



PENN CENTER FOR NEUROAESTHETICS

2023 REPORT

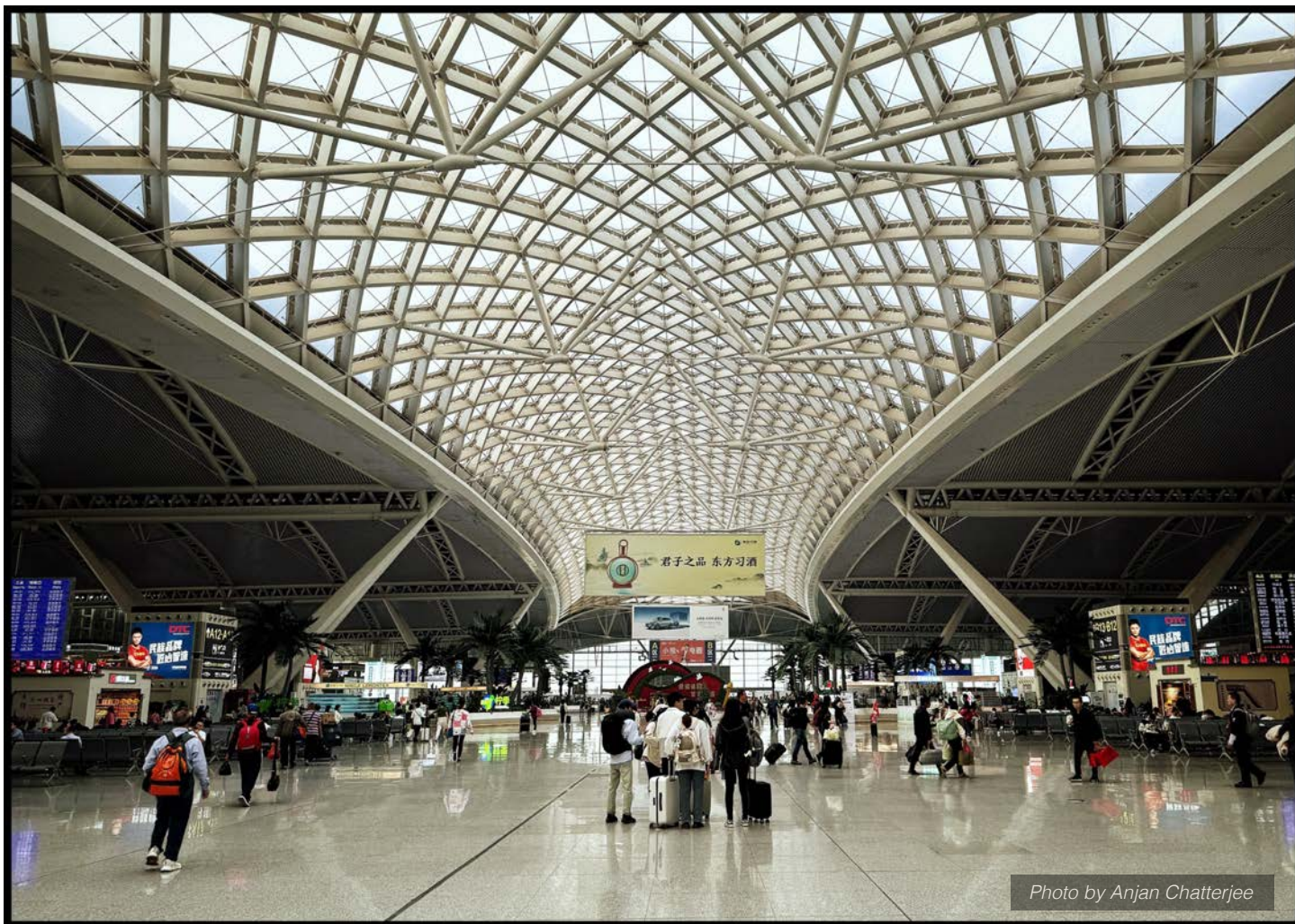


Photo by Anjan Chatterjee

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MESSAGE FROM THE DIRECTOR



Emerald waters. Mercurial skies. We floated through an ethereal landscape of thrusting verdant mountains. Views reminiscent of a thousand Chinese paintings. Gazing across the River Li winding its way through Guilin, I was struck with wonder at the impossibility of my being there; a land so distant that felt so familiar, a scene so vast that felt so close. Inviting the infinite into the intimate seems an apt description of the work of aesthetics. In a world shredded by sectarian and political differences, science and art can bring us closer, remind us of values that matter most, and invoke our better angels.

Speaking of things that matter, few are more important than people and not taking their presence for granted. This truism took on new force with the unexpected passing of PCfN founding advisory board member, Rafael Viñoly. Rafael, a visionary architect who was passionate about his work, believed deeply in what we are trying to do. He exhorted me repeatedly to stay true to our mission and to not be distracted by what he regarded as trivialities. In his honor, we held a small gathering in PCfN Advisory Board member Pauline Brown's apartment complex, part of which was designed by Rafael. Pauline moderated a conversation between Román Viñoly and me, as we remembered his father Rafael, his vision, and his relationship to the center. Board member Susie Ellis was also in attendance.

In pursuing our core mission to understand ***the nature of aesthetic experiences, how they are modifiable, and why they matter***, a focus this past year has been trying to understand the nature of aesthetic emotions and the role that language plays in enriching aesthetic experiences. We developed a taxonomy to identify the impacts that the arts can have and are poised to make use of this taxonomy in a variety of ways.

A translational aspect of our basic research is about to be implemented at a mental health facility in LaPlata, Maryland. Here we will put biophilic principles and neuroarchitecture into practice. Can the design of the built environment alleviate the stress experienced by people recovering from addiction and by staff who

work in these difficult environments? We hope to find out over the next year. Our design of refresh rooms will be enhanced with music from Freddie Moross's company, Myndstream, and videos from the award winning nature film-maker, Louis Schwartzberg. Increasingly, I hope such synergies with like-minded lovers of aesthetics will refine and amplify our goals.

In media exposures of note, I was interviewed for a BBC radio show on architecture and was featured on the Hidden Brain podcast about beauty. Our lab was filmed for two days by the *Closer to Truth* documentary film-makers.

We continue to feel the global relevance of neuroaesthetics. We are delighted to host Gyulten, a Fulbright scholar from Koc University in Istanbul to study creativity and gestures. We had several visitors speak to us, including from Tel Aviv, Vienna, and New York. My professional travels took me to Barcelona, Wroclaw, Guangzhou, Los Angeles, New York, Miami, Atlanta, and Washington DC several times.

A highlight of the year for me was to receive the Leadership in Innovation Award for our work in neuroaesthetics from the Global Wellness Institute at the annual summit held in Miami. A complete shock, I almost missed being present for the award because of an inopportunistically timed "rest break." Thrilling as receiving the award was, it was equally exciting to share the slate of awardees with Ms. Simone Biles who was feted for her mental health advocacy. A grounded, impressive, and inspirational person, I was honored to be linked to her, however tangentially.

Heading into 2024, ***as the science of aesthetics and its applications remains vital, we continue to lay foundations for financial sustainability***. We received a grant from the National Endowment of the Arts. But the NEA's funding budgets remain a miniscule fraction of the NIH or NSF. In addition to private foundations such as the Templeton Religion Trust, we rely on philanthropy and are deeply grateful for generous donations. We remain dedicated to the proposition that aesthetics embodies our deepest values and profoundly impacts human relations, health, and wellbeing.



EDUCATE
THE NEXT
GENERATION
OF SCIENTISTS

ADVANCE
RESEARCH IN
BASIC AND
APPLIED
NEURO-
AESTHETICS



FOSTER
COLLABORATION
WITH ALLIED
DISCIPLINES AND
CREATIVE EXPERTS

DISSEMINATE
OUR SCIENCE,
WITHIN AND
BEYOND
ACADEMIA

ENGAGE
WITH THE
COMMU-
NITY

ABOUT THE PENN CENTER FOR NEUROAESTHETICS (PCfN)

The PCfN launched in July 2018 with support from the University of Pennsylvania's Provost Office, The Perelman School of Medicine Dean's office, The Department of Neurology, The Department of Radiology, and The Center for Human Appearance. Ours is the first center in the US—and perhaps the world—dedicated to advancing cognitive neuroscience research in aesthetics.



Credit: International Arts + Mind Lab Summit

FOUNDATIONAL RESEARCH

The PCfN is motivated by a belief in the fundamental value of aesthetic experiences –they nourish the human spirit, inspire creativity and innovation, stimulate thought, bring people together, catalyze personal and social transformation, express values and meaning, and reveal the human condition.

The brain carves our visual world into people, places, and things. Using this neural organization as a framework, we investigate aesthetic experiences of these domains by asking the following questions:

WHAT ARE
AESTHETIC
EXPERIENCES?

HOW DO
AESTHETIC
EXPERIENCES
VARY?

WHY DOES
AESTHETICS
MATTER?



Photo by Anjan Chatterjee



ADVISORY BOARD

Each member of the PCfN Advisory Board is committed to our mission. Their counsel on how best to achieve our mission is invaluable as our center continues to grow. For more information about each of our board members, please visit [our website](#).

RETURNING BOARD MEMBERS



Pauline Brown
*Former
Chairman of
North America
for LVMH Moët
Hennessy Louis
Vuitton.*

Brown brings
extensive
industry
experience
related to
consumer

behavior, beauty, fashion, and luxury goods, and is the author of the groundbreaking business book *Aesthetic Intelligence* (HarperCollins, 2019).



