

Pratt Research Open House

Saturday, March 30, 2019

200 Willoughby Ave., Brooklyn Campus

WELCOME to the largest gathering ever assembled of Pratt Institute researchers. With over 50 projects lead by over 70 Pratt faculty, staff and students, you will see research in ways you never thought possible. As you wander 12 buildings on our Brooklyn campus, you will see the humor of home technologies, oral histories of our local community, design incubation in rural communities, discoveries about under-water architecture, new habitats built for 5,000 bees, and so much more. The breadth and depth of our research at Pratt is hard to imagine. That is why we are so happy to open our doors today to demonstrate, discuss and share our research processes, finding and impact.

While our faculty, staff and students are deeply diverse in their disciplinary experiences (e.g., math/science, design, art, architecture, social and information sciences), they embrace a research inclusivity. They conduct research that enables participatory community action by exploring, aggregating and documenting the needs of diverse people and contexts. Even the research that is accomplished is diverse in its processes and scope. Pratt researchers innovate in the processes they use for research. Their knowledge creation can result in building new artifacts (big and small). And the impact of their research innovation can be exposed, understood and

celebrated. Pratt researchers are redefining what it means to be a researcher in the creative world, and in turn are redefining the creative world with their research.

We hope you will take the time to explore the many varied research projects captured in this printed catalogue, as well as in person at our 2019 Research Open House. We also hope that your research interests and interaction don't stop today. Please feel free to contact the researchers you want to learn more about—their email addresses are listed with each project summary. And don't hesitate to see how you might get involved in helping, supporting and even partnering with our Pratt research projects. If you should have any questions in general about research at Pratt, I am always happy to talk, email and visit with you.

Our annual Research Open House could not be a reality without the participation of our Pratt faculty, staff, students, Saturday Art School students, and alumni from each school, center and research group. They gave countless hours in preparing and presenting the work, as well as volunteering to be tour guides, judges, food helpers and more. We also want to thank our Keynote Spark Talk speakers, Joan Fallon and Martha Wilson for helping to kick off our Open

House with creative research energy! We are also grateful to our School Research Leaders, Department Chairs, Deans, IT and security specialists, Institutional Advancement and Communication Department leaders, and Provost Office staff who helped to organize and find resources where we didn't expect. We would be remiss if we also did not acknowledge the continuing support and appreciation of research by Pratt's Board of Trustees. In addition, we are deeply grateful for the leadership and vision of Pratt's President, Frances Bronet and Provost, Kirk Pillow which have together opened doors to research opportunities at Pratt not previously imagined. And finally, let me personally thank our Research Open House Organizing Committee: Kathryn Kelly, Todd Shalom and Andrea Jeyaveeran. Their talents, endless energies and good humor made all of this possible.

My Research Best to You All,

Allison Druin
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Dr. Joan Fallon

Dr. Joan Fallon, Founder and CEO of Curemark, is considered a visionary scientist, champion and advocate for the health and well-being of children worldwide.

Curemark is focused on the development of novel therapies to treat diseases for which there are no or limited treatments. Curemark's first drug CM-AT is targeted to treat autism and is still in clinical trials. CM-AT has received Fast Track status from the FDA.

Joan holds over 200 patents worldwide. She served on the ADA Board of Advisors for the new Yankee Stadium. She holds appointments as a Senior Advisor to the Henry Crown Fellows at The Aspen Institute, is a Distinguished Fellow at the Athena Center for Leadership at Barnard College. She is a board member of DREAM the charter school in Harlem, formerly known as Harlem RBI. She is a proud alumna and Trustee of Franklin & Marshall College. In 2017, Joan was named EY Entrepreneur of The Year NY in Healthcare and in 2018, she received the Creative Entrepreneurship Award by The New York Hall of Science.



Martha Wilson

Martha Wilson is a pioneering feminist artist and art space director, who over the past four decades has created innovative photographic and video works that explore her female subjectivity. She has been described by New York Times critic Holland Cotter as one of "the half-dozen most important people for art in downtown Manhattan in the 1970s." In 1976 she founded Franklin Furnace, an artist-run space that champions the exploration, promotion and preservation of artist books, temporary installation, performance art, as well as online works. Martha Wilson is represented by P.P.O.W Gallery in New York. She received an Honorary Doctor of Fine Arts degree from the Nova Scotia College of Art and Design University in 2013. She has received fellowships for performance art from the National Endowment for the Arts and the New York Foundation for the Arts; Bessie and Obie awards for commitment to artists' freedom of expression; a Yoko Ono Lennon Courage Award for the Arts; a Richard Massey Foundation-White Box Arts and Humanities Award; a Lifetime Achievement Award from Women's Caucus for Art; and the Audrey Irmis Award for Curatorial Excellence from the Center for Curatorial Studies, Bard College.



Photo Credit: Christopher Milne

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- Provost Kirk Pillow
- Nandan Sawant
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Your Notes Here:

Grassroots Cactivism

Grassroots Cactivism began as the winning proposal of a competition held by the online publication Archinect, 'Dry Futures,' which challenged designers to reimagine ways to combat drought in California and Mexico. The proposal centers around the nopales cactus, a drought-tolerant plant fit not only for consumption, but which can also effectively clean polluted water.

The entire plant has myriad possibilities which can be easily scaled: the inner pulp can be adapted to improve and revolutionize existing wastewater management systems, the outer layer can be used as food and fodder as is traditional in Mexican cuisine and the leftover fiber has potential use as paper stock for sustainable packaging. Through marketing and awareness, we can increase demand for the product and raise funds for its research. Our prickly friends could be the next superfood, if we can shift the public perception of cacti as useless and elevate the plant as a staple of contemporary life and cuisine.



Ali Chen
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Originally from California, Ali Chen is a multidisciplinary designer specializing in architectural visualization. Currently in the first year of pursuing her MS in Packaging Design, Ali has also worked at Labtop Rendering in Los Angeles as well as Bjarke Ingels Group in New York.

Swati Piparsania
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Swati Piparsania is a design educator and researcher based in Brooklyn. She speaks Hindi as her first language and English as her second. She is currently an AICAD Teaching Fellow at Pratt Institute, instructing Experimental Industrial Design. She holds a MFA in 3D Design from Cranbrook Academy of Art and a BFA in Furniture and Spatial Design from Srishti School of Art, Design and Technology.

Body Im(mobility)

The body is a site for human experiences; perverting spatial histories, performed identities and their situational hybridity. This research investigates the relationships between body politics and dance as a way to negotiate pleasure within an institution. The sameness and synchronicity of daily life translates into ones' body movements as it studies everyday routines of walking, stretching, leaning and falling as architectural choreography. This movement from within reflects outwardly onto social spaces. A body's accessibility communicates ethnicity, language and ableism from which dialogues can be learned and unlearned.

The intention is to create a platform for conversations that are central to our new human condition—challenging ecological crisis, technological behaviours and social alienation while seeking approachable methods of communication, expression and engagement in political and critical discourse. This project navigates the intersectional relation between urbanization, social engagement, critical theory and public art/design.



