



Fusion Fund  
**for Design-led Innovation**

Joseph  
Ballay  
**Center**  
for  
**Design**  
**Fusion.**

This is the century for design.

We believe that no other discipline is as equipped to address current problems, forecast new futures, and shift conventional thinking. With sights on a new horizon for transdisciplinary innovation set against the backdrop of entangled social, cultural, technological and ecological contexts, we are forging Design Fusion as a new mode of practice.

The Joseph Ballay Center for Design Fusion serves as a unique design-led platform at Carnegie Mellon University that unites the arts, humanities, sciences, and business to foster transdisciplinary innovation. We partner with internal and external organizations to develop forward-thinking projects, cultivate creative solutions to complex challenges, and bring faculty, staff, students and partners together in collaborative, real-world settings. Through these partnerships, we aim to expand the boundaries of design and its impact on society.

## Design Fusion in Practice

Design Fusion Practice-based Research aims to establish the methods, practice, and contribution of Design Fusion within externally funded projects and internal research agendas. Faculty-led projects that unite areas across CMU centered around design-led innovation will evidence the critical role that design can play in shifting paradigms, integrating disciplines, and identifying strategic opportunities for progress.

The Ballay Center coordinates and expands design research collaborations with industry, government, non-profit organizations, and foundations that aim to create new knowledge, advance scholarship, and expand the purview and practice of design.

### Supporting Practice-based Research

The endowment of the Ballay Center affords faculty to explore new modes of pairing design with other domains to develop new methodologies and new practices. Within an academic context such as CMU, this takes hold in Practice-based Research (Practice Research) that leverages the unique characteristics and affordance of the Carnegie Mellon context – bridging research with practice. Leading with faculty research interests opens opportunities to network across CMU and harness our immense creative capital.

### Seed Funding

The Ballay Center's Fusion Fund aims to foster pioneering, design-led, transdisciplinary research at CMU. This fund encourages the integration of various disciplines to inspire innovative practices, methodologies, and knowledge. It supports select practice-based research projects with initial funding of \$500 to \$5,000 before the commencement of work.

At the end of the first year, faculty can apply for extended funding to continue their research for up to three years.

Let's have a conversation to explore how the Joseph Ballay Center for Design Fusion can enhance your organization.

[ballaycenter@design.cmu.edu](mailto:ballaycenter@design.cmu.edu)



### Design-led Research: Coulter Welcome Center

Faculty worked with university administration, students, and staff to develop interactive devices and spaces that enhanced the welcoming atmosphere of Carnegie Mellon University.