Sheri Parks
*Ex-Vice
President for
Strategic
Initiatives at
the Maryland
Institute
College of Art
(MICA).*

Park's
research
specializes in
public

aesthetics, particularly the ways people find and create meaning and beauty in their everyday lives, with specific emphasis on race, gender, social class, sexuality, popular culture, and media.



Susie Ellis
*Chair & CEO
Global
Wellness
Institute and
Co-Founder,
Chair, & CEO
Global
Wellness
Summit.*

A leading
authority on
the global

wellness economy, Ellis is widely regarded as an industry trailblazer and known worldwide for her impact on global wellness trends and research.



Dan Weiss
*Former
President and
CEO,
Metropolitan
Museum of Art.*

A scholar of art
history and
seasoned leader
of academic
departments and
institutions,
Weiss has

written or edited six books and many articles on the art of the Middle Ages and Crusades, higher education, museums, and American culture.

NEW ADVISORY BOARD MEMBERS

In February, the PCfN welcomed three new talented professionals to the board. These new voices provide invaluable perspective as our Center continues to evolve.

Gabrielle Starr

President, Pomona College



Dr. Starr is a national voice on access to college for students of all backgrounds and on the future of higher education. She offers a compelling case for reaching across academic disciplines to spark intellectual discovery, having started her academic career as a scholar of English literature and, over time, extending her work into neuroscience and the arts. Her research looks closely at the brain to help get to the heart of how people respond to art.

Starr took office as the 10th president of Pomona College in 2017 with a track record of promoting greater access to higher education. Today she serves on the board of the Consortium on Financing Higher Education (COFHE), and on the executive committee of the Association of Independent California Colleges and Universities (AICCU).

Román Viñoly

Director, Rafael Viñoly Architects



Mr. Viñoly's educational and professional experiences reflect the broad interests of a born generalist. He has a Medieval History degree from Haverford College, an MFA from the film program at the NYU Tisch School of the Arts, and an MBA from IE University in Madrid. He has worked as a cinematographer, a documentarian, an architectural photographer, a producer, a creative director, a writer, a financial manager, an executive, and a real estate developer. He reads constantly about science and technology.

As Board Chair of the Rafael Viñoly Foundation, he has redirected the foundation to elevating public life through the transformative power of architecture, urban planning, education, the arts, and science.

Paul Zoidis



Mr. Zoidis ran the Global Telecommunications and Media investment banking business and was co-head of the Mergers and Acquisitions Department at Lehman Brothers. After retiring from investment banking in 2001, Paul joined several local not-for-profit boards affiliated with the YMCA, the United Way, The First Tee, and Haverford College. His primary focus on these boards has been strategic planning and financial advice. While on those boards, he created and funded programs to improve the education of underprivileged students, including: a homework skills development program for third and fourth grade students who did not get help at home, a robotics program for fifth to eighth grade girls to encourage the mathematically gifted, a "Path to College" program which mentors students through the college admissions process and provides scholarships, and a fully paid summer internship program for college students to work at Philadelphia organizations which address issues of social justice and inequity.

IMPACTFUL RESULTS

Experimental research, by its nature, advances knowledge incrementally. We made several important claims about the aesthetics of people, places, and things (art) over the past year.

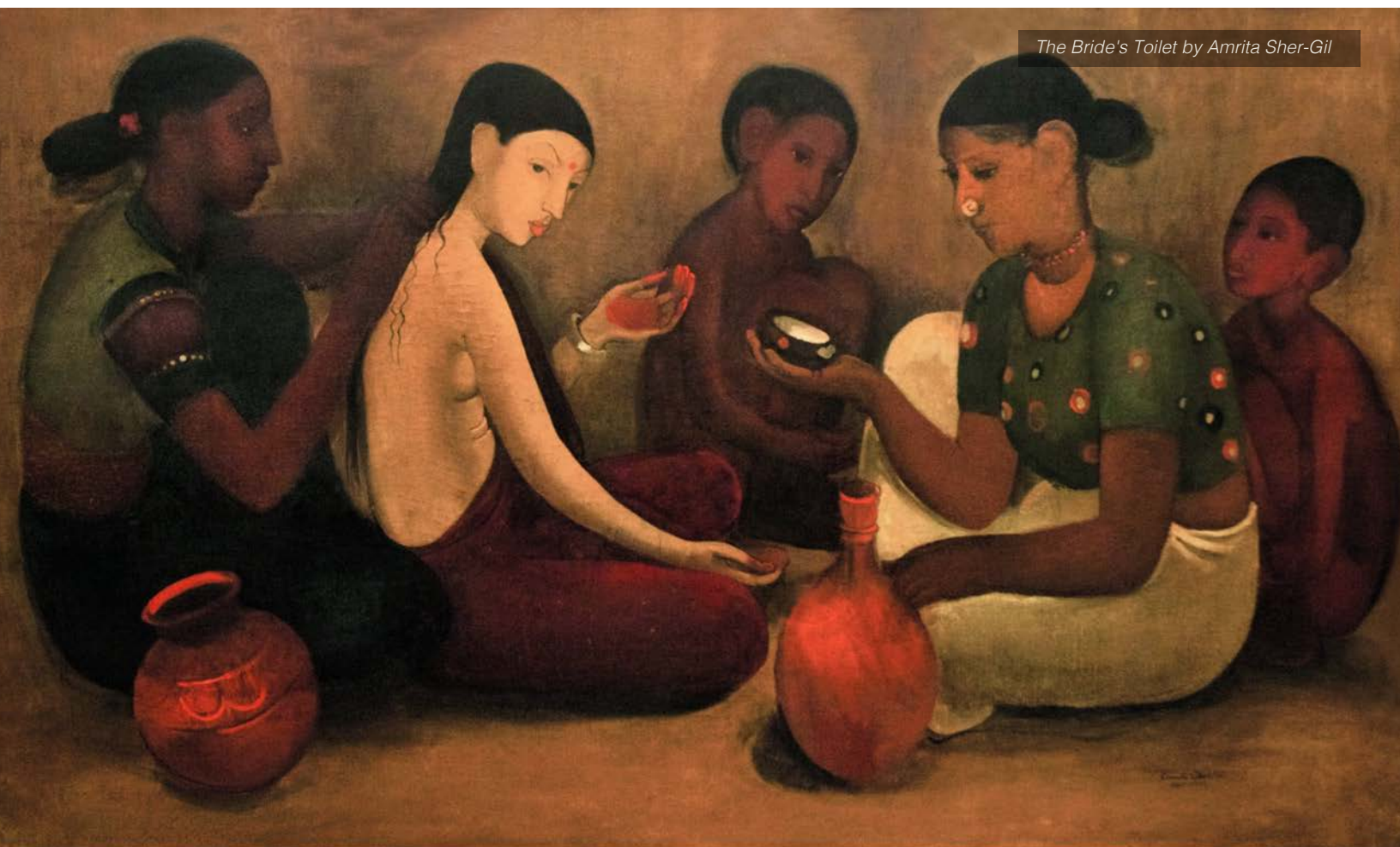
1. UNDERSTANDING ART IN CONTEXT

Artworks are rarely encountered in isolation; they are embedded in historical, political, economic, and socio-cultural contexts. How does knowing about this rich context impact our aesthetic appreciation of artworks?

In a recent study led by former postdoctoral fellow Kohinoor Darda, we asked North American participants how much they liked Indian and American-European representational paintings that were either presented with no information or with information about the painting's content, the artist, or their technique.

