

PRAIRIE VIEW A&M UNIVERSITY

Enhancing Faculty Research in
Education, Engineering, Health and
Technology: The University's Role

2010 RAMP Conference

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**Vice President for Research and
Development**



About Prairie View A&M University

- The second oldest public university in Texas (1876)
- Land-Grant (1890)
- Member of Texas A&M University System
- Offers baccalaureate, master's and doctoral degree programs through eight colleges and schools
- Doctoral Programs in Educational Leadership, Electrical Engineering, Juvenile Justice and Psychology

Goals for Research

Prairie View A&M University faculty, researchers and students conduct research that:

- serves Society
- advances knowledge
- educates the next generation of research consumers and producers

Student Involvement in Research

(Source: National Survey of Student Engagement)

Expectation for Student Involvement in Research Outside the Classroom

Classification	PVAMU	SW Public Universities	*Carnegie Classification Master's L	NSSE Participants
First Year	43.6%	34.1%	34.5%	38.2%
Senior	57.1%	41.5%	42.7%	44.1%

* Master's L (Larger Programs-awarding at least 200 masters-level degrees) 346

Goal for Research Expenditures

Goal

- Average Research Expenditures \$11,025,673 million per year
- Goal for research expenditures is to reach \$15 million by 2015.

Note: PVAMU ranks 12th among the top 20 HBCUs receiving Federal Science and Engineering Support

Achieving the Goals: Recent Enhancements

Enhancement of existing research Infrastructure and expertise

- communications research lab
- radiation center upgrades
- doctoral fellowships

Development of new research infrastructure and expertise

- bioinformatics lab
- genomics lab
- forensic science lab

Achieving the Goal: Faculty Support



- Travel Funds
- Mini Grants
- Proposal/Grant Writing Workshops
- Web Search
- Proposal Writer
- Federal Initiatives

Achieving the Goal: Research Incentives

- Use of IDC Recovery
 - Individual PIs receive 20% of IDC (F&A)
 - Research Center PIs receive 10%
 - Principal Investigators in non-academic departments receive 38% of IDC
 - Currently, IDC can not be used to supplement salary
 - Change administrative procedures to allow salary supplements

Achieving the Goal: Research Incentives

- Granting Additional Release Time from Teaching
 - Typical faculty teaching load is 12 semester
 - Grant provides 25% released time
 - University will grant a limited number of faculty an additional 25% release time for one semester or \$3,000 to \$6,000 to support faculty development.

Selected Research



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International Goat Research Center



- ***Ethiopia Sheep and Goats Productivity Improvement Program (ESGPIP)***
- Funded by United States Agency for International Development
- Goal is to improve productivity and carcass yield of sheep and goats. This is being achieved by crossing Dorper Sheep and Boer Goats with native sheep and goats of Ethiopia.

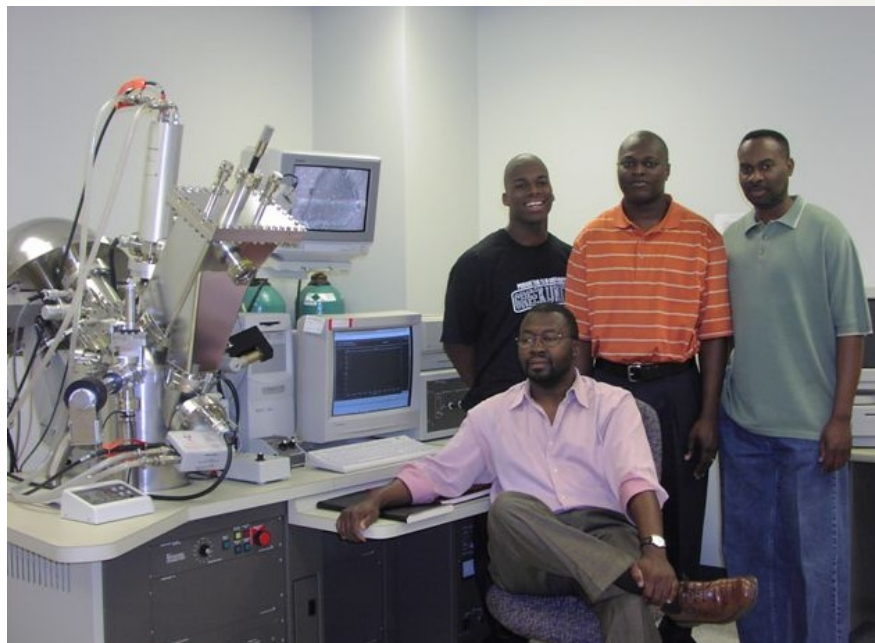
Center of Excellence for Battlefield Communications Research



Funded by the DoD

- Goal is to develop a novel battlefield communications network architecture that supports multi-service applications (voice, data, and video) using seamless IP
- Ad hoc wireless networking

Determination of Sulfur Species in Acid Mine Drainage X-Ray Photoelectron Spectroscopy



- ***Funded by Department of Interior, Office of Surface Mining***
- Apply X-ray photoelectron spectroscopy to routinely characterize mine site materials for its elemental and minerals composition.
- Identify and quantify reactive sulfide species relative to all other sulfates in mine samples.
- Distinguish among sulfur mineral compounds (Barite, Anhydrite, Jarosite) in samples with XPS.
- Understand the limitations of XPS in mine sample characterization.