'EnviroPi': An Open Internet-of-Things Approach to Monitoring Archival Collections

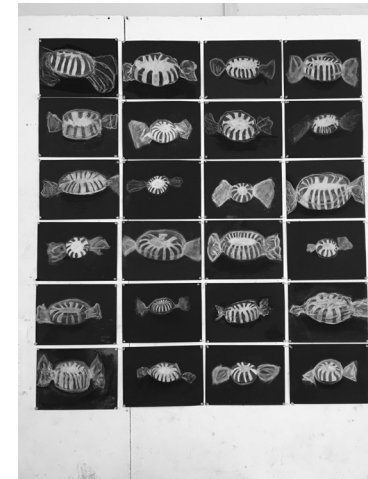
Monitoring environmental conditions in cultural heritage organizations is vitally important to ensure effective preservation of archives, manuscripts and other fragile artifacts. Environmental monitoring systems range from stand-alone data-loggers to more complex networked systems, and are capable of collecting a variety of sensor data such as temperature, humidity, light and air quality. These systems, however, are often costly and limited in future use possibilities. 'EnviroPi' consists of a do-it-yourself network of open hardware wireless sensors for managing trade-offs in cost, technical skill and maintainability.

Monica Maceli
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Monica Maceli is an assistant professor at Pratt Institute in the School of Information, focusing on emerging technologies in the information and library science domain. She earned her Ph.D. and MSIS from the College of Information Science and Technology (iSchool) at Drexel University. Monica has an industry background in web development and user experience, having held positions in e-commerce, online learning and academic libraries. Her research areas of interest include end-user development, human-computer interaction and information technology education.

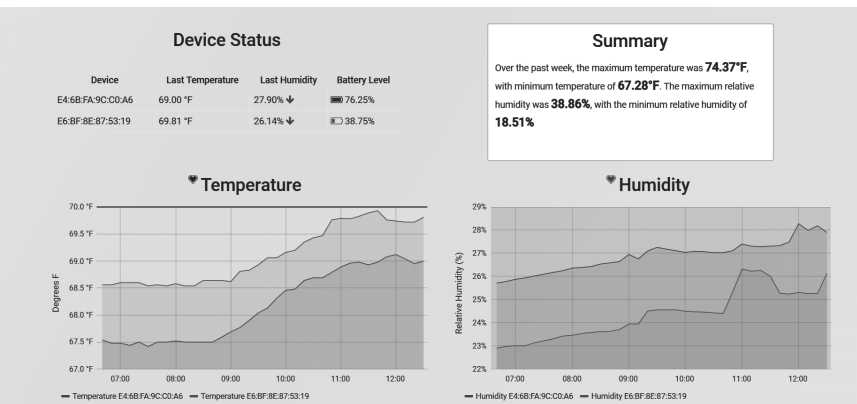
Aileen Wilson
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Aileen Wilson is a professor in Art and Design Education and the director of the Center for Art, Design, and Community Engagement (K-12) at Pratt Institute. Trained as a printmaker in the UK, she has worked with undergraduate and graduate students as a professor, thesis advisor and academic administrator. Aileen's current research interests are community-based art and design education; teaching and learning in art and design education K-12; and equity and access to instruction in art and design education. She earned a B.A. in Printmaking/Painting from Gray's School of Art, an M.A. in Printmaking from Chelsea School of Art and an Ed.D in Art/Art Education from Teachers College at Columbia University.



Drawing from Observation: Teaching and Learning in Middle School

Drawing from Observation: Teaching and Learning in Middle School is the first phase of a research project that examines the effectiveness of instruction offered by Art and Design Education faculty to pre-service art teachers as they learn to teach observational drawing to middle school students (ages 11-14) in a portfolio development class.





As Told Oral Histories Project

Over their lifetimes, senior citizens from Clinton Hill and Fort Greene have keenly observed and experienced gentrification. It is a force that, in addition to shifting the racial and social makeup of a neighborhood, favors the young. New shops and architecture reflect a desire to attract youth and capital while disregarding the older citizens who've rooted their lives in these neighborhoods. To counteract this silencing, we seek to center the experiences of its seniors: How do older residents move through a changing neighborhood? What does it mean to carry long life experience in a relentlessly changing city? What no longer / still feels like home?

The vibrancy of our neighborhood's future depends on shared awareness of and commitment to integrating its past. By preserving and publishing the older residents' stories first and creating a legacy archive for these seniors, their families, Pratt Institute and the neighborhood at large, we can foster a closer bond with all of our neighbors.

Luke Degnan ldegnan@pratt.edu

Luke Degnan is a Visiting Instructor at Pratt Institute and a senior/founding editor of *The Felt*, a press and journal of poetry and prose produced by Pratt's Graduate Writing Program, where he received an MFA in the spring of 2016. His poetry and prose can be found in *LEVELER*, *BOMB*, *elimae*, *Juked*, *West Wind Review*, and *Word Riot* among other places. Degnan is a recipient of a 2018-19 Taconic Fellowship from the Pratt Center for Community Development, a 2019 Humanities New York Action Grant and a Pratt Institute Seed Grant.

Maria G. Baker mbaker78@pratt.edu

Maria G. Baker is a writer of fiction, poetry, and drama, as well as a translator of all things German. Publications include *Sonora Review*, *Vox* and *Aphros Magazines*, *Manhattan Theater Source's Estrogenius Collection* and *Verbal Supply Company's Volume I*. Her plays have been developed and produced by various NYC theaters and by *diemonopol* in Austria. She is a founding member of *Verbal Supply Company* and holds an MFA in Writing from Pratt Institute. Baker is a recipient of a 2018-19 Taconic Fellowship from the Pratt Center for Community Development, a 2019 Humanities New York Action Grant and a Pratt Institute Seed Grant.

Irene Lopatovska llopatov@pratt.edu

Irene Lopatovska is an Associate Professor at Pratt Institute in the School of Information. Dr. Lopatovska received her doctoral degree in Information Science (minor in Decision-Making) from Rutgers University. She has been teaching courses in foundations of information science and research methods at Pratt since 2006. Her research focuses on user interactions with information and technology. In the past two years, Dr. Lopatovska and her students conducted a series of studies of user adoption of Intelligent Personal Assistants (IPAs) in private and public settings. The findings have been published in multiple journals and conferences.

Classification of Humor Generated by Intelligent Personal Assistants

The project examines humorous interactions with IPAs (Intelligent Personal Assistants), better known by their names: Amazon's Alexa, Google's Assistant, Microsoft's Cortana, Apple's Siri, among others. Through this research, the aim is to improve IPA humor and user experience.

During the primary project phase, we produced initial classification of user-generated humorous utterances and IPA responses. The next phase of the project will focus on validating and expanding classification to determine the prevalent types of humorous interactions and the appropriate IPA responses in order to meet user expectations.



Social Media Lab–Digital Specialities Workshop

The Social Media Lab @the Global South Center is an autonomous lab that works closely with the Global South Center (GSC) and the Critical Visual Studies (CritViz) concentration to facilitate interdisciplinary collaboration across Pratt Institute within fields such as the arts, design, architecture, fashion and the liberal arts. In addition to enhancing the social media visibility of the GSC, the lab also functions as a space for Pratt’s community members invested in working against racial and environmental injustice to build alliances with fellow artists, scholars and activists within New York City and across the Global South.

While analyses of social media have proliferated over the past five years, few have given attention to developing a precise methodological frame for the ethnographic and critical visual analysis of social media practices. Some scholars have proposed utilizing ethnographic approaches to social media, however, such frameworks can evade the visibility of digital practices, as well as the preservation, storage and disappearance of digital visual archives and communities. Instead, we insist upon a methodology that foregrounds ethnographic and critical visual methods, which enable us to understand the relational dynamics between media ecologies and individuals and the ways each are transformed through mediations. By allowing the “field” to surprise and inform us, and by attending critically to ways that visibility enframe and circulate on social media platforms, participants will be able to contest dominant narratives on social media use within the U.S. and the Global South.