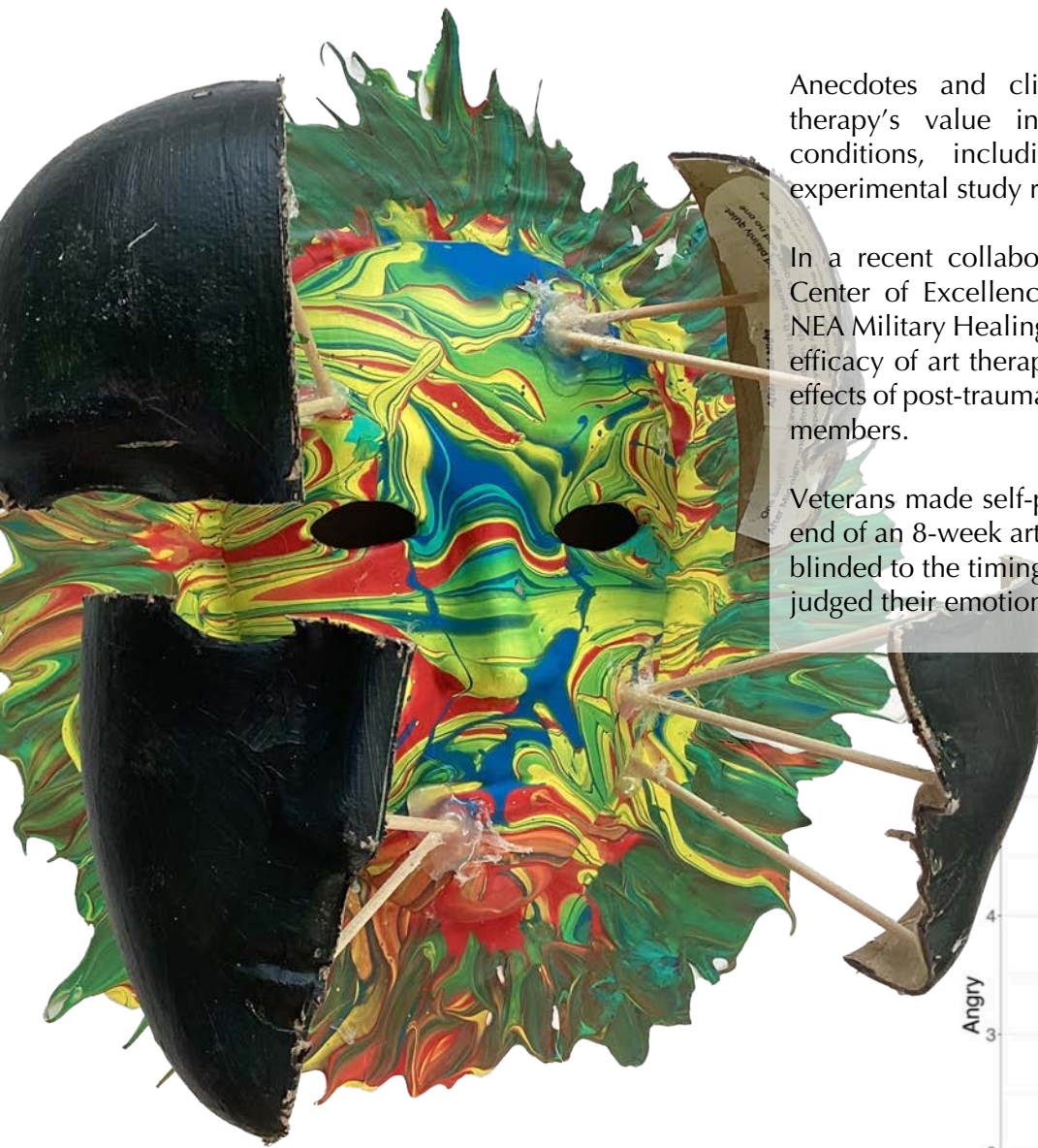
Viewers liked the paintings more when they received contextual information, especially for those participants with less experience with art or less openness to new experiences. Moreover, without context, viewers preferred American-European paintings over Indian ones – a common tendency to show favoritism toward members of one's own group. This in-group bias, however, was reduced when paintings were paired with context.

Those placards by artworks do more than inform or enhance appreciation; they can mitigate our cultural biases.



The Bride's Toilet by Amrita Sher-Gil

2. ART THERAPY UNMASKED

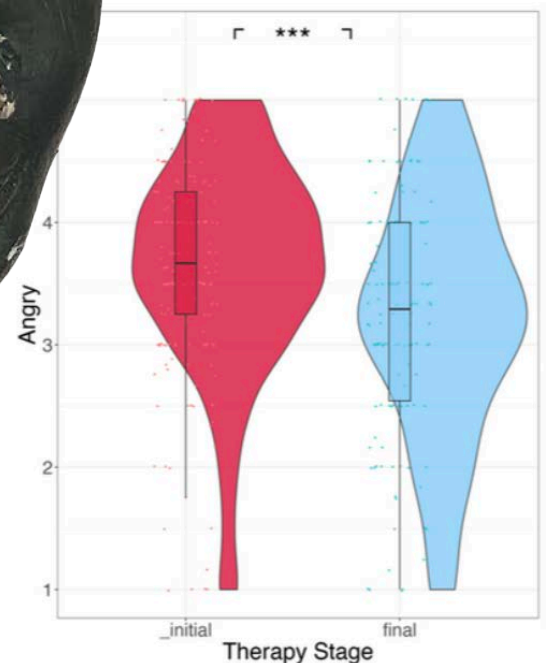


Anecdotes and clinical observations attest to art therapy's value in treating various psychological conditions, including trauma. However, rigorous experimental study remains limited.

In a recent collaboration with the National Intrepid Center of Excellence (NICoE) and Creative Forces®: NEA Military Healing Arts Network, we investigated the efficacy of art therapy for ameliorating the debilitating effects of post-traumatic stress (PTS) in American service members.

Veterans made self-portrait masks at the onset and the end of an 8-week art therapy program, and participants blinded to the timing of the mask creation (start vs end) judged their emotional expressivity and impact.

Despite not knowing when the masks were made, viewers judged masks made at the outset as conveying more negative emotions (angry, upset, and challenged) and masks made at the end as conveying more positive ones (calm and pleasure). These results suggest mask-making is a powerful therapeutic intervention, allowing makers a non-verbal form of emotional expression that tracks with the improvements in emotion regulation attributed to art therapy.



Gonzalez, V. E., Meletaki, V., Walker, M., Sosa, J. P., Stamper, A., Srikanthana, R., ... & Chatterjee, A. (Submitted for publication). Art Therapy Unmasked: Evaluating Emotional Shifts in Art Therapy Masks.

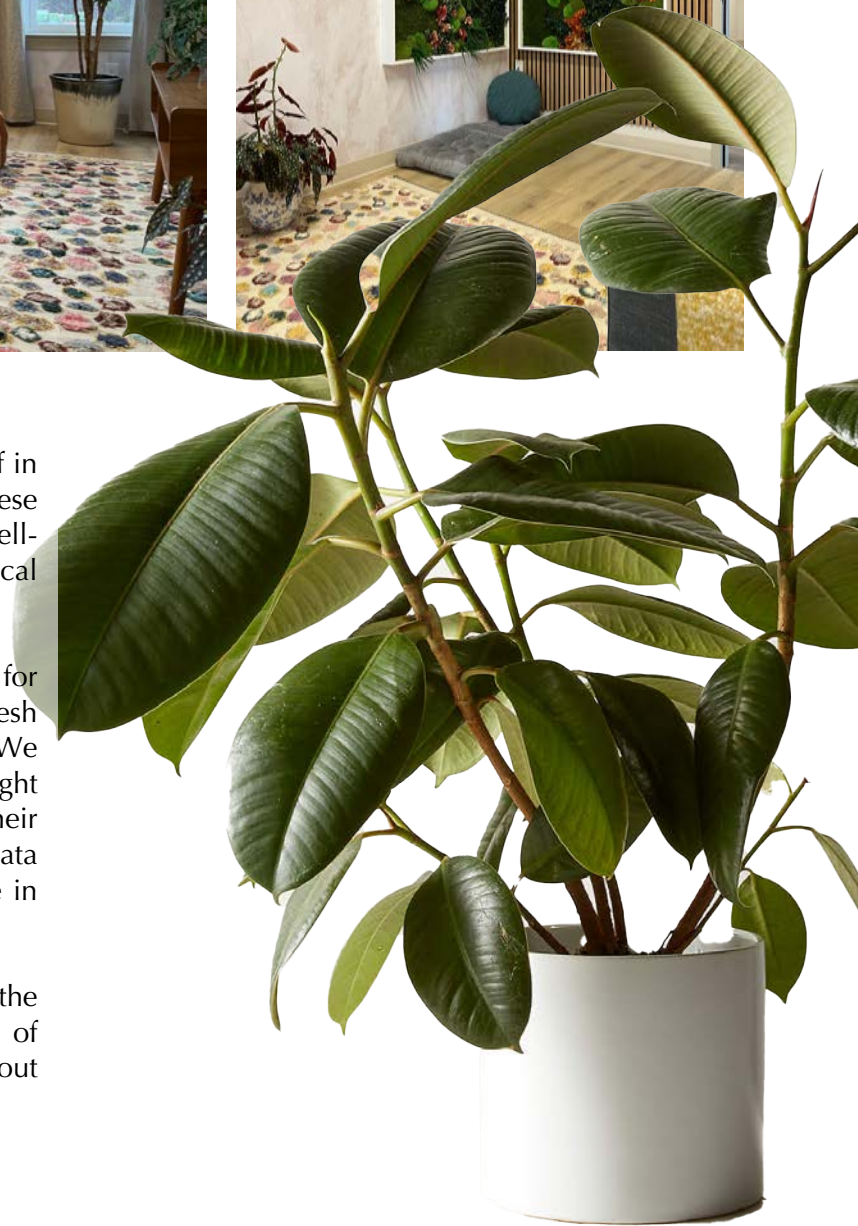
3. BIOPHILIC DESIGN FOR WELLNESS



“Biophilic” – or nature-inspired – design has taken off in popularity in recent years, owing to the claim that these types of interiors can reduce stress and improve well-being. Despite this popularity, there is little empirical evidence to confirm such claims.

At Alpas Wellness, a residential treatment facility for addiction and mental illness, we created two “Refresh Rooms” drawing on biophilic design principles. We appreciate the donation of living gardens (top right image) by Garden on the Wall LLC®. To assess their impacts, we are collecting survey and physiological data from staff and patients who self-select to spend time in one of these calming spaces.

This pioneering project, which seeks to validate the effectiveness of these spaces and the feasibility of implementing them, would be impossible without support from Alpas Wellness.

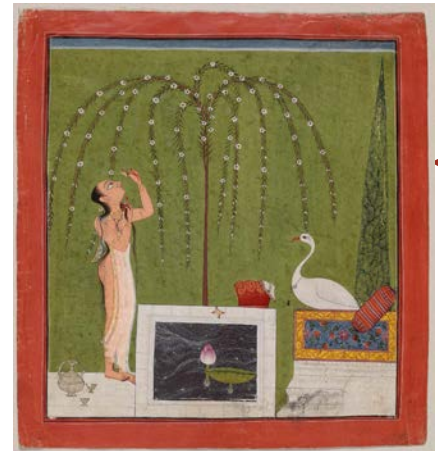


4. DIVERSIFYING AESTHETICS RESEARCH ARTWORKS

Too often, aesthetics research relies on the Western canon of art history. Can we really make claims about responses to art if only a narrow selection of art is used to ask the question?

