Prairie View A&M University……

- founded in 1876, is the second oldest public university in the State of Texas
- one of three “institutions of the first class”
- committed to serving the underserved through teaching, research, and service
- a member of the Texas A&M University System
Mission Statement

Prairie View A&M University

- responds to the needs and aspirations of individuals, families, organizations, agencies, schools, and communities (urban and rural), through educational programs, services, and research
- is strategically located on 1400 acres in Waller County, 45 miles NW of Houston, Texas
- has an operating budget of over $116,000,000
- Enrollment for FY 2004-2005 is 8,200
History and Organization

- Consists of seven colleges, two schools and the Premedical Academy
  - College of Agriculture and Human Sciences
  - School of Architecture
  - College of Arts and Sciences
  - College of Business
  - College of Education
  - College of Engineering
  - College of Juvenile Justice and Psychology
  - College of Nursing
  - The Graduate School
  - Premedical Academy
Science Technology Engineering Mathematics (STEM) Programs

- Biology (BS, MS)
- Chemistry (BS, MS)
- Physics (BS)
- Chemical Engineering (BSCHE)
- Civil Engineering (BSCE)
- Computer Science (BS, MS)
- Computer Information Systems (MS)
- Electrical Engineering (BSEE, MSEE, PhD)
- Mechanical Engineering (BSME)
- Computer Aided Drafting (BSIT)
- Computer Engineering Technology (BSCET)
- Electrical Engineering Technology (BSEET)
- Mechanical Engineering Technology (BSMET)
- Others
  - Agricultural Research
Funded Research Expenditures
Fiscal Years 1999 - 2000 through 2002 - 2003

<table>
<thead>
<tr>
<th>Year</th>
<th>Dollar Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999-2000</td>
<td>$9,400,231</td>
</tr>
<tr>
<td>2000-2001</td>
<td>$9,972,614</td>
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<tr>
<td>2001-2002</td>
<td>$11,041,490</td>
</tr>
<tr>
<td>2002-2003</td>
<td>$11,400,522</td>
</tr>
</tbody>
</table>
Total Endowment Funds

- **1998-1999**: $20,570,285
- **2000-2001**: $24,303,333
- **2001-2002**: $23,071,017
- **2002-2003**: $27,101,563

Dollar Value
The center established a database for spectral crops to study water stresses in crops.

The center provided researchers and decision makers with information they needed in planning and assessing the environmental problems facing the southern region along the Gulf Coast of Mexico and the United States of America.

TEXGED provided services to local and state agencies, produced research publications and research reports on using remote sensing images from NASA sensors and image analysis techniques to monitor water stress crops.

Additionally, the center collected and archived publications related to environmental assessments in the Gulf of Mexico along the Texas coastline and surrounding states.
Other Environmental Related Research Projects

- Using Surface of Materials in the Detection of Environmental Contaminants
- Mercury Waste Treatment Technology
- Bioremediation
- Integration of Biological, Cultural, and Chemical Management of Pests in Soils to Improve Environmental Quality
- Effects of Metal Ions on DNA and RNA of Toxigenic Fungi in Soil and Liquid Cultures
- Non-intensive Grazing Systems
- Evaluation of Design Parameters for Modern Grease Traps and High Strength Waste
University Undergraduate Environmental Related Courses

**Agriculture**
- Environmental Soil Science
- Environmental Science

**Engineering**
- Engineering and the Environment
- Elements of Environmental Engineering
- Waste Management

**Engineering**
- Water Quality Management
- Fundamentals of Air Pollution and Control
- Environmental Engineering
- Water Resources Engineering
## Graduate Environmental Related Courses

### Agriculture
- Environmental Microbiology
- Principles of Environmental Science and Management
- Agricultural Chemicals and Water Quality
- Land Disposal of Wastes
- Soils, Ecology, and Land Uses
- Problems and Issues in Environmental Science

### Biology
- Selected Topics in Environmental Toxicology

### Engineering
- Environmental Processes
- Hazardous Waste Management
- Biological Wastewater Treatment
- Air Pollution Engineering
Selected Biomedical Research

