
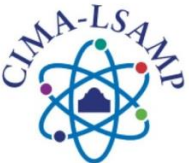




# CIMA 2020 VIRTUAL STEM RESEARCH

## 7<sup>TH</sup> ANNUAL ~ 1<sup>ST</sup> VIRTUAL SYMPOSIUM

St. Philip's College	See Group Presentations	See Group Presentations	<p><b>NASA Research Title:</b> Visualization of Covid-19 and the World.</p> <p><b>Presenter:</b> Marcelina Garcia, IT-Cyber Security</p> <p><b>Research Mentor:</b> Dr. Kiran Bhaganagar, University of Texas at San Antonio</p>	<p><b>Research Title:</b> Plant Metabolite Extraction Protocol and Investigation of Forest Disturbance effects on Costa Rican Howler Monkeys</p> <p><b>Presenter:</b> Christian Ramirez, Microbiology</p> <p><b>Research Mentor:</b> Dr. Mary Kelaita, St. Philip's College</p>	<p><b>Research Title:</b> "Novel 4,4'-dimethoxy-2,2'-dipyridyl copper (II) acetamide complex with remarkable antitumor activity"</p> <p><b>Presenter:</b> Michelle Ochoa, Biology</p> <p><b>Research Mentor:</b> Dr. Rafael Adrian, University of the Incarnate Word</p>
	See Group Presentations	See Group Presentations	<p><b>Research Title:</b> Assessing Learning and Executive Function in Marmosets (<i>Callithrix jacchus</i>) for Human Application</p> <p><b>Presenter:</b> Valjean Romero, Biology</p> <p><b>Research Mentor:</b> Dr. Corinna Ross, Texas A&amp;M University - San Antonio</p>	<p><b>Research Title:</b> Glial Cells: Extracellular Vesicular Release Mechanics and Composition</p> <p><b>Presenter:</b> James Smith, Biology</p> <p><b>Research Mentor:</b> Dr. Natasha Sosanya, U.S. Army Institute of Research (USAISR)</p>	See Group Presentations
	<p><b>NASA Research Title:</b> Portable Modular Wind Sensing Technology</p> <p><b>Presenter:</b> Alejandro Zarate, Engineering</p> <p><b>Research Mentor:</b> Dr. Kiran Bhaganagar, Co-PIs: Daniel Brun, and Ethan Beeman, University of Texas at San Antonio</p>	See Group Presentations	See Group Presentations	See Group Presentations	See Group Presentations
					