To address this problem, we are creating a culturally diverse dataset of over 300 art images that can be used by researchers all over the world. Images were carefully chosen by a panel of art experts in the art of South Asia, Africa and Latin America. Other panelists' expertise guided their selection of religious art, modern art, and public murals.

Each image has crowdsourced ratings for liking, beauty, familiarity, and 11 descriptive terms, allowing researchers to select images with known characteristics for their experiments. In line with Open Science principles, the library is free for all to use.



HONORING RAFAEL VIÑOLY



Rafael Viñoly, a founding member of the board, passed away suddenly in March. His visionary perspective and enthusiasm for our work will always be remembered.

Born in Uruguay, Viñoly settled in New York in 1979 from where he oversaw an award-winning practice with projects spanning six continents. His Philadelphia projects include the Kimmel Center for Performing Arts and the Perelman Center for Advanced Medicine at the Hospital of the University of Pennsylvania.

In September, we had our second annual networking reception. Graciously hosted in Pauline Brown's Viñoly-designed building in New York City, the event was a tribute to the late architect. Pauline moderated a discussion between Anjan Chatterjee and Román Viñoly about Rafael's legacy, his relationship to and support of PCfN, and the impact of architecture on social and individual well-being.



SELECTED PCFN MEMBER HIGHLIGHTS



Mere months after leaving the PCfN, Dr. Kohinoor Monish Darda realized her goal of creating the ARISA Foundation.

ARISA (Advancement and Research in the Sciences and Arts) is a not-for-profit research and social work organization that bridges the arts and sciences to advance academic research in psychology, neuroscience, and neuroaesthetics, preserve tangible and intangible cultural heritage, and promote social change.



After contributing to the PCfN's research as a postdoctoral fellow for 5 years, Clifford I. Workman left the lab to serve as Visiting Assistant Professor in the Department of Psychological and Brain Sciences at the University of Delaware.

Cliff maintains a close relationship with the Center and consults on fMRI methods, data analysis, and projects relating to morality and facial anomalies.



We have the pleasure of hosting Gyulten Hyusein, who received a Fulbright Fellowship to study creativity and gesture at the PCfN. She is a Ph.D. candidate in Cognitive Psychology at Koç University in Istanbul.

At the PCfN, she is studying the relationship between visual imagery, semantics, and gesture on creativity in healthy adults and people with the visual variant of Alzheimer's disease and semantic dementia.



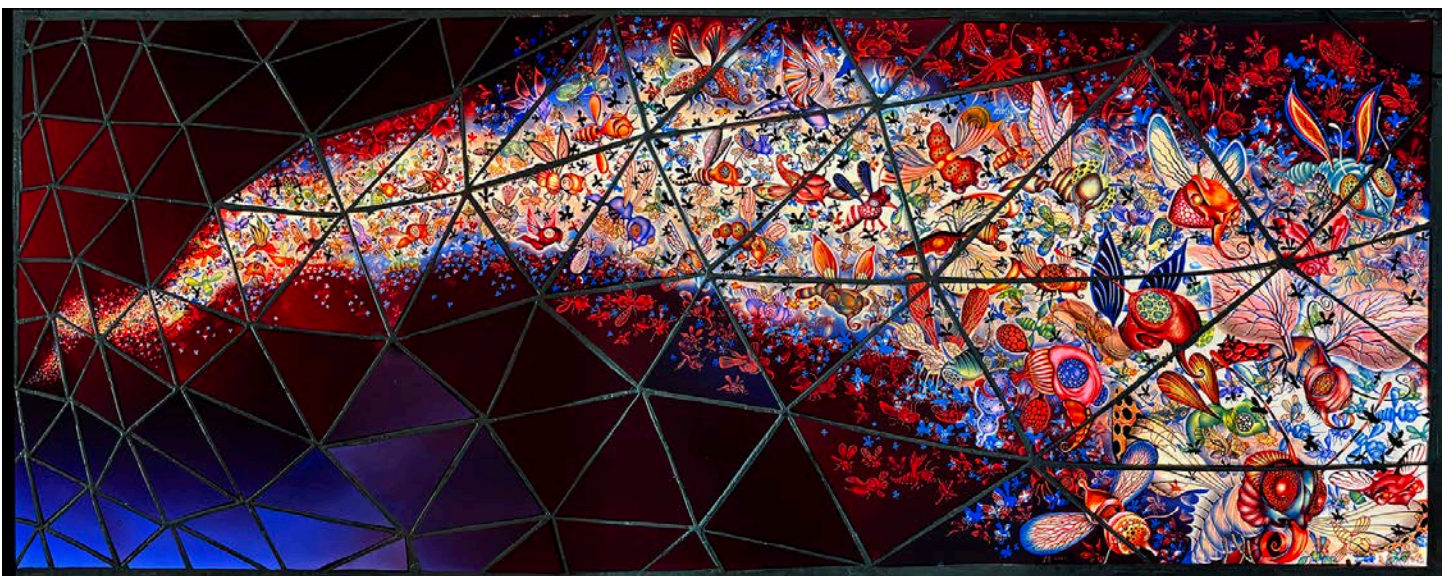
At the 2023 Global Wellness Summit, Dr. Chatterjee received the Leader in Innovation Award, sponsored by Kohler Co. Chatterjee was honored for his fascinating work in neuroaesthetics, which investigates the neural systems that underlie aesthetic experiences.

The Global Wellness Summit (GWS) is the foremost gathering of international leaders in the \$5.6 trillion global wellness economy.



ARTIST-IN-RESIDENCE: JUDITH SCHAECHTER

This is Judith's second year working with the lab. As part of her residency, she is creating the biggest project of her lifetime – a 9-panel biophilia-inspired dome with stained glass on all sides. She has created two other pieces inspired by the PCfN's research: "Anomalies" (right) and "Swarm" (bottom).



Publicizing neuroaesthetics is an important strand of our outreach efforts. We have been featured in popular media broadcasts and in print interviews. We also leverage our blog posts to directly inform the public about our research.

VIDEO: TV, FILM, AND WEB



Anjan Chatterjee - Can Art Affect the Self?
Closer to Truth (January 13, 2023)



THE BEAUTY MOVEMENT - Short Documentary
Martina Frattura (February 11, 2023).



Anjan Chatterjee - What Makes Art Transcendent?
Closer to Truth (March 1, 2023)



How Beauty Works. Plenary Session 2.
Beauty at Work (May 29, 2023)

In addition, we've had the honor of being featured in two documentaries still in production. Everyone at the PCfN enjoyed showcasing our many research projects and we look forward to seeing our work reach a wider audience.



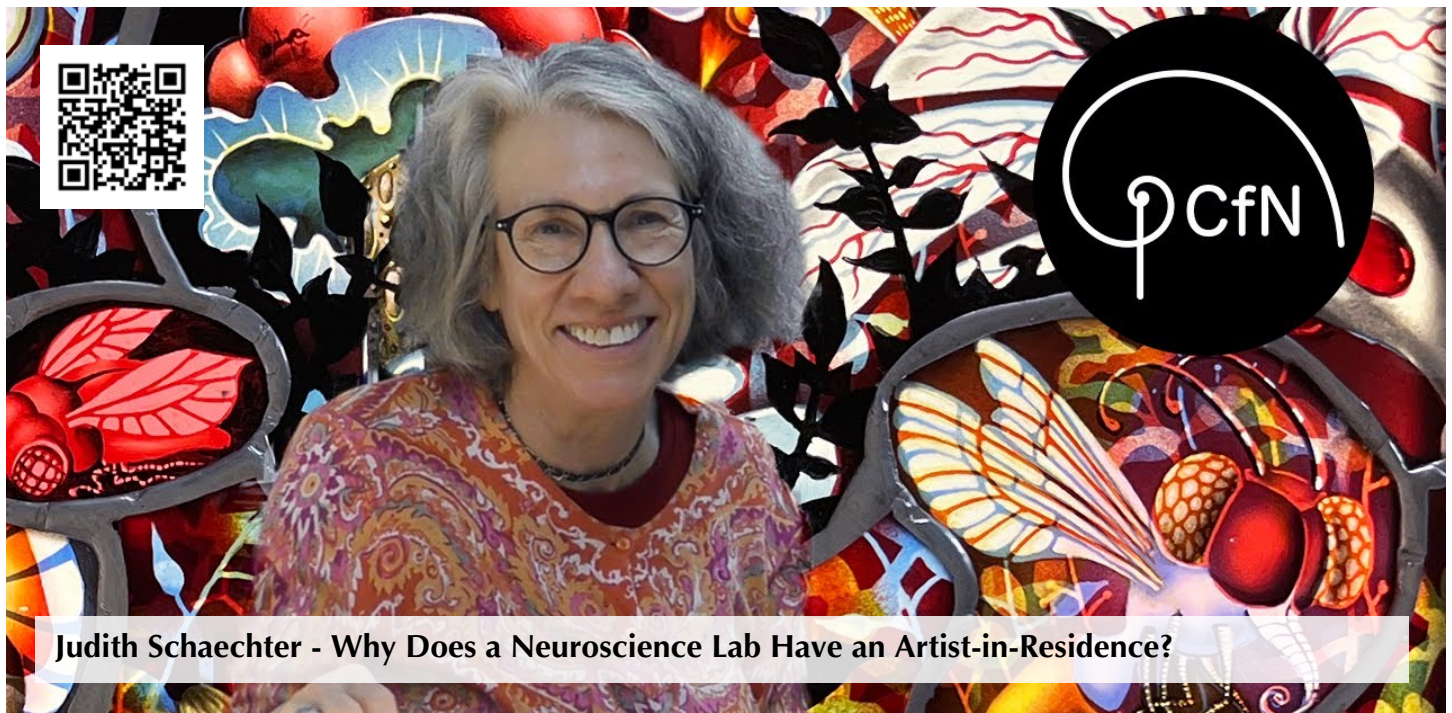


[YouTube Channel: Penn Center for Neuroaesthetics](#)

Continually updated with new content related to work at the PCfN—includes a [Neuroaesthetics Playlist](#)



Cliff Workman – Beauty, Morality, and the Role of Neuroscience



Judith Schachter - Why Does a Neuroscience Lab Have an Artist-in-Residence?



