



# Graduate Recruitment, Enhancement, and Travel Program 2022-2023 Implementation

*Graduate and Professional School*

*Jan. 17, 2024*

# Genesis of the GREAT Program



TEXAS A&M  
UNIVERSITY

## Inspired by the Council of Principal Investigators

**Seeking to elevate graduate and professional education at Texas A&M University**

- Recruiting high achieving doctoral students
- Competitive funding packages for high achieving doctoral students that have earned or are good candidates for nationally competitive external fellowships, federal training grants, and federal research grant supplements to broaden participation

### Call to Action

- CPI worked with University Administration (TAMU President, VP for Research) to garner resources
- Charged the Graduate and Professional School to administer the program beginning fall 2022

# GREAT – Annual Full-Funding Package with GREAT supplemental



TEXAS A&M  
UNIVERSITY

- \$ 3,000 monthly stipend**
- \$ Full tuition and required fees**
- \$ 12 months of health insurance**
- \$ 1,500 professional development scholarship**

## Supplements for nationally competitive *External Fellowships* awarded directly to individual doctoral students

### Multi-year Fellowships - Supplements top off

- fellowship funding during years of active fellowship funding, and
- faculty, department, or college assistantship funding in other years to ensure the recipient receives a full funding package up to 5 years.

### One- to two-year Dissertation Fellowships - Supplements top off

- fellowship funding to ensure the recipient receives a full-funding package for the duration of the fellowship tenure.

*Ex. NSF-GRFP, NIH F31, Ford Dissertation*

## **Supplements for *Federal Training Grants* awarded to a faculty team or department / program and from a US agency outside of TAMU and the TAMUS**

### **Supplements top off**

- grant funding during years of active grant stipend funding, and
- faculty, department, or college assistantship funding in other years to ensure the recipient receives a full funding package up to 5 years.

***Ex. NIH T32, DOE GAANN, USDA NNF, NSF NRT***

**Supplements for *Federal Research Grant Supplements to broaden participation* awarded to faculty and from a US agency outside of TAMU and the TAMUS**

**Supplements top off federal research grant supplemental funding to ensure the recipient receives a full funding package during the years the student receives the federal research grant supplemental funding.**

***Ex. NSF AGEP-GRS, NSF MPS-GRSV, NIH-DSP***

- **List of eligible fellowships / grants is published on the Graduate and Professional School [Graduate Recruitment, Enhancement, and Travel Program](#) website**
- **[GREAT Program Staff and Faculty Resources](#)**

## **Category I – External Fellowships**

**College/Dept/IDP staff or administrator submits on behalf of doctoral student\***

## **Category II – Federal Training Grants**

**Training Grant PI or staff or administrator submits\***

## **Category III – Federal Research Grant Supplements**

**Research Grant PI or staff or administrator submits**

<https://tamugrad.infoready4.com/>



## What is asked in the request for funding?

### External Fellowships

- Submitter and/or PI contact info
- Department Business Office contact info
- Type (ex. Multi-Year or Dissertation) and name
- Fellowship funding start and end dates
- Annual duration (9 or 12 months)
- URL for RFP
- What and how much is covered (ex. stipend, T&F, medical insurance, other expenses)

### Grants

- Submitter and/or PI contact info
- Department Business Office contact info
- Sponsor Award # and Maestro ID #
- # of funded trainee slots
- Project funding start and end dates
- Annual duration (9 or 12 months)
- URL for RFP
- What and how much is covered (ex. stipend, T&F, medical insurance, other expenses)

**Upon review and approval of a request, the Grad School sends the faculty/staff/administrator:**



Award letter



Recommended business  
procedures



Invoice template  
for reimbursement

# Summary of Administration FY23



TEXAS A&M  
UNIVERSITY

**Total Reimbursed: \$908,000**

**Total Number of Doctoral Students Awarded: 123** (29 departments, 6 colleges/schools)

	Category 1 Multi-Year External Fellowships	Category 1 Dissertation Fellowships	Category 2 Federal Training Grants	Category 3 Federal Research Grant Supplements	Professional Development
# of Requests Awarded	9	3	2	2	
# of Unique Students Supported	58*	4	57	4	115
FY23 Estimated Funding Commitments	\$294,200	\$86,900	\$504,300	\$22,400	\$146,070

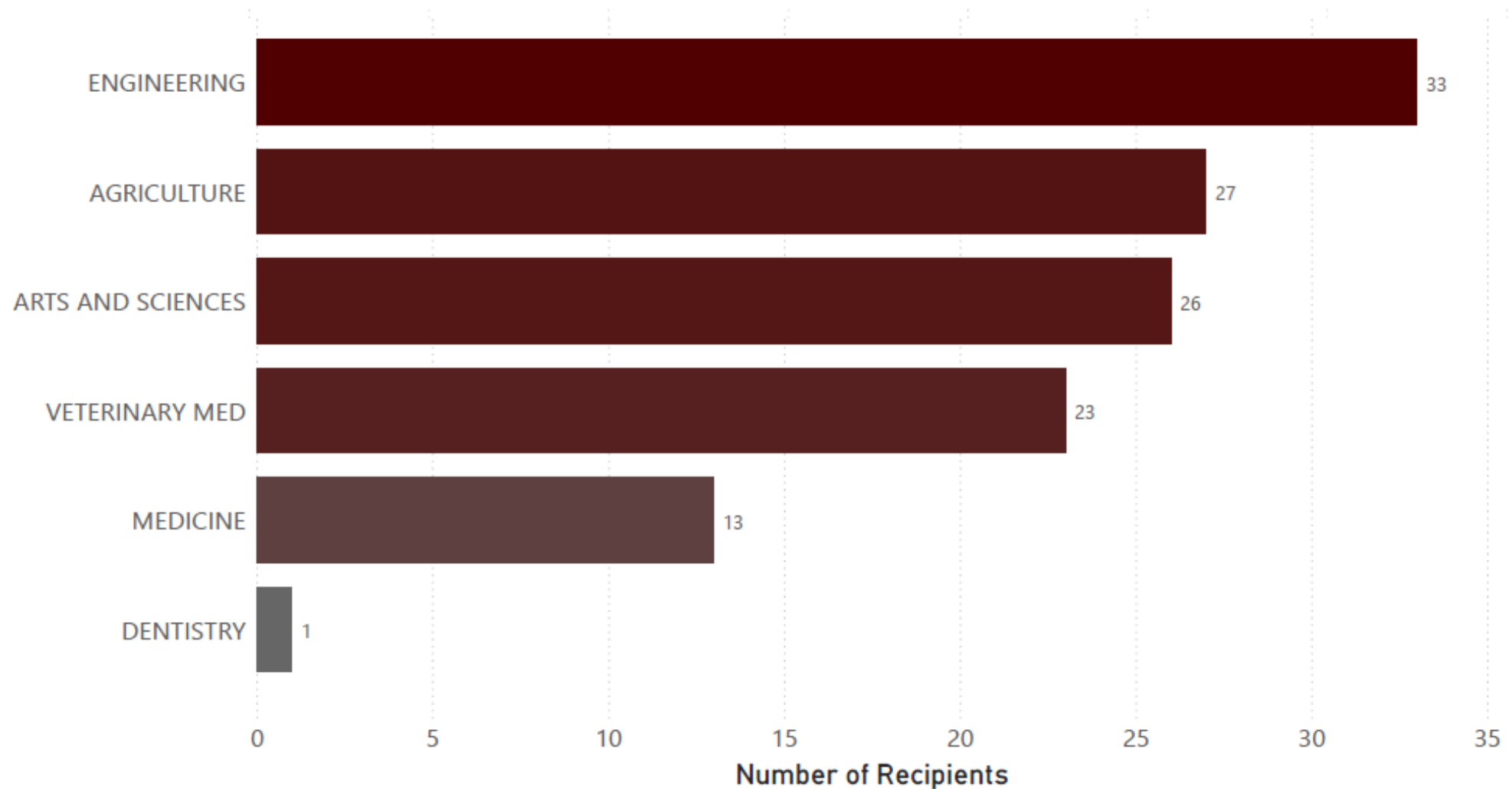
*\*The 58 unique students include 41 NSF GRFP Fellows on active tenure or reserve status.*

