

ANNUAL REPORT

PREPARED FOR THE
TEXAS A&M UNIVERSITY
SYSTEM BOARD OF REGENTS



TEXAS A&M
INNOVATION

2024

innovation.tamus.edu



MESSAGE FROM THE CHIEF INNOVATION OFFICER

PETE ONEILL

Texas A&M Innovation made significant progress in our first full year of operation as a System-wide office. We implemented multiple new initiatives that have started to deliver early positive results, and that we expect to yield even more significant results next year and into the future.

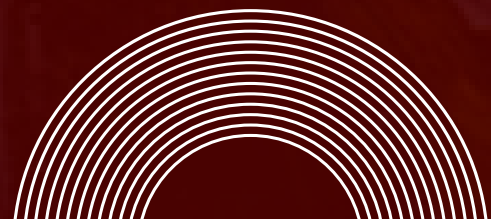
Our mission remains constant; “Supporting Inventors and Commercializing Innovations Across The Texas A&M University System”. This year we engaged inventors through more than 20 department meetings and met with hundreds more through individual meetings in College Station. We also travelled across the state and presented to inventor groups at Prairie View, San Antonio, Galveston, Corpus Christi, Kingsville, and Tarleton State. The core of our message is facilitating inventors from across the A&M System to engage with Texas A&M Innovation, and that we are bringing a customer service focus to our work.

Everywhere we go we find people who share our passion and vision for elevating Texas A&M as an innovation leader, including faculty, administrator leadership, former students, regional entrepreneurs and economic development groups, and many categories of potential investors. To achieve our collective goals we will need support from every portion of the Texas A&M community; I would like to extend a huge thank you to all the amazing people we worked with this past year.

We saw early results from this outreach and improved customer service through our first annual inventor survey. We sent a survey to every inventor who submitted an invention disclosure in the previous 12 months; 386 inventors received the survey, 112 replied, with an overall score of 4.55/5.00. Of course we are pleased with such a high score, but the survey responses also included insightful suggestions to improve our customer service further, and we are implementing those suggestions.

I am more confident than ever that Texas A&M has the ingredients to be a world-class innovation leader, and am proud of our team’s early work in laying foundations to realize this potential.

A handwritten signature in white ink that reads "pete oneill". The signature is written in a cursive, flowing style.



MISSION & GOALS

OUR MISSION

Supporting Inventors
and Commercializing
Innovations Across The
Texas A&M University
System



OUR GOALS

Increase the amount and impact of innovation at Texas A&M.

Increase commercialized results based on Texas A&M
Intellectual Property.

Elevate the brand of Texas A&M to be recognized as
a catalyst for innovation.

TEXAS A&M INNOVATION

INNOVATOR ENGAGEMENT

The foundation of building a productive innovation ecosystem is the cultivation of an innovative and entrepreneurial mindset among the faculty and other potential innovators at Texas A&M. The Texas A&M Innovation team spent the past fiscal year planting seeds through various means of engagement with the goal of establishing and growing a culture of innovation comprehensively across The Texas A&M University System.

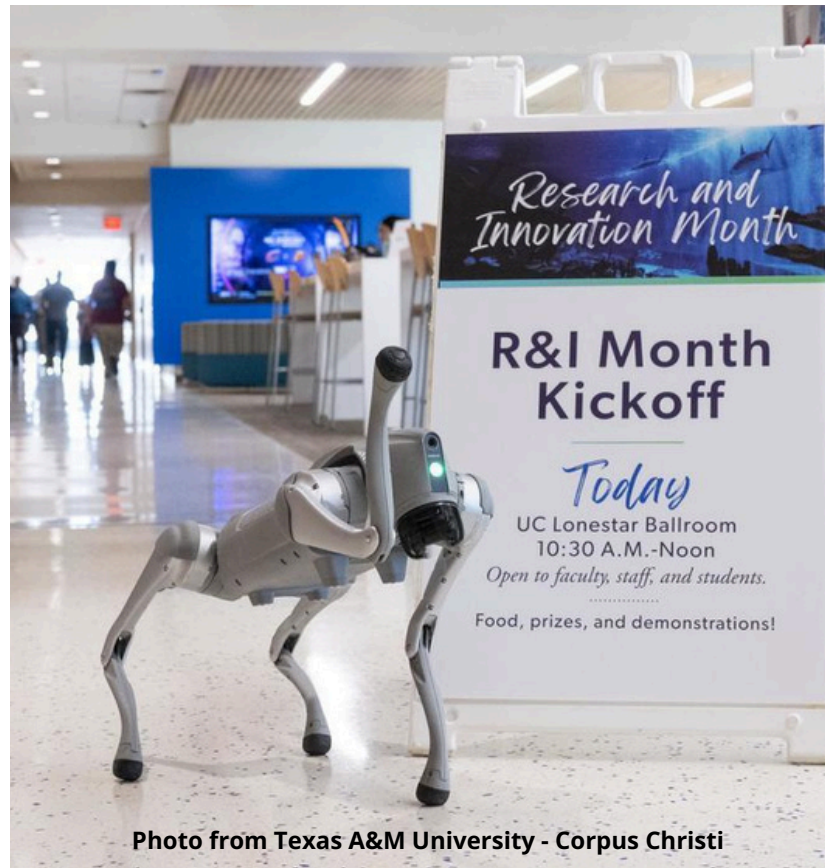


Photo from Texas A&M University - Corpus Christi

INTERNAL ENGAGEMENT STATS

The core of TI's work is to grow awareness and facilitate engagement!



