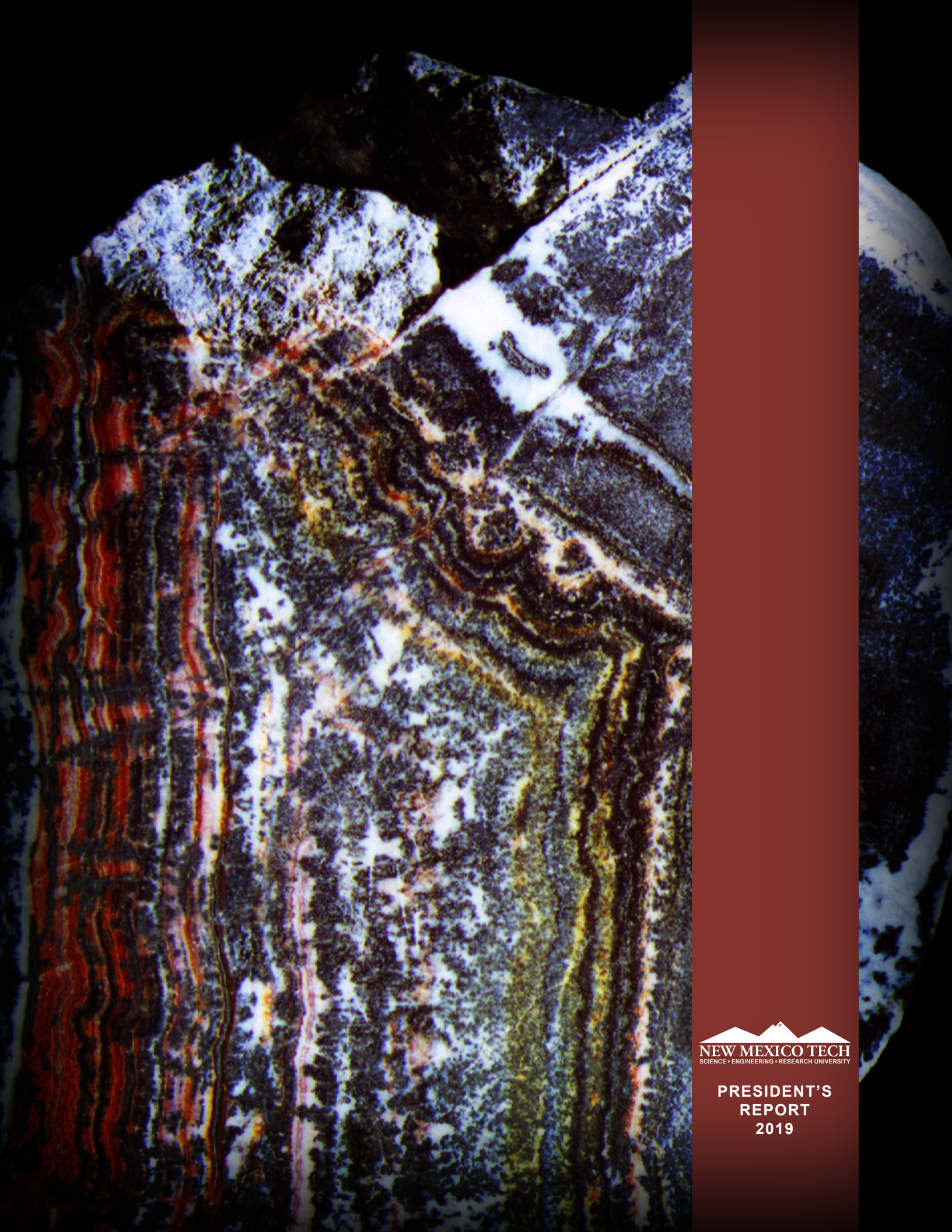


NEW MEXICO TECH
SCIENCE • ENGINEERING • RESEARCH UNIVERSITY

# PRESIDENT'S REPORT 2019


## MISSION STATEMENT

Serve New Mexico and beyond through exceptional education, research, and service, focused in science, technology, engineering, and mathematics.

Serve the public through applied research, professional development, and teacher education, benefiting the people of New Mexico.

Serve New Mexico through innovation to commercialization benefiting the economy of the state and creating opportunities for success.

ANNUAL REPORT 2019

# CONTENTS



***On the cover:***

*Banded manganese oxide mineralization from the Nancy Mine, Luis Lopez Manganese district, Socorro County, New Mexico. An example of hydro-thermal mineralization that formed 6 million years ago. Dr. Virgil W. Lueth from the New Mexico Bureau of Geology and Mineral Resources is taking part in a pilot project funded by NASA to test the feasibility of discovering biosignatures in manganese deposits on Mars utilizing payload instruments.*

# PRESIDENT'S MESSAGE

Dear Friends,

As President of the New Mexico Institute of Mining and Technology, I am honored to present the strides our institution has made over the previous year towards the goals in our decadal plan, "Blueprint 2027." Tech had an eventful 2019 as we moved to greater heights in our academic and research endeavors, as well as our STE²M initiatives.

New Mexico Tech continues to receive national accolades for the quality of instruction and the value our students receive. A critical part of our educational mission is hands-on research opportunities for students. For decades, we have focused on involving undergraduates on projects in every department. I am also proud of the accomplishments of our exceptional faculty – particularly in research and instruction, but also in outreach and community service. You will find numerous examples of these efforts throughout the annual report.

I would, however, like to highlight a few significant accomplishments from this past year.

- New Mexico Tech achieved the highest accreditation ranking from the Higher Learning Commission in 2019. This accomplishment ensures that NMT will continue to serve as a premier institutional and academic model for education and research.

- Alumnus Dr. Raul Deju started the Bright Star Program, which funds scholarships and work-study opportunities for students through the Bureau of Geology. Dr. Deju and his family's philanthropic support serve as an excellent example of alumni giving back to Tech and raising it to new heights.

- Improving our university's infrastructure to benefit our faculty, students and staff is a critical goal of my administration. Jones Hall renovation has commenced. West Hall and Brown Hall will soon be renovated, and new construction of the President's Residence and the Deju University House will begin later this Spring.