# Number of Recipients by College/School



TEXAS A&M  
UNIVERSITY

## GREAT Program Recipients by College/School

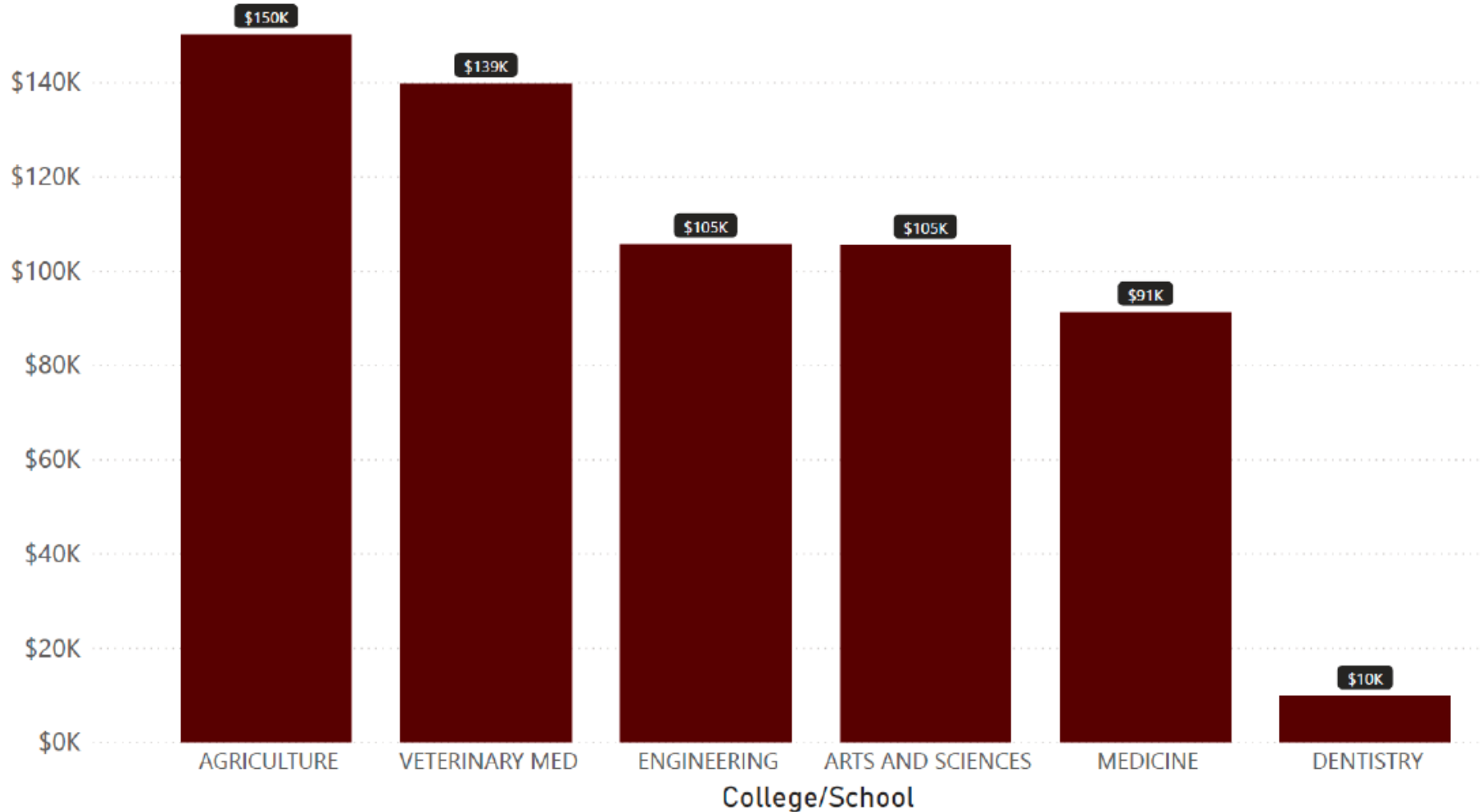


# Stipend/Assistantship Supplemental Funding



TEXAS A&M  
UNIVERSITY

GREAT Program Stipend/Assistantship Reimbursements

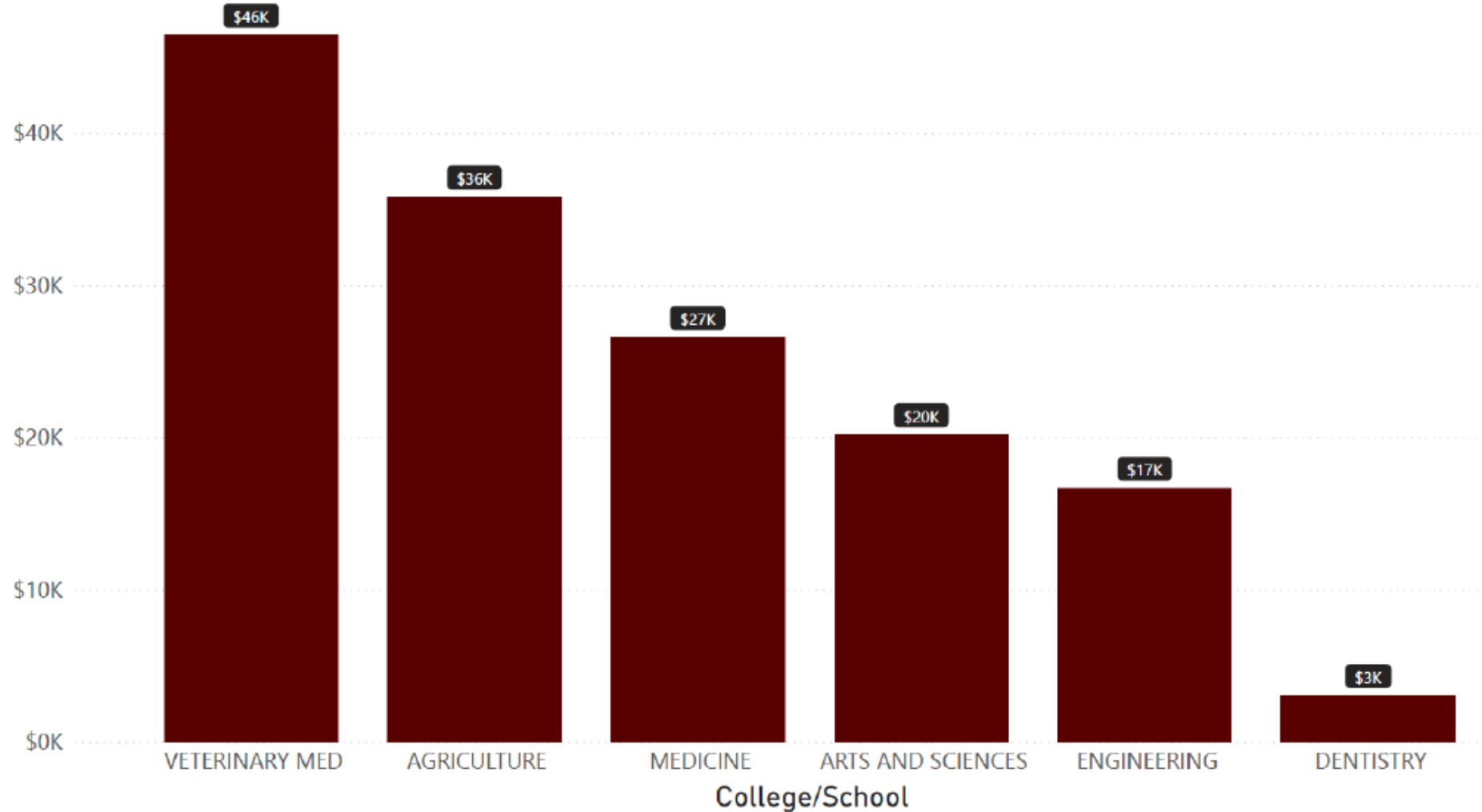


# Tuition and Fees Supplemental Funding



TEXAS A&M  
UNIVERSITY

GREAT Program Tuition and Fees Reimbursements

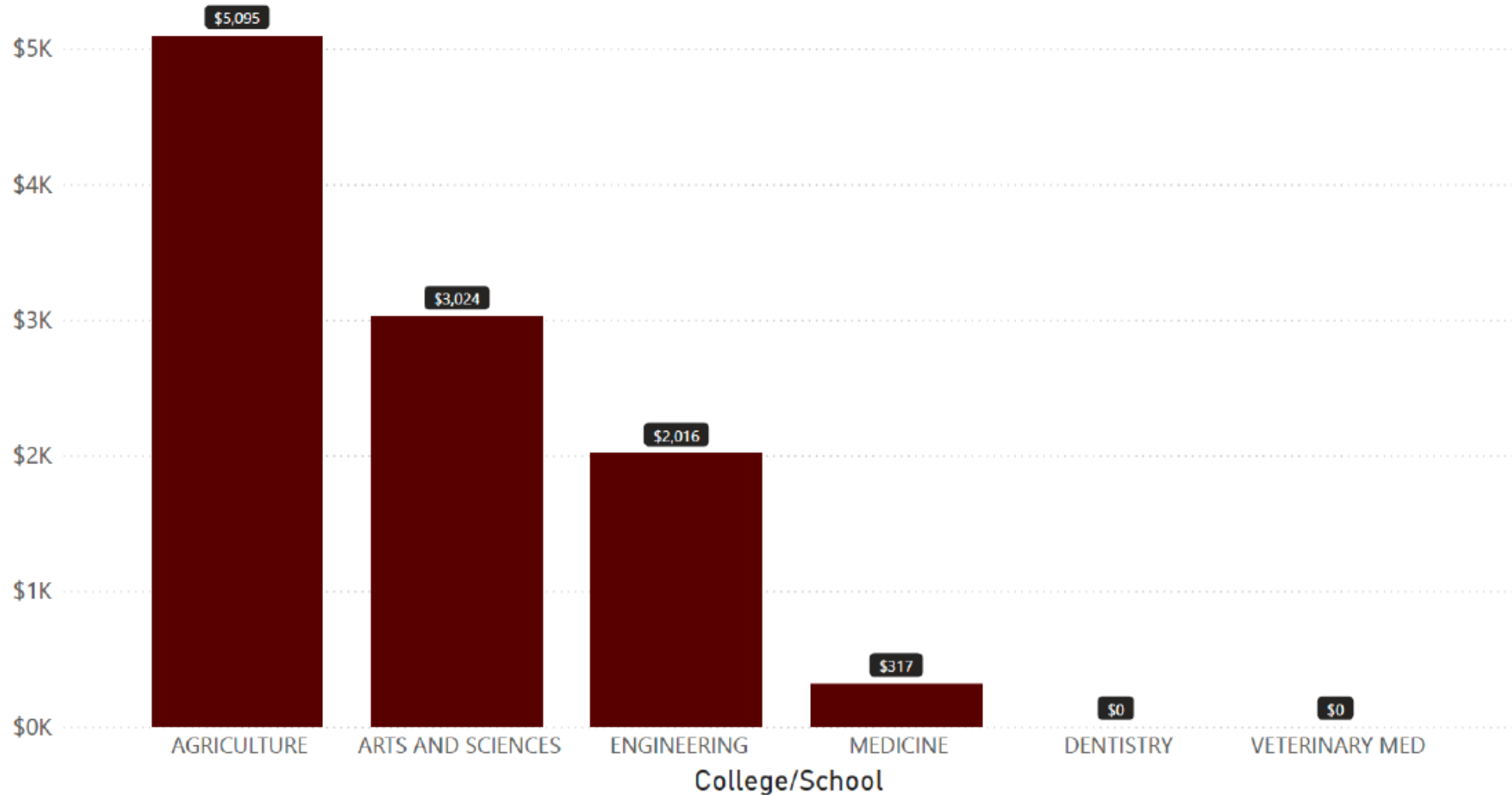


# Health Insurance Supplemental Funding



TEXAS A&M  
UNIVERSITY

GREAT Program Health Insurance Reimbursements

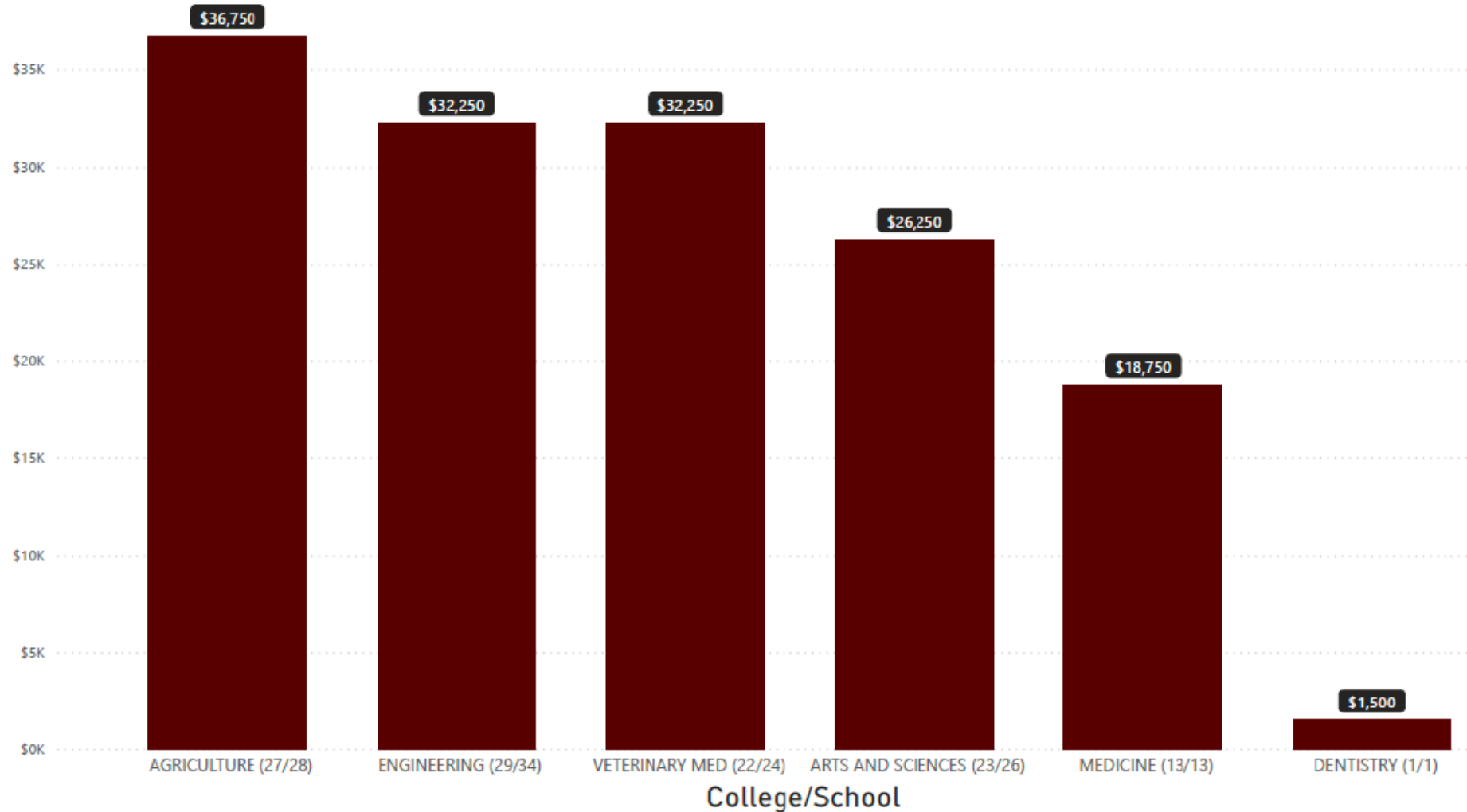