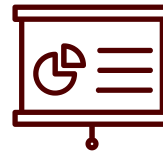
4 InnovationU events attended by **348** Texas A&M employees



386 inventors received the inventor survey
112 replied (29%)
Average score 4.55/5.00



Monthly newsletter distribution increased to over **6000**, featured inventors of the month from across the System.



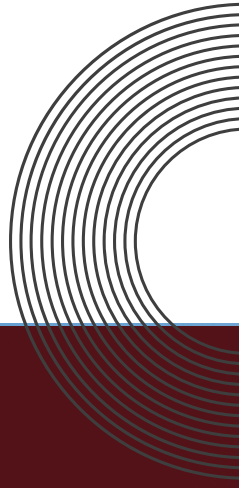
Innovation presentations to **7** inventor groups at Prairie View, San Antonio, Galveston, Corpus Christi, Kingsville, and Tarleton State.



24 department meetings



INNOVATOR ENGAGEMENT



NEW INITIATIVES

STREAMLINED INVENTION DISCLOSURE:

Based on inventor feedback, we streamlined the invention disclosure form resulting in reducing the length of the form and grouping questions for ease of use.

REVISED WEBSITE:

We developed and published new content to provide easy access to resources and information that inventors commonly seek.

CONCEPT SUBMISSION:

Again based on inventor feedback, we implemented the concept submission form that is simplified to 2 basic questions;

- what is the market need that you have identified?
- what is your solution?

NEW INVENTOR INCENTIVE:

Recognizing that new inventors may need extra time learning how to work with TI, we implemented a program to make payments to all new inventors to incentivize them to devote time to this initial effort.

TEXAS A&M INNOVATION

REGIONAL INNOVATOR ENGAGEMENT

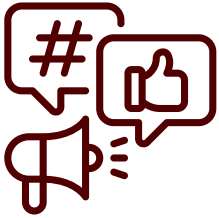
Building a regional entrepreneurial culture is essential to surround our Texas A&M inventors with people who can collaborate to move their projects forward.



154,013 emails sent



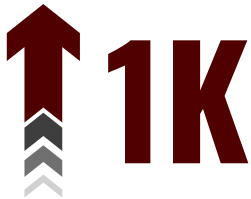
61,065 opened (40%)



Over 600 new followers for TI LinkedIn page, across Texas and USA



8 events attended by 935 distinct people



Texas A&M Innovation LinkedIn Followers: 1,213



Visit the Texas A&M Innovation LinkedIn Profile



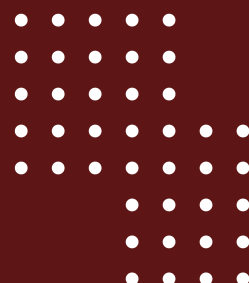
INNOVATING TAKES “A VILLAGE”



Dr. Gerard Coté is a professor in the Department of Biomedical Engineering at Texas A&M University and an expert in biomedical diagnostic and monitoring research including hand-held and wearable devices for chronic disease applications. Dr. Coté is an inventor on several U.S. patents and is a co-founder of three medical device companies. One of Dr. Coté’s most notable achievements is his pioneering research in continuous glucose monitoring, which has revolutionized diabetes management and transformed the lives of millions of patients worldwide.

Even though Dr. Coté has excelled through independent lab research, his most impactful accomplishments are group efforts to translate his research into products impacting society. “In biomedical engineering we often work with other engineers, computer scientists, statisticians, ethicists, behavioral psychologists, nurses, medical doctors, patients, and the community to understand and solve some of the most challenging societal health and wellness issues. Only through these kinds of collaborations can we solve real world problems.”

In recognition of Dr. Coté’s accomplishments he received the 2024 Chancellor’s Innovation Award. He hopes his career’s work and this recent award will help inspire the next generation of inventors and researchers to strive for excellence in improving human health and well-being.



COMMERCIALIZATION

As we increase the flow of new innovations from across Texas A&M, our team is diligently working to commercialize these new technologies into products.

A common “currency” of technology commercialization is issued patents, and this year Texas A&M set a record for number of patents issued, which led to a top 30 ranking in the USA by the National Academy of Inventors for the first time. We have increased our budget for filing patents that allowed an increase in the number of patent applications over last year, which will lead to an increased number of issued patents in the coming years.



To raise the value of the projects in our pipeline we increased our product development support with our new \$1M Gap Funding program. We worked closely with the TAMU Vice President of Research office to manage more than 20 Advancing Discovery to Market projects that received \$5M in development support. We also secured donations of more than \$200K that provided additional funding to support our startup companies.

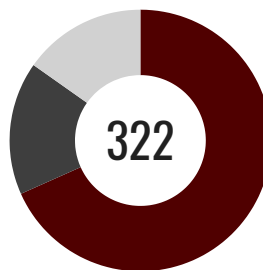
Important to commercializing any technology is understanding how that technology addresses a market need. To bring more market perspective to our work we formed our first market advisory group, focused on the therapeutic market. This advisory group includes experienced entrepreneurs, investors, and others who bring their expertise to guide our commercialization projects. This coming year we will form other market-focused advisory groups, including medical device, energy, agriculture, and others.

Ultimately, for a technology to be commercialized there needs to be a license to a commercial entity, either an existing company or a new startup. This year we increased the number of license agreements executed more than 25% compared to last year.

