IDIA LAB

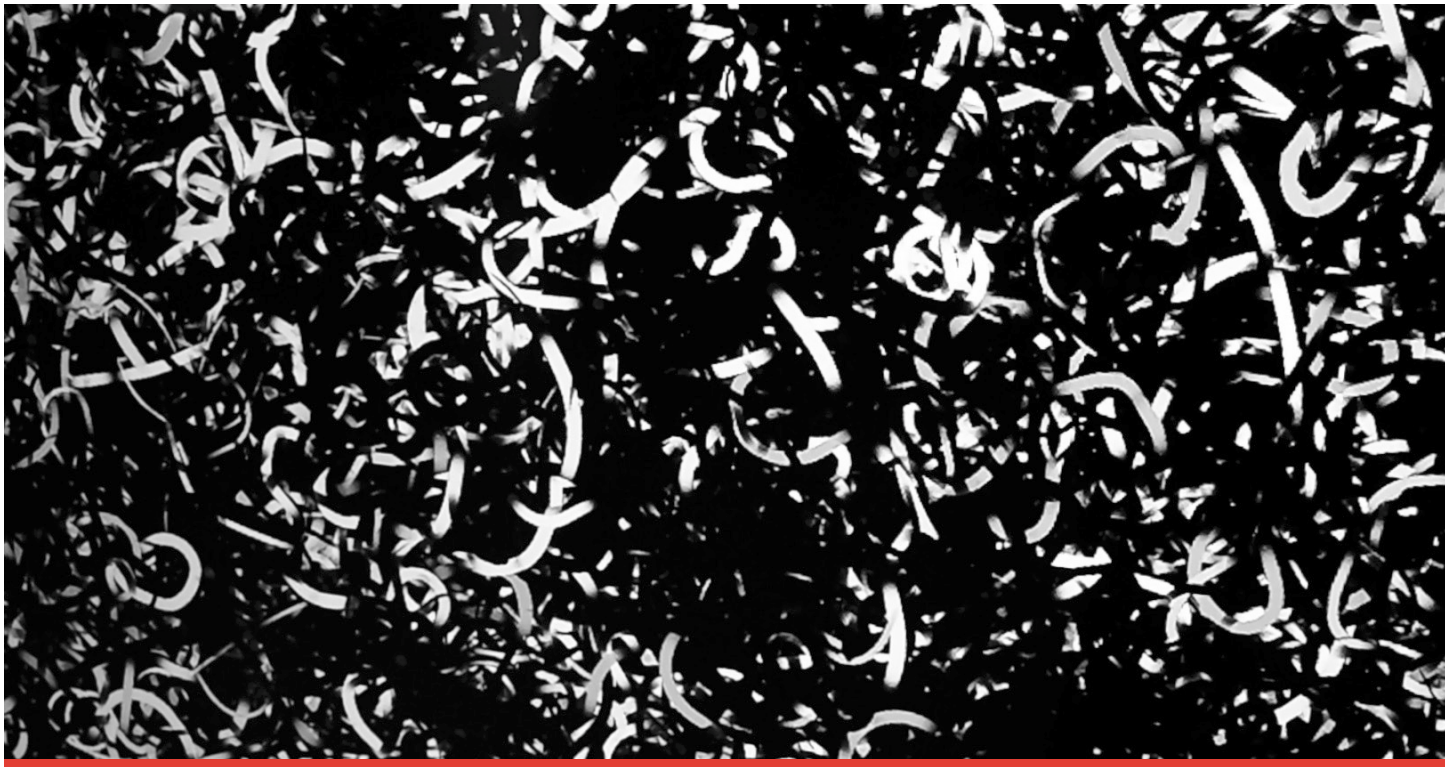
BALL STATE UNIVERSITY

# INSTITUTE FOR DIGITAL INTERMEDIA ARTS

COLLEGE OF ARCHITECTURE AND PLANNING

SPRING 2018

Ball State University's IDIA Lab in the College of Architecture and Planning creates innovation in the arts, sciences, humanities and technology – engaging students, staff, scholars and clients in contracted projects in virtual reality, simulation and mobile applications. This newsletter includes updates on current IDIA Lab projects including our Art + Science exhibition, a simulation of a famous example of unbuilt architecture, and the passing of a new media pioneer and dear friend.