Penn Center for Neuroaesthetics



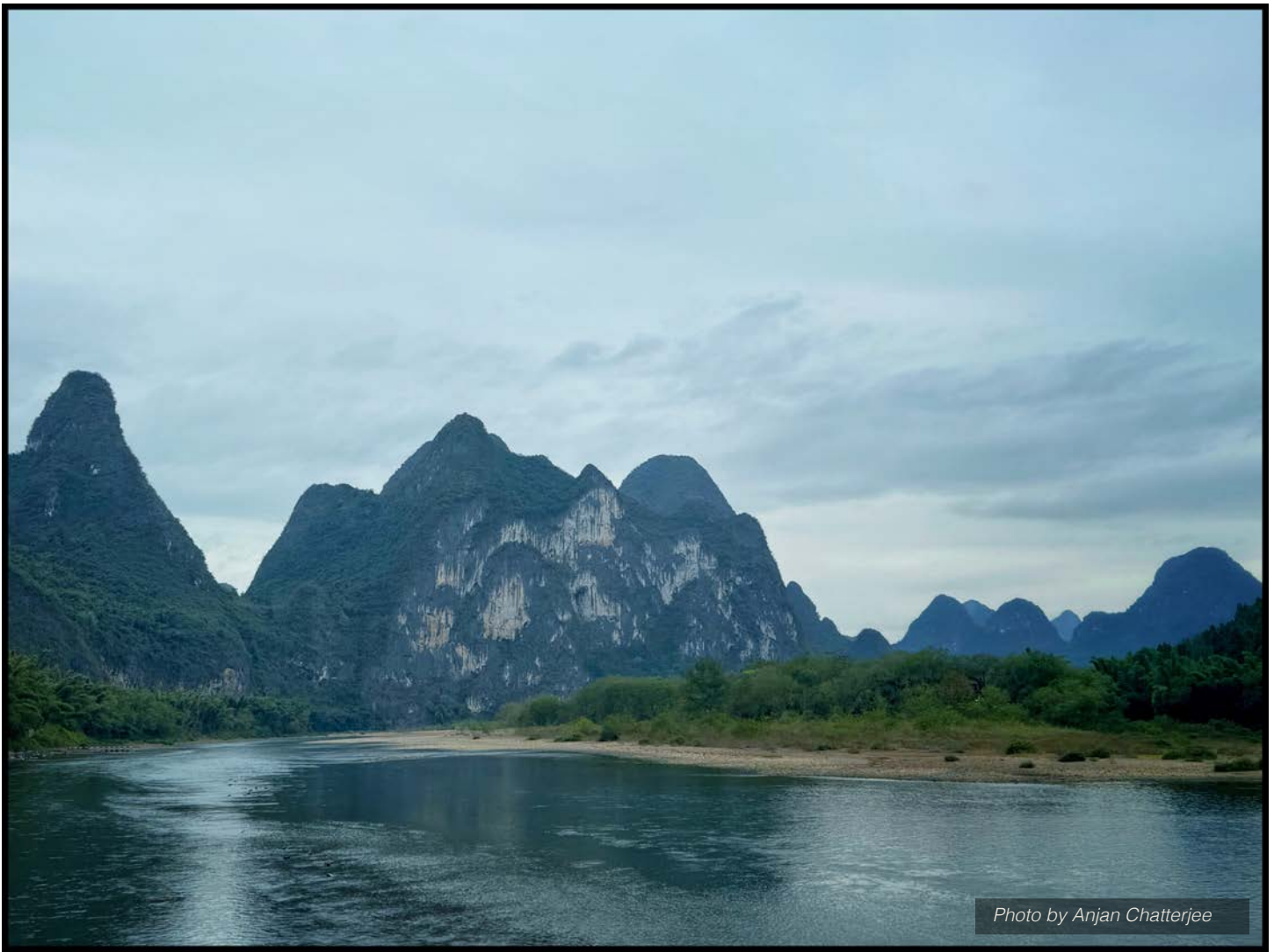


Photo by Anjan Chatterjee

IN PRINT

[An Atlanta designer shares ways to make your home cozier this winter.](#) The Atlanta Journal-Constitution (December 19, 2023).

[The Global Wellness Summit Honors Diverse Group of Pioneers for Their Achievements in Mental Wellness, Innovation and the Science of Wellness.](#) Yahoo! Finance (November 16, 2023)

[Nicole Chandler: Finding the voice of the heart.](#) The Philadelphia Sunday (September 8, 2023).

[A summer studying the aesthetic brain.](#) Penn Today (September 1, 2023).

[Exhibit aims for specific audience emotions.](#) Scottsdale Progress (August 18, 2023).

[COMING TO TERMS Shows Eleven Artworks Aimed To Evoke Eleven Responses.](#) Broadway World (July 6, 2023).

[Neurodiversity: A Deeper Understanding of Differences Can Create Healthier Retail Spaces for All.](#) CEW Beauty News (May 16, 2023).

[Serenbe: The Biophilic Community That Wants To Change How We All Live.](#) design\milk (May 12, 2023).



[You might like paintings more if you stop to read the gallery labels.](#) The British Psychological Society (March 28, 2023).

[Is Designing for Neurodiversity a Part of Your Practice Yet? Here's Why It Should Be.](#) Architectural Digest (February 21, 2023).

[Hitting the Aesthetic Triad While Gazing at Art.](#) Literary Hub (March 22, 2023).

[Art and neuroscience converge to explore disorders of the brain.](#) PNAS (January 25, 2023).

[New research uncovers the effects of facial scars on first impressions of attractiveness, confidence and friendliness.](#) PsyPost (March 18, 2023).

AUDIO

[The Mystery of Beauty.](#) Hidden Brain (December 4, 2023)

[Anjan Chatterjee. Why Boring Buildings are Bad for Us.](#) Building Soul – with Thomas Heatherwick, BBC (October 3, 2023)

Anjan Chatterjee. AI and Art. The Other AI with Pauline Brown. Xirius Radio (9 May 2023).

[Combining Aesthetics with Neuroscience.](#) Talking Writing podcast (February 1, 2023).

BLOG SERIES:

Beauty, Brain, and Behavior in Psychology Today



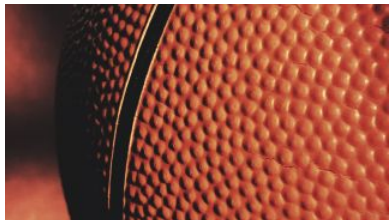
[Architects and Designers Appraise Spaces Differently Than Us.](#)
February 2023

Architecture experts prioritize coherence more than lay people. Differences in taste between architects that design spaces and the people who inhabit them are worth exploring when conceiving new buildings.



[Finding the Right Word: How to Describe the Impact of Art.](#)
February 2023. Co-authored with Eileen Cardillo, D.Phil.

Impactful art engagements entail complex and nuanced aesthetic emotions, which are typically difficult to measure. By studying how people describe art encounters, we can better understand art's cognitive and affective impacts.



[Neuroscience and the NBA MVP Race.](#)
March 2023

Can we mitigate confirmation bias in analytics when thinking about the most value a player brings to the league? Here, the NBA could adapt lessons from the Open Science Movement.





[Tracing the Biophilic Movement to Its 18th-Century Roots.](#)

April 2023

The rich ideas that animate contemporary biophilic thinking are rooted in the passions of the romantics and the global vision of Alexander von Humboldt in which people, science, nature, and art are inextricably bound.



[Art in Context: The Impact of Sociocultural Information.](#)

April 2023

If even a word or title provides semantic context to the viewer and changes their perception and evaluation of artwork, what about detailed information about the artwork's content, the artist, or their technique?



[The Case for Scientific Scrutiny Even for Time-Honored Remedies.](#)

June 2023

The histories of trepanning, bloodletting, and acupuncture show us that believing something to be beneficial to health, by itself, does not make it so.



[The Brain and Art Therapy for Post-Traumatic Stress Symptoms.](#)

July 2023

We examined neural changes in service members after therapy, finding psychological closure in their art. People who depicted closure had more connectivity between attention networks and areas for memory and pain.



[Is Parkinson's Disease an Industrial Disorder of Our Making?](#)

April 2023

Environmental toxins and pollutants contribute to the steep rise in the incidence of Parkinson's Disease.



[Art, Emotions, and Language: Why Words Matter for Aesthetics.](#)

June 2023

Words categorize affective states with precision, allowing one to recognize fine-grained emotional expression.



[What Last Minute Shoppers and Art Enthusiasts Have in Common](#)

December 2023. Co-authored with Eileen Cardillo, D.Phil.

Memorable shopping experiences share features of emotional responses to standout engagements with art.