Northeast Lakeview College	<p>See Group Presentations</p> <p><b>Research Title:</b> Functional insight into insect TULIP proteins from 3D homology modeling</p> <p><b>Presenter 1:</b> Samin Alikhani, Biology</p> <p><b>Research Mentor:</b> Dr. Robert Renthal, University of Texas at San Antonio</p>	<p>See Group Presentations</p> <p><b>Research Title:</b> Prototype Scalable Solar-Powered Aquaponics System</p> <p><b>Presenter 2:</b> Hannah Fanning, Engineering</p> <p><b>Research Mentor:</b> Klaus Bartels, San Antonio College</p>	<p>See Group Presentations</p> <p><b>Research Title:</b> Creating Efficient and Affordable Face Masks to Combat COVID-19</p> <p><b>Presenter 3:</b> Amethyst Lewis, Biomedical Engineering</p> <p><b>Research Mentor:</b> Ravi Novan, Southwest Research Institute</p>	<p>See Group Presentations</p> <p><b>NASA Research Title:</b> The use of satellite data to predict Sea ice cover in the polar regions</p> <p><b>Presenter 1:</b> Haylie Rachelle Schulmeier, Biology</p> <p><b>Research Mentor:</b> Dr. Wei Wang, Dr. Sushil Prasad, &amp; Dr. Hongjie Xie</p>	<p><b>Research Title:</b> Copper (II) Acetamide Complexes as Potential Anti-Tumor Agents: Synthesis and Structural Characterization</p> <p><b>Presenter:</b> Laura Olguin, General Science</p> <p><b>Research Mentor:</b> Dr. Rafael Adrian, University of the Incarnate Word</p>
	<p><b>Research Title:</b> Mapping Potential Freshwater Conservation Areas in the San Antonio Watershed</p> <p><b>Presenter:</b> Victoria Register, Biology</p> <p><b>Research Mentor:</b> Dr. Brian G. Laub, University of Texas at San Antonio</p>	<p><b>NASA Research Title:</b> Buckling Analysis of Hexachiral Structure for use in Materials at NASA</p> <p><b>Presenter:</b> Lyann Serrano, Mathematics</p> <p><b>Research Mentor:</b> Dr. David Restrepo, University of Texas at San Antonio</p>	<p>See Group Presentations</p> 	<p>See Group Presentations</p> 	<p>See Group Presentations</p> 
Northwest Vista College	<p>See Group Presentations</p> <p><b>NASA Research Title:</b> The use of satellite data to predict Sea ice cover in the polar regions.</p> <p><b>Presenter 2:</b> Nii Nmashie Adjei, Information Assurance and CyberSecurity</p> <p><b>Research Mentor:</b> Dr. Wei Wang, Dr. Sushil Prasad, &amp; Dr. Hongjie Xie</p>	<p>See Group Presentations</p> <p><b>Research Title:</b> Beach Cleaning Robot</p> <p><b>Presenter 2:</b> Keter Cubas, Mechanical Engineering</p> <p><b>Research Mentor:</b> Dr. Dan Dimitriu, San Antonio College</p>	<p><b>Research Title:</b> Mapping Potential Freshwater Conservation Areas in The San Antonio Watershed</p> <p><b>Presenter:</b> Logan Day, Biology</p> <p><b>Research Mentor:</b> Dr. Brian Laub, University of Texas at San Antonio</p>	<p>See Group Presentations</p> <p><b>Research Title:</b> Beach Cleaning Robot</p> <p><b>Presenter 3:</b> Christian De Luna, Mechanical Engineering</p> <p><b>Research Mentor:</b> Dr. Dan Dimitriu, San Antonio College</p>	<p>See Group Presentations</p> <p><b>Research Title:</b> Creating Efficient and Affordable Face Masks to Combat COVID-19</p> <p><b>Presenter 2:</b> Chris Garza, Mechanical Engineering</p> <p><b>Research Mentor:</b> Ravi Novan, Southwest Research Institute</p>
	<p>See Group Presentations</p> <p><b>Research Title:</b> Beach Cleaning Robot</p> <p><b>Presenter 1:</b> Efrain Rivera, Computer Engineering</p> <p><b>Research Mentor:</b> Dr. Dan Dimitriu, San Antonio College</p>	<p><b>Research Title:</b> Utilizing Quantum Dots to Improve Solar Cell Efficiency</p> <p><b>Presenter:</b> Castulo Villagomez, Physics</p> <p><b>Research Mentor:</b> Dr. Arturo Ayon, University of Texas at San Antonio</p>	<p><b>Engineering and Biology</b></p> <p><b>Research Title:</b> Prototype Scalable Solar-Powered Aquaponics System</p> <p><b>Presenter 1:</b> Cameron Feldhusen, Engineering</p> <p><b>Research Mentor:</b> Klaus Bartels, San Antonio College</p>	<p>See Group Presentations</p> 	<p>See Group Presentations</p> 