## *ENGAGING TECHNOLOGY II: ART + SCIENCE*

Casey Reas, *MicroImage (Software1), 2002/2014*

**Curated by John Fillwalk, Director IDIA Lab Fall 2017**

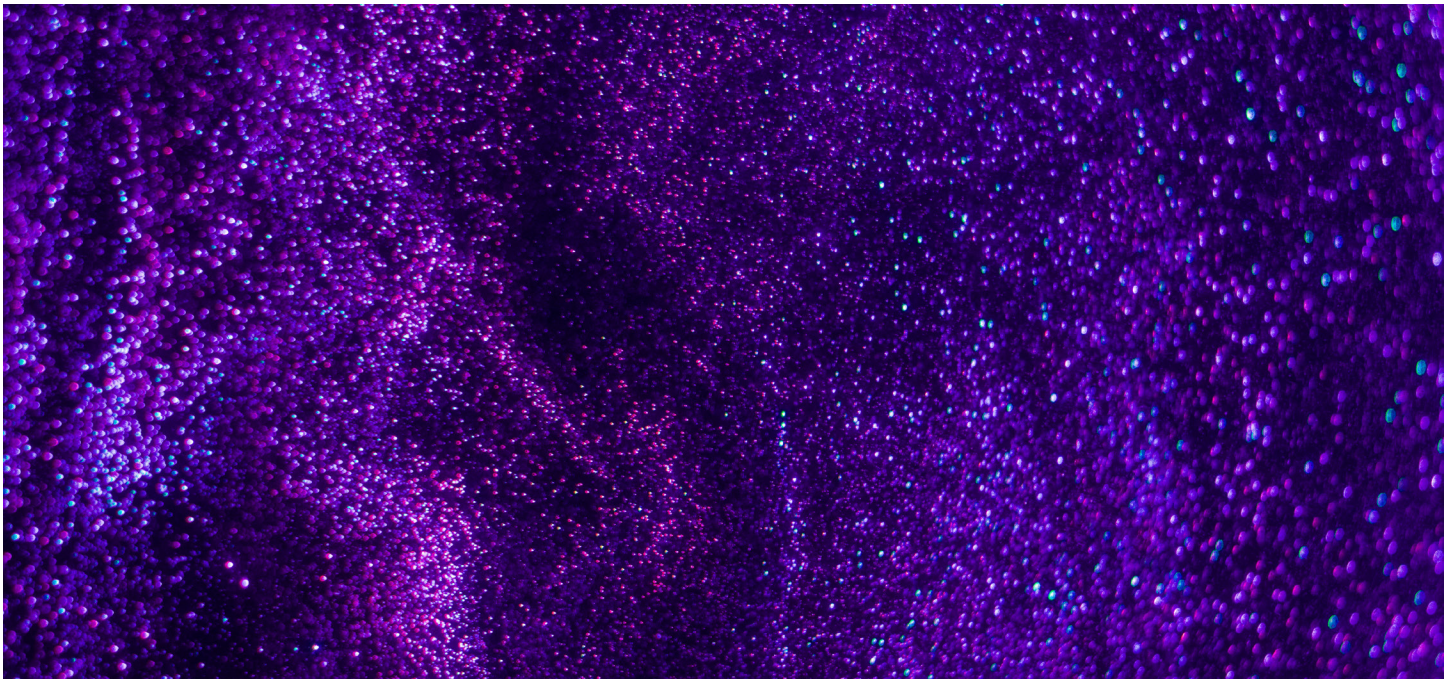
*Engaging Technology II* presented a selection of internationally renowned artists who are actively investigating the intersections of the arts and sciences. These explorations include installations, code art, augmented and virtual reality, performance, and human computer interaction. The exhibition explored approaches surrounding Science, Technology, Engineering, Arts and Mathematics (STE[A]M) as a contemporary investigation of emergent trends.

Throughout the run of the exhibition, a series of invited performances, lectures, and workshops were scheduled on campus and within the community that enhanced the exhibition's programming and was available to both the University and regional community.

