# FRI APPLICATION

**Faculty Name: Tate Carson**

**Academic Rank: Assistant Professor**

**Start of employment at DSU (Month and Year):**

**Project Title: Drift**

**Project Summary (100 word limit):**

Drift reimagines the white noise machine as sculptural sound art. Transforming utilitarian devices into networked, resonant instruments, the project explores how everyday media modulate attention and perception. Using microcontrollers, actuators, and tuned materials, each sculpture slowly shifts from noise toward emergent musical patterns, inviting deep listening and reflection on sonic self-control. Outcomes include four installation-ready works, a DSU gallery premiere with regional public exhibitions, process documentation, and a peer-reviewed paper for ISEA, NIME, or Leonardo. Building on theories of Orphic Media, Drift contributes to sound art scholarship while demonstrating DSU's integration of technology and creativity through innovative, research-driven artistic practice.

*By signing below, I attest that all research and creative activity described in this proposal meets with established and widely accepted Responsible Conduct of Research standards that have shaped SDBoR and DSU RCR policies and practices.*

_____ _____

**Signature of Faculty Member** **Date**

*By signing below, I attest that I have reviewed the faculty PI and/or research team's eligibility, discussed the alignment of this project with relevant PDPs, and support the research and/or creative activity described in this proposal.*

_____ _____

**Signature of Dean/Supervisor** **Date**

## Project Description (3-page maximum, exclusive of cover page and bibliography)

## A. Project Goals and Outcomes

Drift is a sculptural sound art project that reconceptualizes the white noise machine from a utilitarian device into a platform for creative expression. It explores how the control and filtering of everyday sonic environments can be reimagined as a form of artistic inquiry, treating the white noise machine simultaneously as a cultural artifact and a tool for sonic experimentation. To realize this vision, the project will be carried out through an interdisciplinary collaboration that integrates sound design and programming, led by Tate Carson, with design and fabrication, led by Tim Murray.

The central research question guiding this project is: In what ways can the white noise machine be reconceived as an artistic object that illuminates the continuum between noise and music, thereby fostering new approaches to listening and reflection on everyday sonic environments?

This project reimagines white noise machines as networked sound sculptures by integrating microcontrollers and actuators for automated sonic manipulation. Visitors move through a dynamic soundscape among sculptures incorporating resonant materials that reflect both light and sound. Prototypes will illustrate the transition from noise to music, encouraging reflective listening throughout all phases, from technical studies to public installation.

The expected outcomes include:

- At least four unique, installation-ready sculptures.
- A gallery installation at DSU, then regional exhibitions.
- Comprehensive documentation, including audio, video, and schematics.
- A scholarly paper submitted to a leading music or art venue.
- A model for future editions of the sculptures to circulate beyond DSU.

By integrating scholarship on noise and listening with innovative artistic methods, Drift seeks to expand discourse on underexamined sound technologies. The project will demonstrate the artistic potential of the white noise machine and reveal its cultural and creative dimensions. By reframing the white noise machine as a subject for analysis and artistic intervention, Drift encourages audiences to reconsider their listening habits and to recognize the artistry inherent in mediated sounds that influence daily life.

## B. Project Significance

*Drift* explores how noise, sound, and listening shape daily life, focusing on the widespread use of white noise machines and similar tools for sonic self-control[1]. By highlighting this practice, the project prompts reflection on how we manage, filter, and transform hearing today.

Drift reframes the white noise machine as Orphic Media[2]—technologies that modify perception and experience. It becomes a perceptual tool that reshapes mood and attention, emphasizing

[1] Hagood, *Hush*.
[2] Hagood, *Hush*.

modulation over traditional representation. The project turns a utilitarian object into a threshold instrument, gradually revealing the continuum between noise and music and encouraging reflective listening. By reinterpreting the white noise machine as an artistic object, Drift positions noise as creative material to be reshaped and experienced as music. Shifting between noise and musical patterns, the sculptures encourage attentive listening and expanded awareness of sound environments.

*Drift* highlights Dakota State University's strengths beyond computer science, demonstrating interdisciplinary innovation by merging creative practice with technology. Through exhibitions and scholarship, Drift raises DSU's profile in sound art and media studies, underscoring its commitment to research and experimentation. Within the field, *Drift* aligns with works by Zimoun[3], Trimpin[4], Eliasson[5], Young/Zazeela[6], and Kate Carr[7]. Like these, *Drift* foregrounds sound's transformative power and encourages new ways of listening. For the public, the project offers a reflective environment. Visitors are invited to reconsider their relationship with noise, witness the transition from masking noise to emergent music, and observe how white noise machines recall ecological sounds. The installation encourages contemplation and imaginative engagement.

## C. Timeline and Budget

| Period | Tasks |
|---|---|
| Sep–Oct 2025 | Order actuators, microcontrollers, and resonant materials. Begin prototypes. |
| Nov–Dec 2025 | Build Concept A + Concept B prototypes. Conduct testing and documentation. |
| Jan 2026 | Fabricate Concept C + Concept D. Integrate Arduino and network synchronization. |
| Feb–Mar 2026 | Complete four installation-ready sculptures. Install at the DSU gallery and present at the Research Symposium. |
| Apr–May 2026 | Prepare paper for ISEA/NIME. Plan regional exhibitions. |

| Item | Amount |
|---|---|
| Actuators (solenoids, servos, DC motors) | $1,200 |
| Microcontrollers + electronics | $500 |
| Resonant materials (wood, ceramic, brass, glass) | $800 |
| Prototyping supplies | $400 |
| Documentation (audio, video, schematics) | $300 |
| **Total Request** | **$3600** |

[3] "Zimoun."
[4] "Trimpin, Ever-Curious Experimentalist, Is Still Inventing New Possibilities."
[5] "Studio Olafur Eliasson."
[6] "MELA Foundation."
[7] Room40, "A Field Guide To Phantasmic Birds, by Kate Carr."

## D. Relationship to PDP

This project directly supports Tate's Professional Development Plan goals for 2024–25 and 2025–26, which include publishing at least one refereed paper annually, presenting creative work at two or more conferences or festivals, and advancing research strands in sound design, ecoacoustics, and interactive media.

*Drift* aligns with these goals by generating both scholarly and creative outcomes. The project will result in a peer-reviewed paper submitted to venues such as ISEA, NIME, or *Leonardo*; a DSU gallery installation with subsequent regional exhibitions; and the presentation of original creative work that fulfills PDP expectations for both publication and public dissemination.

In its contributions, *Drift* will produce tangible creative outcomes alongside peer-reviewed scholarship. It positions DSU at the intersection of experimental sound art, interactive media, and interdisciplinary research, advancing both my individual PDP goals and the university's institutional priorities in research productivity and creative innovation.

**Bibliography**

Hagood, Mack. *Hush: Media and Sonic Self-Control*. Sign, Storage, Transmission. Duke University Press, 2019.

"MELA Foundation." Accessed September 14, 2025. https://www.melafoundation.org/.

Room40. "A Field Guide To Phantasmic Birds, by Kate Carr." Accessed September 14, 2025. https://room40.bandcamp.com/album/a-field-guide-to-phantasmic-birds.

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"Trimpin, Ever-Curious Experimentalist, Is Still Inventing New Possibilities." Accessed September 14, 2025. https://www.sfcv.org/articles/feature/trimpin-ever-curious-experimentalist-still-inventing-new-possibilities.

"Zimoun." Accessed September 14, 2025. https://zimoun.net/.