INVESTING IN THE PIPELINE

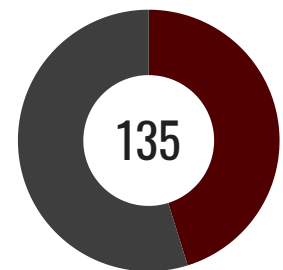


PATENT APPLICATIONS FILED

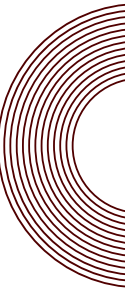


- US APPLICATIONS: 220
- FOREIGN APPLICATIONS: 53
- PCT: 49

PATENTS ISSUED



- US: 61
- FOREIGN: 74



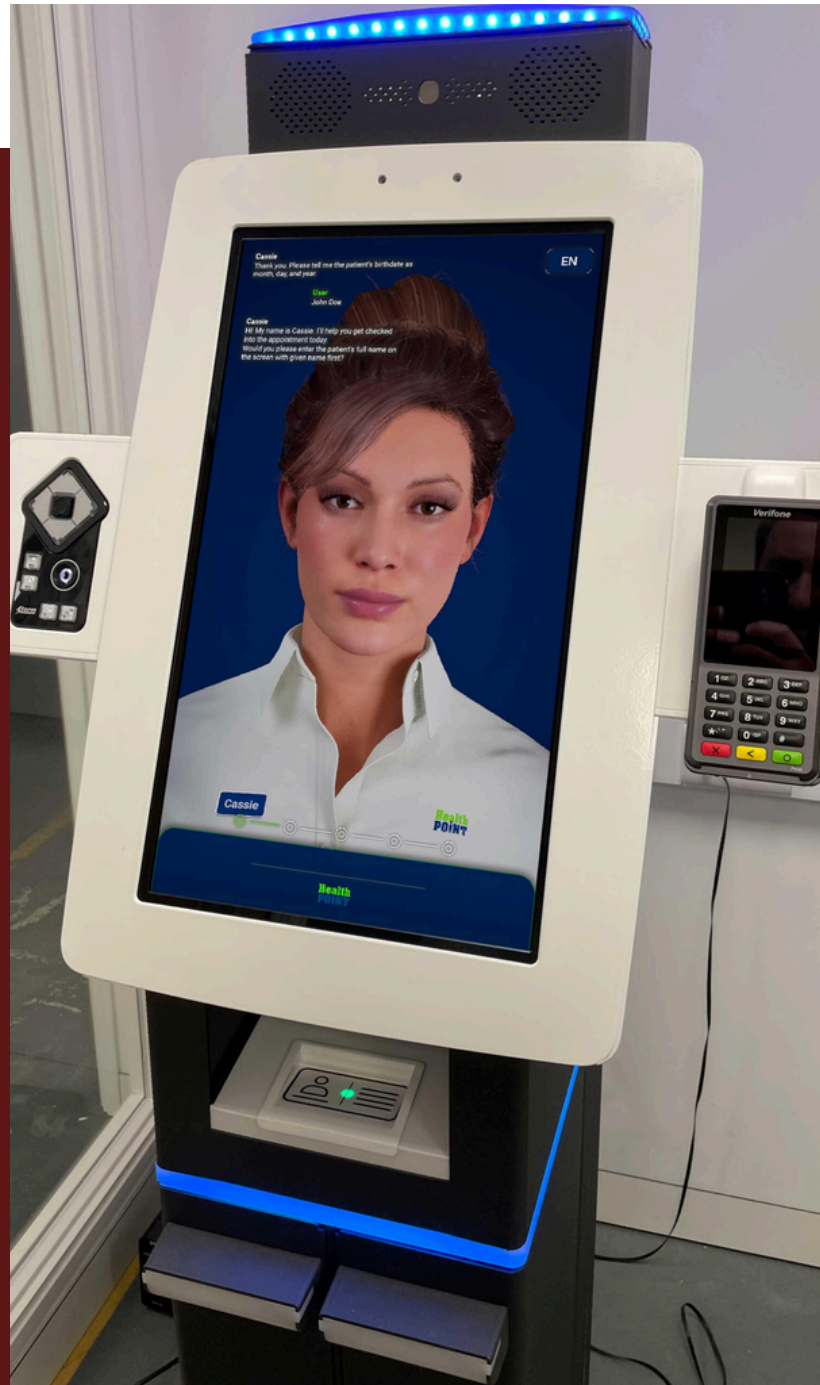
TEXAS A&M INNOVATION

CREATING THE DIGITAL WORKFORCE WITH HUMANATE DIGITAL

Humanate Digital Inc. is a startup company based in College Station, TX, formed to commercialize the patent-pending technology invented at Texas A&M Health by Leslie Jebsen, Dr. Kaysey Aguilar, and Dr. Mark Benden.

The first of Humanate's digital workforce is a clinical concierge avatar named Cassandra, intended to engage with patients during the clinic check-in or check-out process. Cassandra easily communicates with patients by speaking multiple languages and her unique technology integrates visual elements that respond to the user in real time, creating a fluid and personalized user experience. Cassandra also has the ability to securely interface with other clinical systems to access medical records, billing, and compliance processes.