**ARTISTS:**
Casey Raes, Evelina Domnitch, Dmitry Gelfand, Adam Brown, Tristan Perich, Hans Breder, and IDIA Lab

**Sponsored by:**
Office of the Provost, Office of Research and Sponsored Programs, College of Architecture and Planning, College of Sciences and Humanities, College of Fine Arts and the Charles W. Brown Planetarium

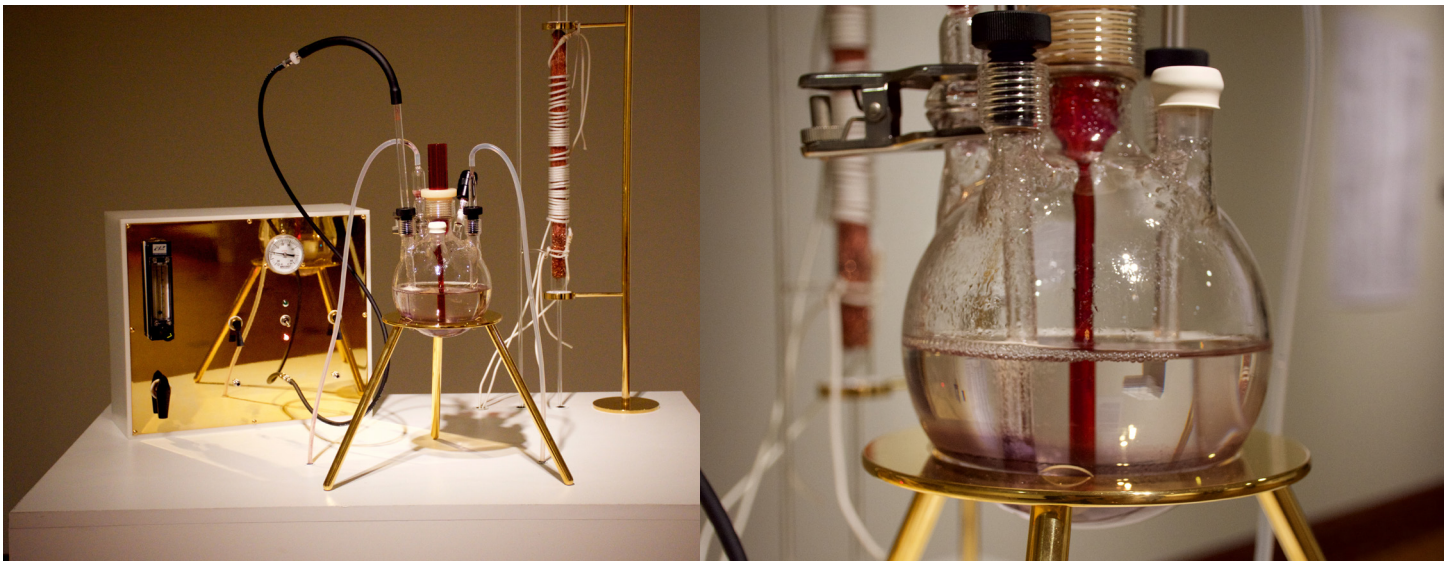
With additional programming support from The Institute for Digital Intermedia Arts, Ball State University



**Art meets science in new exhibition opening at Ball State's David Owsley Museum of Art**

MUNCIE, Ind. – The interplay of art and science—a concept at least as old as Leonardo da Vinci—is the focus of "*Engaging Technology II*," the newest exhibition opening at Ball State University's David Owsley Museum of Art.

Beginning Sept. 28 through Dec. 22, museum patrons can discover a selection of works of internationally renowned artists whose explorations on the topic include installations, code art (artwork generated by computer programming), augmented and virtual reality and human-computer interaction.



Adam Brown, *The Great Work of the Metal Lover 2012*

CONTINUE...