Center for Communications Systems Technology Research



- ***Funded by Texas Instruments, Sprint, DoD, others***
- Seeks solutions to problems that plague both military and commercial satellite and radar-based communications systems
- Communications Control Systems
- High Speed Broadband Communications Systems

Thermal Science Research Center (TSRC)

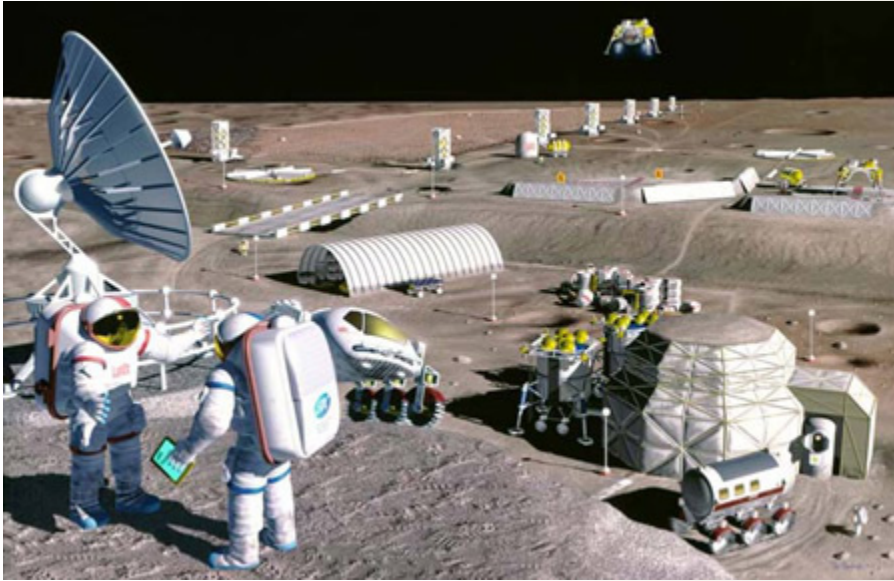


- ***Funded by Department of Energy, Nuclear Regulatory Commission, Sandia national Laboratories***
- Studies mechanisms and quantitative factors controlling high heat flux removal in engineering components
- Modeling and Simulations
- U.S. Patent (N0. 6,824,305)



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NASA Center for Radiation Engineering and Science for Space Exploration (CRESSE)



Funded by the National Aeronautics and Space Administration (NASA)

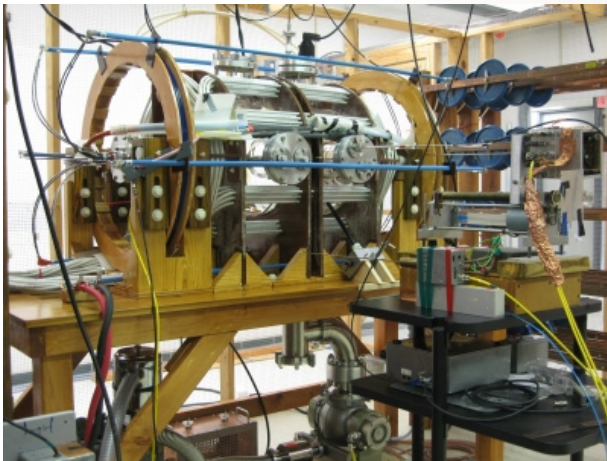
Goal-to find new ways to keep future astronauts and their flight instruments safe from the harmful radiation for up to three years in deep space.

CRESSE will support three doctoral, 12 masters and approximately 20 undergraduate researchers

- Utilize scientifically accurate “recipes” of earthly materials to recreate Martian and lunar soil in order to build above ground and underground “habitats.”

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Prairie View Solar Observatory



- ***NASA/Marshall Space Flight Center, Nuclear Regulatory Commission***
- Monitors Solar Flares
- Fusion Plasma Research Project
- First ground-based solar research facility in the State of Texas

Areas of Research Selected for Enhancement

- Communications Systems
- Radiation Engineering and Biology
- Thermal Science
- Agriculture (Animal Systems and Food Distribution)
- Energy and Energy Systems
- Thermal Science
- Juvenile Crime Prevention
- Health Disparities
- Surface Science
- Human Patient Simulators in Nursing Education

Texas A&M University System

- ***Universities (11)***

- Tarleton State
- Prairie View A&M
- Texas A&M-College Station
- Texas A&M International
- Texas A&M Kingsville
- West Texas A&M
- Texas A&M Commerce
- Texas A&M Texarkana
- Texas A&M Corpus Christi
- Texas A&M San Antonio
- Texas A&M Central Texas

- Texas A&M Health Science Center

- ***Agencies (7)***

- Texas Agrilife
- Texas Engineering Experiment Station
- Texas Agrilife Extension Service
- Texas Forest Service
- Texas Engineering Extension
- Texas Transportation Institute
- Texas Veterinary Medical Diagnostic Laboratory

Office of Technology Commercialization (OTC)

- Researchers submit a disclosure form to OTC for all inventions and copyrightable works
- OTC assigns disclosure form to licensing officer
- Licensing officer conducts patentability and commercial assessment on technology
- Licensing officer begins process of protecting, marketing and eventually negotiating a license agreement with a commercial partner.

Office of Technology Commercialization (OTC)

- Royalties, license fees and sale proceeds received by the OTC from the licensing or sale of the intellectual property, less expenses, are distributed in the following manner:
 - Inventor (s)--37.5% as personal income
 - System Member--37.5% for research and administration
 - OTC—25% for protecting, marketing and licensing the technology

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