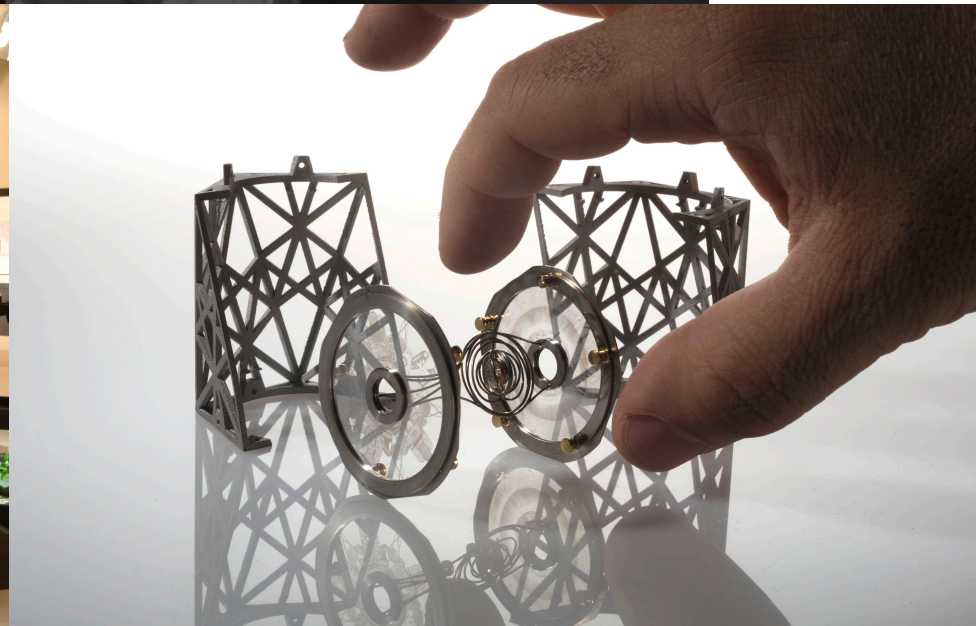
### Design-led Research: CMNH BugWorks

BugWorks was an experimental gallery created for the Carnegie Museum of Natural History. This initiative leveraged research in insects, bionics, and climate science to elevate interactivity and engagement levels within the museum. The project brought together faculty, students, and alumni from various disciplines within the School of Design, integrating coursework and faculty-led research in a design-build format. This included 2D and 3D infographics, custom furniture, interactive media, a Gigapan station, documentary video, and a living insect zoo. Originally intended to run for up to 6 months, the exhibition stayed open for 18 months, with many components still present in various areas of the museum today.



### Design-led Research: MoonArk

The CMU MoonArk, a pioneering space art project designed as a museum of humanity for the Moon, established a new paradigm for collaboration at Carnegie Mellon University. The project involved 97 CMU students and alumni, 27 faculty and staff members, 11 campus units, 18 organizations, and over 300 international collaborators. The MoonArk consists of four independent chambers, each 2 inches high and 2 inches in diameter, with a total weight of 10 ounces. It houses hundreds of images, poems, music pieces, nano-objects, mechanisms, and earthly samples, all interwoven through complex narratives that blur the boundaries between visible and unseen worlds. MoonArk launched in January 2024 aboard Astrobotic's Peregrine lunar lander and United Launch Alliance's Vulcan Centaur vehicle.



Note: The MoonArk project was conducted and supported by the Frank-Ratchye STUDIO for Creative Inquiry and continues as a supported effort by the Ballay Center.

## Design Fusion at the fringe of what's possible.

The Ballay Center aims to support high profile, integrative research agendas initiated by faculty along key contemporary themes with a goal for cross-disciplinary representation pulling from all seven colleges and schools at CMU. Annual support provided by the Ballay Center may be extended for up to three years culminating in publication, exhibition, and public presentation. We believe that seed grants from the Ballay Center will evidence an investment and endorsement of faculty research and help to build relationships across campus.

We work closely with the College of Fine Art's Associate Dean for Research, the Associate Director for Institutional Partnerships, the Office of Sponsored Projects, and Advancement to coordinate and expand design teaching and research collaborations with industry, government, non-profits, and foundations. The Fusion Fund represents a new mode of supporting integrative faculty research that reaches across campus and into industry.

### Review Criteria

Proposals will be assessed on their impact in integrating each faculty member's research into a cohesive and innovative agenda, viability to acquire additional research support, impact on each related discipline, and contribution to design fusion as a distinct mode of transdisciplinary practice.

Proposals are reviewed by a committee comprised of:

- Director of the Ballay Center
- Associate Dean for Research (CFA)
- Associate Director of Institutional Partnerships (CFA)
- Business Manager (School of Design)
- Faculty representative from Design (ineligible during funding cycle)
- Faculty representative from co-PI area of expertise (optional)

# Application

The Ballay Center's Fusion Fund aims to foster pioneering, design-led, transdisciplinary research at CMU. This fund supports the integration design with various disciplines to inspire innovative practices, methodologies, and knowledge. It supports selected practice-based research projects, offering initial funding of \$500 to \$5,000 before the commencement of work. At the end of the first year, faculty can apply for additional funding to continue their research for up to three years.

Faculty from all departments at Carnegie Mellon are encouraged to apply prior to the annual February 1 deadline. Priority is given to research projects that have School of Design faculty as co-primary investigators. The Ballay Center administration will assist faculty in shaping their proposals for viability and alignment before submission. Awardees must sign the Ballay Center Agreement to receive their funds. Decisions are made in March with funding distributed thereafter for planned Summer Session 1 commencement of work.