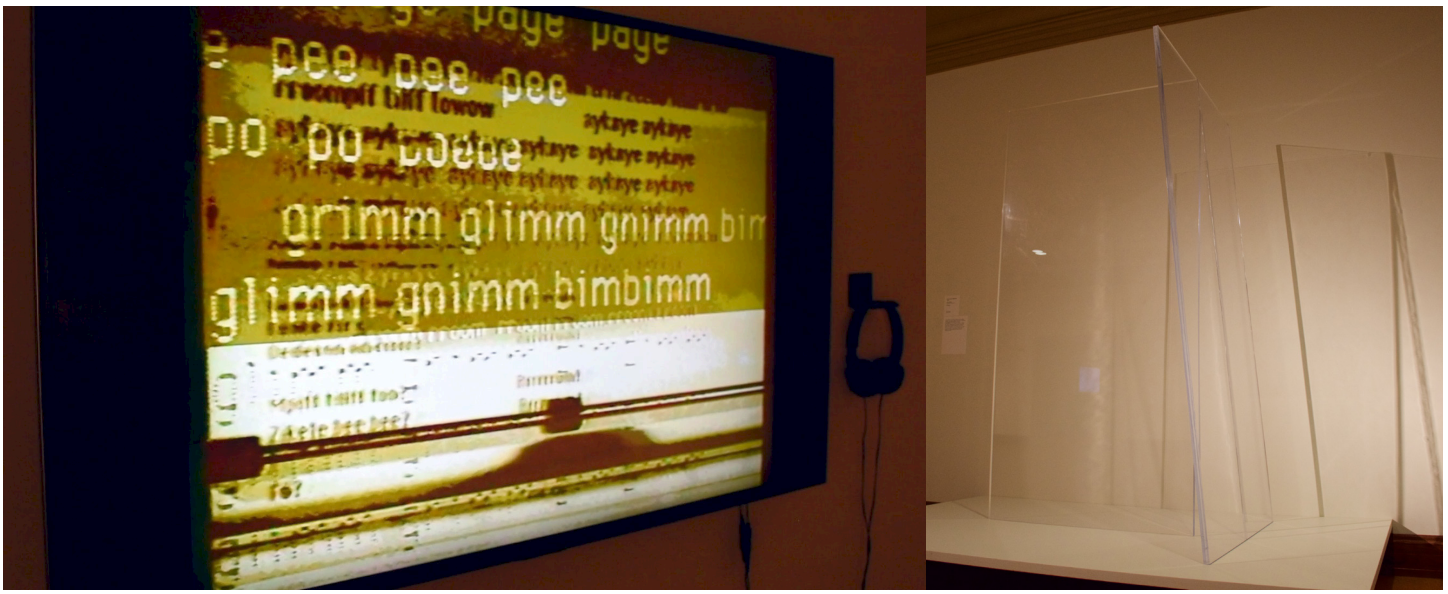
"'*Engaging Technology II'* is both a sequel and a new concept," said Robert Le France, the museum's director. "It builds on the success of a show at the museum about a decade ago that focused on the emergence of intermedia, which is the melding of electronics and art." Le France says the new show builds on the STEM concept by adding arts into the mix, "elevating the creative aspects of art to the same level as the so-called hard sciences."

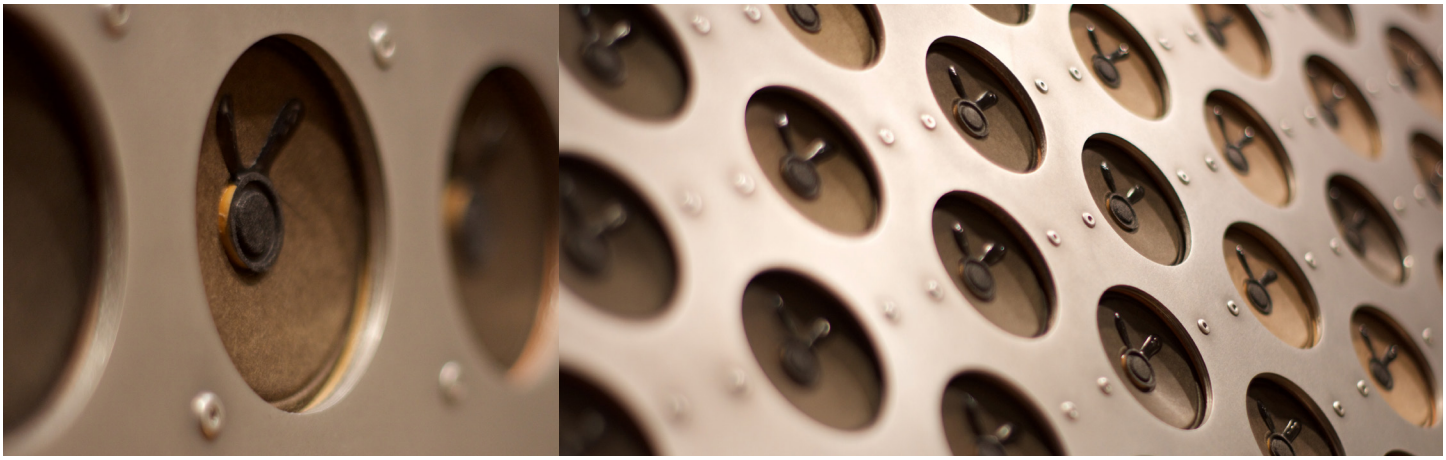
Curating the exhibition is Ball State's John Fillwalk, director of the Institute for Digital Intermedia Arts (IDIA Lab) in the College of Architecture and Planning.

