitting platform that now has millions of users. Be inspired by her journey as an entrepreneur and how she is disrupting the tech industry. This event is open to all attendees who are pre-registered.

**Panel | “It Takes a Community to Raise a Startup”**

Join community leaders, and entrepreneurs from Chicago, Boston, Silicon Valley, and Lubbock. This fun and interesting talk will leave you inspired and proud of our community.

**Networking Break and Poster Showcase**

Enjoy refreshments while browsing the poster showcase. Don’t forget to vote on your favorite poster for the $500 People’s Choice Award.

**Panel | “Advocating for Innovation”**

Join TTU and TTUHSC faculty as they share how they are translating innovation discoveries to new high-impact products and services. Learn from leaders on how they support faculty as they begin the journey to making successful companies.

**Networking Break and Poster Showcase**

Enjoy refreshments while browsing the poster showcase. Don’t forget to vote on your favorite poster for the $500 People’s Choice Award.

**Lightning Round Reception and Poster Showcase**

Enjoy appetizers and an open bar while you browse the poster showcase and network with students, faculty, investors, mentors, and community members. The top 10 iLaunch finalists will compete in a “Minute to Pitch It” event and attendees will vote on their favorite idea. Who will win the $1,000 People’s Choice Award?
## Spark Conference | Check-In

8:00 AM - 2:00 PM  
Innovation Hub  
Atrium  

Check in to receive a t-shirt and all conference materials.

## Spark Conference | iLaunch Competition

9:00 AM - 12:30 PM  
Innovation Hub  
Rooms 103-105  

Come and be a part of TTU’s own “Shark Tank”-Like event! As a conference attendee, you will see first-hand how startup founders pitch and the tough questions investors ask.  
* Top 10 iLaunch Finalist descriptions found on page 70  
* Final Round Judges bios found on page 71

## Networking Lunch

12:30 PM - 1:15 PM  
Innovation Hub  
Atrium  

Meal Included  

Enjoy lunch & networking with fellow entrepreneurs, students, investors, and mentors while the iLaunch Competition votes are being tallied.

## “Discoveries to Impact Week” | Closing and Awards

1:15 PM - 2:15 PM  
Innovation Hub  
Atrium  

Come and celebrate the winners of the iLaunch Competition, Poster Showcase, and the Undergraduate Research Presentations!
Spark Conference Poster Showcase

Conference attendees are invited to browse the poster showcase, ask questions of our presenters, and vote on their favorite poster for the $500 “People’s Choice Award.” The poster showcase will feature the 20 finalists from the Undergraduate Research Conference Commercialization Track and the Arts & Medicine Awardees.

The “new” commercialization track in the Undergraduate Research Conference allows students to explore how their research has the potential of commercial application. The Arts & Medicine posters will showcase faculty research from the J.T. & Margret Talkington College of Visual and Performing Arts that integrates the fields of arts and medicine.

The pages that follow provide descriptions of the research posters. Don’t forget to vote for your favorite!
SPARK CONFERENCE POSTER SHOWCASE
COMMERCIALIZATION TRACK

Poster 1- THE USE OF PORTABLE X-RAY FLUORESCENCE SPECTROMETRY FOR THE ASSESSMENT OF DIET DIGESTIBILITY IN SHEEP.
LeGrand Bouyi

Poster 2- WATER FOR EDUCATION: THE RELATIONSHIP BETWEEN DOMESTIC WATER CARRYING AND EDUCATIONAL LEVELS OF WOMEN IN THE SOUTHERN NATIONS, NATIONALITIES, AND PEOPLE’S REGION OF ETHIOPIA
Fabio Antonio Escobar Vasquez

Poster 3- VALIDATION OF THERMAL PROCESSING SCHEDULE TO CONTROL C. PERFRINGENS IN REDUCED MOISTURE BEEF PRODUCTS
María Elisa López

Poster 4- SAFETY VALIDATION FOR DEHYDRATING METHODS OF MALAWI, AFRICA USING NONPATHOGENIC SURROGATE BACTERIA
April Molitor