Nurhaizatul Jamil *njamil@pratt.edu*

Nurhaizatul Jamil is an assistant professor in Global South Studies at the department of Social Science and Cultural Studies. Her research focuses on Muslim women’s participation in Islamic self-help classes in Singapore and their social media engagements. She is interested in developing rigorous ethnographic methodologies for social media analysis. Nurhaizatul received her PhD in Cultural Anthropology at Northwestern University in 2016 and was a postdoctoral fellow at the College of the Holy Cross in 2016-2018. She has offered and will continue to offer courses on Islam and Gender, Social Media Ethnography, Decolonial Methodologies, and Feminisms in the Global South. Nurhaizatul is the co-director of the Social Media Lab.

Dr. Wendy V Muñiz *wmuniz2@pratt.edu*

Wendy V. Muñiz is an assistant professor of Critical Social Analysis at the Department of Social Science and Cultural Studies. Her research centers on unorthodox archival media and epistemes in the Caribbean, with a focus on Dominican intellectual and visual cultures. Wendy is also a writer and producer on films that explore cultural memory in the Americas. Her scholarly and filmmaking work has received grants from the Andrew W. Mellon Foundation, the CUNY DSI Archives and Library, Programa Ibermedia, Centro León, and FONPROCINE, among others. Wendy received her Ph.D. in Latin American and Iberian Cultures from Columbia University, and was a postdoctoral fellow at New York University (2017-2018). She currently co-directs the Social Media Lab.

Scott Vander Zee *svanderz@pratt.edu*

Scott Vander Zee is a graphic designer and typographer specializing in the conceptualization and design of books & editorial design projects, typefaces, exhibitions, sign & wayfinding systems and visual identities. He currently runs the New York arm of the Zürich-based design studio Hubertus Design, and teaches various design courses at Pratt (MFA) and Rutgers University–New Brunswick (BFA).

Laura Tolomelli

Laura Tolomelli is a graphic designer specializing in print and digital media. After studying professional ballet at the Teatro alla Scala (Milan) and the Teatro dell’Opera (Rome), she received her BA in Graphic Design from the Facoltà di Architettura di Genova and her MA in Visual Communication from The Basel School of Design.

Rome (USA)

Aside from the historically significant Rome, Italy, there are more than twenty U.S. cities named Rome in more than fifteen states. Through this visual and etymological research, we explore the various forms of what define a city: its architecture, city planning, geography, local inhabitants and businesses. We plan to document these cities of Rome (beginning with Rome, NY) through photographs, texts, drawings, interviews and collected artifacts and ephemera.



Pratt Building Science Library

Our interdisciplinary team of educators seeks to develop an experimental, research-based science curriculum at Pratt through the establishment of a Building Science equipment library housed at the Center for Sustainable Design Strategies (CSDS). This lending library will provide equipment to measure the physical performance of existing buildings. Students can evaluate buildings’ impact on the environment, human health and well-being, while Institute faculty can borrow equipment for use in their coursework. Our initial equipment purchase includes thermal cameras, an infrared thermometer, a light meter, CO2 meter, electronic usage meter and wireless sensor network. This initial kit is suitable for use in a class of up to twenty students; with funding we hope to expand the library with additional kits to reach more students.

Gabrielle Brainard & Team
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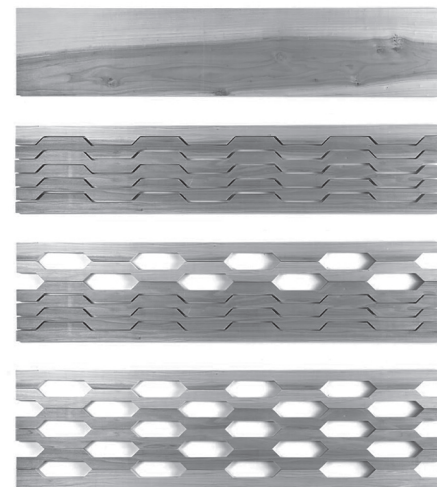
Our team includes seven faculty members of Pratt Institute from departments in the School of General Studies (Math and Science) and the School of Architecture (Undergraduate Architecture, Graduate Architecture and Urban Design). We are also partnered with the Center for Sustainable Design Strategies (CSDS).

Karol Murlak
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Karol Murlak is a designer, researcher and educator with expertise ranging from product, furniture and exhibition design to design research and consulting. He is an associate professor at Pratt Institute and an assistant professor at School of Form in Poznań, Poland. He has been designing for leading firms and institutions from Europe and United States including: Deutsche Bank, Boston Consulting Group, Martinelli Luce, Meble Vox, Terma Group and Pratt Institute, and his projects were presented on exhibitions in: London, Milan, Berlin, Frankfurt, Dresden, Budapest, Prague, Bucharest, Sofia, Ljubljana, Warsaw, São Paulo, Brasilia and Rio de Janeiro.

SINUS—More Lumber from Less Trees

The Sinus lumber is a new wooden board with better physical properties and similar firmness to a solid wooden slab or glued wooden board, but created with less stock. The new lumber is made out of wood cut into a sinus shape and laminated while maintaining negative spaces in-between. Gaps between slats help to reduce the amount of wood used for production of the material by more than a quarter. The openwork board is also 25% lighter than regular solid or glued wood but it preserves almost the same durability.



Malpas

Malpas represents our dialogue with Chiapas, a historic river valley now submerged in the waters of a dam's reservoir. The project investigates the historical layers of violence foisted onto this landscape as a consequence of colonialism, religion and "progress." The video combines underwater footage of the Templo Quechula—a church built by Spanish missionaries in the 1560s, now mostly submerged beneath the reservoir's waters—with animation, literally diving into the ways in which water shapes and defines the uncontainable, the virtually immaterial, the unbreathable.

Malpas explores the ways in which water obliterates the past (more than 100 archaeological sites have been lost to science forever), powers the present (as it races through the turbines of the Malpas Dam) and provides for the future (irrigating crops downriver).

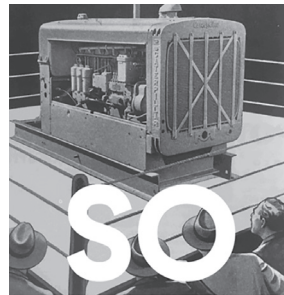
This is *Malpas*—the bad passage.



Birgit Rathsmann

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This project is the inaugural collaboration between artists Alejandro Almanza Pereda, Birgit Rathsmann and Rick Karr.



Karen Kubey

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Karen Kubey is an urbanist and visiting associate professor at Pratt Institute specializing in housing and health. Kubey co-founded the Architecture for Humanity New York chapter (now Open Architecture/New York) and New Housing New York, and was the first executive director of the Institute for Public Architecture. She is the guest-editor of *Housing as Intervention: Architecture towards Social Equity* (Architectural Design). Trained as an architect at the University of California, Berkeley and Columbia University, Karen began her career in affordable housing design.

Housing as Intervention: Architecture towards Social Equity

Across the world, the housing crisis is escalating. Mass migration to cities has led to rapid urbanization on an unprecedented scale, while the withdrawal of public funding from social housing provisions in Western countries and widening income inequality further compound the situation. In prosperous US and European cities, middle-and low-income residents are being pushed out of housing markets increasingly dominated by luxury investors. Parts of the developing world and areas of forced migration are experiencing insufficient affordable housing stock coupled with rapidly shifting ways of life.

In response to this context, forward-thinking architects are taking the lead with a collaborative approach. By partnering with allied fields, working with residents, developing new forms of housing and leveraging new funding systems and policies, they are providing strategic leadership for what many consider to be our cities' most pressing crisis. Amidst growing economic and health disparities, this issue of *Architectural Design* asks how housing projects, and the design processes behind them, might be interventions towards greater social equity, and how collaborative work in housing might reposition the architectural profession at large.