"This exhibition continues to position Ball State as a center of STEAM (Science, Technology, Engineering, Art and Mathematics) innovation," said Fillwalk, who's also a professor of electronic art. He said the first *Engaging Technology* exhibition in 2007, which he also curated, set attendance records for the museum.

"The goal of "*Engaging Technology II*" was to invite artists exploring the edges of art and science to our community—advancing our conversation about interdisciplinary collaboration and innovation. This collection of artists works across various aspects of the physical and life sciences, from code and biology to chemistry and physics."

Among those individuals whose work will be featured in the exhibition is Adam Brown, an associate professor at Michigan State University. His live biochemical installation, "*The Great Work of the Metal Lover*," is a work that sits at the intersection of art, science and alchemy.





"It uses microbiology as a technique to solve the mystery of the philosopher's stone," said Brown, who described the centuries-old "stone" as a legendary substance sought by alchemists who believed it capable of turning metals like mercury into gold and silver.

His installation uses custom lab equipment to introduce a "highly specialized" bacterium into an engineered atmosphere, turning toxic gold chloride into usable 24K gold. Brown's display will allow museum patrons to watch the transmutation occur in real time. "By the end of the exhibition, it'll produce enough gold to put in the palm of your hand," Brown said.

Other innovative contributors to "*Engaging Technology II*" include code artist Casey Raes; composer and visual artist Tristian Perich; and Evelina Domnitch and Dmitry Gelfand, European-Russian artists who create sensory immersion environments that merge physics, chemistry and computer science with uncanny philosophical practices.

"*10000 Peacock Feathers in Foaming Acid*" is Domnitch and Gelfand's live, audiovisual performance to be presented on the domed screen of Ball State's Charles W. Brown Planetarium. The artwork uses a penetrating laser beam to scan the surface of soap bubbles, the behavior of which model the unique properties of cell membranes.

La France said "*Engaging Technology II*"—along with the museum's concurrent exhibition, "*Action! The Anatomy of LeRoy Neiman's Champions*"— demonstrates that the museum's offerings are "about more than just paintings and sculptures. We have something for everyone to enjoy."

Throughout the run of "*Engaging Technology II*," a series of invited performances, lectures and workshops will be scheduled on campus and in the Muncie community to enhance the exhibition's programming. Classes, workshops, lectures and family events are also planned for both local and regional audiences. For more information, visit bsu.edu/artmuseum.

By **Gail Werner, Media Strategist**

**NEWTON'S CENOTAPH IN VR**

Linden Lab lifted the veil on Sansar, the long awaited followup to Second Life, allowing the general public to explore VR environments that beta-testers have been creating for the platform. Among the usual suspects of ritzy nightclubs and elven cities is something unexpected.

Over the summer, a group of digital artists from Ball State University used Sansar to construct a digital replica of Newton's Cenotaph—one of the most awe-inspiring neoclassical structures to never have been built.

"The building is really at this preposterous and fantastical scale," director at Ball State's IDIA Lab John Fillwalk told me in a phone interview. IDIA Lab is a division within Ball State's College of Architecture and Planning that explores the intersection of digital and physical design.