# Professional Development Scholarship



TEXAS A&M  
UNIVERSITY

GREAT Program Professional Development Scholarship Reimbursements



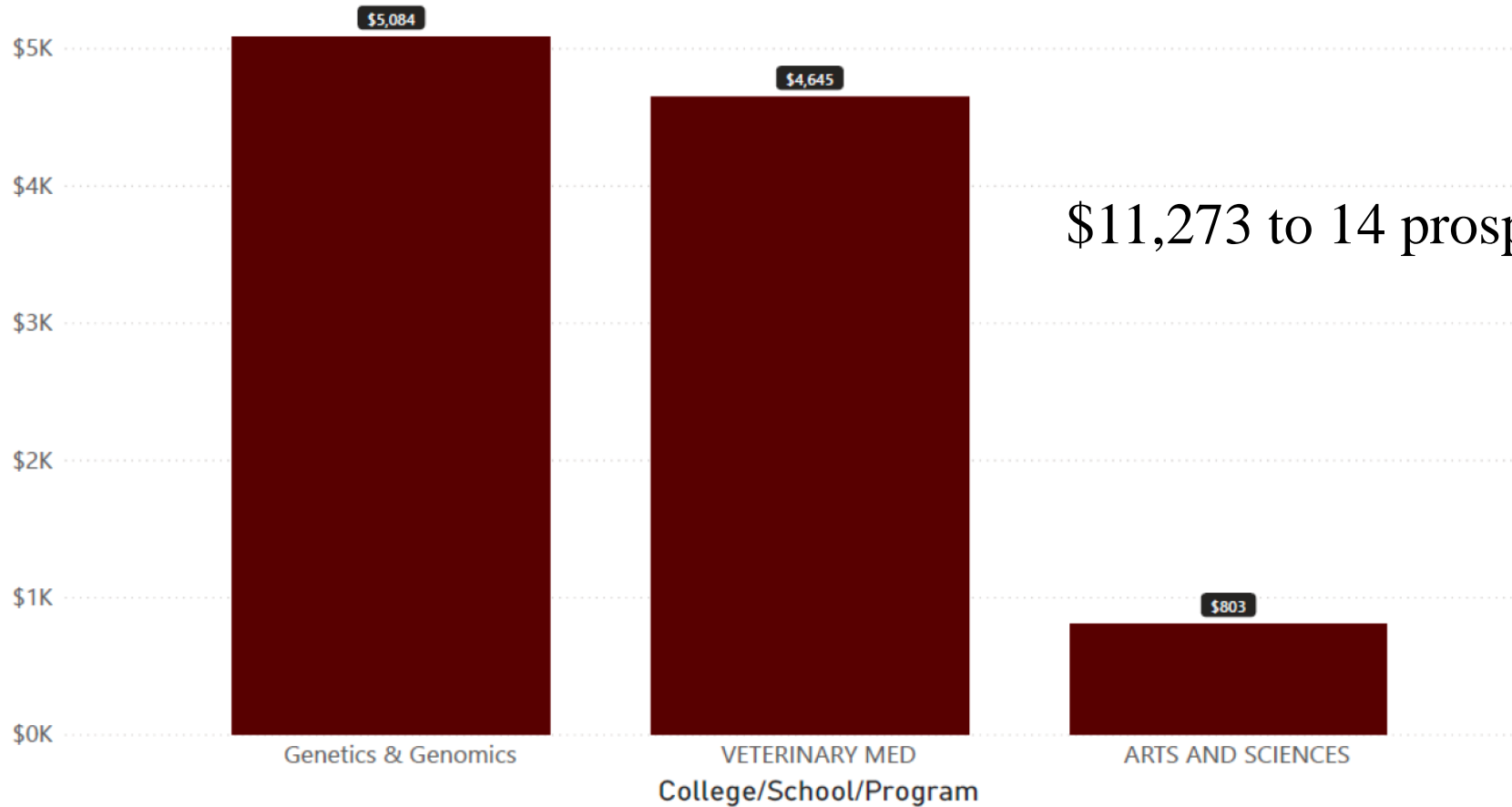


# Recruitment Travel Awards



TEXAS A&M  
UNIVERSITY

GREAT Program Travel Reimbursements



\$11,273 to 14 prospective PhD students

*\*Interdisciplinary Programs are listed separately since prospective students do not always have an identified home department at the time of their campus visit.*

# Next Steps



TEXAS A&M  
UNIVERSITY

- ✓ **Continue to review faculty requests for other fellowship/training grants eligibility**
- ✓ **Review stipend threshold and GREAT funds availability**
- ✓ **Research leadership (Aggies Research Program) and mentoring (Graduate Mentoring Academy) participation:**
  - **Solidify expectations**
  - **hold Q&A sessions**
  - **include a summary of participation in the next annual report**
- ✓ **1,500 professional development scholarship**
- ✓ **Create and implement a customer service facing platform**

## Contact [great@tamu.edu](mailto:great@tamu.edu) regarding

1. Eligibility for an external fellowship/grant not listed;
2. During the proposal development process for grants not yet awarded;
3. Questions about the program and request forms.