- New Mexico Tech's ICASA research center was awarded a $93 million contract by the Air Force Research Laboratory to help defend our nation through cyber research and testing. A prime example of how NMT diversifies funding, the work will be accomplished both on campus and at the Playas Training and Research Center.

- Our university began a new Energy Saving Project that saves money and reduces our carbon footprint. NMT will be building three covered parking areas with solar panels, including one at Macey Center.

- Finally, we are all Miners now, as NMT unveiled our new university Mascot Logo during the annual 49ers Celebration.

On behalf of the Board of Regents and my leadership team, thank you for your continued support of this special institution.

Warm Regards,

Dr. Stephen G. Wells
President
New Mexico Tech

## INSTITUTIONAL RANKINGS

# WORLD CLASS EDUCATION

*New Mexico Tech again ranks among the nation's elite universities and No. 1 in New Mexico in academic value and quality of education in a number of science and engineering disciplines in 2019.*

Forbes BEST VALUE COLLEGES 2019

***Forbes*** ranked Tech #56 nationally among all public and private colleges when it comes to the best education you can get for your tuition dollar.

2019 BEST COLLEGES NICHE

New Mexico Tech has the best academics in New Mexico in 2019 according to ***Niche's*** *Top 100 Public Universities in America Rankings* and is a 'best value' nationally.

college factual

***College Factual's*** Annual National College Rankings place New Mexico Tech first in New Mexico's public four-year colleges and 6th nationally.

COLLEGE SALARY REPORT

In 2019, ***PayScale.com*** ranked Tech fifth among all public universities on return on investment by annual percentage.

NSF

New Mexico Tech ranks #1 nationally among the Top 50 U.S. public institutions of science and engineering in the percentage of students who go on to complete their doctorate.

COLLEGE CONSENSUS

***College Consensus*** ranked New Mexico Tech in the *Top 100 Best Public Colleges and Universities in the United States* for 2019.

Inc.

New Mexico Tech was named to the 20 Public Colleges with the Smartest Students in ***Inc. Magazine***. Tech's students are ranked 18th among all public colleges nationally.

NM Tech is among the top 50 colleges in the nation, and number one in New Mexico, at graduating work-ready students. Nearly 90% of Tech students are employed 10 years after graduation, according to ***Business Insider.***

BUSINESS INSIDER

# STE²M INITIATIVES 2019

## INNOVATION & ENTREPRENEURIALISM

At New Mexico Tech, we're following a trajectory that goes beyond STEM, offering our students insights, inspiration, and opportunities into the entrepreneurial world, or our new brand: STE²M – science, technology, engineering, entrepreneurialism and mathematics, or STEM raised to the exponent of entrepreneurialism.

Here's a snapshot of the STE²M work taking place at New Mexico Tech:

- Nearly two dozen faculty and staff members across campus are working with the NMT Office of Innovation Commercialization to develop intellectual property with commercialization potential. These efforts are supported by student research, which is privately funded by NMT donors.

- NMT students are developing their ideas and intellectual property in the New Mexico Gas Company Campus MakerSpace, and that is open to students from the Socorro Schools on Fridays.

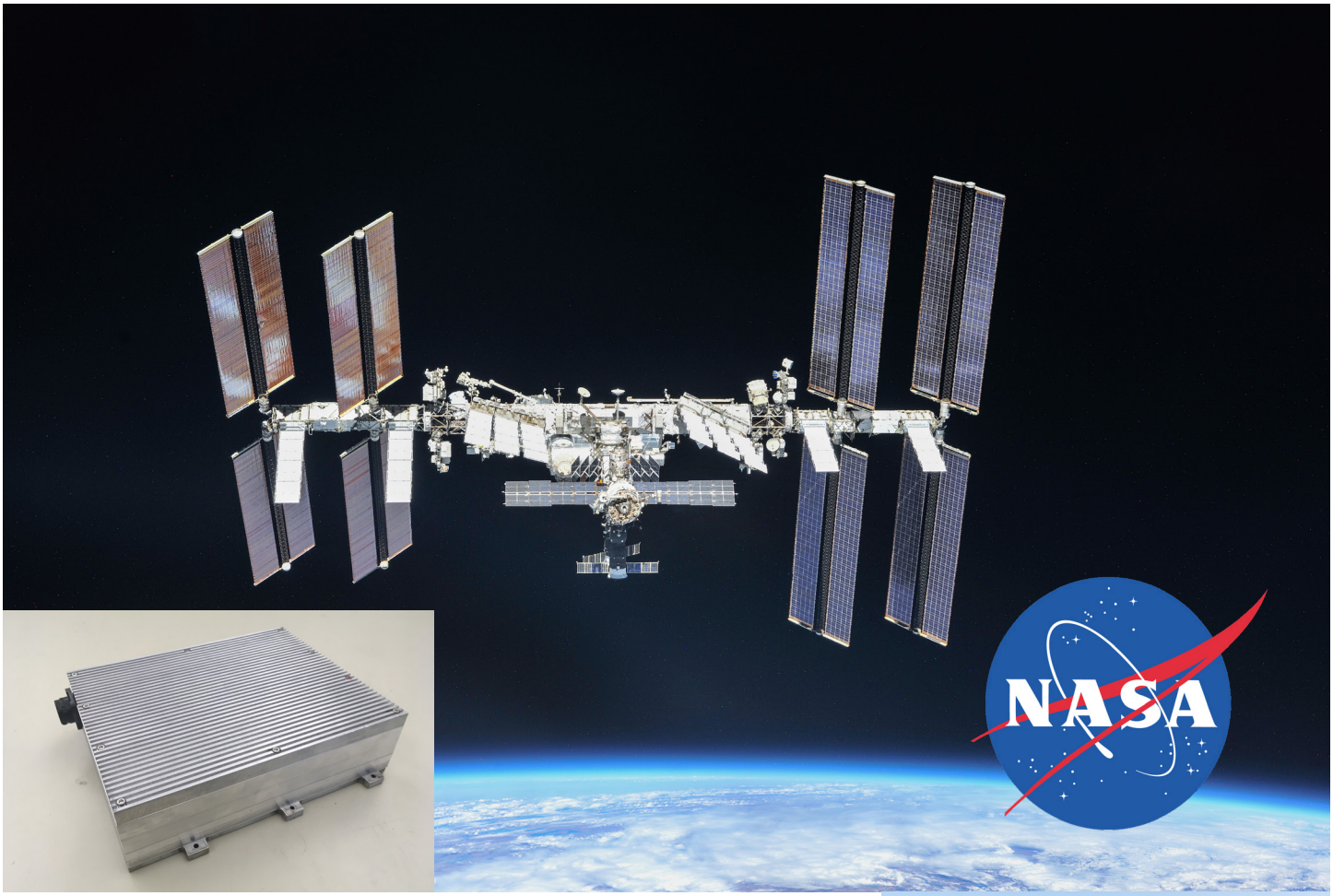
- NMT will host the 5th-Annual Inventors and Entrepreneurs Workshop on March 27-28, 2019. This successful, two-day event attracts participants from around the country to discuss business startups on the Tech campus. This year will feature student teams from seven high schools who will be participating in our pitch competition funded by AFRL and LANL.