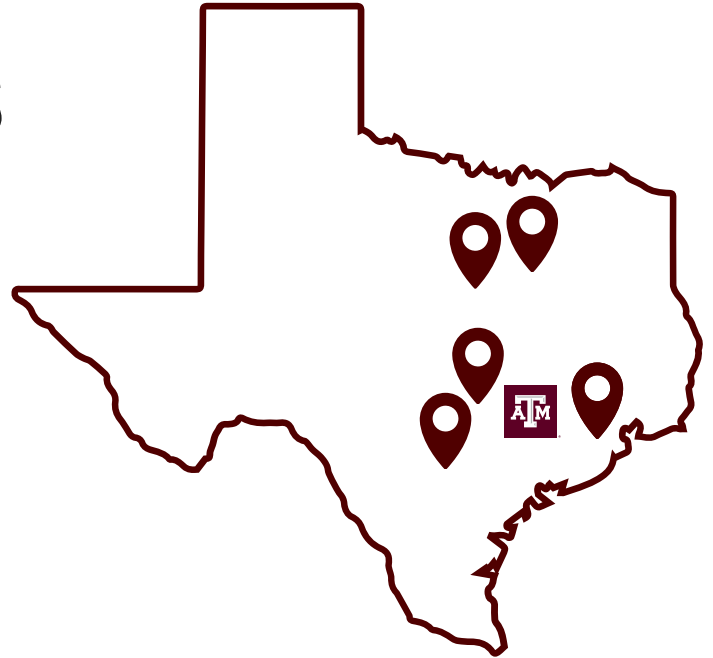
The company also established a strategic collaboration with Nvidia's prestigious Inception program, which will provide access to Nvidia AI technology at discounted prices and promotion to their VC community.



STRATEGIC PROJECTS

As the A&M System and our Texas A&M Innovation team grow into recognized innovation leaders we will increasingly be relied on by other groups to lead innovation efforts around our region.

Of course the focus of our efforts are in the Brazos Valley, “the heart of the Texas Triangle.” This past year we have worked closely with collaborators across our region on multiple initiatives to support and attract companies in our local region.



OUR CONNECTIONS AROUND THE STATE OF TEXAS THIS PAST YEAR



BRAZOS VALLEY

Our role is to facilitate connection to Texas A&M’s impactful expertise and facility assets, ultimately to attract more companies to grow operations in the Brazos Valley.



DALLAS

Engaged Pegasus Park as part of getting included in Dallas ARPA-H hub. Included lead for Dallas-based BioLabs in Therapeutics advisory group.



FORT WORTH

Participated in biweekly meetings with Fort Worth – Tarrant County Innovation and U3 Advisors and joined visit to Kendall Square to advance Innovation Hub



HOUSTON

Participated in meetings with Greater Houston Partnership and Gulf Coast Consortium



SAN ANTONIO

Shaping collaboration with Velocity TX company incubator.



AUSTIN

Secured DARPA award in collaboration with Capital Factory, and established relationships with multiple other Austin-based potential collaborators.

10 years of the Texas A&M New Ventures Competition

The Texas A&M New Ventures Competition (TNVC) fuels the growth of small businesses from across Texas, and accelerates the launch of groundbreaking technologies. Since its inception in 2015, \$4 million in prizes have been awarded, establishing TNVC as a beacon for Texas-based early-stage innovators. As host for the past two years, Texas A&M Innovation is proud to carry forward the legacy of this impactful competition. The 2024 event drew over 350 participants, including venture capitalists, angel investors, and entrepreneurs, all committed to discovering and advancing the next generation of tech pioneers. Previous TNVC winners have garnered over \$571 million in investments, affirming Texas A&M's role in elevating top Texan startups to national prominence through this competition.

In addition to awarded prizes, participating in TNVC offers valuable experience to startup companies through its four-month long vetting, coaching, and competition process that provides insightful feedback to all applicants on both technical and business merit.

In 2024 TNVC hosted 20 rising start-up companies from across Texas to compete for more than \$450,000 in cash and prizes. After a rigorous process of presentations reviewed by panels of commercialization experts, a Houston-based company, Taurus Vascular took home the grand prize.



Operations: Machinery Behind the Scenes



In addition to our events and outreach activities that fuel the education and awareness of our internal and external customers, much effort was dedicated to evaluating the state of our business following the consolidation of commercialization offices from across The Texas A&M University System. We identified several areas in need of overhaul, cleaned up backlogs, and refined outdated processes to enable a better foundation to support the ramp up in commercialization activities moving forward.

Working closely with our IP management database vendor, Wellspring, we revamped our entire set of standard operating procedures to increase ease of use, identifying several opportunities to introduce efficiencies, and enable enhanced training of new and existing staff with current practices.

We also spent a significant amount of time simplifying our accounts receivable process and balances, investigating each case and determining a forward plan of action to reduce outstanding amounts. Our new focused approach enabled the reduction of outstanding A/R by more than \$2M.

As review and streamlining of our accounting processes continues, inventors are experiencing timelier distributions of license proceeds and external commercial partners will experience a more proactive approach to license management aimed at increasing the likelihood of success in commercialization of A&M System intellectual property.



OUR NEW FOCUSED APPROACH ENABLED THE
REDUCTION OF OUTSTANDING A/R BY MORE THAN \$2M.

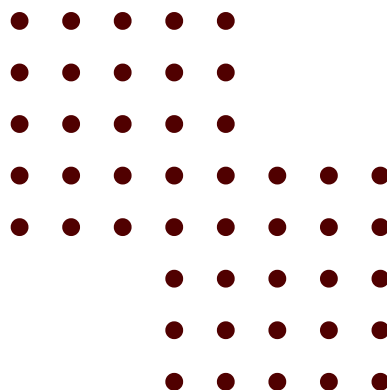
KEY COMMERCIALIZATION METRICS

The table below summarizes the key commercialization metrics for Texas A&M for FY24.