Materials and Process Research and Resource Archive for Studio Artists

This online library and archive seeks to guide and educate artists in their studio practice by cataloging historical and contemporary used materials, methodologies, safety practices and conservation awareness. Through the goals and learning objectives in classes like "Painting Processes" for undergraduate painting majors and "Methods and Materials" for graduate fine arts majors, we offer a broad understanding of materials and processes towards studio practice. Recognizing the need for an accessible archive to centralize the breadth of information we cover, our initial model will allow other fine arts disciplines to contribute to this sustainable archive, so that all artists can benefit from identifying and expanding the discursive relationship between media and conceptual content.

Mona Brody
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Mona Brody is an Adjunct Professor of Art at Pratt Institute and has taught Painting Processes for twelve years. She proposed, developed, and teaches both the Methods and Materials course for Pratt's Fine Arts graduate students and the required Methods and Materials course for undergraduate drawing majors. Mona has exhibited extensively in the United States and internationally.

Catherine LeCleire is a full time professor at Pratt Institute and has taught Painting Processes for the past seventeen years. She teaches Silkscreen at Pratt and Book Arts at Montclair State University. Throughout her artistic career, Catherine has received several awards, grants and residencies.

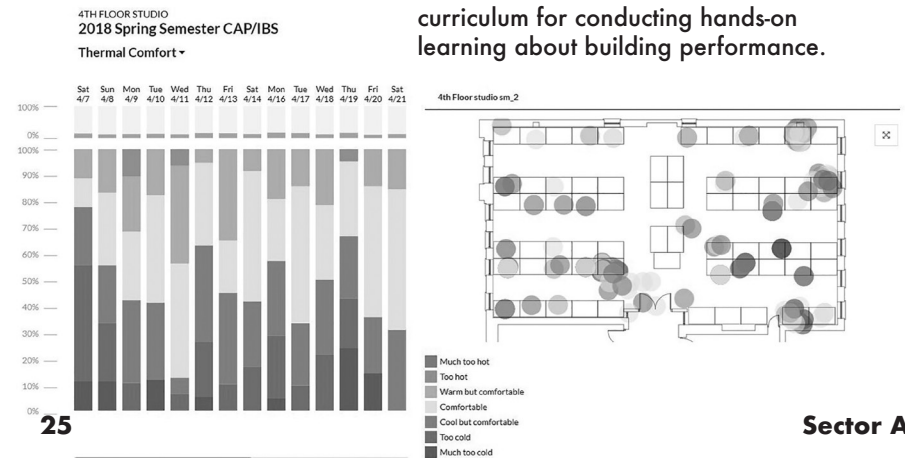
Gabrielle Brainard & Team
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Our interdisciplinary team includes professors from Graduate Architecture and Urban Design (GAUD), Math and Science, and the Spatial Analysis and Visualization Initiative (SAVI).

Higgins Hall Thermal Comfort Study

How are you feeling right now? Are you too hot? Too cold? How does the environment and your physiology affect your experience of a building? Our team installed a network of temperature and humidity sensors in Pratt's Higgins Hall to help answer these questions. As the sensors gathered data about the space, we surveyed the studio occupants—sixty architecture graduate students—about their thermal comfort.

Working in collaboration with representatives from Math & Science, SAVI and Architecture, our team analyzed and visualized data to draw conclusions about thermal comfort in the studio space. The project serves as a prototype for integrating technology, data and hands-on investigations into the architecture curriculum at Pratt Institute. Since beginning the study, we have partnered with faculty that teach building science courses to develop a central resource of instruments and curriculum for conducting hands-on learning about building performance.



Pratt CreativeXchange - Kingston (PCX)

The project team spent the better part of the summer conducting field research and investigating the history and contemporary state of the City of Kingston. The team visited the city to understand its geography and met with numerous individuals involved in art, architecture, education, non-profit social and community ventures, urban planning and development.

During this period we also began the ideation process of identifying various objects that are connected to Kingston's history, and designating elements that prospectively could be fabricated with local artisans and students. The development of these objects and production methods targeted our goal of multi-level creative and educational involvement, as we wanted our mission to not only fulfill the goals of Pratt & MADWORKSHOP, but also engage the community.

In line with our mission, we secured a space to facilitate workshops and educational opportunities near Kingston High School. We spoke with administrators at the school to create an internship/apprentice program with Pratt faculty, students and local artisans. We then determined we would need to design a space that was temporary, and our initial idea, "Pop-Up Mainstreet," came to life in the design and development of a furniture system that could be fabricated utilizing CNC technology and engineered so its assembly required no hardware and minimal labor.

These structural stipulations, in turn, served the project in allowing for a completely flexible interior, facilitating varied configurations based on the activity conducted in the space. From building with local artisans (ceramicists, weavers, makers), to hosting lectures and discussions, the space is completely adaptable. The workshop space is also educational with exhibit panels, objects and other elements on display that reinforce the project narrative.

MADWORKSHOP + **Pratt**

Kingston New York

Jon Otis & Team
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The PCX team is comprised of faculty and students from the following departments: Global South Center, Interior Design, Industrial Design and Communication Design.

Global South Center

Conventional definitions of the Global South focus on the geographical regions of Latin America, Africa, Asia and Oceania and sometimes include the Arab world and so-called less developed nations. We offer a different conceptualization, one that extends theories, ideas and practices to think from southern epistemes or the undervalued perspectives and ways of organizing social life that emerge from and within enlivened communities of difference. Therefore, we understand the term Global South relationally and in a post-national sense. We recognize the term Global South as referring to regions, societies, individuals, networks, social relations, narratives and ways of life which are marginalized or are entirely excluded from global centers of power.

The aim of the Global South Center is to rethink politics from the perspective of social life. We propose projects that strongly engage with social ecologies across diverse geopolitical spaces. In using the term social ecologies we refer to the knowledge, technologies and cultural formats that are already embedded within living communities around the planet. Our research and empirically-driven studies aim to understand the global, national and local forces that maintain exploitative conditions over the political autonomy and cultural forms of regions and collectivities. We also focus on alternative formations that differently inhabit and imagine possibilities for a dynamic and more just world. In tandem with the Global North, the Center establishes dialogues between the interconnected histories of diverse regions across the Global South.

Luka Lucić & Team *llucic@pratt.edu*

The Global South Center (GSC) is an interdisciplinary research center located in Department of Social Sciences and Cultural Studies.

Nida Abdullah *nabdul35@pratt.edu*

Nida Abdullah is an assistant professor in the Department of Undergraduate Communications at Pratt Institute. Prior to her appointment at Pratt, she held academic positions at Michigan State University and Georgia State University. Her research interests focus on the conditions and circumstance for designing, as well as disrupting hierarchical and hegemonic modes of production.

Anna Buckner

Anna Buckner is an artist, curator and educator from North Carolina. She received her BFA from the University of North Carolina at Chapel Hill in painting in 2012 and an MFA in painting from Indiana University in 2016. Anna's research interests lie in the boundaries of existing structures and systems of logic within painting, piecework, language and digital platforms.



Creative Misuse

Creative Misuse investigates the relationship between inequities in higher education and approaches to art and design pedagogy. Through community-oriented workshops we analyze and reflect upon the production of visual language in collaborative settings specific to notions of power and authority, bias and representation, ownership and non-ownership. These workshops serve as research in and approaches for modeling pedagogy.

Through collaborative making, workshops prompt participants and facilitators to explore the conditions and circumstances for making in the context of their settings and communities, emphasizing the social conditions of making. Workshops are situational and respond to the context of place as well as participants' need and line of inquiry. Thus far, workshops have been held at a land-grant institution in Michigan and will be held at a Minority Serving Institution in Georgia and a community arts space in North Carolina.

