2023 Technology Fee Concept Paper Submission Form

Concept papers are the first stage for the Technology Fee Advisory Committee to review and select those invited to submit a full proposal in the second stage of the grant process. This Committee acts in an advisory capacity to the CIO, who will decide on projects to be funded and implemented.

Process:

Approval of a project proposal will require a multi-step process. At this time, you are submitting a concept paper as the first step in the grant process proposal.

1) Submission of a 2-page concept paper for review plus one page of signatures.
2) If a concept paper is selected, the PIs are invited to submit a full proposal, it must strictly adhere to the requirements below and submitted to the Committee by the required deadline.
3) The Committee will review the submitted full proposal and accept or reject it.
4) Accepted proposals will be forwarded with a recommendation for funding to the CIO.
5) The CIO will make a final decision on project proposals to be funded.

Requirements:

1) Concept paper must address the criteria below and listed on https://it.ufl.edu/community/technology-fee/scoring-criteria/.
2) Concept paper must be submitted in the required template.
3) Concept paper must include an approved signature from the Dean of the College or Unit Director that houses the student, staff or faculty member. This signature signifies a commitment to provide resources if these required for the sustainability of the project.
4) Concept papers must include approval from the core UFIT unit that reviewed the proposal and will oversee the project resulting from the proposal. This must include a thorough technical review and budget review.*

*The core UFIT units and their respective contacts are:

- **Academic Technology (AT)**, The Office of Academic Technology (AT) provides resources, technical assistance, and equipment to assist the University of Florida faculty, staff, and students. The three general divisions of AT include support for media services, instructional technology, and teaching/learning.
  ***Mark McCallister**, Director markm@ufl.edu*
- **Applications, Development and Integrations (ADI)** supports, builds and integrates university-wide cloud and on-premise applications in support of UF's faculty, staff and students.   **Nicole Jeffers,** Director ngarvey@ufl.edu
- **Customer Experience & Resources Planning (CERP),** informs the university of IT services, support, and systems, conducts a year-round feedback and listening program, servers as campus advocates for enterprise IT improvements, and manages enterprise-wide technology projects for UF. Alicia Turner, Director, aliciatu@ufl.edu

- **Data Platform and Analytics (DPA),** provides reporting and visualizations, analytics, data engineering, master data management, application integration platform, database administration, and data science services to the university. *Jim Freymann, Director, jim.freymann@ufl.edu.*
- **Infrastructure & Communication Technology (ICT)** manages the UF Data Center and delivers hosted server, storage, virtualization, database, email, and related system and connects the University of Florida campuses and UF to the world via high-speed data, video, Wi-Fi,

telecommunications, and VoIP services.
Saira Hasnain, Associate CIO and Senior Director, saira.hasnain@ufl.edu

- **Information Security (IS)**, Information Security has a mission to preserve the confidentiality, integrity, and availability of restricted and critical data of the University.
Rob Adams, Chief Information Security Officer, Information Security**,** rob@ufl.edu
- **Research Computing (RC)**, Research Computing, and the High-Performance Computing Center provides high-performance computing resources and support to UF faculty whose research depends on large-scale computing.
Erik Deumens, Director deumens@ufl.edu

Scoring Criteria

Full proposals and proposals will be scored using the following criteria:

Scoring Criteria for Technology Fee Concept Papers and Proposals	
Criteria	Points
The project promotes an exceptional academic environment through the innovative use of technology.	Required[1]
A college dean or director certifies that the project serves the institutional mission and is aligned with the University of Florida strategic plan.	Required[1]
A UFIT associate CIO or director[2] certifies that the proposal is technically feasible, and the initial budget request is a reasonable first approximation of funds required for success.	Required[1]
If the project requires recurring resources, the concept paper and proposal must include a viable sustainability plan[3].	Required[1]
The project is innovative in delivering a new service, resource, implementing a concept or delivery method, and not simply upgrading existing services or facilities.	Required[1]
The 2-year project budget includes only technology items and does not include salary, services, facilities, furniture, and similar items.	Required[1]
The project meets all ADA[4] requirements and complies with the UF Electronic and Information Technology Accessibility Policy.	Required[1]
The project outlined in the concept paper improves student learning experiences.	
The project improves the capacity to create, innovate, and high-quality learning environments.	

If the project is to be used in or by courses, it includes the involvement of course instructors utilizing the technology.	
The project can reach students, faculty, and staff across the University and beyond to achieve a common good.	
The project outlined in the concept paper efficiently uses existing resources and services (does not duplicate services or infrastructure).	
The project improves the technical skills, competency, and success rate of students.	

[1] Proposals not meeting this requirement will not be considered.
[2] These are direct reports to the CIO.
[3] Recurring funds must be provided by the unit of the proposer or generated by the project.
[4] The American Disabilities Act (ADA) requires that Web and other resources provide individuals with disabilities an equivalent experience to individuals without disabilities

Instructions:

In filling the attached template make sure that the requirements in the Scoring Criteria Table are met. Concept Proposals not meeting the requirements will not be considered. Also note how the full proposals are scored and address each of the scoring criteria in your proposal.