**Shannon D. Walton, Ph.D**  
Assistant Dean  
Graduate and Professional School  
[shannon@tamu.edu](mailto:shannon@tamu.edu)

**Jackie Perez**  
Director of Business Services  
Graduate and Professional School  
[jackieperez@tamu.edu](mailto:jackieperez@tamu.edu)

# Center for the Integration of Research, Teaching & Learning



**Dr. Julie Harlin**, Associate Dean, Graduate and Professional School  
**Dr. Radhika Viruru**, Clinical Professor, Teaching, Learning & Culture

# Goals Today

## Overview of the CIRTL Network & CIRTL@TAMU

### Three Requests:

1. Collaborate with us to help us identify TAMU courses in teaching & learning for CIRTL Certificates
2. Promote Teaching-As-Research with your postdocs & graduate students – **Application Deadline Wednesday, March 20**
  1. **Information Session Wednesday, March 6, 4pm CT**
3. Have a teaching-as-research project idea but no time to do it? Let us match you with a TAR fellow!

# What is CIRTL? A Diverse National Network

CIRTL established 2003  
(NSF)

CIRTL Network founded  
in 2006

~TAMU original member

Now 43 member research  
universities and growing!



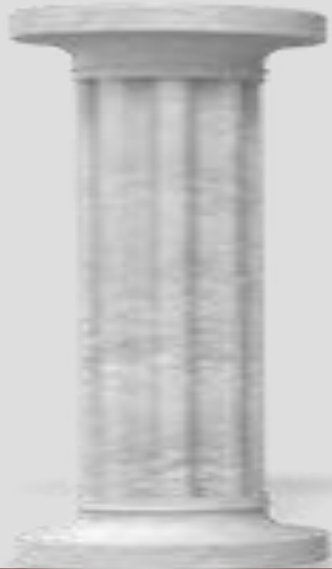
<https://cirtl.net/institutions/>

- Content can be STEM focused, but open to **ALL disciplines**
- Network programming for faculty, postdocs and graduate students (cirtl.net)
- CIRTL@TAMU programming for faculty, postdocs and graduate students (cirtl.tamu.edu)

# Learning Through Inquiry Core Ideas

“The CIRTL mission is to enhance excellence in undergraduate education through the development of a national faculty committed to implementing and advancing effective teaching practices for diverse learners as part of successful and varied professional careers.”

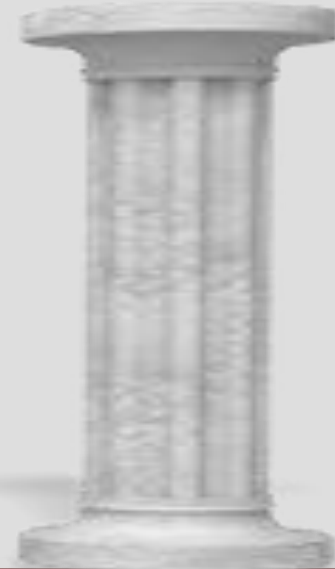
**Learning  
in  
Communities**



**Learning  
through  
Diversity**



**Teaching  
as  
Research**



# General Benefits of Engagement in CIRTL Programming

Develop teaching and  
delivery skills

- Beneficial skills regardless of career path
- Increase confidence in teaching and communicating

Help **differentiate** in the  
academic job market

- Professional development in teaching
- Teaching as Research Fellows

Expand professional  
network across the  
university and the country

National program  
recognition

Opportunities for  
faculty, postdocs, and  
graduate & professional  
students



# CIRTL Certification Levels

## CIRTL Associate

*(Describe & Recognize Value)*

Academy for Future Faculty

MOOC Local Learning  
Community

Graduate Teaching Consultants

Leadership Institute

## CIRTL Practitioner

*(Engage)*

Teaching-As-Research Fellows

Aggie Research Leadership

Leadership Institute

## CIRTL Scholar

*(Advance & Disseminate)*

Teaching-As-Research Fellows

Aggie Research Leadership

Leadership Institute

CIRTL@TAMU holds an annual CIRTL Banquet in the Spring to celebrate our CIRTL Certificate Recipients' achievements

- Do not have to achieve levels sequentially
- Can receive more than 1 Associate Certificate
- We also connect CIRTL Certificates to the G.R.A.D. Aggies Certificate program

# Three Requests



# #1: Help Identifying TAMU Courses in Teaching & Learning

## Courses in Teaching & Learning

- Open to any graduate/professional student that meets CIRTL learning outcomes
- May be eligible to receive CIRTL certification

## CIRTL@TAMU can work with faculty to:

- Identify courses that are eligible
- Promote these courses through CIRTL@TAMU marketing



## TAR Fellows

Opportunity to approach the scholarship of teaching and learning with the same rigor you approach your disciplinary research

[tx.ag/TARFellows](https://tx.ag/TARFellows)  
[tx.ag/applyTAR](https://tx.ag/applyTAR)

Open to TAMU-CS graduate students & postdoctoral scholars

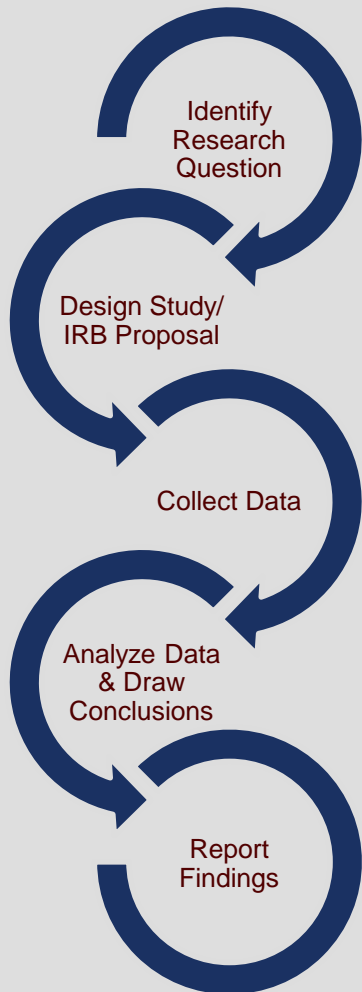
1-year program

Need some teaching experience/PD in teaching to be eligible

Information Session, Weds 3/6 4pm

Application Deadline, Weds 3/20

# TAR Process



## Anticipated Timeline

April 2024

Data collection cannot begin until approval or exemption is received from IRB

May-June 2024

Fall 2024 Semester

Stipends paid to grad students at each identified milestone, up to \$1000 total

Spring 2025 Semester

Spring 2025 Semester

[tx.ag/TARFellows](https://tx.ag/TARFellows)  
[tx.ag/applyTAR](https://tx.ag/applyTAR)

Adapted from Bishop-Clark, C. & Dietz-Uhler, B. (2012). *Engaging in the Scholarship of Teaching and Learning: A Guide to the Process, and How to Develop a Project from Start to Finish.*

# #3: TAR Faculty Mentors

Have a research question related to teaching and learning?

- Allow us to match you with a TAR Fellow who you can help mentor through the process





# Today...Overview

## Overview of the CIRTL Network & CIRTL@TAMU

### Three Requests:

1. Collaborate with us to help us identify TAMU courses in teaching & learning for CIRTL Certificates
2. Promote Teaching-As-Research with your postdocs & graduate students – **Application Deadline Wednesday, March 20**
  1. **Information Session Wednesday, March 6, 4pm CT**
3. Have a teaching-as-research project idea but no time to do it? Let us match you with a TAR fellow!