METRIC	FY23	FY24
Invention Disclosures	238	229
USA Patents Issued ¹	65	61
USA Provisional Patents	95	121
USA Patent Applications	90	99
Foreign Patents Issued	78	74
Foreign Patents Filed	50	53
License & Option Agreements	40	52
New Ventures ²	3	6
New Commercial Revenue to Texas A&M	\$6,497,493.35	\$5,746,286.37

¹USA Patents Issued listed in Appendix A

²New Ventures listed in Appendix B



FINANCIAL SUMMARY

In the first full year of operation as a combined office, the FY24 budget was an aggregation of previous commercialization operations across the previous 5 separate commercialization offices, which resulted in a projected budget of (\$4,009,778.90). The actual financial performance was (\$3,225,852.50), favorable to budget by \$783,926.40.

TI FINANCIAL SUMMARY	FY24 BUDGET	FY24 ACTUAL	DIFFERENCE
TI Income	\$4,775,000.00	\$5,693,798.68	\$918,798.68
TI Expenses	\$8,784,778.90	\$8,919,651.18	(\$134,872.61)
Total	(\$4,009,778.90)	(\$3,225,852.50)	\$783,926.40

TI Income: In FY24, the New Commercialization Revenue paid to Texas A&M was \$5,746,286.37, of which 57.5% (\$3,304,114.66) was allocated to cover TI operations and 5% (\$287,314.31) was allocated to the Commercial Development Fund. Note that 37.5% (\$2,154,857.39) of the Commercialization Revenue was distributed directly to the inventors. In addition, careful bookkeeping was applied to previous years from previous commercialization offices to recover an additional \$1,288,978.36 of undistributed revenue, which was allocated to TI revenue in FY24. These amounts, combined with Patent Reimbursements and other Miscellaneous revenue, resulted in total revenue to TI of \$5,693,798.68 (see table below), compared to a budgeted amount of \$4,775,000.00.

TI INCOME	FY24 BUDGET	FY24 ACTUAL	DIFFERENCE
IP Net Revenue ³	\$4,025,000.00	\$3,304,114.66	(\$720,885.34)
Commercial Dev Fund ⁴	\$0	\$287,314.31	\$287,314.31
Recovered Past Undistributed Revenue	\$0	\$1,288,978.36	\$1,288,978.36
Patent Reimbursement	\$750,000.00	\$735,075.35	(\$14,924.65)
Misc	\$0	\$78,316.00	\$78,316.00
Total	\$4,775,000.00	\$5,693,798.68	\$918,798.68

³ 57.5% of \$5,746,286.37 New Commercial Revenue to Texas A&M

⁴ 5% of \$5,746,286.37 New Commercial Revenue to Texas A&M

TI Expenses: The table below itemizes FY24 expenses. The two most significant expense categories were payroll and patent expenses. For FY24, the payroll and patent expenses were less than budgeted. Even though the total expenditures for patents in FY24 was below budget, through the year the patent expense by quarter increased from Q1 \$614,163.41 to Q4 \$743,306.24; by the end of the year the patent expenses were close to the budgeted amount.

The majority of location expense is for the lease for the TI office suite in Century Square. Other location expenses include completion of renovation of the leased space, and therefore the location expense is expected to be lower in FY25.

To increase future IP revenue, the Commercialization Support was higher than the budgeted amount, which led to \$109,500 unfavorable to budget. In FY24, 8 projects were supported, all with the focus of increasing the future commercialization value of these projects.

Through FY24, Marketing/Advertising/Events expenses were increased, which led to a negative variance. Four networking events were added and branded “Innovation Connect”, which combined with the annual Texas A&M New Venture Competition (TNVC) engaged more than 1,000 people through the year. Four education events were added and branded “InnovationU” and included 348 Texas A&M employees. Additional expenses were incurred in preparation of the inaugural Innovation Forward conference that will be held in mid-November 2024.

Travel expenses were close to budget. Licensing managers are encouraged to attend at least 1 industry or educational external meeting as part of career development.

Miscellaneous expenses were in line with budget, and included all other expenses associated with TI operations.

TI EXPENSES	FY24 BUDGET	FY24 ACTUAL	DIFFERENCE
Payroll & Incentives	\$4,004,278.90	\$ 3,976,531.76	\$27,747.14
Patent Expenses	\$3,000,000.00	\$ 2,651,167.25	\$348,832.75
Location Expenses, Equipment, IT-Software-Services	\$624,000.00	\$ 926,970.80	(\$302,970.80)
Commercialization Support	\$ 400,000.00	\$ 509,500.00	(\$109,500.00)
Marketing, Advertising, Events	\$185,000.00	\$ 274,972.81	(\$89,972.81)
Travel, Training, Meetings, Memberships	\$111,500.00	\$ 125,367.92	(\$13,867.92)
Misc - Contracts, Consulting, Fees, & Other	\$460,000.00	\$ 455,140.64	\$4,859.36
Total Expenses	\$8,784,778.90	\$ 8,919,651.18	(\$134,872.28)

Inquiries And More Information About Us

Texas A&M Innovation supports inventors and commercializes innovations across The Texas A&M University System, using a rigorous process to guide projects from new innovations through market commercialization. Our focus is on protecting System intellectual property, increasing inventor engagement through education and outreach, building industry partnerships, supporting startups and entrepreneurial ventures, and facilitating access to critical resources to accelerate commercialization of System intellectual property. Through our work we strive to promote regional economic development and positively impact the lives of people locally, nationally, and globally.