The template includes the following items:

1) **Title**: Make sure that the title is descriptive and short. Avoid technical jargon and focus on the benefits of the project.
2) **Proposer**, affiliation and, contact information: Make sure that a contact person is clearly identified, as well as the person's affiliation and contact information (*email, department, unit or organization, physical address, and phone*).
3) **Purpose**: What is the proposal intended to improve or facilitate? Why is it important to do so? What are the expected outcomes? How is this project innovative, and could it be scaled in the future? Clearly outline the objectives of this project so that it can easily be determined if they are achieved by the end of the project.
4) **Impact/Benefit**: Who benefits? In what ways? What are the implications of how this project is innovative? Does it leverage existing resources?
5) **Sustainability**: If the project requires recurring resources, how will these be acquired? Who will be responsible and is committed to providing these resources.
6) **Timeline**: What specific activities are to be carried out, and when is each objective/benchmark achieved?
7) **Budget & Budget Narrative**: What is the expected cost of the project? Include startup costs, operating costs, and equipment costs when appropriate. A maximum of two years is allowed for budget.
8) **Approval Signatures**: Two signatures must be included:
   a. The Dean of the College for proposals originating in an Academic Department, or the Unit Director for proposals originating in UF business or support units, or the Vice President for Student Affairs. Note that this may be a commitment by the corresponding administrator to provide recurring and equipment replacement resources for sustainability.
   b. The Associate CIO or Senior Director of the core unit is expected to be involved in the project resulting from the proposal. This signature is also required if UFIT does not manage the project to ensure technical feasibility and that an adequate sustainability plan is in place.

Items 1-7 must not exceed two (2) pages. Item 8, the signature page, remains on a separate page. Do not alter the font or the margins.

Items 1-7 must be submitted electronically in the attached template to alallen@ufl.edu.

Item 8 must be signed and sent by email, mail, or delivered by hand to 720 SW 2nd Ave., Ste. 250 N., Gainesville, FL 32601-1211

All materials must be received by the advertised deadline. Materials not received by February 3, 2023, will be returned to the proposer for submission in the next cycle

2023 Technology Fee Full Proposal

Title: Enabling Interdisciplinary Advanced Sonic Instruction and Research

Proposer: Tina Tallon, Assistant Professor of AI & the Arts - Music Composition, School of Music, College of the Arts (tallonc@ufl.edu; (352) 273-3178; MUB 306)

Sponsoring Organization: School of Music, College of the Arts

Purpose and Specific Objectives: The School of Music (SoM) requests $93,203.74 in order to purchase a Wenger SoundLok™ Sound-Isolation booth for our electroacoustic music studio, in addition to accompanying technology (including a mixing board and computers) to facilitate advanced sonic instruction and research. The music building currently suffers from structural acoustic flaws related to the HVAC infrastructure which result in 40-60 dB SPL sound bleed from one room to another throughout the building. Historically, the electroacoustic studio has been hosted in a room on the second floor of the music building (room 231). Thankfully, it already contains a multitude of high-quality speakers and microphones; however, it is unfortunately situated next to the percussion studios and practice rooms, and after the recent HVAC renovation, it has been rendered essentially useless for any sort of controlled, detailed, and high-quality sonic instruction or research. In order for our students and faculty to lead and influence the next generation and beyond for economic, cultural, and societal benefit though innovative interdisciplinary work, it is imperative to procure a sound isolation booth for the studio space.

Students in our music technology courses would greatly benefit from not only research opportunities afforded by such a booth and supporting technology, but also educational opportunities related to audio recording and production. Curricular usage of the room will increase significantly beginning in 2024, as a new Bachelor's of Science in Music Business and Entrepreneurship and certificate in AI & the Arts will bring in droves of new students who need to be trained in industry-leading multimedia recording, production, and data science techniques. Given that a significant proportion of music students are double majors or pursue the BM in Music in Combination with an Outside Field, this technology will benefit students across the University. Courses that will benefit (including new courses in artificial intelligence) include:

MUC 4313/5315 Introduction to Electroacoustic Music
MUC 4441/6445 Electroacoustic Music Composition: Digital 1
MUC 4442/6446 Electroacoustic Music Composition: Digital 2
MUM 4500C Music Production in Commercial Media
MUM 4561C Multimedia Production for the Music Industry
MUC 7938 Digital Sound Processing, Control, & Composition
MUC 7447 Advanced Seminar in Electroacoustic Music
DIG 6288 Music and Sound Design for Digital Media

MUS 1360 Digital Musicianship and Production
MUE 2680 Music Learning with Technology
MUH 4722 Timbre: Critical Discussions
MUT 6936 Computational Music Theory
MUN 2022 Electronic Arts Ensemble*
MUT 3xxx Musical Data Structures*
(* = newly-proposed courses)

Additionally, it would also enable students to engage in advanced sonic research for various independent study, capstone project, and dissertation requirements.