Song Searching

Humpback whales are some of nature's most majestic creatures. These immense marine mammals undertake epic annual migrations, feed cooperatively, form local cultures and interact socially using songs transmitted over thousands of kilometers. What would it feel like to be a humpback whale experiencing today's increasingly human-dominated world? *Song Searching* is a video game designed to give players the experience of being a humpback whale. To succeed in the game, players must successfully migrate through an environment filled with large ships emitting noise to arrive at their feeding and breeding grounds. Players will navigate the environment using both visual and audio cues, with stereo audio perception being a key guide to play.

Ami Cai, a Pratt undergraduate Communications Design major, first developed the concept for *Song Searching* in her elective ecology course with professor Chris Jensen and began the process of translating the concept to a game in a Collaboration Studio course with professor Basem Aly. Now a STEAMplant fellow, Cai continues her collaboration with Aly, Jensen, and Social Science and Cultural Studies professor Jennifer Telesca to develop a version of *Song Searching* grounded in both scientific and sociocultural realities.

Ami Cai & Team acai27@pratt.edu

Ami Cai is a visual designer and president of Pratt's Reef Club currently working on her BFA in Communication Design (Illustration emphasis) and minor in Sustainability. She has been the president of Pratt's Reef Club since 2017.



Uzma Z. Rizvi urizvi@pratt.edu

Uzma Z. Rizvi is an associate professor of Anthropology and Urban Studies at Pratt Institute and a visiting researcher at the American University of Sharjah. Rizvi's research interests include decolonizing archaeology, ancient urbanism, critical heritage studies, new materialism, and the postcolonial critique.

Jessie Braden jbrad344@pratt.edu

Jessie Braden is the co-founder and director of Pratt's Spatial Analysis and Visualization Initiative (SAVI). She is a Geographic Information Systems (GIS) and open data expert with a focus on critical data assessment, data management, and cartographic design for storytelling.

3D Modeling of the Ancient City of Mohenjo-Daro

The Laboratory of Integrated Archaeological Visualization and Heritage (LIAVH) makes connections between technology, archaeological data management and heritage practice. Utilizing non-invasive forms of data collection in order to develop data visualization tools that enable spatial and temporal research, the LIAVH connects multidimensional archaeological information to 3-D models. M_LAB is the inaugural project that locates itself in the ancient third millennium BCE city of Mohenjo-Daro in Pakistan.



Heaven is a Place on Earth: Looking for American Utopias

Heaven is a Place on Earth is a creative nonfiction book-in-progress that tells the stories of both present-day and long-gone Americans trying to scabble together utopia in a variety of ways. Within these stories is a practical and moral inquiry of my own: how can I live a life “in community” in America today, one which is not primarily organized around private property, atomization and the acquisition of personal wealth? What is moving or replicable within the histories and ideas of utopia-making in this country? What about them is doomed or dangerous?

Heaven is a Place on Earth situates the experiences of all of these communities, and the strange exigencies of the present day, within the long history of Americans trying (and often failing) to build paradise. The book is at once an historical odyssey, an alternative story of American community-building, and an attempt to gather some modest field notes on the ways one might live a little more communally.

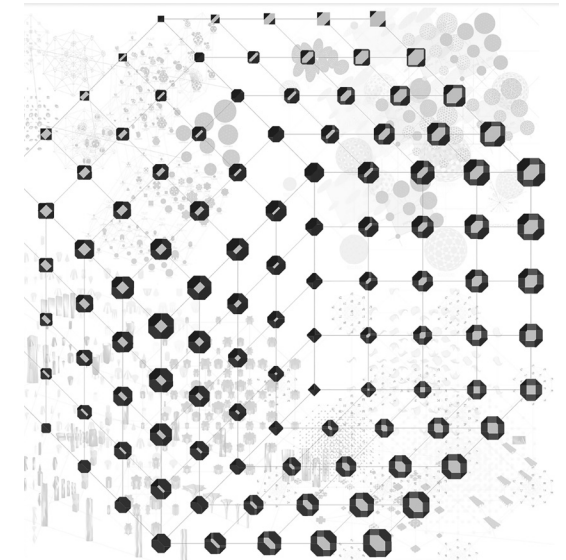


Adrian Shirk ashirk@pratt.edu

Adrian Shirk is the author of the critically acclaimed hybrid memoir, “And Your Daughters Shall Prophesy: Stories from the Byways of American Women and Religion” (Counterpoint Press), an NPR ‘Best Book of 2017,’ which explores the histories of American women prophets and spiritual celebrities from the early-19th century to the present. She received her MFA in Creative Writing at the University of Wyoming in Laramie, with an additional focus in American Studies and is currently an adjunct assistant professor in the BFA Creative Writing Program at Pratt Institute.

Haresh Lalvani hlalvani@pratt.edu

Haresh Lavani is a tenured professor of Architecture at Pratt Institute, and is the co-founder (with William Katavolos) and Director of the Center for Experimental Structures. Haresh has worked at NASA Langley Research Center on space applications, the Computer Graphics Laboratory (NYIT) on computer animations, the Tata Institute for Fundamental Research (Mumbai) on transformational geometries and pattern-generation, and he was an artist-in-residence at the Cathedral of St. John the Divine. He completed his doctoral work in architecture at the University of Pennsylvania.



MORPHOVERSE

Mapping is the 21st century frontier: individual genomes, genealogies and all-known species are being mapped in the tree of life. Stars and galaxies are being mapped in a 3D map of the universe. Our work marks the beginnings of a universe of form, intending to map the shapes and variations of form into one unified framework: a morphological universe we have termed, the Morphoverse. Crossing the boundaries of art and science and transcending their separations, visual-mathematical tools are being developed for mapping these forms. In an imperiled planet, where species are disappearing at an accelerated pace, our current intent is to show the fragile beauty of nature through its incredible creations mapped in small portions of the Morphoverse.

Design Clinic

Current research and design projects of *Design Clinic*: a new educational paradigm.

Constantin Boym
cboym@pratt.edu

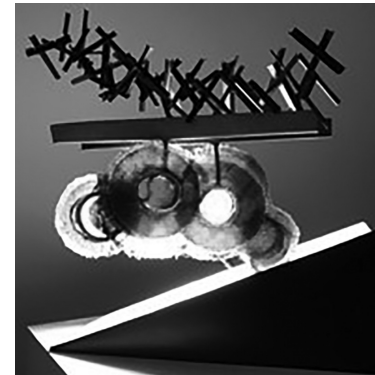
Constantin Boym is the chair and professor of Industrial Design at Pratt Institute.

Cindie Kehlet
ckehlet@pratt.edu

Cindie Kehlet is a chemist, educator, and researcher at Pratt Institute. She received her M.S. and Ph.D from the University of Aarhus, Denmark. In 2013, she received a Pratt Innovation grant for "Preservation of Modern Art and Design."

Light, Color, and Science: Licio Isolani Sculptures from the 1960s

A collaboration between Dr. Renato Miracco, an international expert on 20th century Italian art, Pratt Institute art historian/curator Dr. Lisa Banner, conservation scientist Dr. Cindie Kehlet and conservator Ms. Sarah Nunberg to explore the contents of Isolani's notebooks, journals, and sketchbooks. The team analyzed his philosophical and artistic process in making sculpture from new 20th century materials.



Center K-12: Faculty Research Fellowships

The Center K-12 Faculty Research Fellowships recognize efforts by faculty who, through outreach, have extended the Center K-12's mission and made significant contributions to the advancement of research related to children and youth particularly in art, design and related fields.