PCFN MEMBERS

Core Faculty and Staff

Anjan Chatterjee, Director
Eileen Cardillo, Associate Director
Bella Bobrow, Center Manager

Postdoctoral Researchers

Vicente Estrada Gonzalez
Vasiliki Meletaki
Mariola Paruzel-Czachura

Art Historian

Jonathan Fineberg

Artist-in-Residence

Judith Schaechter

VR Specialist

Jeffrey Vadala

Student Researchers

Gyulten Hyusein, Visiting Scholar
Isabelle Lee, Undergraduate Student
Shirley Li, Undergraduate Student*
Meagan Wu, Medical Student
Nora Youn, Undergraduate Student

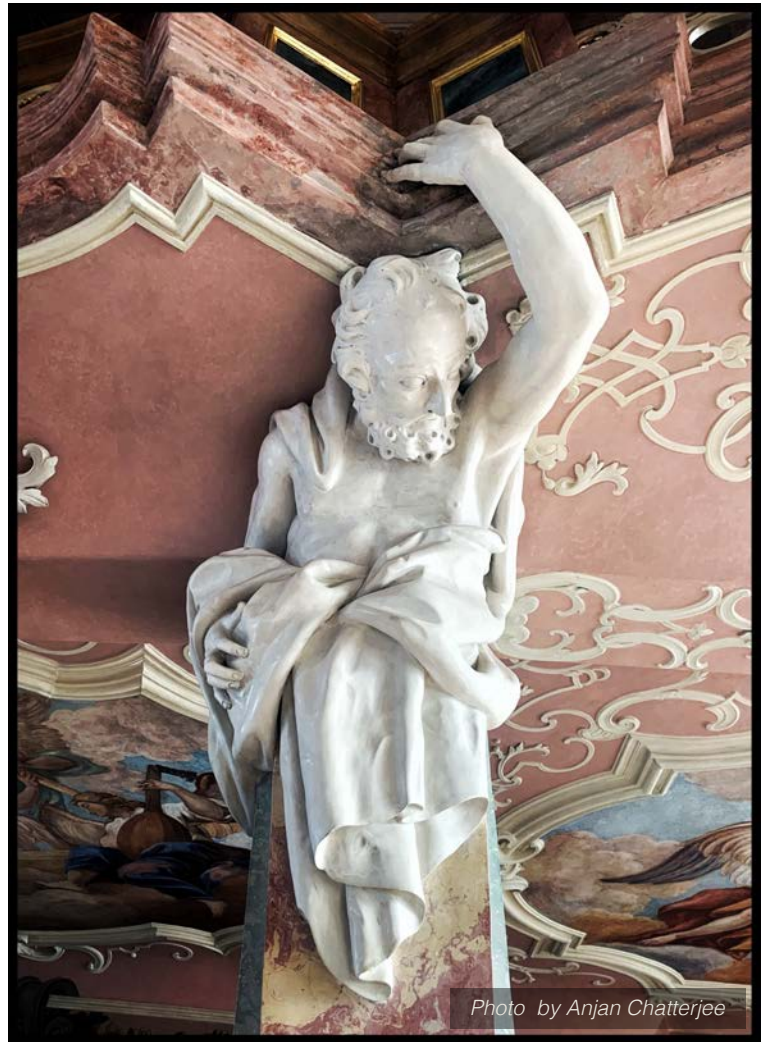
*Not pictured



COLLABORATORS

AFFILIATED FACULTY AT PENN

Coren Apicella, School of Arts & Sciences
Mikael Avery, Weitzman School of Design
Danielle Bassett, School of Engineering
Liz Brannon, School of Arts & Sciences
John A. Detre, Perelman School of Medicine
Martha J. Farah, School of Arts & Sciences
Gary Hatfield, School of Arts & Sciences
Elizabeth Johnson, Wharton School of Business
Joe Kable, School of Arts & Sciences
Michael Leja, School of Arts & Sciences
Ken Lum, Weitzman School of Design
Allyson Mackey, School of Arts & Sciences
Lynn Meskell, School of Arts & Sciences
Matt Neff, Weitzman School of Design
James O. Pawelski, School of Arts & Sciences
Rebecca L. Pearl, Perelman School of Medicine
Michael Platt, Wharton School of Business
Megan S. Ryerson, Weitzman School of Design
Frederick Steiner, Weitzman School of Design
Nina Strohminger, Wharton School of Business
Jesse Taylor, Children's Hospital of Philadelphia
Orkan Telhan, Weitzman School of Design
Ian Verstegen, School of Arts & Sciences
Linton A. Whitaker, Perelman School of Medicine



NATIONAL AND INTERNATIONAL COLLABORATORS

Amy Belfi, Missouri Univ. of Science & Technology
Beatriz Calvo-Merino, City, University of London
Alex Christensen, Vanderbilt University
George Christopoulos, Nanyang Tech. Univ.
Kohinoor Darda, ARISA Foundation
Maurizio Forte, Duke University
Fraziska Hartung, Newcastle University
Gregor Hayn-Leichsenring, University Hospital Jena
Dexian He, South China Normal University
Xianyou He, South China Normal University
Stacey Humphries, Goldsmiths, University of London
Yoed Kenett, Technion
Juliet King, NICoE

Nathaniel Klooster, Hope College
Alexander Kranjec, Duquesne University
Helmut Leder, University of Vienna
Marcos Nadal, University of the Balearic Islands
Janell Payano Sosa, NICoE
William M. Perthes, The Barnes Foundation
Chandler Rhodes, NICoE
Martin Skov, Copenhagen Univ. Hospital Hvidovre
Oshin Vartanian, University of Toronto
Edward A. Vessel, Max Planck Inst. for Empirical Aesthetics
Melissa Walker, NICoE
Jennifer Walsh
Clifford I. Workman, University of Delaware



AFFILIATED GROUPS



THE BARNES FOUNDATION



The Clay Studio



WHARTON
NEUROSCIENCE
Initiative



PENN MUSEUM



Penn Center for Neuroaesthetics



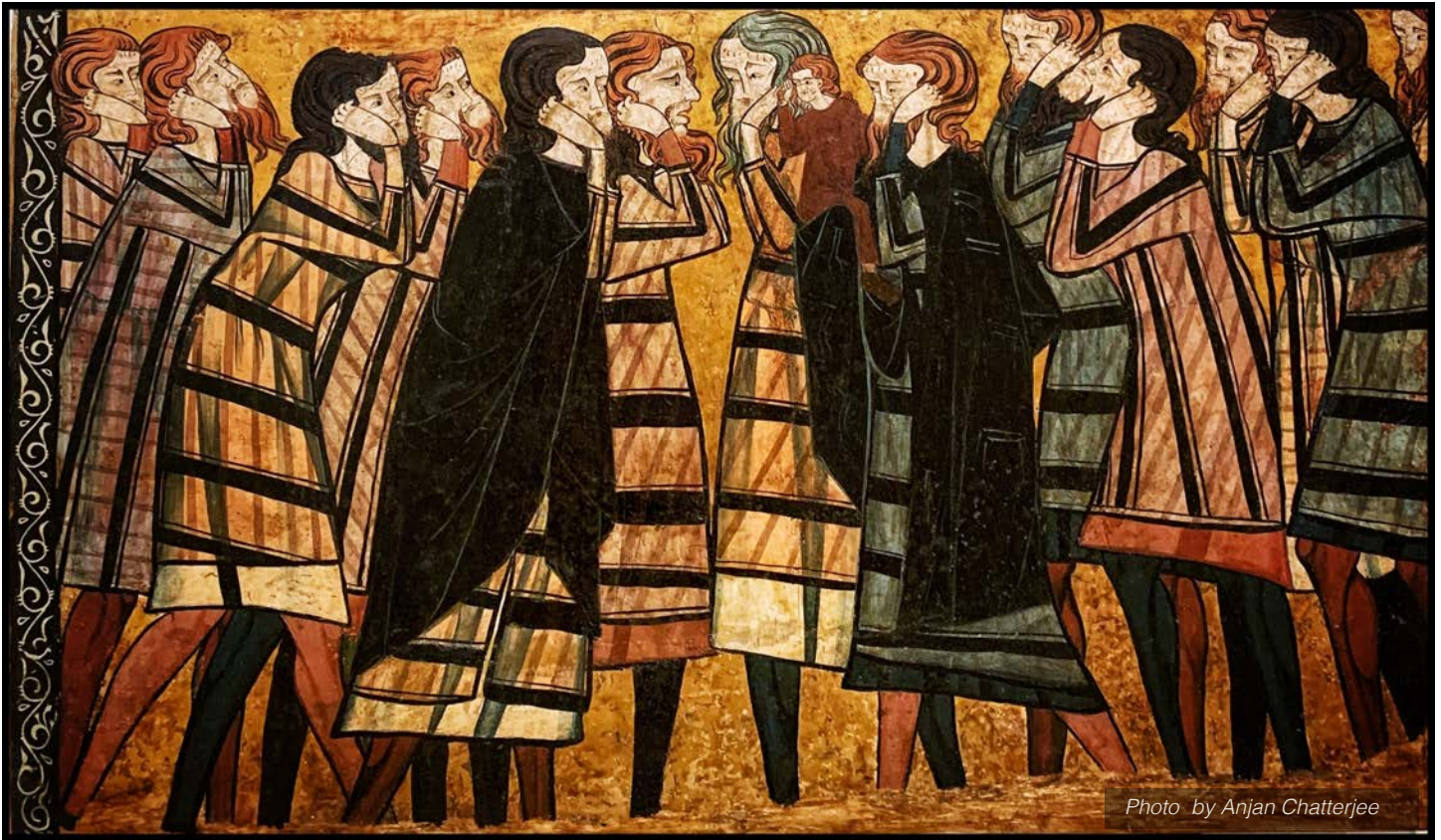


Photo by Anjan Chatterjee

INVITED TALKS

Invited talks are one indicator of our reputation and the impact of our work. We have disseminated our research findings to neurology and neuroscience audiences, interdisciplinary humanities programs, technology groups, and student organizations.