THANK YOU!

TEXAS A&M INNOVATION

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<https://innovation.tamus.edu>

Social media :

@TAMInnovation  

APPENDIX A

USA PATENTS ISSUED

INTELLECTUAL PROPERTY NUMBER	INTELLECTUAL PROPERTY TITLE	INVENTORS	ISSUE DATE
11,746,374	METHODS AND PLATFORM FOR SCREENING AND SELECTING METABOLITES AND THEIR RECEPTORS	Katy C Kao	Sep 5, 2023
11,768,302	TECHNOLOGIES FOR MULTIFUNCTION SENSOR DEVICES AND MICROCONTROLLER-BASED INTERFACE MODULE	Shuza Binzaid; Adeyemi Rotmi Taylor	Sep 26, 2023
11,771,090	FUNGAL ENDOPHYTES FOR IMPROVED CROP YIELDS AND PROTECTION FROM PESTS	Gregory A. Sword	Oct 3, 2023
11,771,435	EXPANDABLE IMPLANT AND IMPLANT SYSTEM	Duncan John Maitland; Ward Small; Thomas S Wilson; William J Benett	Oct 3, 2023
11,781,556	HIGH ENERGY DENSITY TURBOMACHINES	Gerald L Morrison; Abhay R Patil; Adolfo Delgado Marquez	Oct 10, 2023
11,786,641	SHEATHED EMBOLIZATION DEVICE	Duncan John Maitland; Adam M Orendain	Oct 17, 2023
11,788,052	METHOD FOR TREATMENT AND CONTROL OF PLANT DISEASE	Ryland F Young; Carlos F Gonzalez; Mayukh Das; Stephen J Ahern; Tushar Suvra Bhowmick	Oct 17, 2023
11,794,188	ULTRA HIGH EFFICIENCY MICROFLUIDIC PLATFORM	Arum Han; Jose A Wippold; Adrian R Guzman; Han Zhang; Jing Dai	Oct 24, 2023
11,795,211	RAPID ELICITATION OF BROADLY NEUTRALIZING ANTIBODIES TO HIV ENV	Waithaka Mwangi; Michael F. Criscitiello	Oct 24, 2023
11,799,016	FABRICATION OF ELECTRONIC DEVICES USING SACRIFICIAL SEED LAYERS	Harlan Rusty Harris; Michael E Babb	Oct 24, 2023
11,801,362	SURGICAL CANNULAS AND RELATED METHODS	Seok Chang Ryu	Oct 31, 2023
11,806,332	COMPOSITIONS AND METHODS FOR INHIBITION OF SARS-COV-2 VIRAL INFECTIONS	Wenshe Liu	Nov 7, 2023

APPENDIX A (continued)

USA PATENTS ISSUED

INTELLECTUAL PROPERTY NUMBER	INTELLECTUAL PROPERTY TITLE	INVENTORS	ISSUE DATE
11,807,586	FUNGAL ENDORPHYTES FOR IMPROVED CROP YIELDS AND PROTECTION FROM PESTS	Gregory A. Sword	Nov 7, 2023
11,816,834	UNMANNED AERIAL SYSTEM GENOTYPE ANALYSIS USING MACHINE LEARNING ROUTINES	Jinha Jung; Murilo Minekawa Maeda; Juan Landivar; Akash Ashapure	Nov 14, 2023
11,820,945	MECHANICALLY RESILIENT BITUMEN MICROCAPSULES FOR MIDSTREAM TRANSPORT	Sarbajit Banerjee; FNU Anita; Wasif Zaheer	Nov 21, 2023
11,821,095	COMPRESSION REACTORS AND METHODS FOR ELECTROCHEMICAL EXFOLIATION	Micah J Green; Wanmei Sun; Joshua T Hope; Shaan R Kewalramani; Taruna Bansala	Nov 21, 2023
11,839,702	VASCULAR PROSTHESIS FOR LEAK PREVENTION DURING ENDOVASCULAR ANEURYSM REPAIR	Duncan John Maitland; Landon D Nash; John D Horn	Dec 12, 2023
11,840,776	LIGNIN FRACTIONATION AND FABRICATION FOR QUALITY CARBON FIBER	Shuhua "Joshua" D Yuan; Qiang Li	Dec 12, 2023
11,851,626	PHASE CHANGE ADDITIVES IN SOLID SURFACES FOR TRIBOLOGICAL APPLICATIONS	Reza Gheisari; Andreas A Polycarpou	Dec 26, 2023
11,852,585	COMPOSITIONS AND METHODS FOR EVALUATION OF LIQUID CONTACT ANGLE PROPERTIES	Iltae I Kim	Dec 26, 2023
11,857,294	METHOD AND APPARATUS FOR EARLY DETECTION OF PRESSURE ULCERS	John P Hanks; Michel H Saint-Cyr	Jan 2, 2024
11,859,096	METHOD FOR APPLYING GAS-IMPERMEABLE COATINGS	Jaime C Grunlan; Merid M Haile	Jan 2, 2024
11,867,059	SYSTEMS AND METHODS FOR FORMING A SUBTERRANEAN BOREHOLE	David A Staack; Li-Jung Tai; Xin Tang; Dion S Antao	Jan 9, 2024
11,870,067	SYNTHESIS OF A METASTABLE VANADIUM PENTOXIDE AS A CATHODE MATERIAL FOR ION BATTERIES	Sarbajit Banerjee; Justin L Andrews	Jan 9, 2024