Tara Kopp & Team
tkopp@pratt.edu

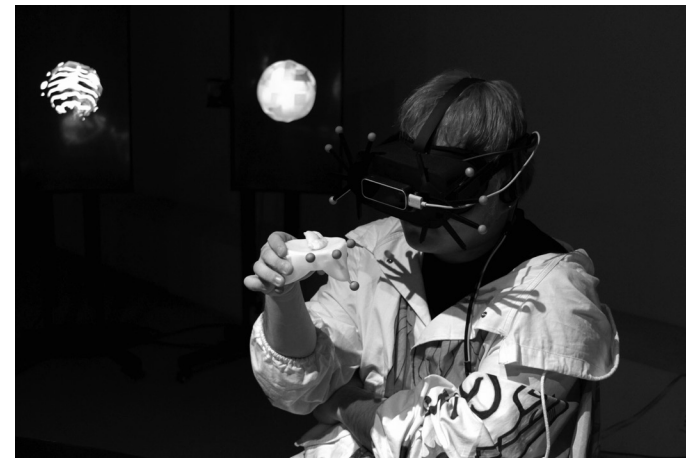
The mission of Pratt's Center for Art, Design, and Community Engagement K-12 is to increase access to instruction in art and design for children by leveraging the resources and expertise of Pratt Institute to support school-age children, city-wide public schools, and youth-serving organizations. Our on-campus and in-school programs are taught by expert faculty and students and develop children and youths' knowledge in creative disciplines including art, design and architecture through hand-on studio-based learning. Programs are carefully designed and structured to support creativity and innovation, problem solving and collaboration. Student Photography team under the supervision of **Stephanie Powell:**
Maha Almatari
Aviva Bederson
Tesfaye Cantave
Jiale Chen
Naghah El Nazer
Le'Ann Hinds
Elizabeth Li
Lesly Morales
Skyy Presley
Jason Reyes
Dylan Schaffel
Eva Self
Leah Smith
Nicolette St. Fleurant
Karina Teslenko

Mattia Casalegno
mcasaleg@pratt.edu

Mattia Casalegno is an Italian interdisciplinary artist, live-media performer and installation artist working in a broad range of media. He is currently a visiting instructor in Digital Arts at Pratt Institute. Mattia's multidisciplinary work is influenced by both post-conceptualism and digital art.

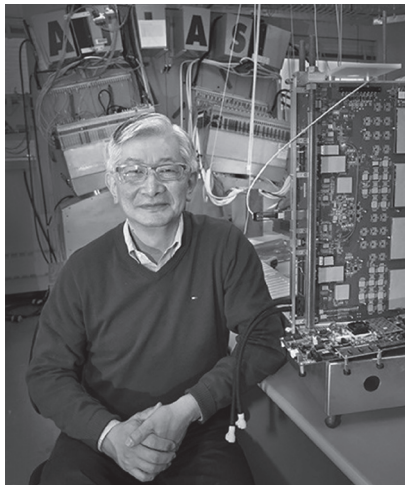
Immersive Gastronomy in Mixed Reality

At the intersection of technology, art and social sciences, this project investigates the potential for Virtual and Augmented Reality to enable meaningful and impactful interpersonal experiences. We aim to expand the perceptive and experiential potential of VR through the development of new tools and solutions, which include haptics, olfaction and taste. 'Aerobanquets RMX,' a gastronomy experience in VR inspired by the Italian Futurist Cookbook, is the first project in this research and premiered at the Chronus Art Center in Shanghai.



The Environmental Sensing Lab

The Environmental Sensing Lab, directed by Drs. Monica Maceli and Helio Takai, explores the applications of micro-controllers, single-board computers, sensors, and other physical computing devices in monitoring environmental conditions within cultural heritage organizations. Emphasis is placed on open source, open hardware and end-user customizable solutions, with applications in both indoor and outdoor contexts.



Monica Maceli *mmaceli@pratt.edu*

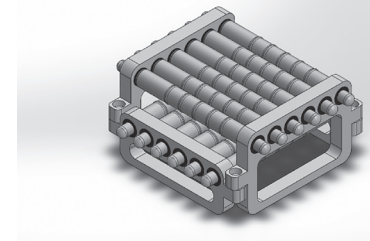
Monica Maceli is a professor at the School of Information at Pratt Institute.

Helio Takai *htakai@pratt.edu*

Helio Takai is the chairperson in the department of Mathematics and Science at Pratt Institute.

Joseph Morris & Team *jmorri36@pratt.edu*

Joseph Morris is a transdisciplinary artist based in Brooklyn and currently a visiting professor and rapid prototype technician at Pratt Institute in Industrial Design. Joseph teaches classes in physical computing, prototyping and digital fabrication processes. He holds an MFA in Art and Technology Studies from the School of the Art Institute of Chicago and a BFA in Sculpture from SUNY Purchase. He is a recipient of the 2017 New York Foundation for the Arts Fellowship in Electronic and Digital Media, as well as a 2017 New York State Council on the Arts Electronic Media grantee.



A Space between Spaces

Joseph Morris's STEAMplant residency collaboration with theoretical nuclear physicist professor Ágnes Mócsy and designer/architect/artist Che-Wei Wang is an outdoor, public art installation that will interact with incoming stellar rays. Using muon particle detectors that sense the effect of interstellar cosmic rays, the sensors will be mounted on the rooftop of Pratt Institute's Juliana Terian Curran Design Center. The piece will then connect to a computer to process the incoming data and, with custom software and hardware, control a series of outdoor, hanging string lights suspended in the courtyard below. Based on the particle information gathered, a custom-coded algorithm will articulate and abstract the data, creating a generative pattern choreographed with the fading and flickering of light bulbs hanging on string lights in the courtyard as stellar rays move around us in real time.

The work engages concepts of space and place and invites the viewer to consider some of the smallest interior spaces, the emptiness between atoms in our bodies as passing cosmic rays move through it, and the huge scale of time and distance. The work's physical objects and installation occupy space, but its sense of place is both negative and positive, voids and expanses with magnitudes of dimensionality.

Experimental Structures

New topologies and morphologies are being combined with innovative building technologies to develop experimental structures. CES currently focuses on five projects, each focusing on melding a morphological discovery with advanced constructive systems and fabrication methods.

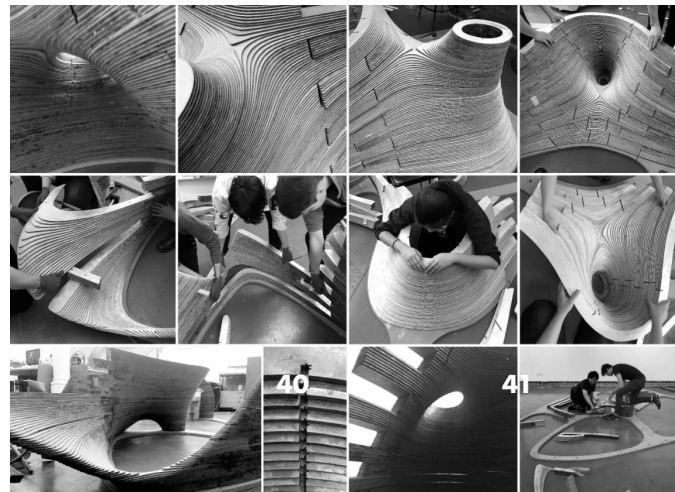
1. *HYPERSURFACE*, a multi-year project entering its last phase with the intention of an outdoor installation on Pratt Institute. The structure is a one-sided minimal surface embedded in higher-dimensional space, constructed from water-jet cut laminated alucobond sheets and adhered by structural glue. Industry partners: Milgo-Bufkin, LERA+ Structural Engineers, Lalvani Studio.