As a new AI faculty member, I have come into contact with students and many other faculty members who would like to collaborate on innovative inter- and multi-disciplinary AI-enabled projects involving sound studies, but who do not have the necessary expertise or space to be able to carry out this research on their own. These potential collaborators include faculty and students from the College of Nursing, College of Medicine, College of Public Health & Health Professionals, College of Engineering, College of Liberal Arts & Sciences, IFAS, and Center for Arts and Medicine. Innovative projects that we have discussed include:

- AI-powered improvement of hearing aids & adaptive listening devices in complex sonic environments
- AI-powered personalized music therapy tools for patients with neurodegenerative illnesses
- Improved healthcare-specific automatic speech recognition tools for clinicians in noisy environments
- Machine learning models to monitor beehive health using sound (*NB: we would not be bringing hives into the room, but could create speaker arrays to model beehive sonics & test tech prior to field deployment*)
- Psychological studies on speech and communication, sonic cognition and emotion, and virtual reality

In order to develop these technologies and studies, we would need a carefully-controlled acoustic environment that is proximal to high-quality speakers and recording equipment, and unfortunately, the University lacks easily-

accessible spaces such as these. Wenger SoundLok™ booths are modular and adaptable, allowing them to easily be moved, expanded, and modified as needs dictate, including interfacing with our existing audio equipment. We have chosen the room with 8'2" x 8'2" x 9'0" dimensions in order to facilitate up to four people in the room at one time, or one person with a detailed speaker array situated around them. We have also chosen the widest door possible (4') to allow for study participants using wheelchairs and mobility aids to enter the room, as some of the studies we intend to initiate involve populations that frequently use these devices.

Impact/Benefit: The research facilitated by this booth would and its integration with our existing resources has broad potential economic, cultural, and societal benefits, impacting everything from healthcare to agriculture. Nearly 30 million Americans use hearing aids or adaptive listening devices, and unfortunately, the quality remains very poor in noisy or musical environments. On the agricultural front, nearly one-third of the world's food production depends on bees, and colony collapse disorder threatens not only the economy, but also the future of humanity; sound has become an increasingly better-understood means by which hive health can be monitored. By leveraging methodologies and technical skills used in music and sound studies to address problems in fields such as engineering, healthcare, and agriculture, we can train our students to think outside of the box and innovate new paths to solve some of society's most complex problems.

Aside from carrying out these new research projects, neither students nor faculty in the music building can record audio for radio/podcast interviews or instructional materials without sound bleed from surrounding offices and practice rooms, which negatively impacts the quality of the communication of our instruction and research. Students are currently forced to use their own computers/recording devices to record and listen to projects at home because we do not possess a suitable recording and listening space that they can easily access.

Sustainability:
Once installed, the SoundLok booth requires little-to-no maintenance. The lifespan of these rooms is typically 20-30 years (though Wenger boasts that some are still in perfect working order 40 years later). Additionally, because of the modularity, they can be reconfigured and relocated if need be. The mixing board, which has 32-channel I/O capabilities, will allow us to expand our speaker setup in the future as needs arise. Investing in the latest Mac Pros would allow us to not only stay ahead of computing needs related to AI, but allow for easy addition of third-party hardware, such as hard drives, GPUs, and sound cards for specific software (such as ProTools). COTA IT and the School of Music take full responsibility for the maintenance and necessary upgrades of this equipment, as currently occurs with existing technological resources in the School of Music.

Timeline:

Timeline: Month(s)	Action
May 2023	Notification of proposal award; funds awarded and technology purchased.
August 2023	Isolation booth, mixing board, and computers installed in the studio
September 2023	Undertaking of research projects and course-specific instruction
Future Semesters	Continuation of development of curricula and research projects

Budget:

Item	Rationale	Qty	Cost
Wenger SoundLok Sound-Isolation booth	8'2" x 8'2" x 9'0" acoustically-isolated modular booth for detailed sound recording and listening	1	$74,406.74
Allen & Heath QU-32 Digital Mixer	Allows for up to 32 channels of audio input and output	1	$4999
Mac Pro	Necessary for high-sample rate multichannel audio processing, in addition to cursory training of AI models before deployment to HiPerGator	2	$13,798
		TOTAL	$93,203.74

Technology Fee Full Proposal Template Sponsor Signature Form

Title: Enabling Interdisciplinary Advanced Sonic Instruction and Research
Proposer's Name: Tina Tallon, Assistant Professor of AI & the Arts, School of Music, College of the Arts

Note: By signing this form the sponsor is making a commitment to support the project. This may include providing startup, recurring or equipment replacement resources as presented in the attached budget.

Signature of sponsor: College Dean, or Unit Director, or VP for Student Affairs.

_____   _____3.8.23_____
Name and Title   **Date**

Note: By signing this form the UF IT unit is making a commitment to manage the project if selected for submission of a full proposal. This may include providing startup, recurring or equipment replacement resources as presented in the attached budget.

Signature of unit UFIT Director of a core unit:

_____ _____
Name and Title   **Date**