APPENDIX A (continued)

USA PATENTS ISSUED

INTELLECTUAL PROPERTY NUMBER	INTELLECTUAL PROPERTY TITLE	INVENTORS	ISSUE DATE
11,873,383	THERMOCHROMIC FENESTRATION FILMS CONTAINING VANADIUM DIOXIDE NANOCRYSTALS	Sarbajit Banerjee; Kate E Pelcher; Nathan A Fleer	Jan 16, 2024
11,879,777	CELLPHONE SIZE SPECTROMETER FOR THE DETECTION AND IDENTIFICATION OF CHEMICALS AND BIOLOGICAL MOLECULES IN-SITU WITHIN MINUTES	Peter M Rentzepis; Dinesh Dhankhar; Anushka Nagpal	Jan 23, 2024
11,887,751	IMPROVED TEXTURED-POWDER BI-2212/AG WIRE AND METHOD OF FABRICATION	Peter M McIntyre; John Rogers	Jan 30, 2024
11,887,752	BLOCKS-IN-CONDUIT CABLE USING HIGH-TEMPERATURE SUPERCONDUCTING TAPE	Peter M McIntyre; Akhdiyov I Sattarov; Daniel Chavez; Timothy Elliott; Raymond Garrison	Jan 30, 2024
11,904,005	COMPOSITIONS AND METHODS OF ENHANCING IMMUNE RESPONSES TO EIMERIA OR LIMITING EIMERIA INFECTION	Luc R Berghman; Billy Hargis; Walter Bottje; Sherryll L Layton; John R Barta; Kimberly Cole; Guillermo Tellez	Feb 20, 2024
11,905,244	CHEMICAL MODULATORS OF STORE-OPERATED CALCIUM CHANNELS AND THEIR THERAPEUTIC APPLICATIONS	Yubin Zhou; Lian He	Feb 20, 2024
11,911,523	HEMORRHAGE MANAGEMENT SYSTEM	Duncan John Maitland; Elizabeth M Cosgriff-Hernandez; Thomas S Wilson; Todd L Landsman; Tyler J Touchet	Feb 27, 2024
11,912,577	METHOD TO FABRICATE PERIODIC NANOPORES ON A TWO DIMENSIONAL MEMBRANE	Lin Shao	Feb 27, 2024
11,920,250	RECOVERY OF RARE EARTH METALS AND OTHER METALS FROM NATURAL LIQUID SOURCES BY ELECTRODIALYSIS METATHESIS	Lucy Mar Camacho Chico; Mohammad U Shafiq	Mar 5, 2024
11,924,956	SYSTEMS AND METHODS FOR THOMPSON SCATTERING BACKGROUND INTERFERENCE SUPPRESSION	Richard B Miles; Christopher Limbach; Alexandros Gerakis	Mar 5, 2024
11,932,428	ROTARY-WING, HOVER-CAPABLE AIRCRAFT AND METHODS	Moble Benedict; Hunter Jack Denton; Vikram Hrishikeshavan; Hao Kang	Mar 19, 2024

APPENDIX A (continued)

USA PATENTS ISSUED

INTELLECTUAL PROPERTY NUMBER	INTELLECTUAL PROPERTY TITLE	INVENTORS	ISSUE DATE
11,932,718	FUNCTIONALIZED EXFOLIATED NANOCLAY AND NON-POLAR POLYMER NANOCOMPOSITE COMPOSTIONS	Hung-Jue Su	Mar 19, 2024
11,938,768	AMPHIBIOUS VEHICLES COMPRISING CYCLOIDAL PROPELLERS	Moble Benedict; Sean M McHugh; Chase B Wiley; Ramsay A Ramsay; Adam Kellen; Yin Lu Young	Mar 26, 2024
11,944,317	SHAPE MEMORY POLYMER VESSEL OCCLUSION DEVICE	Duncan John Maitland; Todd L Landsman; Jennifer N Rodriguez; Anthony J Boyle; Alan Charles Glowczwski; Mark A Wierzbicki	Apr 2, 2024
11,958,220	MECHANICAL RETICULATION OF POLYMERIC-BASED CLOSED CELL FOAMS	Duncan John Maitland; Thomas S Wilson; Jennifer N Rodriguez	Apr 16, 2024
11,975,060	CONTROLLED RELEASE VACCINES AND METHODS FOR TREATING BRUCELLA DISEASES AND DISORDERS	Leslie G Adams; Thomas A Ficht; Allison R Ficht; Renee M Tsois; Angela Arenas Gamboa	May 7, 2024
11,976,265	METHOD FOR TREATMENT AND CONTROL OF PLANT DISEASE	Ryland F Young; Carlos F Gonzalez; Mayukh Das; Stephen J Ahern; Tushar Suvra Bhowmick	May 7, 2024
11,980,720	WEARABLE THERAPEUTIC INTERVENTION DEVICE FOR SLEEP DISORDERS AND METHODS OF USE THEREOF	Satish T.S. Bukkapatnam; Kahkashan Afrin; Vu Nguyen; Tejaswini Shivaram	May 14, 2024
11,987,512	METHODS FOR TREATING SELENOCYANATE IN WASTEWATER	Yongheng Huang	May 21, 2024
11,990,613	ELECTROCHEMICAL STORAGE INCORPORATING SIZE AND MORPHOLOGY-CONTROLLED METASTABLE VANADIUM PENTOXIDE AS A CATHODE MATERIAL FOR ION BATTERIES	Sarbajit Banerjee; Justin L Andrews; Abhishek Parija; Luis R De Jesus Baez	May 21, 2024
12,011,680	MINERAL RECOVERY FROM CONCENTRATED BRINES	Mark T Holtzapple	Jun 18, 2024
12,013,357	APPARATUS FOR FAST PYROLYSIS REACTIONS AND METHODS THEREOF	Patrick Mills; Arvind Nanduri	Jun 18, 2024