2. *SELF-LOCK PAVILION*, a 3D curved surface made from five distinct interlocking parts that dovetail like sutures in biological structures (skulls) to form an integrally smooth and continuous structure. We hope that parts will hold without the use of adhesives or mechanical connectors; our aim is to scale to a large free-standing, robotically-milled pavilion.

3. *AMOEBOID SPHERE*, an actuated 3D triangulated double-layered sphere (like a curved 3D truss) that can morph and shape-shift like an amoeba. Currently a small scale sphere is in prototype and we would like to construct it to a larger scale.

4. *SINGULARITY SHELL*, is a new class of structures that shape interesting architectural spaces, based on new topological surfaces having one point, a singularity. Inspired by black holes in space, this is a new class of structures which shape interesting architectural spaces. Currently, we are applying Frei Otto's "grid shell" as the method of construction, using a five-way grid which is curved and morphed in 3D space.

5. *MORPHOVERSE*, a Morphological Universe. Crossing the boundaries of art and science and transcending their separations, visual-mathematical tools are being developed for mapping these forms. In an imperiled planet, where species are disappearing at an accelerated pace, our current intent is to show the fragile beauty of nature through its incredible creations mapped in small portions of the Morphoverse.



Haresh Lalvani hlalvani@pratt.edu

Haresh Lalvani is a professor of Architecture at Pratt and the Director of Center of Experimental Structures. He is the PI or co-PI for CES Projects and principal at Lalvani Studio.

Che-Wei Wang

Che-Wei Wang [pron. sey-wey] is an artist, designer & architect with expertise in computational and generative design, fabrication technologies, electronics, CNC machining, and metal manufacturing. He is an alumnus of MIT Media Lab, ITP at NYU and Pratt Institute.

David Franck

David Franck is a design and new media artist living in New York City. He specializes in the conception and execution of projects involving computation, electronics, art and architecture. He is an alumnus of Pratt Institute.

Peter van Hage

Peter van Hage graduated from the Pratt Institute Undergraduate School of Architecture in 2008. He currently works at the international architecture firm, NBBJ, as an Associate and Design Computation Leader for the New York Office.

Robinson Strong

Robinson Strong is a second generation architect, native New Yorker and full-time designer at Michael K. Chen Architecture. He manages research teams involved with several CES Projects, bringing an expertise in computational design. He also co-teaches with Professor Ajmal Aqdash in the Morphology Program at CES. He is an alumnus of Pratt Institute.

Kalliopi Oikonomu

Kalliopi Oikonomu grew up in Athens, Greece. She received her BArch from Pratt Institute in 2018 with a concentration in Morphology. She is currently working as a junior architect at reBUILD Workshop, is a project intern at CES, and freelances for Lalvani Studio.

Sharvari Mhatre

Sharvari Mhatre graduated from Pratt Institute in May 2018 with a B.Arch and a concentration in Morphology. Since then, she has been a Designer at Urban Quotient. She is also a project intern at CES and freelances for Lalvani Studio.

CES Research Students/ Apprentices

(2018-19): Vahhab Aboonour, Ariana Cohn, Juan Contreras, Kevin Harris, Iyatunde Majekodunmi, Matthew Malcom, Earnest Maxwell, Aaron Miranda, Matthew Mitchell, Shuai Peng, Sean Russo, Ahmad Tabbakh, Abhishek Thakkar, Jingwei Wu, Mandy Xie.

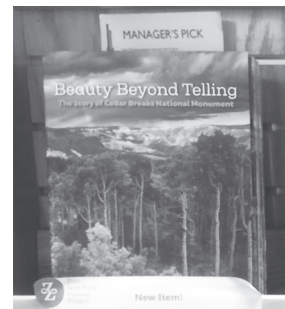
Beauty Beyond Telling: The Story of Cedar Breaks National Monument

This book was the result of research on the natural and cultural history of Cedar Breaks National Monument and the larger surrounding area of southwestern Utah. Zion National Park Forever Foundation commissioned the project in collaboration with Cedar Breaks National Monument and Zion National Park Archives.

Extensive research was conducted on the geological and ecological history of the area, including detailed library and archival research and meetings with geologists, naturalists and representatives from the National Park Service, Forest Service, Bureau of Land Management, and Utah State Parks. The 10,000 years of cultural history required delicate research into the First Nations people who inhabit the area, which was mostly conducted through secondary sources, anthropological studies, oral history transcripts and through final approval of the Paiute bands of southwestern Utah. Primary resource material research at various archives, such as Zion National Park and Southern Utah University, honed in on more recent human history.

Josh LaMore
jlamore@pratt.edu

Josh LaMore is a writer, poet, storyteller, and librarian with an affinity for nature, history, travel, creative expression and small-run/unique multimedia artist books. Born in Illinois and currently living in New York City, he has also lived in Southern Utah, San Diego, California, Minot and North Dakota.



Gita Nandan
gnandan@pratt.edu

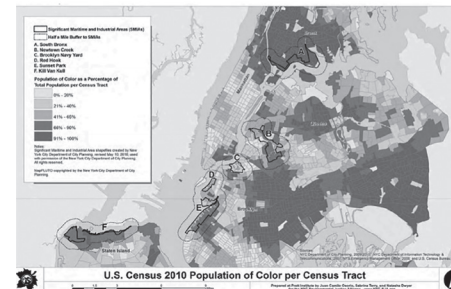
Ms. Nandan is an architect, designer, educator and leader in community resilience planning and design. She is a co-founder and principal of the award-winning design firm *thread collective*, co-chair of the Resilient Red Hook Committee, board member of the RETI Center, and visiting associate professor at Pratt Institute GCPE and the School of Visual Arts.

Delta Cities Coastal Resilience

The Delta Cities Resilience studio, founded in 2014 by Professors Zehra Kuz, Gita Nanda and Tom Jost, is a continuation of the post-Superstorm Sandy community-based resiliency work established through The Recovery, Adaptation, Mitigation and Planning Initiative or RAMP.

Over the past 5 years our research and studio has focused on New York City's six Significant Maritime Industrial Areas (SMIA) working closely with local community organizations in Red Hook, the North Shore of Staten Island, the South Bronx, and most recently in Newtown Creek. Each studio has resulted in designs, resilience projects, planning and policy recommendations that community organizations can lift up and use to further the conversation around resilience and climate change impacts.

While each studio has a different set of outcomes, designs and recommendations that are specific to the geography, needs, and community directives, there are commonalities to these low-lying industrial areas, such as: a high number of vulnerable structures, vulnerable populations living below the poverty-line, economic hardship, poor transportation options, critical waterfront facilities that are vulnerable in light of sea-level rise and a lack of holistic resilience planning. These communities are at the forefront of future climate change impacts and will be the hardest hit in years to come. Despite these challenges, there are many significant positive forms of social infrastructure to learn from, such as social cohesion, youth-led activism, and informal emergency preparedness systems in place.



Governance, Design Objects and Visual Language Research Project

During the fall semester of 2018, grad ComD faculty member Jean Brennan along with grad research assistants, Siona Balaji and Hsiao Wen Hu, considered the themes of governance, object design and visual language. Their research generated a catalog of examples, readings and assignment prompts as content for a visual language curriculum currently being taught in the 'Emerging Practices' elective studio by Brennan.