- Nusenda Credit Union and NMT have partnered on a community business-development space that will be used for incubation of student and faculty startup companies, and for startups from the Socorro community.

- The Pat Miller Student Investment Club, through their hard work researching companies, has returned just under 2% more than the S&P 500 index annually over the last 10 years. Club members are now receiving scholarships from proceeds of the Pat Miller fund. These distributions are made at the request of NMT alumnus and namesake donor Pat Miller.



*New Mexico Tech President Stephen Wells officially opens the New Mexico Gas Company Student Entrepreneurship Center Makers Space during a ribbon-cutting ceremony last August.*




# NMT SAFETY EXPERIMENT INSTALLED ON INTERNATIONAL SPACE STATION

Dr. Andrei Zagrai and a team of his students in Mechanical Engineering have sent an NMT experiment to the International Space Station.

The team designed and built a payload housing the new structural health monitoring experiment that launched on the Cygnus NG12 mission from Wallops Flight Facility in Virginia on October 29. The project is funded by the NASA EPSCoR program (Established Program to Stimulate Competitive Research).

The project has supported two graduate students who worked on the experimental parts of the payload and several undergraduates who worked on the design and construction of the mechanical portion of the payload. "The main purpose of this research is to make space travel safer and more affordable," Zagrai said. "We need a system to monitor the structural condition at all times."

Zagrai and previous teams have done suborbital launches from Spaceport America. This was the first launch that took one of Zagrai's instruments to space. The instrument will be installed on the exterior of the ISS on an MISSA platform.

"We will explore crack damage and bolts – since most space structures are held together by bolts," Zagrai said. "We'll look at the performance of piezoelectric sensors as well."

*John Sanchez, Douglas MacNinch, Isaac Flores, Matthew Rue, and Dr. Andrei Zagrai attending the launch of thier instrument to the International Space Station.*

The instrument will stay aboard the ISS for one year and then be brought back to New Mexico Tech for a performance review.

Graduate student John Sanchez has been lead for the project. He, along with undergrads Douglas MacNinch, Isaac Flores, and Matthew Rue, traveled to Virginia for the launch.

# New Mexico Tech Unveils Two new Cybersecurity Centers in 2019

*There is a current and growing demand for professionals with the skills needed to confront cybersecurity threats. Thanks to funding initiated by New Mexico Governor Michelle Lujan Grisham and approved by the New Mexico State Legislature, New Mexico Tech has introduced two cybersecurity centers to build the cybersecurity expertise and economy of the New Mexico.*

## Governor Lujan Grisham's Cybersecurity Center of Excellence

Governor Lujan Grisham's Cybersecurity Center of Excellence (CCoE) focus is on cybersecurity-related economic development in NM. Since standing up the CCoE, we have refined the vision, mission, and strategies to reflect the needs of the state. The vision for the CCoE is to make New Mexico a leader in developing technologies and companies around novel and forward-looking solutions to pressing cybersecurity issues.

**The CCoE's economic development mission is to:**

- develop an entrepreneurial cybersecurity workforce
- enhance cybersecurity information flow between universities and industry
- facilitate improved cybersecurity in New Mexico businesses.

Workforce development is supported by the following strategies:

- provide students with project-based cybersecurity experience to enable development of entrepreneurship skills
- give students hands-on experience in cybersecurity audits and incident response
- engage students in applied cybersecurity academic programs and research projects.

**Facilitating information flow for New Mexico's cybersecurity market is supported by the following strategies:**

- engage faculty, students, researchers, and industry representatives in cybersecurity collaborations
- host workshops and conferences to exchange cybersecurity challenges and solutions

**Improving the cybersecurity of businesses requires active engagement between industry and academia to solve cybersecurity challenges; it is supported by the following strategies:**

- engage faculty and students in cybersecurity research to develop solutions to cybersecurity challenges impacting New Mexico
- communicate cybersecurity awareness and best practices to municipalities and businesses
- audit vulnerabilities, incidents, and security plans for municipalities and businesses.

## The Cybersecurity Education Center

The Cybersecurity Education Center (CEC) focus is on cybersecurity-related education and workforce development in NM. The vision for the CEC is to make New Mexico a leading state for cybersecurity education and workforce. Since standing up the CEC, we have refined the vision, mission, and strategies to reflect the needs of the state.

**The mission for the CEC is to:**

- provide workforce training in cybersecurity
- prepare New Mexico students for high paying, critical skills jobs in cybersecurity; and
- improve the cybersecurity posture of the state of New Mexico.

**Workforce training and preparing New Mexico students for high paying, critical skills jobs go hand in hand; they are supported by the following strategies:**

- engage more students in cybersecurity
- give students hands-on and research experience in cybersecurity
- graduate more students with cybersecurity expertise.

**Improving the cybersecurity stance of the state requires better education, collaboration, and communication; it is supported by the following strategies:**

- communicate cybersecurity best practices to schools and community members
- collaborate broadly to advance and share knowledge and opportunities.