APPENDIX A (continued)

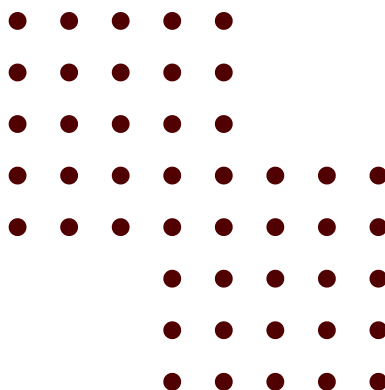
USA PATENTS ISSUED

INTELLECTUAL PROPERTY NUMBER	INTELLECTUAL PROPERTY TITLE	INVENTORS	ISSUE DATE
12,023,419	PROKARYOTIC COLLAGEN THERAPEUTICS FOR POSTOPERATIVE ADHESIONS	Magnus Hook; David J McQuillan; Brooke H Russell	Jul 2, 2024
12,024,703	METHOD FOR TREATMENT AND CONTROL OF PLANT DISEASE	Ryland F Young; Carlos F Gonzalez; Mayukh Das; Stephen J Ahern; Tushar Suvra Bhowmick	Jul 2, 2024
12,037,549	PROCESS FOR PARTIAL UPGRADING OF HEAVY OIL	David A Staack; Kunpeng Wang; Howard Bartlett Jemison	Jul 16, 2024
12,037,629	ENGINEERED BIOCATALYSTS FOR NON-STERILE CULTIVATION AND SOLVENT-FREE BIOLIPID BIOEXTRACTION	Ryland F Young; Kung-Hui Chu; Jason J Gill	Jul 16, 2024
12,039,885	SYSTEMS AND METHODS FOR MODELING VEINS AND ASSOCIATED BLOOD VESSEL COMPONENTS	Abhishek Jain; Navaneeth Krishna Rajeeva Pandian	Jul 16, 2024
12,042,954	B-STAGING OF PRE-PREG USING CAPACITIVELY-COUPLED ELECTROMAGNETIC HEATING METHOD	Micah J Green; Aniruddh Vashisth	Jul 23, 2024
12,043,553	QUANTUM MATERIAL/VANADIUM OXIDE HETEROSTRUCTURES, METHODS OF MAKING SAME, AND USES THEREOF	Sarbajit Banerjee; Justin L Andrews; Junsang Cho; David F Watson; Nuwanthii Suwandaradne; Aaron Sheng	Jul 23, 2024
12,050,118	METHOD AND DEVICE TO MEASURE MULTIPHASE FLOW	Gerald L Morrison; Abhay R Patil; Joshua A Vandervort	Jul 30, 2024
12,057,831	THRESHOLD LOGIC GATES USING FLASH TRANSISTORS	Sunil P Khatri; Ankit Wagle; Sarma Vrudhula	Aug 6, 2024
12,066,415	A LOW COST AND WIRELESS GAS SENSING PAPER SENSOR HAVING UHF RANGE	Jun Kameoka; Onder Dincel; Ting-Yen Chi	Aug 20, 2024
12,074,830	MILLIMETER-WAVE FULLY-INTEGRATED FULL DUPLEXER MODULES WITH AND WITHOUT INTERNAL LOW NOISE AMPLIFIER AND POWER AMPLIFIER FOR 5G APPLICATIONS	Cam V Nguyen; Meng-Jie Hsiao	Aug 27, 2024

APPENDIX A (continued)

USA PATENTS ISSUED

INTELLECTUAL PROPERTY NUMBER	INTELLECTUAL PROPERTY TITLE	INVENTORS	ISSUE DATE
D1008698	MODULAR LIVING WALL PLANTER COMPONENT	Ahmed K Ali; Bruce D Dvorak; Panwang Huo; Karishma Joshi; Niti Tataria	Dec 26, 2023
PP35,378	GRAPE PLANT NAMED 'A-1400'	Larry A Stein; Justin Jack Scheiner; James Stanley Kamas; John R Clark	Sep 12, 2023
PP35,448	HIBISCUS PLANT NAMED '14-0704-02'	The Estate of Robert S Brown; Dariusz P Malinowski; Andrzej Klimowski	Oct 31, 2023
PP35,807	HYBRID ST. AUGUSTINE GRASS NAMED 'DALSA 1618'	Anthony Dennis Genovesi; Ambika Chandra; Meghyn Meeks; Chrissie Ann Segars; Justin Eads	May 14, 2024



APPENDIX B

NEW VENTURES LIST

COMPANIES FORMED BASED ON A&M TECHNOLOGIES IN FY24
Advanced Micro Sprays, LLC
CADRx, Inc.
Lucier Pharmaceuticals, LLC
Peroral Biosciences, Inc.
Quiddity Products, LLC
Southwest Veterinary Diagnostics, LLC