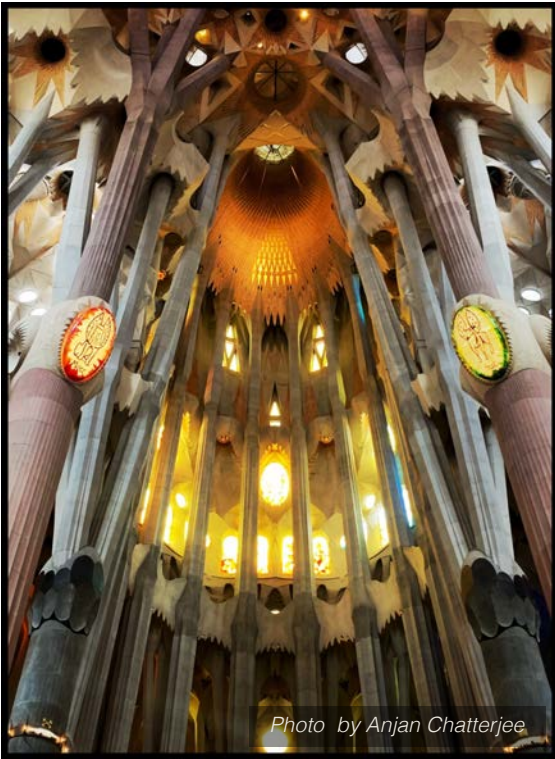
Clifford Workman. **Morality is skin deep: Linking aesthetic and moral cognition in the brain.** The Mind & Moral Psychology Working Group, Department of Philosophy, University of Michigan, Ann Arbor, MI (Feb 2023).

Anjan Chatterjee. **Neuroaesthetics of the built environment.** Talk presented at Neurophenomenology and Sacred Architecture Symposium, The Catholic University of America, Washington, DC (23 March 2023).

Kohinoor Darda. **Put it into context: The impact of contextual information on aesthetic engagement of artworks.** Talk presented at Women in Social Neurosciences virtual meeting (23 March 2023).

Anjan Chatterjee. **Why aesthetics matters.** Keynoted presented at 8th Annual SCAN Retreat, University of Pennsylvania, Philadelphia, PA (31 March 2023).

Anjan Chatterjee. **Neuroaesthetics of the built environment.** Keynote presented at 1.5C Symposium on Climate Change. American Institute of Architecture, Los Angeles, CA (3 April 2023).



Anjan Chatterjee. **Neuroaesthetics, architecture, and biophilia.** Conversation with Jennifer Walsh. Biophilic Leadership Summit, Serenbe, GA (24 April 2023).

Anjan Chatterjee. **How beauty works.** Panel session at Beauty at Work: An International Symposium. Catholic University of America, Washington, DC (28 May 2023).

Anjan Chatterjee. **Impact of art on viewers: Developing a taxonomy.** APA 2023 Convention, Washington DC (4 Aug 2023).

Jeffrey Vadala & Vicente Estrada-Gonzalez. **Virtual reality and psychedelics: Understanding the mind and human experience.** Philadelic 2023, University of Pennsylvania, Philadelphia, PA (14 July 2023).

Vasiliki Meletaki. **A generalized effect of expertise on visual and sensory regions in emotion perception.** Symposium: From Cognitive Neuroscience to Empirical Aesthetics and Back Again at the Annual Meeting of the British Association for Cognitive Neuroscience. Cardiff University, Wales (13 Sept 2023).

Mariola Paruzel-Czachura. **How to change others' moral judgments? Summary of a few studies.** 18th Meeting of Polish Association of Social Psychologists, University of Lodz, Poland (20-24 September 2023).

Anjan Chatterjee. **The seduction of beauty.** University of Wroclaw, Poland (5 Oct 2023).

Jonathan Feinberg. **Reflections on James Turrell's Skyspace.** Chestnut Hill Meeting House, Philadelphia, PA (18 Oct 2023).

Vasiliki Meletaki. **A generalized effect of dance expertise on visual and sensory regions in emotion perception.** Workshop on Embodied Cognition and Dance 2023: Spatial Dynamics, Aesthetics, and Learning in Dance. Merrimack College, MA (20-22 October 2023).

Judith Schaechter. Visiting Artist Program, Southern Illinois University, IL (26 Oct 2023).

Anjan Chatterjee. **Behavioral, neural and cultural responses to facial anomalies.** Penn Center for Human Appearance Annual Symposium, University of Pennsylvania, Philadelphia, PA (3 Nov 2023).

Vasiliki Meletaki. **The aesthetics of architecture.** Interdisciplinary Art symposium. Creating polyphonic spaces of meaning, learning and development: Playful alternative - experiential and embodied- multimodal psycho-pedagogical approaches. Rethymno, Greece (6 Nov 2023).

Anjan Chatterjee. Keynote conversation: **Beauty is not actually just in the eye of the beholder.** Global Wellness Summit, Miami, FL (7 Nov 2023).

Anjan Chatterjee. Keynote. **An old brain in a new building. Are we living in a blandemic?** Global Wellness Summit, Miami, FL (8 Nov 2023).

Judith Schaechter. **Stained Glass Association of America Presents: Judith Schaechter.** Buffalo History Museum. Buffalo, NY (8 Nov 2023).

Anjan Chatterjee. **Curiosity and collaboration.** Intentional Spaces Summit, Washington, DC (10 Nov 2023).

Bella Bobrow. **Neuroaesthetic insights into design for health and wellness.** Foothill Technology High School, Ventura, CA (11 Nov 2023).

Anjan Chatterjee. **Art therapy and emotional wellbeing in military populations with posttraumatic stress disorder.** Creative Forces®: National Endowment for the Arts Military Healing Arts Network, State-of-the-Science Summit 2023: Advancing Creative Arts Therapies Research for Military-Connected Populations. Washington, DC (16 Nov 2023).

Mariola Paruzel-Czachura. **Experiments with good and beauty.** 7th Silesian Science Festival, Katowice, Poland (7 Dec 2023).

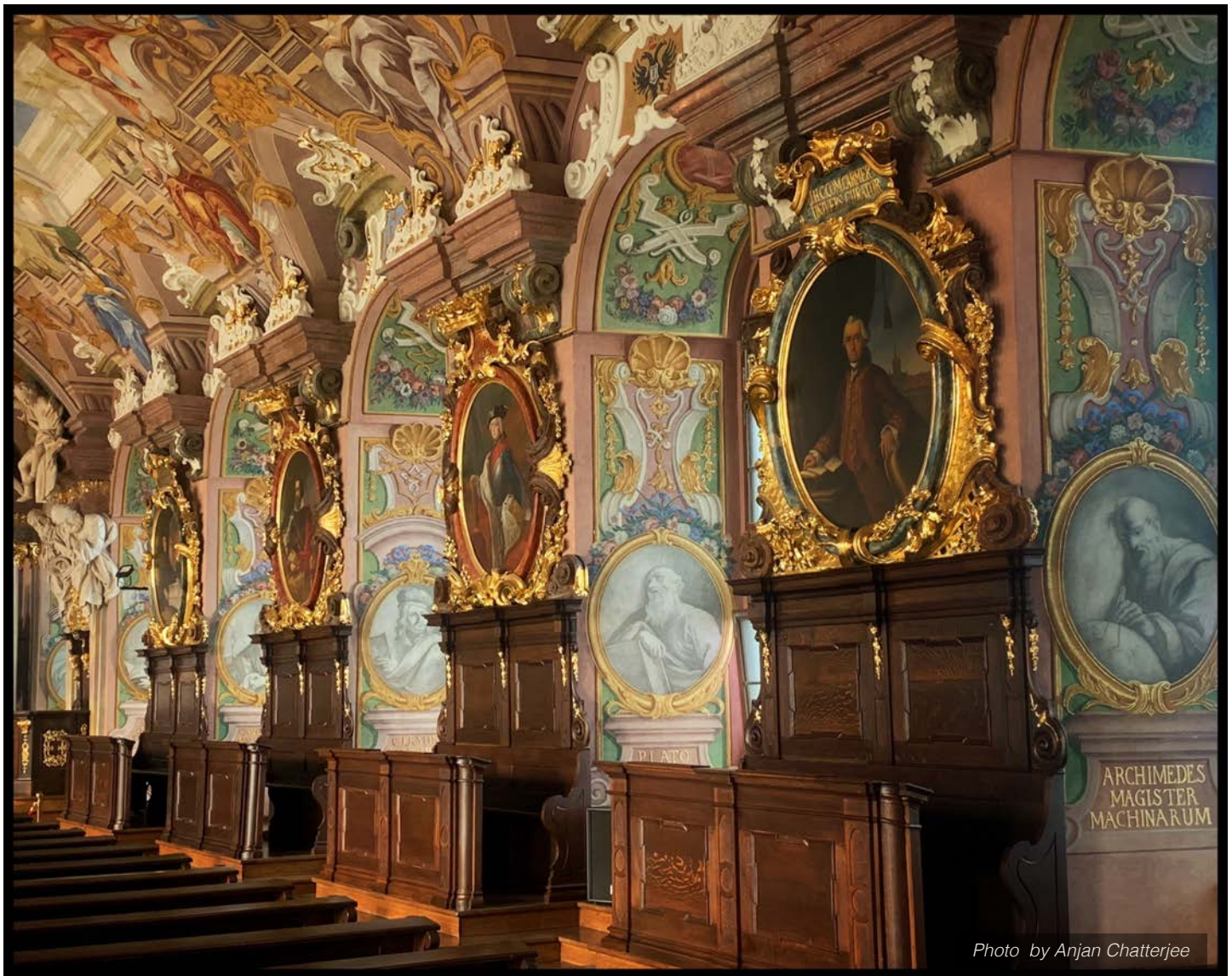
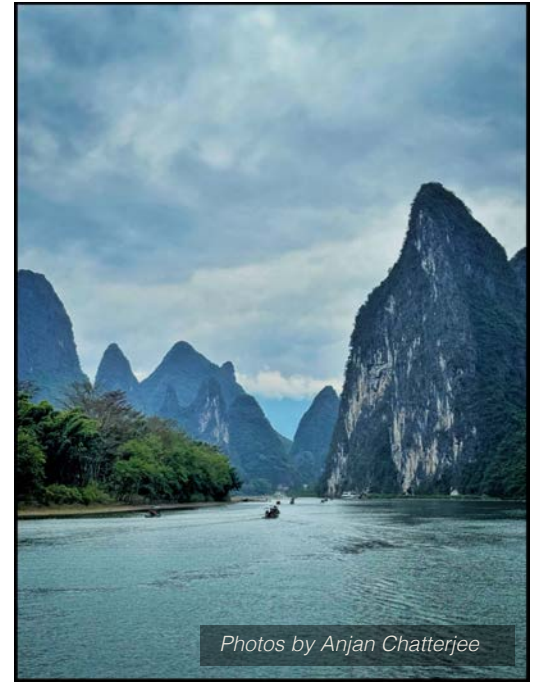


