

CENTER FOR DIGITAL ARTS & EXPERIMENTAL MEDIA

Digital Arts and Experimental Media (DXARTS) is a revolutionary new model of creative practice, research, and discovery at the frontier of the arts. Designed to support the emergence of a new generation of hybrid artists, DXARTS fosters the invention of new forms of digital and experimental arts by synthesizing expanded studio research with pioneering advances in digital computing, information technologies, science, and engineering.



Sanctum, a public art work by James Coupe and Juan Pampin, uses the persistent flow of people around the Henry Art Gallery as input, extracting narratives from the demographics of passersby and the patterns of their movement.

Education

The Center for Digital Arts and Experimental Media (DXARTS), a ground-breaking research center and degree-granting program unique to the University of Washington, establishes the UW as a leading institution for the creation and study of new experimental methodologies for digital arts. As an autonomous academic unit, DXARTS offers a PhD in Digital and Experimental Art practice, which was the first of its kind in the world. All DXARTS PhD students are offered packages with full financial support.

DXARTS also offers a Minor in Digital and Experimental Art practice. This 30-credit non-competitive degree offers undergraduate students the opportunity to be part of a new generation of hybrid artists, leveraging cross-disciplinary knowledge and learning cutting-edge digital arts skills.

All DXARTS courses are open for the UW population at large. Students from a wide range of departments take DXARTS courses annually, including its popular year-long course sequences in digital video, digital sound, and mechatronics. DXARTS also offers advanced interdisciplinary research courses for graduate and undergraduate students, either as stand-alone offerings or partnering with other units. Art and the Brain is a special topics seminar taught in collaboration with Neuroscience faculty, in which students work on collaborative art/science projects at the DXARTS Art + Brain Lab.

Campus Partnerships, Service, and Outreach

DXARTS faculty, students, and staff's numerous roles include collaborative teaching and research with the Dance Program, School of Drama, School of Art, School of Music, School of Law, Oceanography, Neuroscience, Mechanical Engineering, Electrical Engineering, and Computer Science and Engineering. DXARTS also does collaborative projects with the two museums on campus, the Henry Art Gallery and the Burke Museum of Natural History and Culture.

In March 2016, the Andrew W. Mellon Foundation awarded the UW performing art units a three-year, \$750,000 grant to support guest artists in developing new works and to better integrate arts disciplines into the broader University curriculum. For this project DXARTS is collaborating with the School of Music in the production of a new large-scale work for the JACK Quartet to be presented at Meany Center.

In December 2016, DXARTS received a \$80,000 Creativity Connects grant from the National Endowment for the Arts to do research in brain-computer interfaces for music performance in collaboration with Swedish Neuroscience Institute.

STUDENTS (Winter 2016)

12 PhD students

AREAS OF SCHOLARSHIP

- Algorithmic Composition
- Ambisonics and Sound Beamforming
- Art and Neuroscience
- Brain-Computer Interfaces
- Creative Coding
- Data-driven Art
- Digital Fabrication
- Digital Sound Synthesis and Processing
- E-textiles & Wearable Computing
- Generative Art
- Immersive Media
- Media Performance
- Mechatronic and Robotic Art
- Physical Computing
- Sensing and Control Systems
- Sound Art
- Speculative Design
- Systems Art
- Tactical Media
- Video Art

Faculty

DXARTS faculty are international leaders and pioneers in many areas of digital and experimental arts. Their works span the spectrum of emerging arts disciplines. Collectively the faculty exhibit and perform at museums, concerts, galleries, and festivals around the world. Awards and honors to DXARTS faculty include prizes, grants and fellowships from Ars Electronica, Creative Capital, National Endowment for the Arts, Rockefeller Foundation, and more. DXARTS faculty works are regularly presented at national and international venues such as the Henry Art Gallery, Toronto International Film Festival, Ars Electronica, Warsaw Autumn Festival, Videobrasil Festival, and ZKM. Their works have been published by Universal France, Wergo, Centaur, Neuma, Le Chant du Monde, Sargasso Records, and others.

Facilities

DXARTS' **Ballard Fab Lab** is an off-campus facility that provides advanced computer aided design, 3D printers, and CNC manufacturing and prototyping machines, as well as traditional fabrication tools. This 5000 sf. space may also be used for shows, film sets, temporary installations, or large project assembly.

The **Art + Brain Lab** enables students and faculty from both art and natural science backgrounds to conduct hands-on research, fostering artistic collaborations arising from investigations at the intersection of neuroscience and art.

The DXARTS **Sound Lab** hosts advanced software and hardware for the reproduction of 3-D audio at high fidelity. A 24.4-channel speaker array in a full spherical layout projects sound from around, above, and below listeners and is suitable for use in a variety of soundfield synthesis techniques.

The DXARTS **Media Lab** is a dynamic, multi-use space for experimentation, research, performance, and instruction. The Lab features an open floor plan with a 19.2-channel "dome" of speakers and a large HD cinema projection system.

Research

DXARTS faculty and students may work in a particular area of experimental arts or draw from several areas. Many work at the extreme boundary of known arts and sciences disciplines, often creating sophisticated new tools and methods to pursue their work. Current faculty projects include:

COSMIC BITCASTING (Psarra, 2016)

A collaboration between media artist Afroditi Psarra and experimental physicist Cécile Lapoire, *Cosmic Bitcasting* emerges from the idea of connecting the human body with the cosmos through a wearable detector with embedded actuators (light and vibration), which provides sensory information on the invisible radiation that surrounds us. *Cosmic Bitcasting* was developed during a one-month residency at Etopia in Zaragoza, Spain, in the context of the exhibition *Reverberadas*—part of the European Digital Art and Science Network. It is currently presented at the Alchemists of Art and Science exhibition at the Ars Electronica Center in Linz, Austria.

SWARM (Coupe, 2013-2016)

Swarm takes the logic of social media—demographically organized communities based around common interests, habits and markets—and transposes it onto gallery audiences. Using four rows of monitors, the work generates competing panoramic representations of the gallery space that appear to be exclusively occupied by specific groupings of people—men in their 20s, women in their 50s, people of Asian descent, people dressed in black, men with beards—shown as what appears to be a live video image, with people inserted into a 'crowd' alongside others who have previously visited the gallery. Different demographic groupings territorialize the gallery's spaces, their numbers dynamically expanding and contracting. *Swarm* received an honorary mention at Prix Ars Electronica 2014 and was part of the Global Control and Censorship exhibit at ZKM, Germany.

FACULTY (Autumn 2016)

- 1 Professor
- 2 Associate Professors
- 1 Assistant Professor
- 1 Emeritus Professor
- 1 Artist in Residence
- 6 Affiliate/Adjunct Faculty

MAJOR STUDENT AWARDS (Since 2010)

- 1 Fulbright Fellowship
- 2 Ars Electronica Prizes
- 1 Vida Competition for Art and Artificial Life Prize
- 1 Vilcek Foundation Grant
- 1 Arts & Sciences Future Timeless Award
- 1 Arts & Sciences Dean's Graduate Medal in the Arts
- 2 Seattle Office of Arts & Cultural Affairs Grants
- 6 Artist Trust Grants
- 6 4Culture Awards
- 2 Amazon Cloud Computing Grants



DXARTS PhD students Dan Peterson and Adam Hogan perform their piece *prosthesis memoria*, developed at DXARTS Art + Brain Lab. Using EEG technology, they compose their audiovisual performance in real time through their neural responses to field recordings and film footage. Photo by Isaiah Brookshire.

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