

RESEARCH & CREATIVE ACTIVITY STATEMENT

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1. RESEARCH IDENTITY & EXECUTIVE OVERVIEW

My research agenda lies at the intersection of the second-person narrative theory, on a first person point of view in virtual reality, neurophysiological engagement, real-time computer graphics, and production pipeline architecture. For over 25 years, my work as a Visual Effects Supervisor, Studio Executive, and University Educator has treated digital technology not merely as a set of technical tools, but as an expressive medium designed to evoke profound human empathy, emotional impact, and historical accuracy.

In traditional cinema, theatre, and literature, narrative structures have centuries of established visual and linguistic grammar. However, in immersive Virtual Reality (VR), traditional framing, editing cuts, and third-person observational modes often break directorial control or cause audience distraction. My scholarly research investigates how the second-person narrative mode ('you', 'your'), when combined with first-person perspective in full 3D computer-generated environments, grants directors unprecedented ability to guide narrative flow, stimulate neurophysiological responses (oxytocin and cortisol synthesis), and deepen viewer presence.

2. MFA THESIS RESEARCH: SECOND-PERSON NARRATIVE IN VR STORYTELLING

My landmark Master of Fine Arts thesis at Clemson University, titled 'The Second-Person Narrative Mode Used as a Proposed Engagement Form in Virtual Reality Storytelling' (https://tigerprints.clemson.edu/all_theses/3599/), redefines how narrative engagement is constructed in immersive computer-generated worlds.

- **Directorial Narrative Control vs. Free Agency:** In 360° video or user-directed VR, viewers frequently look away from key story beats. My research demonstrates that internalizing the narrator's voice as the viewer's own conscious mind using second-person address ('You exist. You have control. You remember...') maintains directorial story control without sacrificing immersion.
- **Neuro-Physiological & Psychological Stimuli:** Drawing from neuroscience and cognitive psychology (Dr. Paul Zak's oxytocin/empathy research and Loftus's memory implantation models), my workflow sequences visual, auditory, and rhythmic cues to induce biological tension and release, increasing empathy and emotional resonance.
- **Multimodal Binaural Sound & Time Perception:** Utilizing spatial binaural audio, frequency-guided particle systems, and rhythmic audio spectrum analysis (via custom UE5 Niagara nodes and DAW setups), my research manipulates subjective time perception, making VR experiences feel more intimate and deeply felt.
- **Full CG Metaphysical Worlds:** By replacing 360° filmed plates with real-time 3D environments, directors eliminate physical production constraints (camera hiding, crew shadows) and can safely explore complex, dreamlike, or surreal subjects inspired by German Expressionism and Surrealism.

3. COLLABORATIVE ACADEMIC RESEARCH & LAB CONTRIBUTIONS

- **Virtual Reality Interactive Training Systems — with Dr. Larry Hodges (VR Pioneer):** Participated in applied virtual reality research in collaboration with VR pioneer Dr. Larry Hodges at Clemson University and KEMET Corporation. Developed interactive VR training environments designed to simulate high-stakes industrial manufacturing plants, allowing personnel to be trained safely and effectively without physical hazards, improving training retention, and lowering operational risks. (<https://www.linkedin.com/pulse/kemet-clemson-university-team-develop-vr-training-philip-lessner/>)
- **Historical Marine Reconstruction — with Dr. Jerry Tessendorf:** Collaborated with Dr. Jerry Tessendorf at Clemson University to refine the 3D modeling and texturing of the SS Edmund Fitzgerald with rigorous historical accuracy. The resulting digital asset served as the core model featured in Thomas Lynskey's documentary, 'EDMUND FITZGERALD: The Full Story (50th Anniversary)' (<https://www.youtube.com/watch?v=2f0tZBSByI>). Director Thomas Lynskey commended the asset, stating: 'They literally gave us the best digital model of the Fitz ever built. Our guys then brought it up to an even higher standard of visual accuracy, and then we gave it back to them as a thank you for their help.'
- **Kinematics-Driven Character Rigging — Clemson DPA Research:** Contributed to advanced rigging research by supervising character rigging and technical setup for the study 'Acceleration Skinning: Kinematics-Driven Cartoon Effects for Articulated Characters' (https://open.clemson.edu/all_theses/3688/). The research extended velocity skinning to incorporate skeletal acceleration for procedural followthrough, centripetal stretch, and squash-and-stretch cartoon effects in standard character pipelines.

4. FLAGSHIP CREATIVE & TECHNICAL RESEARCH PROJECTS

A. Original VR Series & Concept Proof: 'I AM YOU'

Project Type: Real-Time Interactive VR Narrative Proof-of-Concept (Unreal Engine 5 / Oculus)

Serving as the practical implementation of my MFA thesis, 'I AM YOU' is a real-time VR experience where the user travels through different dimensions, times, spaces, and minds. Guided by a second-person voice-over that acts as the viewer's internal consciousness, the narrative leads the participant through seven distinct emotional and biological stages—ranging from self-awareness and memory recall to universal empathy and Albert Einstein's philosophical reflections on human freedom.

B. Narrative Animated Feature Film: 'The Second Mind'

Project Type: Full CG Animated Science Fiction Feature Film (In Development)

An original feature-length narrative project exploring human identity, ethics, robotics, and the potential realization of an AI singularity. The Second Mind investigates the intrinsic value of human connection in an increasingly autonomous world, serving as a practice-based testbed for AI-assisted pre-visualization, real-time shot creation, and narrative pacing.

C. Audio Pipeline Development: VFxM (Virtue FX Manager for REAPER)

Project Type: Standalone Audio Management Application & DAW Utility Tool

Developed specifically for the REAPER Digital Audio Workstation, VFxM streamlines complex signal routing, spatial audio management, and VST plugin loading for game sound designers, film scorers, and audio engineers, lowering technical friction during immersive sound design workflows.

5. FUTURE RESEARCH TRAJECTORY & SCHOLARLY GOALS

- **Second-Person VR Storytelling Frameworks:** Publishing and sharing open-source directorial frameworks for integrating second-person voice, neurophysiological triggers, and spatial audio in real-time game engines for VR/AR media.
- **Ethical AI & Real-Time Production Architectures:** Exploring how AI integrated pipelines, machine learning utilities and OpenUSD workflows can empower independent animators and student creators to execute complex narrative films without compromising artistic vision or directorial intent.
- **Critical & Therapeutic Immersion Applications:** Investigating how second-person VR narratives, time-perception recalibration, and high-accuracy simulations can be applied in clinical, medical, aerospace, forensic, and educational visualization environments.