Poster 5- X-RAY FLUORESCENCE SPECTROMETRY USE IN EXTERNAL MARKERS DETECTION ON BEEF CATTLE SYSTEMS: A VALIDATION ATTEMPT
Michael Sandes

Poster 6- THE ACUTE INCREASE IN SYSTOLIC BLOOD PRESSURE POST-MAXIMAL AEROBIC EXERCISE IS ASSOCIATED WITH CENTRAL ARTERIAL STIFFNESS THAT MAY BE DUE TO CHANGES IN CARDIAC BAROREFLEX SENSITIVITY
Kyleigh Allie

Poster 7- CHRONIC STRESS ALters REARING BEHAVIOR AND HIPPOCAMPAL CA3 REGION STRUCTURE IN WILD-TYPE MICE
Fabiola Arzate

Poster 8- I’LL FEEL GUILTY IF I DON’T FOLLOW THROUGH: GOALS, SELF-CONTROL & ANTICIPATED GUILT
Madeline Flores, Meggan Yancey

Poster 9- INVESTIGATING THE EFFECTS OF SOCIAL INTERACTION IN MINIMIZING STRESS-INDUCED BEHAVIORAL CHANGES IN MICE
Sagufta Garasia

Poster 10- BIOSYNTHETIC PRODUCTION OF TROPANA AND GRANATANE ALKALOIDS
Paula Garavito, Brandon Palomo

Poster 11- IDENTIFYING CELL TYPES THAT INFLUENCE DNASE1L3 PRODUCTION
Cotlon Hernandez

Poster 12- INVESTIGATING THE ROLE OF CONTRACTILE APPARATUS GENES ON NEUROMUSCULAR HEALTH IN C. ELEGANS
Karishma Kashyap

Poster 13- THE CLINICAL SIGNIFICANCE OF STAPHYLOCOCCUS AUREUS SMALL COLONY VARIANTS
Klara Keim

Poster 14- THE CLINICAL SIGNIFICANCE OF POLYMICROBIAL INTERACTIONS ON ANTIMICROBIAL SUSCEPTIBILITY IN THE DIAGNOSTIC LABORATORY
Andrea Lopez

Poster 15- STRUCTURAL INVESTIGATIONS INTO THE SERUM ENDONUCLEASE DNASE1L3, AS IT RELATES TO SYSTEMIC LUPUS ERYTHEMATOSUS
Jon McCord

Poster 16- CATALYTIC REDUCTION OF CO2 IN THE PRESENCE OF BORANES WITH VARIOUS BIPYRIDYL LIGANDS
Corey McDonald

Poster 17- THE EFFECTS OF A PARENTAL HIGH SALT DIET ON COGNITIVE AND BEHAVIORAL DEFICITS
Varsha Misra

#TTUDTI | like us | follow us | tag us | 65
SPARK CONFERENCE POSTER SHOWCASE
COMMERCIALIZATION TRACK