## NMT ICASA recent portfolio or research includes:

- Participation in the NATO Industry Advisory Group on the development of an Information Environment Assessment Tool
- Support for the DOJ and the office of the Bernalillo County District Attorney on leveraging big data analytic tools in crime fighting
- Work with the New Mexico Sentencing Commission on criminal justice reform initiatives

*New Mexico Tech ICASA scientists working on a complexity problem with software-defined radios.*

# NMT Secures $93 Million Contract To Support Air Force Cyber Initiatives

New Mexico Tech has secured a seven-year, $93 million contract to assist the Air Force Research Laboratory with cyber-related defense initiatives.

The award includes research, development, evaluation, testing, training, and deployment support services for electronic and cyber technology problems.

New Mexico Tech is leveraging the deep cyber and technical expertise of faculty, staff scientists, and students to accomplish new research initiatives. The project focuses on data analytics for research and development purposes, particularly in the areas of computer science and electrical engineering.

New Mexico's Senior United States Senator Tom Udall led efforts to support the development of this capability from its inception.

"New Mexico Tech is leading the way to prepare and train U.S. troops for future threats against the nation," Senator Udall said. "The cyber electronic warfare research and training environment at NM Tech's Playas facility will be the first of its kind in the nation. I am both proud to have supported the creation of this program in the Appropriations committee, and looking forward to seeing what New Mexico Tech can achieve with this award."

Furthermore, U.S. Senator Martin Heinrich supported this project through his key committee assignments.

"I have long supported partnerships between the Department of Defense and our world-class academic community in New Mexico," Senator Heinrich said. "The award of this sizable contract not only recognizes the value of training opportunities in our state, but also serves to keep New Mexico and the Air Force at the cutting edge of cyber research and capabilities."

The focus will be to protect U.S. systems by understanding how sensors embedded into devices that are connected via the "Internet of Things" might be manipulated by U.S. adversaries.

This effort is to conduct research and development in a relevant and realistic cyber and electronic warfare environment for the employment of assets for cyber-kinetic combat effects and Multi-Domain Operations.

It will grow existing capabilities at New Mexico Tech's Institute for Complex Additive Systems Analysis (ICASA). The project supports AFRL Sensors Directorate research goals in understanding sensing effects across various domains, including air, space, cyber, and ground. Carlos Rey Romero, Associate Vice President for Research, is the Principal Investigator and Michael Smith, Director of ICASA, is the Co-Principal Investigator for this project.

"Our university is honored that such an award will allow both academic departments and research centers to work collaboratively to improve the security of our nation," New Mexico Tech President Stephen G. Wells said. "This award reflects recognition of the intellectual capability of our university's faculty and researchers, and New Mexico Tech is proud to have the opportunity to apply our science in the service of our country."

"We've been working on this project for a number of years and it's wonderful that it's finally come to fruition," New Mexico Tech Vice President for Research Van Romero said. "A lot of people have put forth a lot of effort into this and it's because of this team effort that we were successful in winning one of the biggest contracts in the history of New Mexico Tech."

The project started in October and will continue through October 2026.

# BUREAU MINERALOGIST EXPLORING MARS BIOSIGNATURES USING TERRESTRIAL ANALOGS

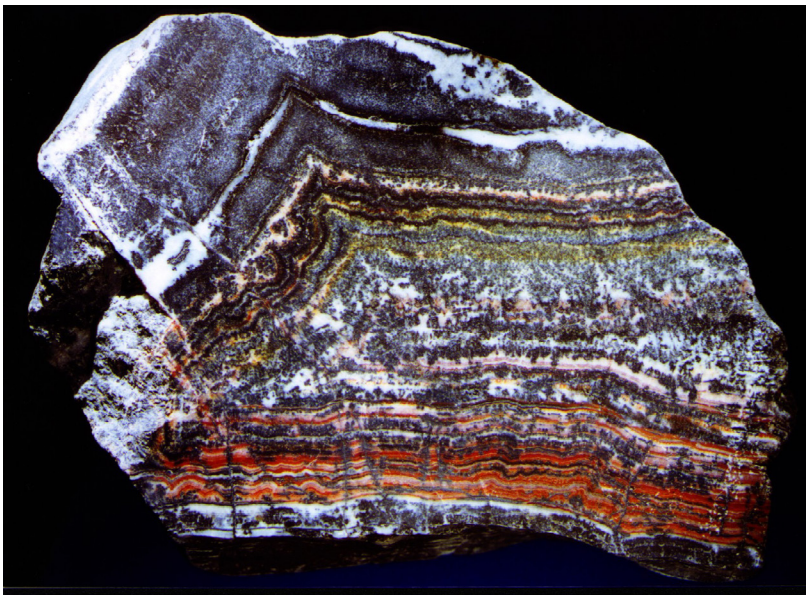
Dr. Virgil W. Lueth from the New Mexico Bureau of Geology and Mineral Resources is taking part in a pilot project funded by NASA to test the feasibility of discovering biosignatures in manganese deposits on Mars utilizing payload instruments.

The recent discovery of manganese oxides on Mars suggests more oxygen was present in the Martian atmosphere than originally thought.

There are two primary goals for this project: the first is to identify key chemical signatures, and the second to identify key mineralogical signatures in natural biologic and abiologic manganese materials.

The pilot project will focus on three field sites in New Mexico that exhibit features of formation that range from at or near surface conditions to the deeper subsurface, essentially examining the full range of manganese deposits from surface, cave, geothermal springs, and fossil hydrothermal environments.

Dr. Lueth has studied the manganese deposits of New Mexico for the last fifteen years, determining their mineralogy, age, and duration of mineralization events that formed them.



*Banded manganese oxide mineralization from the Nancy Mine, Luis Lopez Manganese district, Socorro County, New Mexico. This is an example of hydrothermal mineralization that formed 6 million years ago.*

Should sufficient variation be noted during the pilot project, additional funding to the project will further characterize terrestrial occurrences for comparison to Mars by utilizing rover payload instrumentation.

The project is pursued in conjunction with scientists from Los Alamos National Laboratory, California Institute of Technology, University of New Mexico, and Towson University.