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PUBLICATIONS

Bellaiche, L., Smith, A. P., Barr, N., Christensen, A., Williams, C., Ragnhildstveit, A., Schoolar, J. Beaty, R., Chatterjee, A. & Seli, P. (2023). Back to the basics: Abstract painting as an index of creativity. *Creativity Research Journal*, 35(4), 698-7131. <https://doi.org/10.1080/10400419.2023.2243100>

Sosa, J. P., Srikanthana, R., Walker, M., Stamper, A., King, J., Ollinger, J., Bonavia, G., Workman, C., Darda, K., Chatterjee, A. & Rhodes, C. S. (2023). Increased functional connectivity in military service members presenting a psychological closure and healing theme in art therapy masks. *The Arts in Psychotherapy*, 85, 102050. <https://doi.org/10.1016/j.aip.2023.102050>

Christensen, A. P., Cardillo, E. R., & Chatterjee, A. (2023). Can art promote understanding? A review of the psychology and neuroscience of aesthetic cognitivsm. *Psychology of Aesthetics, Creativity, and the Arts*. <https://doi.org/10.1037/aca0000541>

Christensen, A. P., Cardillo, E. R., & Chatterjee, A. (2023). What kind of impacts can artwork have on viewers? Establishing a taxonomy for aesthetic impacts. *British Journal of Psychology*, 114(2), 335-351. 14(2), 335-351. <https://doi.org/10.1111/bjop.12623>

Jach, L., Paruzel-Czachura, M., Aiken, L., & Jonasen, P.K. (2023). Jach, Ł., Paruzel-Czachura, M., Aiken, L., & Jonason, P. K. (2023). How do the moral foundations attract the needle of a moral compass?: Relative scores as a supplementary method of measuring moral foundations. *Personality and Individual Differences*, 205, 112106. <https://doi.org/10.1016/j.paid.2023.112106>

Kenett, Y.N., Humphries, S. & Chatterjee, A. (2023). A Thirst for Knowledge: Grounding Curiosity, Creativity, and Aesthetics in Memory and Reward Neural Systems. *Creativity Research Journal*, 35(3), 412-426 <https://doi.org/10.1080/10400419.2023.2165748>

Villavisanis, Dillan F. BA; Whitaker, L.A.; Chatterjee, A.; Taylor, J.A. Neuroaesthetics in plastic and reconstructive surgery: Opportunities for interdisciplinary collaboration. *Plastic and Reconstructive Surgery*, 151(2), 357e-358e, February 2023. <https://doi.org/10.1097/PRS.00000000000009880>

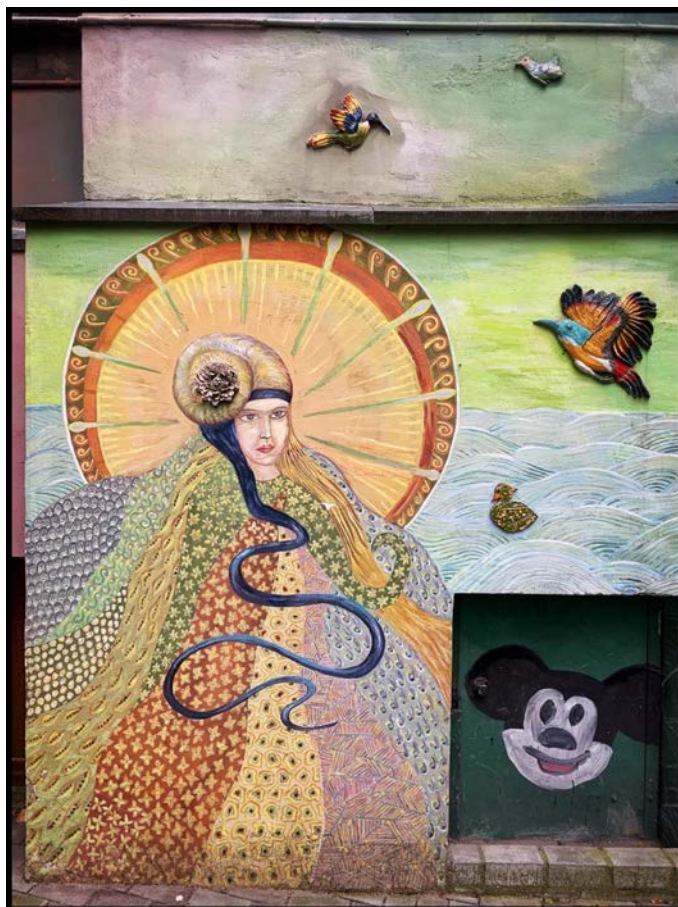
Darda, K. & Chatterjee, A. (2023). The impact of contextual information on aesthetic engagement of artworks. *Scientific Reports*, 13 (4273). <https://www.nature.com/articles/s41598-023-30768-9>

Darda, K., Christiansen, A., & Chatterjee, A. (2023). Does the frame of an artwork matter? Cultural framing and aesthetic judgments for abstract and representational art. *Psychology of Aesthetics, Creativity, and the Arts*, 17(4), 428–450. <https://doi.org/10.1037/aca0000569>

Hartmann, H., Darda, K. M., Meletaki, V., Ilchovska, Z., Corral-Frias, N. S., Hofer, G., Azevedo, F., & Sauve, S. A. (2023). Incorporating feminist practices into (psychological) science - the why, the what and the how. <https://doi.org/10.31219/osf.io/2rcuz>

Chatterjee, A. (2023). Emotion, language and aesthetic expression: On Motherwell and his art. *Empirical Studies of the Arts*. <https://doi.org/10.1177/02762374231208320>

Kenett, Y.N., Cardillo, E.R., Christensen, A.P. et al. Aesthetic emotions are affected by context: a psychometric network analysis. *Scientific Reports*, 13(1), 20985 (2023). <https://doi.org/10.1038/s41598-023-48219-w>



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We aim to harness neuroscience in advocating for the vital importance of aesthetics values. Moving through uncharted scientific territory is challenging when traditional funding sources are cautious in their research agendas. Philanthropic gifts are critical to realizing our vision.

GRANTS & AWARDS

Anjan Chatterjee was awarded a **2-year grant from the National Endowment of the Arts titled, Measuring the Impacts of the Arts**. This project aims to create culturally diverse and inclusive resources for aesthetics researchers, including a training tool to enhance art engagement. We will test the efficacy of these tools to enhance appreciation for public art and its surrounding neighborhoods.

Undergraduate researcher Nora Youn was awarded the **Fall 2023 Millstein Family Undergraduate Research Grant**. Nora will apply these funds towards her project investigating the effect of “slow-looking” on museum engagement.

PCfN researchers continue to investigate the conditions under which art encourages new understanding as part of a **3-year grant awarded to Anjan Chatterjee from the Templeton Religion Trust titled, Semantic Space of Aesthetic Cognitionism**.

Follow-up research related to Anjan Chatterjee’s award to conduct a pilot study jointly with the National Intrepid Center for Excellence (NICoE) at the Walter Reed Military Medical Center continues. This line of work is **funded by the Henry M. Jackson Foundation and National Endowment for the Arts, titled Art Therapy and Emotional Wellbeing in Military Populations with Post Traumatic Stress Disorder (PTSD)**.

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For this fledgling field, [your gift](#) makes a big impact on advancing our understanding of how appearance affects the way we treat each other, how the built environment affects our sense of wellbeing, and why art at every level nourishes our deepest sense of humanity.



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