"With this technology, you can build the impossible, or at least the impractical," said Fillwalk. It had been a long-time aspiration of his to digitally assemble Newton's Cenotaph in some shape or form, and Sansar provided a convenient way to bring the unrealized work of architecture to life.

The Cenotaph is a great, big dome of a building, originally imagined by the French architect Étienne-Louis Boullée in the 18th century. But Boullée's more grandiose designs tended to skirt the limits of feasibility, and thus rarely saw the light of day. The Cenotaph's design, for instance, eclipses the height of the Great Pyramids at 455 feet.

"It would take an enormous amount of labor to do something like that in reality," Fillwalk said. "And the engineering to pull it off would be an outstanding undertaking."

Sansar made it easier. To begin with, Fillwalk got ahold of high resolution scans from Boullée's architectural prints. Following them as closely as possibly, the group recreated them in 3D modeling software Maya.

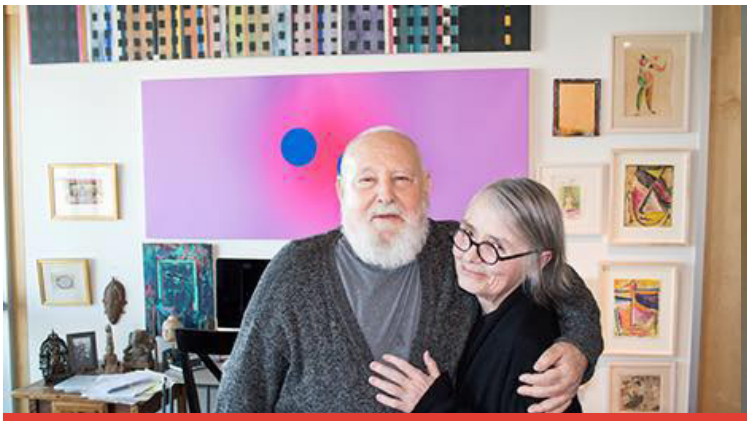
While the exterior of the unbuilt building is expansive, the interior is mechanically intricate. Boullée envisioned the building as a monument to Isaac Newton, who among other things, worked out mathematical proofs for heliocentrism, the idea that planets orbit around the sun.

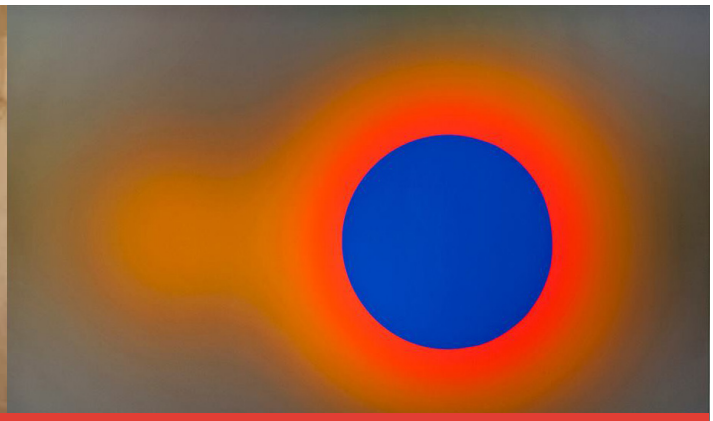
In tribute, a great brass armillary sphere, representing the motion of the planets, was intended to rotate within the equally great dome.

One of VR's greatest assets is giving users a sense of scale, so the medium was a natural fit for resurrecting impossible works of overambitious architecture, Fillwalk said. In fact, the Cenotaph may be too big.

"Because it takes so long to walk through it normally, we put in a teleport feature as a speedy way to get through it," he said.

https://motherboard.vice.com/en_us/article/zm4pe4/newtons-cenotaph-has-finally-been-built-but-in-vr





## HANS BREDER, WHO BROKE ARTISTIC BOUNDARIES, DIES AT 81

Hans Breder, a German-born artist whose interest in straddling the boundaries between disciplines led him to create the Intermedia Program, the first of its kind, at the University of Iowa in 1968, died on June 18 in Iowa City. He was 81.

His wife, Barbara Welch Breder, said that the cause was complications of ischemic colitis.