Palo Alto College	<p><b>Research Title:</b> The Marmoset Aging Project: Marmoset Locomotion</p> <p><b>Presenter:</b> Addaline Alvarez, Biology</p> <p><b>Research Mentor:</b> Dr. Corinna Ross, Texas A&amp;M University --San Antonio</p>	<p><b>Research Title:</b> Artificial burrows as a conservation strategy for the Western Burrowing Owl</p> <p><b>Presenter:</b> Isabel Castro-Martinez, Biology</p> <p><b>Research Mentor:</b> Dr. Robert Miranda, Palo Alto College</p>	<p><b>Research Title:</b> “Synthesis, Characterization and Antitumor Activity of a Novel Copper (II) Acetamide Complex with 4,4’-dimethyl-2,2’-bipyridine as Ancillary Ligand”</p> <p><b>Presenter:</b> Amber Fuentes, Biology</p> <p><b>Research Mentor:</b> Dr. Rafael Adrian, University of the Incarnate Word</p>	<p><b>NASA Research Title:</b> Improving Best Management Practices for Sensitive Karst Features on the Edwards Aquifer Recharge Zone</p> <p><b>Presenter:</b> Raul Flores, Engineering</p> <p><b>Research Mentor:</b> Dr. Yongli Gao, University of Texas at San Antonio</p>	<p><b>NASA Research Title:</b> Intro to Supervised Learning: Linear Regression Analysis</p> <p><b>Presenter:</b> Jacob Lyda, Chemical Engineering</p> <p><b>Research Mentor:</b> Dr. Adel Alaeddini, University of Texas at San Antonio</p>
	<p><b>NASA Research Title:</b> Molecular Dynamics Simulations for Metallic Energy Potentials</p> <p><b>Presenter:</b> David Perez, Engineering</p> <p><b>Research Mentors:</b> Dr. Wei Gao, University of Texas at San Antonio</p>	<p><b>Research Title:</b> Mapping of Fish Biodiversity in the San Antonio Watershed</p> <p><b>Presenter:</b> Jamie Ramos, Biology</p> <p><b>Research Mentor:</b> Dr. Brian Laub, University of Texas at San Antonio</p>	<p><b>Research Title:</b> Analysis of audio recordings to better understand manatee vocalizations</p> <p><b>Presenter:</b> Gabriella Rios, Biology</p> <p><b>Research Mentor:</b> Dr. Robert Miranda, Palo Alto College</p>	<p><b>Research Title:</b> Evaluating the Role of Capillary Stalls and Cerebral Blood Flow in Alzheimer's Disease</p> <p><b>Presenter:</b> Lyndsy Stacy, Biology</p> <p><b>Research Mentor:</b> Dr. Robert Miranda, Palo Alto College</p>	<p>See Group Presentations</p> <p><b>Research Title:</b> A Search for Nitrogen-fixing Microorganisms in Tillandsia recurvata from South Texas</p> <p><b>Presenter 2:</b> Victor Saloum, Biology, Palo Alto College</p> <p><b>Research Mentor:</b> Lourdes Alba, St. Philip’s College</p>
San Antonio College	<p><b>Research Title:</b> Mapping Water Quality Impairments in the San Antonio River Watershed</p> <p><b>Presenter:</b> Skyla Garcia, Biology</p> <p><b>Research Mentor:</b> Dr. Brian Laub, University of Texas at San Antonio</p>	<p>See Group Presentations</p> <p><b>Research Title:</b> <i>Prototype Scalable Solar-Powered Aquaponics System</i></p> <p><b>Presenter 3:</b> Eugenio Elizondo, Biology, San Antonio College</p> <p><b>Research Mentor:</b> Klaus Bartels, San Antonio College</p>	<p><b>Research Title:</b> Using Rhesus Macaque Blood Cell Counts to Identify Links Between Health and Behavior</p> <p><b>Presenter:</b> Vida Fakhri, Biology</p> <p><b>Research Mentor:</b> Dr. Robert Miranda, Palo Alto College</p>	<p>See Group Presentations</p> <p><b>Research Title:</b> <i>Prototype Scalable Solar-Powered Aquaponics System</i></p> <p><b>Presenter 4:</b> Paloma Cerda Garcia, Biology, San Antonio College</p> <p><b>Research Mentor:</b> Klaus Bartels, San Antonio College</p>	<p><b>Research Title:</b> Bee Bluff Gravity Anomaly</p> <p><b>Presenter:</b> Elizabeth Keller, Environmental Science</p> <p><b>Research Mentor:</b> Dwight Jurena, San Antonio College</p>
	<p><b>NASA Research Title:</b> Satellite Remote Sensing of Extreme Snowpack Melting on Eagle Island, Antarctica</p> <p><b>Presenter:</b> Andre Michon, Physics</p> <p><b>Research Mentor:</b> Dr. Alberto Mestas-Nuñez, University of Texas at San Antonio</p>	<p><b>Research Title:</b> Exploring the Relationship Between Blood Cell Counts and Health in Rhesus Macaques</p> <p><b>Presenter:</b> Parisa Sharif, Biology</p> <p><b>Research Mentor:</b> Dr. Robert Miranda, Palo Alto College</p>	<p>See Group Presentations</p> 	<p>See Group Presentations</p> 	<p>See Group Presentations</p> 