Poster 18 - EXPLORATION OF PYOMELANIN-MEDIATED COOPERATION IN CHRONIC INFECTIONS
Mariana Moncrief
Poster 19 - REVEALING THE NEURAL BASIS OF REST SPACING EFFECTS IN MUSIC SEQUENCE LEARNING
Tyson Oyler, Natalie Parks
Poster 20 - ADAPTIVE GRIP MECHANISM WITH GROSS AND FINE GRIP SWITCHABILITY FOR 3D-PRINTED PROSTHETIC HANDS
SivaTeja Pati
Poster 21 - DEVELOPMENT OF LASER RAMAN SCATTERING INSTRUMENT FOR MAPPING MOLECULAR ROTATIONAL TEMPERATURES IN PLASMAS USED FOR CHEMICAL ANALYSIS
Chad Pesek
Poster 22 - THE EFFECTS OF CHILDHOOD TRAUMA TYPE AND COMPLEXITY ON TIME IN DETENTION
Leigha Puckett
Poster 23 - ORGANO-SELENIUM COATED TEXTILE INHIBITS GRAM-POSITIVE AND GRAM-NEGATIVE BACTERIAL BIOFILM FORMATION
John Reed
Poster 24 - MULTI-OMIC STUDY OF MEMBRACID/ENDOSYMBIONT RELATIONSHIP
Stephen Saltus
Poster 25 - GLUCOSE TOLERANCE IN AN APPSWE/PS1DE9 ALZHEIMER’S DISEASE MOUSE MODEL
Madalynn Sealey
Poster 26 - PROVIDING MEANING THROUGH BIG DATA: OBESITY
Brittany Tu
Poster 27 - DETERMINING THE EFFICACY OF MULTI-ENZYME COCKTAILS TO DEGRADE BIOFILMS
Garrett Welch
Poster 28 - EFFECTS OF PREDATOR ODOR AND HORMONES ON SHORT-TERM MEMORY IN AN APPSWE/PS1DE9 MOUSE MODEL OF ALZHEIMER’S DISEASE
Sabra Williams
Poster 29 - USING NATURE TO FIGHT NATURE: THE CREATION OF BIODEGRADABLE, PLANT-DERIVED ANTIMICROBIAL POLYMERS
Theodora Winter
Poster 30 - DOES GRINDING CHANGE DUST PARTICLES’ SIZE DISTRIBUTION?
Xueting Xia
Poster 31 - STYLEAI: A PERSONALIZED FASHION ASSISTANT
Gautam Bakliwal
Poster 32 - THE EFFECTS OF OBJECT SURFACES AND SHAPES ON HAND GRIP FUNCTION FOR HEAVY OBJECTS
Mario Garcia
Poster 33 - 3-D PRINTED MULTI-LAYER MASK ALIGNMENT DEVICE FOR LOW COST MICROFABRICATION
Hilario Garza
Poster 34 - HOW IS IT POSSIBLE TO CREATE/DESIGN IMPROVED 3D SCAFFOLDS TO USE IN BONE TISSUE ENGINEERING?
Fnu Md Moniruzzaman
Poster 35 - STUDY OF JET AND DROP STABILITY IN NON-NEWTONIAN FLUIDS FOR 3D PRINTING APPLICATIONS
Juan Reimondo
Poster 36 - USES OF ELECTROSPUN NANOFIBERS IN BIOENGINEERING
Kate Ripley
ARTS AND MEDICINE

Poster 1- “REMEMBER THIS: A PARTICIPATORY EXPERIENCE—A PATHWAY TOWARDS GLOBAL SOCIAL ENGAGEMENT WITH DEMENTIA AND RELATED DISEASES”
Rachel Hirshorn, Genevieve Durham-DeCesaro, Tyler H. Davis

Poster 2- INJURY PREVENTION IN UNIVERSITY DANCE STUDENTS THROUGH PILATES AND STRENGTH TRAINING.
Tanya Calamoneri, Ali Duffy, John Harry

Poster 3- “CAN YOU FEEL ME NOW? IMPROVING EMOTIONAL COMMUNICATION VIA SHARED MUSIC LISTENING.”
Peter Martens, Hanna Percival, Lucas Hess, David Sears

*The Commercialization poster presenters are also a part of the Undergraduate Research Conference. Visit pages 27-50 to see the time and location of their presentation.*
COMMERCIALIZATION TRACK JUDGES

Dr. Suhas Pol
Assistant Professor, TTU College of Engineering

Dr. Phil Sizer
Associate Dean for Research, TTUHSC School of Health Professions

Dr. Allie Smith
Assistant Professor, TTU Honors College

Sandra Ryan
Instructor, Rawls College of Business

Dr. Burak Aksak
Assistant Professor, TTU College of Engineering

Priya Gill
Adjunct Professor, TTU College of Engineering

Alejandra Marin
Instructor, TTU Rawls College of Business

Dr. Michael Ryan
Professor, TTU Rawls College of Business

Hutton Jones
Licensing Associate, TTU Office of Research Commercialization

Cameron Smith
Sr. Licensing Manager, TTU Office of Research Commercialization
Spark Conference iLaunch Competition

The iLaunch Competition is TTU’s own “Shark Tank™- like” event! As a conference attendee, you will see first-hand how startup founders pitch and the tough questions investors ask. The top 10 finalists work with Innovation Hub Mentors to prepare their pitch for the $10,000 first-place prize!