Mr. Breder's minimalist sculptures were starting to attract attention in New York when his friend Ulfert Wilke, the director of the University of Iowa Museum of Art, recommended him for a faculty position at the university. Mr. Breder accepted, and began teaching an experimental drawing course in 1966.

Friends threw up their hands, warning him that he was leaving the center of the artistic universe for a cultural desert. He blithely replied, "I will bring New York to Iowa."

He did. Increasingly drawn to conceptual art and the radical political performance art being practiced by the Viennese Actionists, he asked permission to create a program that would embrace video and performance art and encourage students to move back and forth across artistic frontiers — in general, to throw off all creative constraint.

"My program conceived of intermedia not as an interdisciplinary fusing of different fields into one, but as a constant collision of concepts and disciplines," he told Artforum magazine in 2012.

Continue reading the main story
The program proved to be an incubator for both students and established artists, whom Mr. Breder invited to teach and work. Robert Wilson, one of the first in a long list of visiting artists, developed his mostly silent drama "Deafman Glance" (1970) at Iowa. Other visitors included Vito Acconci, Karen Finley, Hans Haacke and Allan Kaprow. (Mr. Acconci died in April.)

Several of the program's students went on to enjoy celebrated careers, notably Charles Ray and Ana Mendieta. Mr. Breder had a 10-year romantic relationship with Ms. Mendieta, the subject of the "Ventosa" series of photographs that he took on their trips to Mexico.

Under his influence, Ms. Mendieta developed an arresting style of what she called body performances. Her career was cut short when, in 1985, she fell to her death from the high-rise apartment she shared with her husband, the sculptor Carl Andre. (Mr. Andre was charged with pushing her but was acquitted in a 1988 trial.)

Hans Dieter Breder was born on Oct. 20, 1935 in Herford, Germany, in the state of North Rhine-Westphalia. His father, Johannes, a railroad worker, died when he was 3, and he was brought up by his mother, the former Hedwig Hoener.

After studying with the Surrealist Woldemar Winkler in his late teens, Mr. Breder enrolled in the University of Fine Arts in Hamburg, graduating in 1964.

On a foreign study grant he traveled to New York, where he worked as an assistant to the kinetic sculptor George Rickey. His early work — polished metal forms or plastic cubes placed over mirrors or stripes, mingling virtual and real images — attracted the attention of the gallerist Richard Feigen, who organized a solo show of his work in 1967 in Manhattan.

"Marcel Duchamp came to the opening, shook my hand, and said, 'I like your work,'" Mr. Breder told PAJ: A Journal of Performance and Art in 2011. "An auspicious moment!"

Artistically restless, Mr. Breder began branching out. In the conceptual series "Ordered by Telephone" (1969), he called in specifications to an industrial fabricator, who assembled Plexiglas sheets into sculptures that he delivered to the Feigen gallery in Chicago without showing them to the artist.

In "Body/Sculptures," a series from the early 1970s, Mr. Breder photographed nude models holding mirror-like steel plates that transformed their legs and torsos into a biomorphic tangle.

In his recent "Opsis" series, Mr. Breder worked with a neuro-ophthalmologist and a scientific imaging specialist to translate information received by the eye's photoreceptor cone cells into brilliantly colored abstract forms, which he transferred to canvas. His video installation, "Mindscape/The Subtle Body," was shown at the Solivagant Gallery on the Lower East Side in 2015.

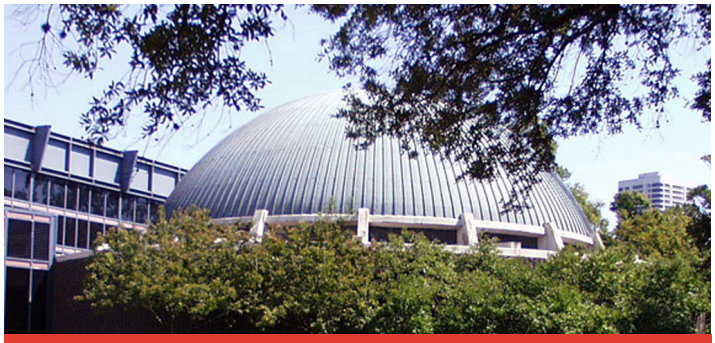
Mr. Breder was included in three biennials at the Whitney Museum of American Art, in 1987, 1989, and 1991. He was director of the Intermedia Program until 2000 and a founder of the Center for the New Performing Arts at the University of Iowa. His archive from the Intermedia Program has found a permanent home at the Museum Ostwall in Dortmund, Germany.