Awardees will meet periodically with grant administrators to discuss progress, submit a final report documenting the process and outcomes of the work (see End of Project Reporting), and may be asked to provide additional materials or engage in outreach activities related to the Joseph Ballay Center for Design Fusion.

The review committee will communicate funding decisions in writing and may require applicants to alter the total funding requested.

## **The Fusion Fund Application requires you address the following parameters in your application:**

### **Abstract** (<100 words)

Provide a brief and specific statement that describes your proposed practice research and how it furthers the transdisciplinary design-led agenda of the Ballay Center.

### **Biographies** (<250 words each)

For each team member associated with the application, provide a short biography that highlights experiences and past work that inform this practice research.

### **Description** (<1000 words)

The mission of the Ballay Center is to advance design-led transdisciplinary innovation across Carnegie Mellon University through distinct educational programs, extensive network of visionary experts, and pioneering practice. Describe the objectives of your work, how this project aligns with your broader research profile, its intended impact on teaching, and its alignment with the agendas of your School/Department/Program and the Ballay Center.

### **Relevance** (<250 words)

The Center aims to unite the creative capacities across CMU in the arts, humanities, sciences, and business to engage with important cultural, technological, and ecological issues. Explain how this practice research will connect across CMU to integrate various disciplines.

### **Process** (<250 words)

Explain the details of how you will conduct this research including time line, execution, extension into areas of teaching and/or professional education, documentation, and publication. Include an example of prior practice research that demonstrates your ability to lead a project in this capacity.

### **Scope** (<250 words)

Describe (and show) how this practice research fits with your existing creative practice and scholarly research. If this work aims to bridge areas of inquiry and application, please also provide a historical summary of your previous work that contributes to your understanding in this space. The Fusion Fund provides a tiered allocation of funds determined by the nature of each project including, support for delivering a workshop in the Ballay Center, specialized equipment for this work, publication, travel for presenting this work or conducting fieldwork, summer salary for this work, and hiring student assistants.

### **Impact** (<250 words)

Explain how this research will enhance your professional profile and trajectory at CMU. If you are engaging with external organizations, communities, or partners, please indicate how your work will benefit them. Additionally, all recipients of the Fusion Fund must prepare and submit a summary of their work to scholarly, industry or trade publications. Please indicate what aspects you foresee will be publishable and the avenues for dissemination.

### **Outcomes** (<150 words)

The Fusion Fund intends to support productive collaborative work that results in designed artifacts, tangible outcomes, processes, events, and the like. Public presentation/exhibition on

campus and publication in a peer-reviewed journal or trade publication is required and may receive additional support as required. Please indicate the tangible outcomes of this work.

### **Promotion**

The Ballay Center may publicize your work on its website, in scholarly articles, and through promotional materials to showcase the type of research conducted at the center. By applying for this funding, you agree to allow the Ballay Center to use your work for these purposes and to provide the necessary images, data, and information for these channels.

### **Period of Performance** (<100 words)

Fusion Fund awards are distributed in May to primarily support Summer research with a closing date determined prior to the start of the Fall semester. Please indicate your intended calendar. Should you elect to distribute funding beyond the Summer months, please indicate key dates and proportion of work to be conducted in semester intervals across the period of performance.

### **End of Project Reporting** (<100 words)

At the end of your project supported by the Fusion Fund, you will be required to provide a summary of your work and plans for continuation/extension in print/pdf and PowerPoint presentation formats. Please indicate the most appropriate way you anticipate to share, document and archive your project.

### **Budget**

List in detail and describe how you intend to spend the total amount of the award.

### **Additional Funding Sources**

Identifying additional monetary or in-kind support will increase the viability of sustaining your practice research within the Ballay Center. Please list your existing external/internal sources of additional funding with amounts and indicate other potential avenues of support that the Ballay Center administration may help you to secure.

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