## Group Presentations

<p style="text-align: center;"><b>Southwest Research Group: Engineering</b></p> <p><b>Research Title:</b> <i>Creating Efficient and Affordable Face Masks to Combat COVID-19</i></p> <p><b>Presenter 1:</b> Ta'Lya Brooks, Mechanical Engineering, St. Philip's College  <b>Presenter 2:</b> Chris Garza, Mechanical Engineering, Northwest Vista College  <b>Presenter 3:</b> Amethyst Lewis, Biomedical Engineering, Northeast Lakeview College  <b>Research Mentor:</b> Ravi Novan, Southwest Research Institute</p>	<p style="text-align: center;"><b>University of Texas at San Antonio-Biochemistry</b></p> <p><b>Research Title:</b> <i>Functional insight into insect TULIP proteins from 3D homology modeling</i></p> <p><b>Presenter 1:</b> Samin Alikhani, Biology, Northeast Lakeview College  <b>Presenter 2:</b> Chrishall Armstrong, Biology, St. Philip's College  <b>Presenter 3:</b> Elizabeth Villareal, Biology, St. Philip's College  <b>Research Mentor:</b> Dr. Robert Renthal, University of Texas at San Antonio</p>
<p style="text-align: center;"><b>University of Texas at San Antonio: NASA CAMEE Research</b></p> <p><b>Research Title:</b> <i>The use of satellite data to predict Sea ice cover in the polar regions</i></p> <p><b>Presenter 1:</b> Haylie Rachelle Schulmeier, Biology, Northeast Lakeview College  <b>Presenter 2:</b> Nii Nmashie Adjei, Information Assurance and CyberSecurity, Northwest Vista College  <b>Research Mentor:</b> Dr. Wei Wang, Dr. Sushil Prasad, &amp; Dr. Hongjie Xie</p>	<p style="text-align: center;"><b>Biology</b></p> <p><b>Research Title:</b> <i>A Search for Nitrogen-fixing Microorganisms in Tillandsia recurvata from South Texas</i></p> <p><b>Presenter 1:</b> Paloma Cerda Garcia, Biology, San Antonio College  <b>Presenter 2:</b> Victor Saloum, Biology, Palo Alto College  <b>Presenter 3:</b> John Nguyen, Biology, St. Philip's College  <b>Presenter 4:</b> Essie Richardson, General Science, St. Philip's College  <b>Research Mentor:</b> Lourdes Alba, St. Philip's College</p>
<p style="text-align: center;"><b>Engineering and Biology</b></p> <p><b>Research Title:</b> <i>Prototype Scalable Solar-Powered Aquaponics System</i></p> <p><b>Presenter 1:</b> Cameron Feldhusen, Engineering, Northwest Vista College  <b>Presenter 2:</b> Hannah Fanning, Engineering, Northeast Lakeview College  <b>Presenter 3:</b> Eugenio Elizondo, Biology, San Antonio College  <b>Presenter 4:</b> Paloma Cerda Garcia, Biology, San Antonio College  <b>Research Mentor:</b> Klaus Bartels, San Antonio College</p>	<p style="text-align: center;"><b>Engineering</b></p> <p><b>Research Title:</b> <i>Beach Cleaning Robot</i></p> <p><b>Presenter 1:</b> Efrain Rivera, Computer Engineering, Northwest Vista College  <b>Presenter 2:</b> Keter Cubas, Mechanical Engineering, Northwest Vista College  <b>Presenter 3:</b> Christian De Luna, Mechanical Engineering, Northwest Vista College  <b>Research Mentor:</b> Dr. Dan Dimitriu, San Antonio College</p>
<p style="text-align: center;"><b>Engineering</b></p> <p><b>Research Title:</b> <i>2020 Prototype Hydrogen Fuel Cell Vehicle</i></p> <p><b>Presenter 1:</b> Eleida Webb, Engineering, San Antonio College  <b>Presenter 2:</b> David Alejandro, Engineering, San Antonio College  <b>Presenter 3:</b> Bryon Martinez, Engineering, San Antonio College  <b>Presenter 4:</b> Pablo Garcia, Engineering, San Antonio College  <b>Research Mentors:</b> Klaus Bartels, Alfred Alaniz, San Antonio College</p>	<p style="text-align: center;"><b>Engineering and Mathematics</b></p> <p><b>Research Title:</b> <i>Research, Design, and Assembly of an Urban Concept Hydrogen Fuel Cell Vehicle</i></p> <p><b>Presenter 1:</b> Krystal Paul, Engineering, San Antonio College  <b>Presenter 2:</b> Seraiah Lopez, Engineering, San Antonio College  <b>Presenter 3:</b> Mahpara Fariha, Engineering, San Antonio College  <b>Presenter 4:</b> Jared Chamblee, Engineering, San Antonio College  <b>Presenter 5:</b> Jorge Leon-Cervantes, Engineering, San Antonio College  <b>Presenter 6:</b> Jerry Ozuna, Engineering, San Antonio College  <b>Presenter 7:</b> Riley Jones, Mathematics, San Antonio College  <b>Presenter 8:</b> Enrique Ayala, Engineering, San Antonio College  <b>Research Mentors:</b> Klaus Bartels, Dr. Dan Dimitriu, Alfred Alaniz, San Antonio College</p>