Besides his wife, he leaves no immediate survivors.

**https://www.nytimes.com/2017/06/23/arts/design/hans-breder-dead-artist-who-broke-boundaries.html**

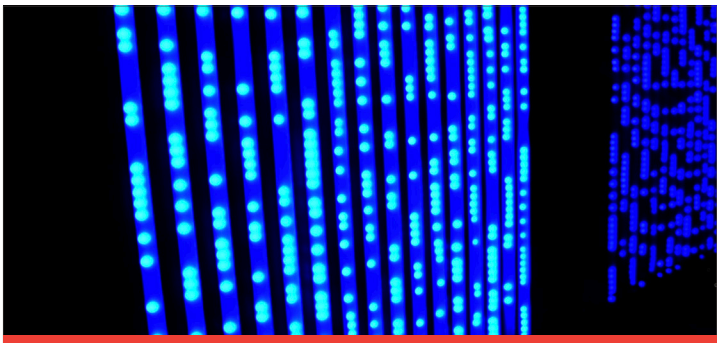
## PEACOCK FEATHERS IN FOAMING ACID

Evelina Domnitch and Dmitry Gelfand, European-Russian artists who create sensory immersion environments that merge physics, chemistry and computer science visited campus as part of our Engaging Technology II exhibition. They performed 10000 Peacock Feathers in Foaming Acid as a live, audiovisual performance projected on the domed screen of Ball State's Charles W. Brown Planetarium.



## HOUSTON PLANETARIUM COMMISSION

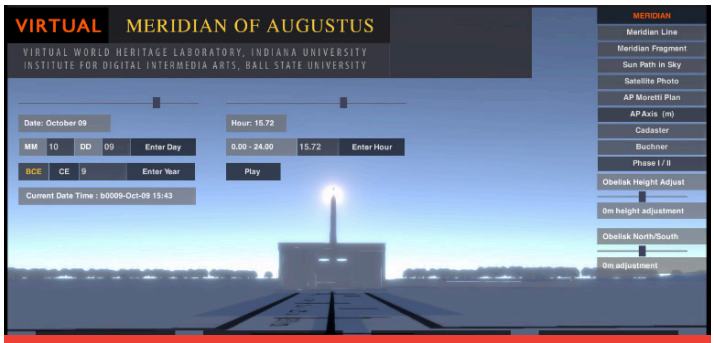
IDIA Lab was commissioned by Evans & Sutherland and the Houston Museum of Natural Science's Burke Baker Planetarium to collaborate on Tales of a Time Traveller narrated by David Tennant - the 10th Doctor Who (BBC). The project showcased Houston's world's high-resolution digital planetarium displaying content with over 50 million unique pixels.



## ARTS WALK

Augmented Reality iOS app by IDIA Lab at Ball State University to enhance visitor experiences for Natural History and Art museums. This project uses image targeting to create an interactive 3D exhibit that can be animated and examined by the user as they learn about its history. **https://youtu.be/P2hhyjKyy0M**

**https://youtu.be/crUvkbedUKE**




## NEW LIGHT - ARA PACIS OF AUGUSTUS

The article takes as its point of departure recent work (Frischer forthcoming) critiquing the theory of Edmund Buchner about the relationship of the gnomonical instrument known as the Horologium Augusti and the Ara Pacis Augustae.

**https://scholarworks.iu.edu/journals/index.php/sdh/article/view/23331**

## ABOUT IDIA

Institute for Digital Intermedia Arts explore of the intersections between the arts, science and technology. Scholarly, creative and pedagogical projects investigate virtual reality, Human Computer Interface, augmented reality, mobile apps, visualization and 3D simulation. The labs' staff and students develop projects in partnership with international clients in this innovative studio initiative investigating the forefront of emergent media design and learning.

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