# Questions?



Visit our website at  
<http://cirtl.tamu.edu>

**Dr. Julie Harlin**, Associate Dean, Graduate and Professional School  
**Dr. Radhika Viruru**, Clinical Professor, Teaching, Learning & Culture  
**Email** [cirtl@tamu.edu](mailto:cirtl@tamu.edu)





**Texas A&M University**  
**RESEARCH ENTERPRISE**  
**STRATEGIC INITIATIVES**

*Henry Fadamiro*  
*AVP for Research & Strategic Initiatives*



TEXAS A&M UNIVERSITY  
Division of Research

## Strategic Research Themes/Sub-Themes

- **Defined cross-cutting themes/topics that:**
  - Leverage TAMU's strengths, capacity, and capabilities (colleges, schools, agencies, C&I, core facilities).
  - Leverage external resources/partnerships.
  - Address state, national, and global challenges.
  - Deliver significant societal impact.
  - Advance knowledge and elevate TAMU's stature and rankings as a top-tier research university.
- **Process:**
  - Review of strategic plans and research priorities of TAMU colleges, schools, agencies.
  - Broad consultation (internal and external).
  - Input from DOR Strategic Plan process.
  - Input from research leadership groups.
  - Alignment with National research agenda and priorities of federal funding agencies and TX.

### ***6 Strategic Research Themes and 21 Sub-Themes Defined:***

- ***Community, Culture, and Economic Resilience***
  - ***Emerging Technologies and Innovations***
  - ***Health and Quality of Life***
  - ***National Security***
  - ***Space Exploration***
  - ***Sustainability and Environment***
-

**Table 1: Strategic Research Themes, Sub-Themes, and Texas A&M's Areas of Strength and Opportunity**

Strategic Research Themes	Strategic Research Sub-Themes	Examples of Research Areas of Strength/Opportunity within Texas A&M
Community, Culture, and Economic Resilience	Arts Ecosystem and Culture	Impact of arts on health & wellbeing, education and economy, community transformation and healing, adaptation to social, economic and technological challenges, public humanities, cultural heritage, historic creative activity, civics education, creative production and performance, use of new media and technologies in arts
	Human Development and Social Dynamics	Human resource development, change management, resilience, leadership development, social dynamics, policy, human factors, bioethics, education disparities
	Workforce and Future of Work	Workforce development, future of work, cultures of work, policy, inclusive workforce
Emerging Technologies and Innovations	Artificial Intelligence, Learning, and Autonomy	Machine learning, deep learning, human-machine interactions, sensors, robotics, computer vision, ethics/policy, technology adoption
	Biotechnology and Biomanufacturing	Synthetic biology, genomics, gene editing, genetic medicines and RNA/DNA vaccines, biomanufacturing
	Data, Visualization, and Information Technologies	Digital twins, computing platforms, visualization, AR/VR technology, LED production stages, communicating with the future, policy
	Microelectronics and Semiconductors	Analog and mixed signal circuits, artificial intelligence hardware, biosensors, brain-inspired computing, integrated photonics, intelligent and cognitive EM sensors, MEMS sensors and actuators, memristors and emergent memory devices, metrology, molecular computing, neuromorphic materials, radiation-hardened electronics, secure edge computing, 5G/6G technology, workforce development
Health and Quality of Life	Quantum Science and Technology	Quantum sensing, quantum biology, quantum communications, quantum computing
	Diagnostics, Treatments, Intervention, and Cures	Biomedical devices, diagnostic technologies, precision medicine, genetics/genomics, toxicology/environmental health, neuroscience, infectious diseases, zoonotic/emerging diseases, digital health, telehealth, cancer therapeutics/vaccines, cardiovascular diseases, communication and adoption, clinical trials, governance
	Disease Prevention and Health Promotion	Risk and protective factors, food-nutrition-health link, prevention of chronic diseases, stress management, vaccine development, emissions-energy-health interactions, health communication
National Security	Health Disparities and Community Health	Rural and community health, racial/ethnic/socioeconomic health disparities, women's health and gender differences, military and operational medicine, humanitarian assistance/disaster response, health resilience, global health security, governance
	Biodefense and Biosecurity	Detection/forecasting, rapid response/contamination, pandemic response, one health, rapid therapy/vaccine development, applied biosafety/biorisk mitigation, environmental surveillance, manufacturing, supply chain
	Cybersecurity	Cybersecurity assessment, human dimensions, cyber modeling, privacy versus security, governance
	Nuclear Security	Arms control, nuclear terrorism, risk analysis, nuclear forensics, nuclear nonproliferation, nuclear power, policy
Space Exploration	Advanced National Security Technologies	Directed energy; hypersonic technology; ballistics; encryption; systems engineering; materials for extreme environments; policy
	Human Space Flight	Human factors and behavioral performance, human health countermeasures, space radiation, exploration medical capability, research operations and integration, food/nutrition, space humanities
	Space Engineering and Construction	Aerospace power and energy storage; robotics, sensors, and autonomous systems; robotics space flight; materials and manufacturing; space food systems
Sustainability and Environment	Earth and Planetary Sciences	Earth science, astrophysics, astrobiology, planetary science, exoplanets, space domain awareness, remote communications, asteroid detection and deflection
	Climate Resilience and Mitigation	Climate resilience/mitigation, coastal resiliency, blue economy, carbon capture, environmental ethics/humanities, policy
	Energy Transition/Clean Energy	Biomass/renewables, nuclear reactors, hydrogen economy, smart grid/infrastructure of the future, electrification, decarbonization, energy storage, critical materials, simulations of scenarios of energy of the future, response, training, policy
	Food-Energy-Water (FEW) Nexus	Development and application of integrated tools/platforms to inform the decision-making process for FEW resilience, assessment of the sustainability of FEW systems, water quality decision support system, FEW and health, food security,

**Table 2: Strategic Research Themes Mapped onto the Priorities of Federal R&D Funding Agencies and Texas Legislature, and Internal Capacity within Texas A&M**