In the pages that follow find our top 10 iLaunch Finalists and Final Round Judges.
iLAUNCH TOP 10

GeoBricks
A cheaper and stronger brick with zero carbon footprint for a sustainable future
Team: Suraj Khadka, Priyantha W. Jayawickrama

FatBurnNano
A weight-loss medical product that decrease overweight users’ body fat by >20% and brings >$100M annual revenue to pharmaceutical companies.
Team: Shu Wang, Dr. Yujiao Zu

Hearing the Homeless
A secure crowdfunding platform for the homeless.
Team: Kevin Price

InOut Biome
A non-invasive, non-digestible capsule that can directly sample the fluid in the digestive tract. The InOut Capsule can access all parts of the digestive tract including parts of the small intestines (jejunum and ileum) which have never been able to be sampled before.
Team: Melissa Genetti, Philip Jones

Nickel
Nickel is a social network which works to connect creators to the financial support of fans and build communities through exposing the user to creative work made by local talent.
Team: Seth Shuey, Neil Maro

Pombox
A timed smartphone lockbox that physically separates users from their mobile devices so they can focus on their job, academics, relationships, or sleep
Team: Jared Steele, Raymundo Roig

ReFormance
Exists to connect young athletes, their parents, and their coaches with practical, science-based training programs that will improve their performance and protect them from injury.
Team: Toby Brooks

Therapoints
Aiding in the cognition of fine motor control, this workbook helps people with cognitive difficulties regain functional capacity in their fingers.
Team: Sierra Singleton

U-Wash
A peer-to-peer app-enabled laundry service for college students and junior military members living in dormitories; our mission is to make life easier for our customers by helping them save time and make money.
Team: Sean McGinty, Ryan McKenna, Jack Smith, Joseph Johnson, Caleb Stuffle

VxMED
Center that transforms medical school textbook and lecture content into a virtual reality training experience for 1st- and 2nd-year medical students preparing for board exams.
Team: Antony Betteridge, Nathan Lloyd
FINAL ROUND JUDGES

iLAUNCH COMPETITION

Bobby Baggett
Managing Partner,
Valeo Capital Advisors, Dallas, TX

David Sharbutt
Entrepreneur & Investor,
Lubbock, TX

Calvin Davis
District Director, U.S. Small Business Development Center, Lubbock, TX

Kimberly Gramm
Senior Managing Director,
TTU Innovation Hub, Lubbock, TX

Dirk Dieterich
Entrepreneur & Investor,
Colorado Springs, CO

Jim Messemer
Entrepreneur & Investor,
Silicon Valley, CA

Genevieve Thiers
Entrepreneur & Investor,
Chicago, IL
THANK YOU

to everyone that made this week possible.
THANK YOU
to everyone that made this week possible.

Designed by: Norma Bautista, TTU Graphic Design Senior, TTU Innovation Hub Student Assistant
Texas Tech is committed to nurturing smart ideas that create social or commercial value to drive economic development in West Texas and beyond. We celebrate entrepreneurs at the Innovation Hub.

WE LAUNCH

STARTUPS

$3.5 M
Federal & Internal Grants awarded to Startups

$1.26 M
Innovation Hub Grants received

19
Companies at The Hub

20
Partnerships

15,333
Attendees

4M
Media Hits

12
Startups Launched

12
Programs

305
Events

46
Mentors

Texas Tech University Innovation Hub at Research Park
3911 4th Street | Box 43005 | Lubbock TX 79415
Direct: 806-834-2134
Website: innovationhub.ttu.edu
Texas Tech supports the business community & its entrepreneurs. We invite you to attend our upcoming programs and events to start your entrepreneurial journey today!