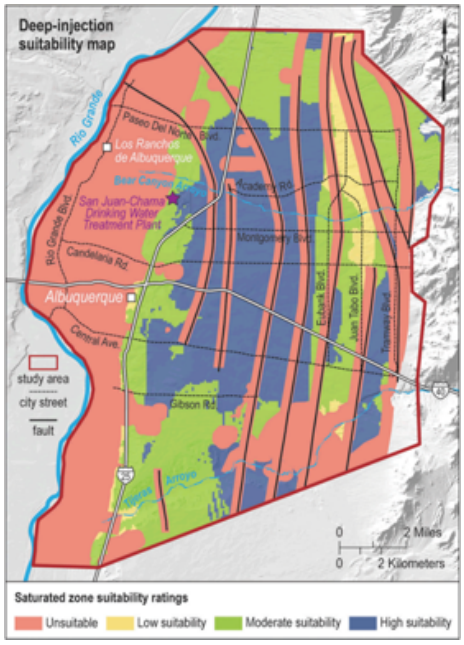
# BUREAU OF GEOLOGY SCIENTISTS MAPPING USED TO DETERMINE SUITABILITY FOR MANAGED AQUIFER RECHARGE IN THE ALBUQUERQUE BASIN

New Mexico Bureau of Geology and Mineral Resources' scientists Dan Koning, Colin Cikoski, Andy Jochems, and Alex Rinehart carried out research to develop comprehensive maps of the Albuquerque basin, showing the locations most suitable for managed aquifer recharge projects.

Managed aquifer recharge is a planning and engineering process that seeks to replenish and store groundwater in in aquifers for future use.

This artificial recharge is becoming increasingly important in the desert southwest, including the Albuquerque area. Determining exactly where this can be done—where water can be readily absorbed and stored for future use in groundwater basins—is largely dependent on the underlying geology of that location.

The map summarizes the results of the study, and it will be used by the Albuquerque and Bernalillo County Water Utility Authority in planning future managed aquifer recharge projects.




*Map showing suitability for managed aquifer recharge by deep injection, by which water is pumped into the aquifer below the water table for storage and future use. In the center of the study area, the water table is more than 300 feet deep.*

# PHYSICS PROFESSOR SHARON SESSIONS NAMED TO WOMEN OF INFLUENCE LIST

ALBUQUERQUE BUSINESS FIRST
WOMEN of INFLUENCE

*Dr. Sharon Sessions receiving the inaugural Distinguished Service Award from NMT President Dr. Stephen Wells*

*Albuquerque Business First* has named New Mexico Tech Physics professor Dr. Sharon Sessions as one of its 2020 Women of Influence Award recipients.

The media outlet selected 24 honorees for the 16th annual Women of Influence awards. While each recipient has a different background, from health care to law and everything in between, they all have one thing in common, their dedication and contributions to the community around them.

A native of Santa Fe and graduate of Capital High School, the programs Dr. Sessions has spearheaded have brought the New Mexico Tech and Socorro communities together, as well as gotten NMT students involved with the local school system. Her efforts are improving the quality of life for both the campus and the community.

Dr. Sessions has built programs from scratch to address the underlying issues with learning in our schools. One such example is the MATCH Program, which stands for Mentoring and Tutoring Create Hope. This program pairs NMT students with local at-risk third-graders. Sharon's largest and most ambitious effort is the STORM FORCE, which stands for STEM Outreach and Mentoring: Fueling Opportunity through Relationships, Community, and Education. This relatively young committee is already achieving its goals of creating opportunities for students, encouraging lifelong learning, and empowering local residents.

This marks the 16th year that *Albuquerque Business First* will honor women who have made a positive and influential impact in the New Mexico business community. *Albuquerque Business First's* judges, leaders in the business community including multiple alumna of the award, evaluated the applicants on professional achievement, leadership, and community involvement.

For her efforts, Dr. Sessions was also the winner of New Mexico Tech's inaugural Distinguished Service Award this past May.

## FACULTY ACCOMPLISHMENTS

**Dr. Ashok Ghosh (Mechanical Engineering)** was named the Engineer of the Year at the annual conference of the Albuquerque chapter of the Society of Professional Engineers (SPE). Dr. Ghosh is the first NMT professor to win this award.

**Dr. Nikolai Kalugin (Materials Engineering)** Winner of the 2019 New Mexico Tech Distinguished Researcher Award, Dr. Kalugin has published more than 63 papers, the majority of which have been published since he came to New Mexico Tech. His global work resulted in being selected as a Fulbright Global Scholarship in 2018, allowing him to continue his work on graphene with collaborators in Chile and at the University of Cambridge in England.

**Dr. Sally Pias (Chemistry)**
Dr. Pias co-organized the 2019 conference of the International Society on Oxygen Transport to Tissue (ISOTT), held July 27-31 in Albuquerque. The conference featured presentations by internationally known researchers with specialization in tumor hypoxia and radiotherapy, functional brain imaging, and mitochondrial function.

**Dr. Donghyeon Ryu (Mechanical Engineering)**
Dr. Ryu was chosen as an New Mexico Space Grant Consortium (NMSGC) awardee and his work was featured as NMSGC research hall at the International Symposium for Personal and Commercial Spaceflight in Las Cruses, NM.

**Dr. Ben Duval (Biology)**
Dr. Duval co-authored the second edition of the text book "Ecology of Desert Systems." Duval made significant contributions to the book, including new chapters on invasive species and global climate change.

**Dr. Anwar Hossain (Mathematics)**
Dr. Hossain is the 2019 winner of the Distinguished Teaching Award. He has advised more than a dozen graduate students. And he's served as a referee for four journals.

**Dr. David Grow (Mechanical Engineering)**
Dr. Grow was named the inaugural New Mexico Tech/Los Alamos National Laboratory joint appointee, a first for New Mexico.

# New Mexico Tech Unveils New 'Miners' Mascot Logo

New Mexico Tech President Stephen Wells officially unveiled the new university logo design during the university's annual 49ers Celebration.

"This is an exciting design," Wells said. "The pick axe is leaning forward, cutting through NMT, cutting a swath for the future of our university."

The unveiling completes a yearlong initiative to formalize NMT's mascot. In August 2018, Wells and the Board of Regents put forth an initiative to adopt an official mascot. While Miners was widely considered the mascot of the university for decades, no previous administration or board action had ever formalized it. Alumni, faculty, staff, and students submitted suggestions, then cast their ballots online for five finalists in October 2018.