- The Role of Heparin Interacting Protein (HIP) in Epithelial Ovarian Carcinogenesis (Dr. Gloria Regisford, Department of Biology)
- Chemical Modifications of Heparin Interacting Protein (HIP) (Dr. Laura Carson, Department of Chemistry)
- Eukaryotic DNA Promoter Site Recognition Using Random Forests Classifier (Dr. Nelson Butuk, Mathematics)
- Bioprocessing Strategies for Improving Bioactive Protein Production by Recombinant Aspergillus Species (Dr. Michael Gyamerah, Chemical Engineering)
- Mechanism(s) Involved in the Sustained Antihypertensive Effects of ACE Inhibitors (Dr. Alphonso Keaton, Department of Biology)
The study of solar flares is a focus of the Prairie View A&M University Solar Observatory. As part of the observational program, large active regions of the sun with complex magnetic structures and high flaring probability are selected as targets and followed with the high resolution 35 cm vacuum telescope. The research is focused on the pre-flare stage and energy build-up processes.
Prairie View A&M University
Center for Applied Radiation Research
(CARR)

Aerospace Radiation Environments

Interplanetary Space - Mars Mission

Solar Wind Protons
Solar Wind Electrons
Secondary Neutrons
Secondary Muons

ISS - Low Earth Orbit
Upper Atmosphere
Earth's Surface

Cosmic Rays
The Center for Applied Radiation Research (CARR)

CARR Performed Radiation Tests on International Space Station Opto-Electronics.

Radiation Testing of Cutting-Edge Electronics at Los Alamos National Labs.

Student Built Radiation Effects Payload Carried Aloft on High Altitude Balloon to 130,000 ft.

Proteus Research Aircraft Flies CARR Microelectronic Testbed in the Paris Airshow and to 50,000 ft.
The Center’s mission is to use algorithms development, modeling, simulations, analysis, design, and testing to seek an understanding of:

- Communication systems
- DSP Solutions
- Image Processing
- Mixed Signal Systems
- Control Systems, and
- High Speed (Broadband) Communication Systems
Selected Research Centers and Institutes

Future Aerospace, Science and Technology (FAST) Center, Paul O. Biney, Director
**Research Interests:** Thermal science; energy study; lightweight structural materials & processing
Email address: P_Biney@pvamu.edu

Thermal Science Research Center (TSRC)
Ronald D. Boyd, Director
**Research Interests:** Thermal Science; heat transfer for subcooled flow boiling and conjugate problems
Email address: Ronald_Boyd@pvamu.edu

Computational Fluid Dynamics Institute (CFDI)
Ziaul Huque, Director
**Research Interests:** Modeling and experimental research in thermo-fluid area
Email address: Z_Huque@pvamu.edu
Collaboration

Why collaborate?

• Build additional academic partnerships that thrive on the shared strengths of each institution
• Provide additional formalized relationships to support research and gather information
• Exchange information and ideas freely thereby assisting the pursuit of individual and university goals
• Establish discussion groups covering a range of topics of mutual interest
• Look for opportunities to seek and share resources
NSF Initiative: Partnerships for International Research and Education

- **NSF Solicitation: Social, Behavioral, and Economic Sciences** $5,000,000 available

  Enable U.S. institutions to establish collaborative relationships with foreign groups or institutions in order to advance specific research and education objectives and to make possible a research effort that neither side could accomplish on its own.

- The program is intended to catalyze a cultural change in U.S. institutions by establishing innovative new models for international collaborative research and education. It is also intended to facilitate greater variety in student participation and preparation, and to contribute to the development of a diverse, globally-engaged, science and engineering workforce.
Prairie View A&M Research Foundation is an unincorporated subdivision of the Texas A&M Research Foundation, a Texas non-profit organization having its principal offices at College Station, Texas.

Dual roles at Prairie View A&M University

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- Prairie View A&M University Research Foundation
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