Strategic Research Themes	Strategic Research Sub-Themes	Alignment with National and Texas (TX) Legislative Priorities	Texas A&M Capacity (Initial Mapping of Alignment with Colleges, Schools, Agencies, and Centers/Institutes/Core Facilities)
Community and Economic Resilience	Arts Ecosystem and Culture	NEA, NEH, NSF, NIH	CAS, SEHD, PVFA, ARCH, BUSH, LAW, LIBRARY, GCHR, CoDHR, CSFA, CMAC, RESI
	Human Development and Social Dynamics	NSF, NIH, DOED, NEA, USAID, UN	SEHD, CAS, MAYS, PVFA, TEES (COE), HSC (SPH, SoN, SoM, SoP), AGLR (COALS), LAW, BUSH, AGEX, TEEEX, TTI, IECE
	Workforce and Future of Work	NSF, NIH, DOED, USDA, DOC, CHIPS ACT, NEH, MULTI-AGENCY R&D, NATIONAL SECURITY, USAID, UN, TX	SEHD, CAS, MAYS, PVFA, TEES (COE), AGLR (COALS), LAW, BUSH, AGEX, TEEEX, TTI, ERGO, ARCH
Emerging Technologies and Innovations	Artificial Intelligence, Learning, and Autonomy	NSF, NIH, DOD, DARPA, DOED, CHIPS ACT, MULTI-AGENCY R&D, NATIONAL LABS, SBIR/STTR	TEES (COE), CAS, SEHD, AGLR (COALS), PVFA, HSC (SoM, SoP), BUSH, TTI
	Biotechnology and Biomanufacturing	NSF, NIH, DOE, DOD, DOC, DARPA, CHIPS ACT, MULTI-AGENCY R&D, NATIONAL BIOTECH, SBIR/STTR	CAS, AGLR (COALS, VMBS), HSC (SoM, SoP), TEES, SEHD, CPT, MIC, TxGEN, AggieFab, MCF, NCTM, SI, CIADM
	Data, Visualization, and Information Technologies	NSF, NIH, USDA, DOC, DARPA, NEH, SBIR/STTR, MULTI-AGENCY R&D, NATIONAL SECURITY, TX	CAS, PVFA, ARCH, TEES (COE), AGLR (COALS), SEHD, MAYS, BUSH, HSC (SPH), TTI, HPRC, TAMIDS, ARCH
	Microelectronics and Semiconductors	NSF, NIH, DOE, DOD, DOC, DARPA, CHIPS ACT, MULTI-AGENCY R&D, SBIR/STTR, TX	TEES (COE), CAS, MAYS, SEHD, AGLR (COALS), AggieFab, CI, HPRC, IQSE, MCF, NESC, TAMIDS
Quantum Science and Technology	NSF, DOD, DARPA, MULTI-AGENCY R&D	CAS, TEES (COE), AGLR (COALS), IQSE	
Health and Quality of Life	Diagnostics, Treatments, Intervention, and Cures	NIH, DARPA, DVA, DHA, HRSA, ARPA-H, MULTI-AGENCY, MULTI-AGENCY R&D, NATIONAL BIODEFENSE, USAID, UN, TX	HSC (SoD, SoM, SoN, SoP, SPH), CAS, TEES (COE), ENMED, AGLR (COALS, VMBS), TVMDL, PVFA, SEHD, CVRI, GHRC, CMDD, CPT, CTCR, HCRF, TAMIN, IQSE
	Disease Prevention and Health Promotion	NIH, USDA, MA, CDC, DHA, HRSA, ARPA-H, NEH, SBIR/STTR, UN, TX	HSC (SoM, SoN, SPH), SEHD, AGLR (COALS, VMBS), AGEX, TTI, IAH, IBT, CCHD, HCDC, GHRC, IIAD, CARTEEH
	Health Disparities and Community Health	NIH, DOED, USAID, VA, DHA, NSF, HRSA, ARPA-H, NEH, MULTI-AGENCY R&D, UN, TX	HSC (SoD, SoM, SoN, SoP, SPH), SEHD, CAS, AGLR (COALS), BUSH, AGEX, CDC, IECE, IAH, CHEER, SRHRC, CCHA, HST
National Security	Biodefense and Biosecurity	NIH, DOE, NL, DARPA, DHS, CDC, MULTI-AGENCY R&D, NATIONAL BIODEFENSE, NATIONAL SECURITY, NATIONAL LABS, SBIR/STTR, USAID	HSC (SoM, SoP, SPH), CAS, TEES (COE), AGLR (COALS, VMBS), TDEM, TVMDL, TEEEX, BUSH, GHRC, IIAD, CBTS, IQSE, NCTM, CIADM, TEMAG, TxGEN
	Cybersecurity	NSF, DOD, DOC, DOE, DARPA, AFOSR, CHIPS ACT, MULTI-AGENCY R&D, NATIONAL SECURITY, SBIR/STTR, NATIONAL LABS	CAS, TEES (COE), LAW, MAYS, SEHD, TEEEX, CC, GCRI, HPRC, BCDC, CI
	Nuclear Security	DOD, DOE, NASA, DARPA, NATIONAL SECURITY, SBIR/STTR, MULTI-AGENCY R&D	TEES (COE), CAS, LAW, BUSH, NPI, NSC, CI
	Advanced National Security Technologies	DOD, DOE, NASA, DARPA, NATIONAL SECURITY, SBIR/STTR, MULTI-AGENCY R&D	TEES (COE), CAS, LAW, BUSH, TTI, BCDC
Space Exploration	Human Space Flight	NASA, DOC, AFOSR, CHIPS ACTS, NATIONAL LABS	HSC (SoM, SoN, SoP, SPH), TEES (COE), CAS, AGLR (COALS), SEHD, PVFA, BUSH
	Space Engineering and Construction	DOD, NASA, DOE, DARPA, AFOSR, CHIPS ACT, SBIR/STTR, MULTI-AGENCY R&D	TEES (COE), CAS, ARCH, PVFA, AGLR (COALS), CI
	Earth and Planetary Sciences	NASA, DOC, DOD, AFOSR, CHIPS ACT, NATIONAL SECURITY, NATIONAL LABS	CAS, TEES (COE), LAW, IQSE, CI
Sustainability and Environment	Climate Resilience and Mitigation	NSF, DOE, USDA, DOC, CHIPS ACT, NATIONAL SECURITY, NATIONAL LABS, NEH, MULTI-AGENCY R&D, USAID, UN	CAS, AGLR (COALS, VMBS), TEES (COE), ARCH, SEHD, BUSH, MAYS, HSC (SPH), Galveston, Qatar, TDEM, PVFA, TTI, TSG, TIO, NRI, EI, TCCS, ISTPP, NBI, TWRI
	Energy Transition and Clean Energy	NSF, DOE, USDA, DOC, DOT, AFOSR, CHIPS ACT, NATIONAL SECURITY, NATIONAL LABS, ARPA-E, SBIR/STTR, MULTI-AGENCY R&D, UN, TX	TEES (COE), CAS, AGLR (COALS), MAYS, PVFA, SEHD, ARCH, BUSH, LAW, TEEEX, TTI, Qatar, EI, CIR, NCEBR, IQSE, CI
	Food-Energy-Water Nexus	NSF, DOE, USDA, NIH, CHIPS ACT, NATIONAL LABS, NATIONAL SECURITY, USAID, UN, TX	CAS, AGLR (COALS), TEES (COE), AGEX, SEHD, BUSH, ARCH, MAYS, PVFA, HSC (SPH), TEEEX, Galveston, TSG, TWRI, EI, NBI

## STRATEGIC RESEARCH PRIORITIES



TEXAS A&M  
UNIVERSITY

- Ad hoc Committee for Strategic Research Priorities
  - Charge: Review, brainstorm, and recommend strategic research priorities from the list of 21 research sub-themes.
    - Survey administered
    - Retreat (July 26, 2023)
  - Strategic research priorities identified for FY24-25.
    - *Advanced National Security Technologies*
    - *Arts Ecosystem and Culture*
    - *AI / Data, Visualization, and Information Technologies*
    - *Disease Prevention and Health Promotion*
    - *Food-Energy-Water-Health Nexus (Sustainability & Resilience)*
    - *Space Exploration (TAMUS Space Institute)*
    - *Semiconductor & CHIPS (TAMUS Semiconductor Institute)*
  - Workshops organized to further develop select research priorities as strategic initiatives.
    - *FEWH Nexus; Space Exploration; AI*

## FOOD-ENERGY-WATER-HEALTH NEXUS PLANNING WORKSHOP (Nov 14, 2023)



TEXAS A&M  
UNIVERSITY

- **Participants**
  - Invited faculty representatives and leaders from relevant colleges/centers/institutes (~ 40 participants from about 20 units).
  