The NMT community cast over 1,500 votes, ending a two-month process and electing Miners as the official mascot for the university by an overwhelming margin.


*New Mexico Tech Rugby Club helping unveil the new NMT Miners Logo.*

## NMT MATERIALS ENGINEERING STUDENTS 3-D PRINT ROCKET PROPELLANTS

For the past year, researchers and students at New Mexico Tech have been researching advanced manufacturing techniques to develop rocket propellants that would reduce propellant costs and allow for rapid access to space. This research is part of a larger Defense Advanced Research Projects Agency (DARPA) program, and the NMT Team is part of an industry-led team that has been funded through a DARPA Phase I Small Business Innovation Research (SBIR) award.

The NMT team includes graduate and undergraduate student researchers and is being led by Dr. Chelsey Hargather, Assistant Professor of Materials Engineering. The team's work so far has included hands-on, real-time study of the development and analysis of energetic material combinations, as well as the evaluation of propellant systems after exiting the printer.

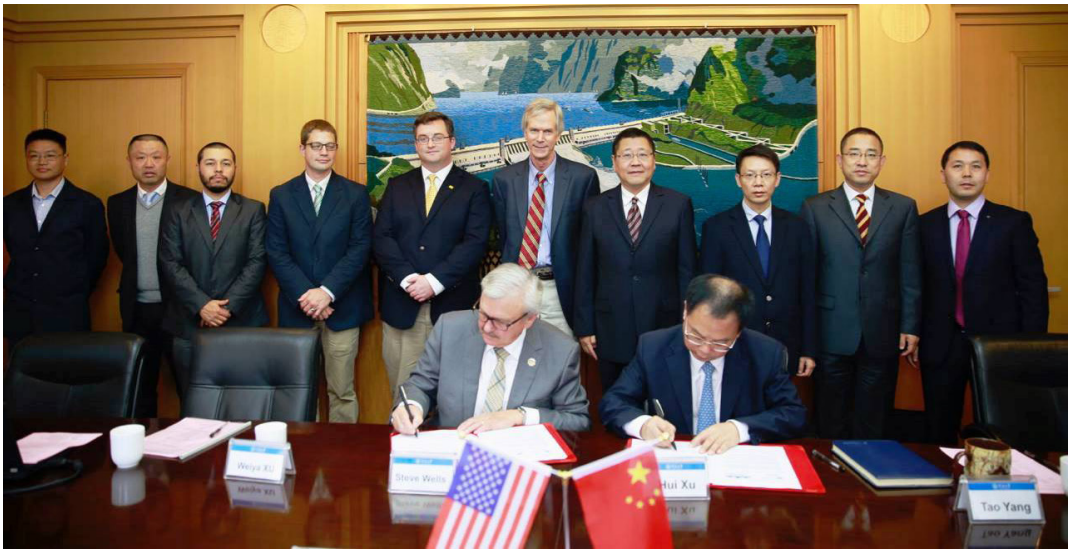
"This project has given our students a fast-paced, exciting project to work on that has fostered a relationship with both DARPA and our industry partner," Hargather said. "Having students perform hands-on research with tangible applications has given them invaluable experience."

According to graduate student Matthew Hinton, "The burn successfully illustrates the potential of the technology that we are developing. It's very encouraging to have such a positive result after all of the hard work that has gone into Phase I of this project."


*A sample of rocket propellant printed by NMT students*

This ongoing research continues to develop the science of energetic materials printing through better understanding of the rheology and chemistry involved in various material systems.

# NEW MEXICO TECH GROWS INTERNATIONAL ACADEMIC FOOTPRINT IN 2019




*Dr. Wells signing an MOU with Hohai University in China*

Already having signed agreements for research and educational collaboration with over 23 universities worldwide, New Mexico Tech's plans for the next decade include growing academic partnerships internationally. Tech has substantially grown its international footprint in the past year, signing a number of agreements with similarly-focused universities around the world to provide our students and faculty opportunities to learn and perform research in nations in Latin America, Europe, Africa, and Asia.

## WHIRLWIND SOUTH ASIA TOUR

New Mexico Tech President Stephen G. Wells lead a delegation of NMT staff to Indonesia, Malaysia, and Vietnam this past November.

In Indonesia the delegation signed an academic and research agreement with the Institute of Technology of Bandung (Institut Teknologi Bandung), which for the next five years will allow students and faculty of both institutions to work together on joint research and student exchanges. The delegation also met with several alumni who are working and living in Indonesia.

The second leg of the trip was a stop in Malaysia for an alumni event in Kuala Lumpur. President Wells hosted over 30 guests at the event.
The third leg of the trip was by far the busiest.

NMT received an update from Petro Vietnam University on the progress of a 2 + 3 program for petroleum engineering students. NMT will start receiving students from Petro Vietnam in fall of 2022. NMT and Petro Vietnam University also signed a new agreement that will focus on chemical engineering students.

The NMT delegation met with 4 oil and natural gas companies and discussed how NMT can help train and educate their workforce. NMT will also be working with these companies to conduct joint research.

During a stop at the Ha Noi University of Mining and Technology, NMT learned that the Ministry of Education approved our joint proposal for a Petroleum Engineering 2 +3 program and NMT will be receiving students as soon as fall 2020 from Vietnam.

*University of Tromso in Norway*

## INTERNATIONAL INITIATIVES

- National University of San Augustine–Peru
- Hohai University–China
- Catholic University of Chile– Chile
- Yangtze University–China
- Catholic University of Peru–Peru
- Institute of Technology, Bandung–Indonesia
- Northeast Petroleum University–China
- National Chengchi University–Taiwan
- Jawaharlal Nehru Technological University, Hyderabad–India
- National University of Colombia–Colombia
- University of Stavanger–Norway
- University of Tromso–Norway
- American University of Cairo–Egypt
- School of Mines Ale's–France
- University of Guadalajara –Mexico
- Guangdong University of Petrochemical Technology–China
- Kwame Nkrumah University of Science and Technology–Ghana
- Ministry of Communications and Information Society of Romania–Romania
- National Institute of Materials Physics–Romania
- National Research and Development Institute for Chemistry and Petro Chemistry–Romania
- University of Valparaiso–Chile
- University of Budapest–Hungry
- University of Science and Technology Zewail City–Egypt

NEW MEXICO TECH

PRESIDENT'S MEDAL 2019

***Holm Bursum III*** was the recepient of the third annual *President's Medal* from New Mexico Tech President Dr. Stephen Wells in August at the Founder's Club Banquet.