OUR PROGRAMS

**Ideation** Programs provide “Access” and support of early stage ideas and creative and innovative research. These programs focus on the “next steps” in the development of taking an idea and making a real product. Introduction to presenting an idea, team formation, customer discovery and how to develop a value proposition are outcomes of the learning.
- Red Raider Idea Competition
- Red Raider Startup
- Hub Camp
- Spark Conference
- iLaunch Competition
- Faculty C-Startup

**Commercialization** Programs focus on nascent startups who have technologies and need to develop an alpha product with an intent for commercial use. Initial validation and assessment of product market fit to prioritize market entry is the focus.
- Proof of Concept
- NSF I-Corp Site
- Southwest NSF I-Corp Alliance Node

**Acceleration** Programs are developed to move teams who have a technology quickly through commercialization and support entrepreneurs through company formation, industry connections to the market, product testing, and initial customer revenue. Acceleration Programs provide seed investment, office space, subject matter expertise and mentorship.
- TTU Accelerator
- “Innovate” TTU Mentor Program (iTTU)
- President’s Innovation Award
100% of TTU undergraduates will have a transformative learning experience.

High impact educational experiences occur both inside and outside the classroom at TTU. The Center for Transformative Undergraduate Experience (TrUE) supports student success by ensuring every TTU undergraduate has the opportunity to engage in transformational learning experiences, such as undergraduate research and creative activities, service learning, field-based learning, and study away.
TrUE supports undergraduate researchers through consultation and funding for research projects and conference travel. TrUE also hosts the annual TTU Undergraduate Research Conference.

TrUE’s Raider Service Breaks (RSB) program offers local, domestic, and international service experiences to the TTU community. RSBs provide participants opportunities to travel, learn, and serve.

281 students from 9 institutions presented poster and oral presentations, artistic performances, and visual art exhibits at the 2018 TTU Undergraduate Research Conference.

2,111 hours of service dedicated to address social and environmental challenges during the 2017-2018 academic year - impacting 4,500+ lives in Texas, Arizona, Louisiana, and Costa Rica.

Over $185,000 awarded to 230 undergraduate researchers to present their work at 138 state, national, and international conferences over the last five years.

250+ students, faculty, & staff participated in Raider Service Breaks in the program's four year history. Participation grew 32% from 2016 to 2017 & 42% from 2017 to 2018.

“This week is about seeing the world beyond our own doorstep, stepping beyond our own comfort zones in order to make meaningful contributions.”

RSB participant
IMAGINE THE FUTURE AND FILL IN THE GAPS.

Brian Halligan CO-FOUNDER & CEO OF HUBSPOT

#LIVELOVELUBBOCK  🌟  🌟  LUBBOCKEDA.ORG
Small Business Makes a Difference!

Try our Free Small Business Checking Account Today.

- Free Fraud Protection
- Free Direct Deposit
- Free Online Bill Pay

Lubbock National Bank has been helping small business owners for more than a century. We are Here for You!
CISER strives to build a **seamless community of science, technology, engineering and math (STEM)** of K-12 students and teachers, undergraduate and graduate students, university faculty, professors, informal science educators, and local, state, and national leaders. Members of this community are involved in a broad spectrum of **STEM education, research, and leadership** activities designed to promote literacy and effective participation in **STEM related careers** and endeavors.

**Undergraduate Research Scholar Program**
Undergraduate Research Scholars 1992-Present
TTU Scholar Service Organization 1997-Present

Questions? Contact julie.isom@ttu.edu
www.ciser.ttu.edu emergingresearch.ciser.ttu.edu/

Do you enjoy **hands-on learning experiences**?

Consider enrolling in an “S” designated **Service Learning class**. Find a list of all service learning courses at www.depts.ttu.edu/true

**Teaching, Learning & Professional Development Center**
For more information on Service Learning at Texas Tech, visit www.servicelearning.ttu.edu
For more information on Service Learning at Texas Tech, visit www.servicelearning.ttu.edu

Do you enjoy hands-on learning experiences? Consider enrolling in an “S” designated Service Learning class. Find a list of all service learning courses at www.depts.ttu.edu/true

Texas Tech University continues to be a leader in diversity and inclusivity, earning a seventh consecutive Higher Education Excellence in Diversity (HEED) Award and its third consecutive recognition as a Diversity Champion. Learn more at: www.ttu.edu/diversity

We have the Graduate program for you.
Over 120 Master's Degrees
Over 60 Doctoral Degrees
Over 70 Graduate Certificates

Discover • Create • Engage

Texas Tech University
Graduate School
T 806.742.2787 | F 806.742.4038
graduate.admissions@ttu.edu
www.gradschool.ttu.edu