- **Purpose**
  - To define TAMU's clusters of excellence in the FEWH nexus and identify big ideas and opportunities to enhance societal impact and submit winning proposals to the state, federal agencies, and the private sector.
  
- **Objectives**
  1. Identify areas of strength and intersections, big ideas, major funding sources, and external partnerships to expand TAMU's leadership in the FEWH nexus.
  2. Define opportunities for advancing societal impact to the state/nation/world.
  
- **Expected Outcomes**
  - Create a road map to leverage the outcomes of the workshop and ensure actionable steps for further development of the FEWH nexus initiative.

- **Workshop Outcomes**

- 20 big ideas were proposed and discussed by participants. The five big ideas listed below were identified as high priority topical areas.
  - *Cultivate Sustainable Communities: Design and implement behavioral programs that encourage sustainable practices related to FEWH.*
  - *Cross-disciplinary Research Networks: Development and evaluation of multiscale integrated tools, digital platforms, and supporting data for FEWH resilience.*
  - *Disaster Risk Preparedness: Disaster risk reduction through adopting a FEWH systems approach.*
  - *Soil Dynamics: Integrating soil management, soil regeneration and ecosystem health to reduce water and energy footprint and improve carbon sequestration.*
  - *Sustainable Production of Foods in Extreme Conditions: Develop resilient and adaptable food production systems to withstand droughts and floods.*
- A proposal for a new institute focusing on the FEWH nexus (Sustainability and Resilience) was prepared for consideration as a congressional request.

- **Next Steps**

- A faculty workshop is being planned for March 5, 2024.
- Further advance the initiative, generate new ideas, and develop proposal teams for major targeted funding opportunities.

## SPACE EXPLORATION WORKSHOP (Nov 28, 2023)



TEXAS A&M  
UNIVERSITY

- **Purpose**
  - To organize and advance TAMU's efforts in space exploration and position the university to enhance our leadership in space and submit winning proposals to the Texas Space Commission, federal agencies, and commercial space industry.
  
- **Objectives**
  - 1) Identify research priorities/initiatives and resources needed to expand TAMU's leadership in space exploration.
  - 2) Get an update on the mission and activities of the Texas A&M Space Institute including how the new space facility next to NASA JSC will be utilized.
  
- **Expected Outcomes**
  - Create a list of research priorities/big ideas for advancing space exploration at TAMU and identify key funding opportunities for each initiative.
  - In collaboration with the Texas A&M Space Institute develop a plan for the use of the new space facility next to NASA JSC.



## SPACE EXPLORATION WORKSHOP (Nov 28, 2023)



TEXAS A&M  
UNIVERSITY

### Participants

- Interested faculty/staff across campus (140+ registrations; ~100 participants):
- Colleges/Schools/Agencies:
  - College of Agriculture and Life Sciences/AgriLife (18)
  - School of Architecture (6)
  - College of Arts and Sciences (28)
  - Bush School (2)
  - School of Education and Human Development (6)
  - College of Engineering/TEES (47)
  - School of Engineering Medicine (1)
  - School of Medicine (4)
  - School of Military Sciences (1)
  - School of Visualization and Fine Arts (4)
  - Texas A&M Transportation Institute (2)
- Centers & Institutes:
  - High Performance Research Computing (1); Global Cyber Research Institute (1); Scowcroft Institute of International Affairs (1); Cyclotron Institute (1); Texas A&M Cybersecurity Center (1); International Student & Scholar Services (1); Space Institute (1); Institute of Data Science (1)
- Other Units/Offices:
  - Office of the Provost (1); Graduate and Professional School (1); Career Center (2); Division of Marketing and Communications (4); Division of Research (6); Technology Services (4).

## SPACE EXPLORATION WORKSHOP (Nov 28, 2023)



TEXAS A&M  
UNIVERSITY

### Workshop Outcomes

- Over 20 big ideas were proposed and discussed by workshop participants. The ideas listed below were identified as high priority.
  - *Microgravity Effects on Human Space Flight.*
  - *Next-Gen X-ray Instruments for Crewed Missions to the Moon/Mars.*
  - *Human Space Countermeasures.*
  - *Automated Construction in Space.*
  - *Tensegrity Reconfigurable Impact-Resistant Smart Structures.*
  - *Texas Space Modular Manipulator Project.*
  - *High Power Structural Batteries for Extreme Temperatures for Space Applications.*
  - *Cislunar Astrodynamics and Space Domain Awareness Center of Excellence.*
  - *Texas Space Strategic Technical Institute.*
  - *Growing Plants and Producing Food in Space.*
  - *Connecting the Earth and Moon.*
  - *Sampling the Solar System through Spectroscopic Science.*
  - *Planetary Sciences State-of-the-Art Database.*
  - *Next-Gen Mission Control Center.*
- A proposal to establish **a Next Generation Automated Mission Control Center at TAMU** was developed for consideration as a congressional request.

### Next Steps

- Meetings with group leaders to discuss next steps, alignment of the big ideas with specific major funding opportunities, and possible integration of some of big ideas for synergy.
- Team building for major funding opportunities.
- In collaboration with the Texas A&M Space Institute, develop a list of projects for the new Texas A&M facility in Clear Lake and proposal ideas for the Texas Space Commission.

## AI WORKSHOP



- **Date:** March 19, 2024
- **Participation:** Open to interested faculty/staff across campus (invitation/open registration).
- **Planning Committee:** 12 member including representatives of relevant units across campus.
- **Workshop Purpose and Objectives:**
  - Organize and advance TAMU's efforts in AI and position the university to enhance our capacity and capabilities in AI and submit winning proposals to major funding opportunities in AI.
    - Assess the evolving external landscape of AI research, applications, and funding.
    - Identify clusters of research expertise at TAMU and areas where growth or partnerships would strengthen our positioning.
    - Identify operational measures and additional capabilities to enhance TAMU's capabilities in responding to anticipated opportunities.
- **Expected Outcomes:**
  - Develop a report outlining a roadmap for advancing AI initiative at TAMU including areas of strengths, gaps in capacity/capabilities, list of big ideas, upcoming relevant funding opportunities, and recommendations for advancing AI research.
- **Agenda Highlights:**
  - Keynote Address (by a prominent expert such as NSF AI Director or a Senior Personnel at OSTP).
  - Panel Discussions (panelists to include external and internal leaders including Govt. Relations).
  - Breakout Sessions:
    - Core AI Research Themes.
    - AI Application Domains (including policy, humanities, and STEM domains).
  - Interactive/Networking Sessions.
  - Summary and Feedback.

## GENERAL NEXT STEPS



TEXAS A&M  
UNIVERSITY

- **Team Building and Proposal Development**
  - Determine alignment of big ideas with major funding opportunities.
  - Proactive engagement with potential funding sources.
    - Federal, State, and the Private Sector.
  
- **Support from DOR:**
  - Support for building collaborative teams and proposal development to advance research ideas from the workshops including:
    - Identification of the right mix of talents (RDASH and related tools)
    - Team meetings/workshops
    - Proposal writing support and red teams
    - Travel to engage sponsors
    - Planning grants for major targeted funding opportunities (via TPT).
  
- **Input Solicitation:**
  - What are effective strategies for interdisciplinary team building and proposal development?
  - What are effective strategies for community/stakeholder engagement?