Holm was an unyielding supporter of New Mexico Tech. He saw the value of the products of this institution, and was one of the university's most loyal and benevolent benefactors. He stood by this university as he stood by his friends – steadfast and unwavering in his support.

Holm served New Mexico Tech for decades, including on the Foundation Board since its inception in 1991. Holm also served as a liaison on behalf of New Mexico Tech and New Mexico's political leadership.

## NEW MEXICO TECH AT A GLANCE

### STUDENT DATA

- Degree-seeking Undergraduates: 1,238
- Degree-seeking Graduates: 360
- Total Enrollment: 1,832
- 51.5% White, 31.3% Hispanic, 4.4% Native American (undergraduate)
- 90.4% New Mexico Residents
- 70.8% majoring in Engineering
- Avg. GPA 3.3
- 74% GPAs of 3.0 and greater
- 85% of students have job offers after graduation
- 153 international students
- 55% employed in New Mexico

# Statement of Net Position

As of June 30, 2019

| ASSETS | Institute |
|---|---|
| **CURRENT ASSETS** | |
| Cash and cash equivalents | 40,805,382 |
| Short-term investments | 18,710,187 |
| Student accounts receivable, net of doubtful | 448,347 |
| Contract and grant receivables | 13,697,237 |
| Other accounts receivable | 650,318 |
| Inventories | 1,366,764 |
| Other assets | 1,806,344 |
| **Total current assets** | **77,484,579** |
| | |
| **NONCURRENT ASSETS** | |
| Restricted cash and cash equivalents | 42,274 |
| Endowment investments | 51,598,541 |
| Other long-term investments | 20,007,822 |
| Investments Held by Others | 0 |
| Capital assets, net of accumulated depreciation | 150,945,129 |
| Other assets | 1,407,736 |
| **Total noncurrent assets** | **224,001,502** |
| | |
| **Total assets** | **301,486,081** |
| | |
| **DEFERRED OUTFLOWS OF RESOURCES** | |
| Related to other post employment benefits | 2,239,377 |
| Related to pensions | 42,451,669 |
| **Total deferred outflows of resources** | **44,691,046** |
| | |
| **LIABILITIES** | |
| **Current Liabilities** | |
| Accounts payable and accrued liabilities | 6,450,799 |
| Accrued compensated absences | 4,337,504 |
| Deferred revenue | 786,844 |
| Deposits | 170,880 |
| **Total current liabilities** | **11,746,027** |
| | |
| **Noncurrent Liabilities** | |
| LT Compensated absences liability | 4,393,297 |
| Other Non-Current | 5,434,223 |
| Bonds Payable-Long Term Portion | 9,927,649 |
| Net OPEB Obligations | 28,219,046 |
| Net Pension Liability | 159,908,673 |
| **Total noncurrent liabilities** | **207,882,889** |
| | |
| **Total liabilities** | **219,628,916** |

## Statement of Net Position (Continued)

As of June 30, 2019

| | |
|---|---|
| **DEFERRED INFLOWS OF RESOURCES** | |
| Related to other post employment benefits | 3,958,607 |
| Related to pensions | 3,755,993 |
| **Total deferred inflows of resources** | **7,714,600** |
| **NET POSITION** | |
| Net investment in capital assets | 141,306,350 |
| Restricted for | |
| Nonexpendable | |
| Endowments and Other Non Expendables | 57,799,599 |
| Inventory | 1,366,764 |
| Expendable | |
| Scholarships, research, instruction, and other | 8,736,316 |
| Loans | 1,791,662 |
| Other Post-Employment Benefits | (29,890,658) |
| Benefit Trust Restricted Net Position | 4,243,368 |
| Unrestricted | (66,519,790) |
| **Total net position** | **118,833,607** |

## Statement of Revenues, Expenses, and Changes in Net Position

For the Year Ended June 30, 2019

| | |
|---|---|
| **OPERATING REVENUES** | |
| Tuition and fees net of discounts and allowances | 10,634,306 |
| Federal grants and contracts | 43,984,950 |
| State and local grants and contracts | 1,747,151 |
| Private grants and contracts | 8,915,477 |
| Other grants and contracts | 3,401,582 |
| Sales and services of auxiliary enterprises net of allowances | 5,240,248 |
| Other | 9,058,549 |
| Benefit Contributions | 4,247,946 |
| **Total operating revenues** | **87,230,208** |
| **Expenses** | |
| Instruction and general | 36,126,046 |
| Research | 56,143,389 |
| Public service | 545,951 |
| Student aid grants and stipends net | 8,673,718 |
| Auxiliary enterprises net | 4,329,624 |
| Independent operations | 4,028,328 |
| Other expenditures | 8,340,778 |
| Depreciation and amortization | 10,920,384 |
| Benefit trust claims expense | 2,800,275 |
| Benefit trust premiums | 835,973 |
| Benefit trust general & administrative | 826,887 |
| OPEB Expense | 6,623,011 |
| Pension Expense | 27,890,050 |
| Plant funds | 5,253,571 |
| **Total operating expenses** | **173,337,984** |
| **Operating (loss) income** | **(86,107,776)** |

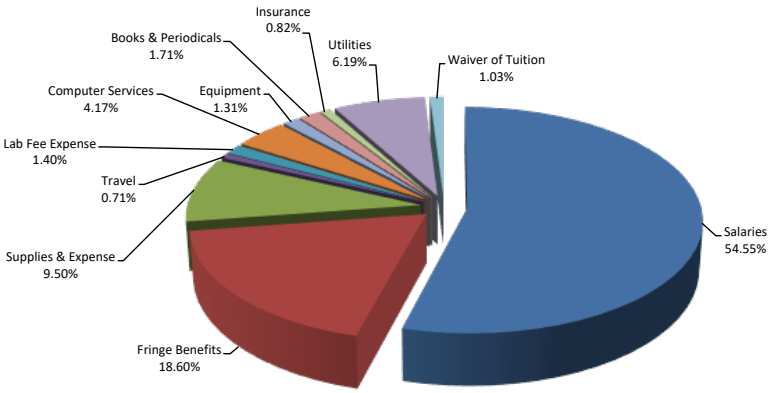
## Statement of Revenues, Expenses, and Changes in Net Position

For the Year Ended June 30, 2019

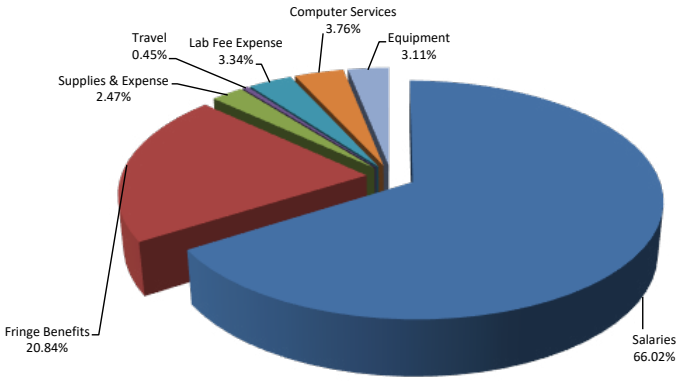
| | |
|---|---|
| **NON OPERATING REVENUES** | |
| State appropriations | 36,838,997 |
| Gifts | 1,870,997 |
| Interest and investment income | 944,351 |
| **Net nonoperating revenues** | **39,654,345** |
| | |
| **(Loss) Income before other revenues and expenses** | **(46,453,432)** |
| | |
| Other revenues and capital items (expenses) | |
| State land and permanent fund income | 1,789,800 |
| Other | 8,561,173 |
| Capital appropriations | 253,753 |
| Capital gifts and grants | 107,723 |
| Additions to permanent endowments | 4,775,709 |
| **Net other revenues (expenses)** | **15,488,158** |
| | |
| **Net increase in net position** | **(30,965,272)** |
| | |
| **NET POSITION - BEGINNING BALANCE** | **149,798,879** |
| | |
| **NET POSITION, END OF YEAR** | **118,447,576** |

# FISCAL YEAR 2020 BUDGET INFORMATION

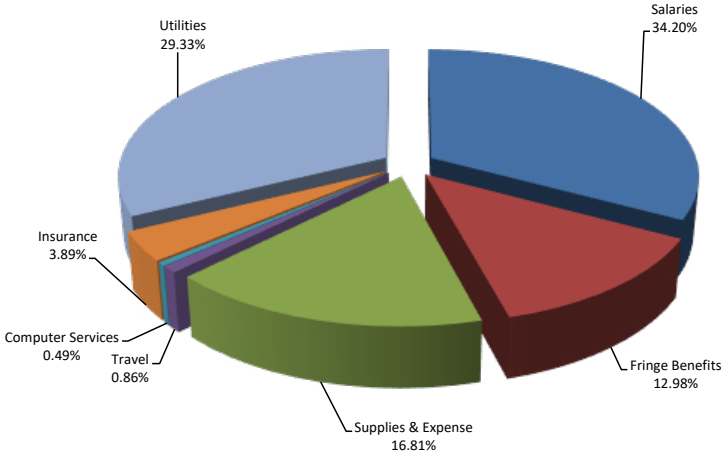
### FY 2020 Budget
### Total Uses of I&G Funds



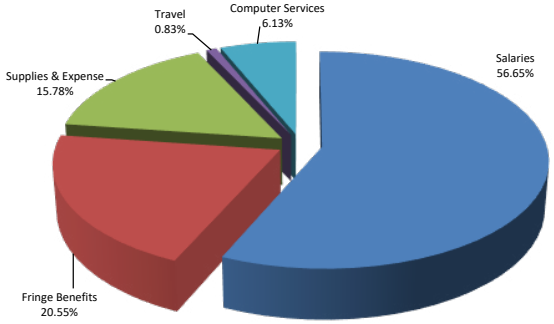

### FY 2020 Budget
### Instruction Expenditures



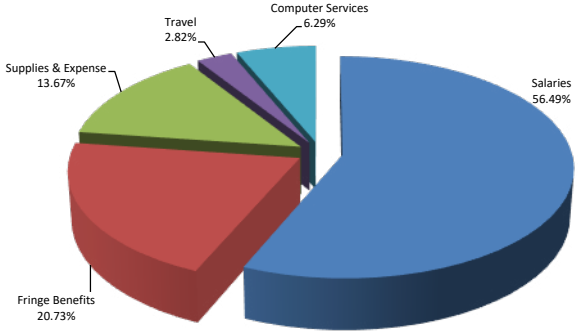

### FY 2020 Budget
### Facilities Management Expenditures



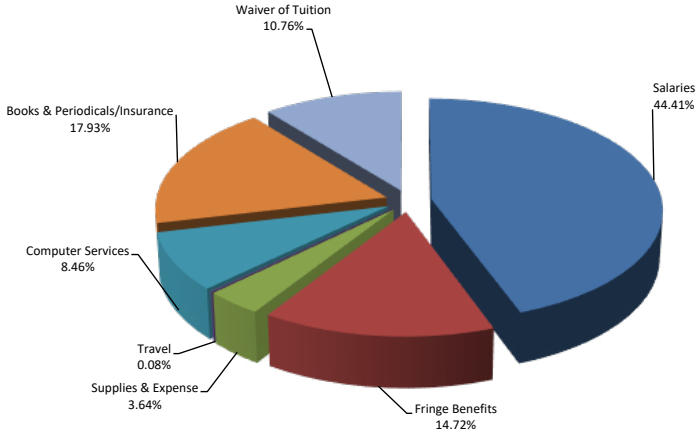

### FY 2020 Budget
### Institutional Support Expenditures




### FY 2020 Budget
### Student Services Expenditures




### FY 2020 Budget
### Academic Support Expenditures



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