Flags, currency and stamps are a kind of pattern language that mark a region, group or set of relationships. The catalog contains case studies by artists and designers that showcase the adaptation or appropriation of these forms. Students were asked to employ "systems thinking" to design a set of procedures and symbols for exchange, communication or representation, and then apply it across multiple platforms to represent a community, entity or body politic of their choice. They were encouraged to regard intercultural contexts beyond the nation-state and create networked objects, as well as physical forms—activated through ritual, performance or installation—that considered both online and IRL experiences as they relate to identity, cooperative engagements and constructing a public.

In response, Balaji and Wen Hu designed 'She Persisted,' an algorithmic approach to visual identity for sexual assault survivors that can be posted on social media or printed as flags, pins and stickers

to both acknowledge and prevent sexual harassment. "Victims of sexual violence often feel ashamed. Less than 50% report sexual assault crimes. Inspired by the Pride flag, we wanted to create a symbol to offer strength, unity and prevention. The customizable set of symbols is for survivors and their supporters—young and old, male or female."

Jean Marie Brennan
jbreannan@pratt.edu

Jean Brennan is an adjunct professor in the Graduate Communications Design department at Pratt Institute. With her students, she investigates making as a form of research, participatory platforms, and horizontal structures for learning and collaboration. Siona Balaji and Hsiao Wen Hu are second-year MFA Candidates in the Graduate Communications Design Program at Pratt Institute.

Symbols: to heal, to support, to speak up



Summer Sandoval
ssando22@pratt.edu

Summer Sandoval graduated from New York University in 2016 with a degree in Environmental Science. She is currently completing her last semester in Pratt Institute's Sustainable Environmental Systems M.S program. Post-graduation, Summer hopes to pursue a career in renewable energy.

Austin Resilience Hubs

Resilience hubs are community facilities equipped with solar and storage technology to provide energy resilience or "energy assurance" during severe climate events, and in the summer of 2018, Summer was the Environmental Defense Fund Climate Corps Fellow at the City of Austin, to develop a framework for the city resilience hubs. The concept has four main focus areas: adaptation, mitigation, preparedness and equity.

Summer developed planning framework for resilience hubs, which included establishing criteria for site selection, choosing three Parks and Recreation-owned centers as potential resilience hub sites, weighing options for solar and battery storage, performing financial cost saving analysis, and creating a resource toolkit. In order to prioritize environmental justice goals, site selection criteria identified community facilities in the most socioeconomically disadvantaged areas of Austin.

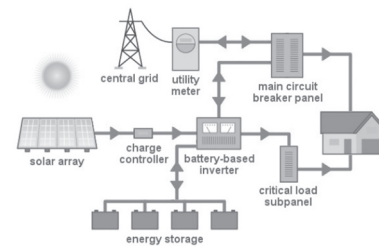


Figure 2: DC-coupled solar-storage system

Fashion's Dirty Underworld

Our clothes are made from thin, tiny fibers or microfibers, and in the case of purely synthetic clothing, we can say they are made from microplastics. In laundering our clothes, microplastics infiltrate our rivers, lakes and oceans, causing harm to organisms, food webs, and potentially, human life. As fashion's dirty secret, microplastics have become extraordinarily ubiquitous.

In learning about this topic, Georgina found that it was a fairly new area of research and hopes to extend this research into her thesis and find an innovative solution or mitigation strategy.

Georgina Annenberg gannenbe@pratt.edu

Georgina is originally from Cape Town, but has been based in New York the past five years. She is pursuing a Master of Science degree in Sustainable Environmental Systems at Pratt Institute.

Ariane Lourie Harrison aharriso@pratt.edu

Ariane Lourie Harrison is a principal and co-founder of Harrison Atelier and a registered architect in New York State. She currently teaches at GAUD Pratt where she is a co-coordinator of the MS Arch program. Previously, she was a critic and lecturer at the Yale School of Architecture and Yale College from 2006 to 2017. She earned her AB from Princeton University, her M.Arch from GSAPP, Columbia University (2006), and her PhD from the Institute of Fine Arts, New York University, (2008).



Pollinators Pavilion

The *Pollinators Pavilion* is both a visitor center and a new type of inhabitation for solitary bees, which are native, stingerless and responsible for 70% of global non-agricultural pollination. Much of solitary bee habitat is under threat due to development and urbanization, and there is limited research on solitary bee habitats and nesting behavior. Recalling the ovoid form of solitary bees' compound eyes, *Pollinators Pavilion* provides a visitor's center for Stone House Farm, a 25,000 acre organic farm in Livingston, NY, that contributes to the Rockefellers' broad ecological agenda in the area. The *Pollinators Pavilion* offers inhabitation for 5,000 solitary bees.

As an architectural object, the *Pollinators Pavilion* seeks to provide a sensual manifestation of non-human presence by amplifying the presence of solitary bees. Nesting tubes dot the surface of the wall panels and offer a visual census; cameras hidden in the panel capture and transmit bee footage online; and speakers within the pavilion relay the hum of the bees. The *Pollinators Pavilion* seeks to contribute to scientific literature on solitary bees as well. We have been working with Dr. Jerome Rozen (Curator Emeritus, Apoidea Collection at the American Museum of Natural History) and Dr. Kevin Matteson (Dir. Graduate Programs for Social and Ecological Change, Miami University, Ohio).

Participatory Place-Based Art: A Creative Community Anchor

Art exists not only in museums and galleries, but also in everyday life. Beyond generating aesthetic and monetary value, art can highlight historical, cultural and social significance of people and places, and can thus be employed as a preservation tool. Participatory place-based art—a creative practice that is attached to place, celebrating cultural heritage and giving voice to people—can help identify community assets and grow capacity within neighborhoods vulnerable to marginalization, disinvestment and gentrification. Meanwhile, when residents express their identities and claim ownership of space through art projects, people outside the community may also explore the layered narratives on-site and develop empathy for the less familiar “stereotyped” others.

This project demonstrates the capacity of participatory place-based art by examining three case studies and generating an evaluation protocol for community-based organizations planning to implement art strategies. The Wing Luke Museum of the Asian Pacific American Experience in Seattle, WA, El Puente de Williamsburg in Brooklyn, and Project Row Houses in Houston, TX have all bridged their neighborhoods with necessary skills, technology and funding through art projects to ensure self-generated individual growth and collective progress. The case study analysis pays special attention to these CBOs’ community-engagement processes of carrying out art projects. This research also evaluates these processes’ performances and adaptability based on criteria devised by prior program evaluation reports and additional research. Therefore, other community-based organizations will be better informed to create community engagement strategies that best suit their contexts and purposes.

Di Cui

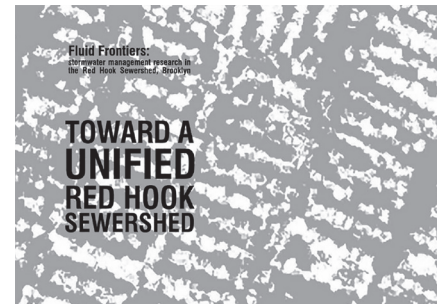
dcui@pratt.edu

Pursuing her MS in Historic Preservation at Pratt Institute, Di Cui has extensive community engagement, public programming and interview experiences working with diverse demographics. As a practicing artist, she advocates for social equity and cultural diversity through photography, videography and writing. Di holds a BA in Anthropology and Art History from Macalester College.

Zehra Kuz

zkuz@pratt.edu

Zehra Kuz is a registered architect in New York and Connecticut and adjunct professor with CCE at Pratt Institute, School of Architecture, where she has taught since 1993. A graduate from Universitaet Innsbruck as Diplom Ingenieur and Columbia University, GSAPP with MS in Architecture and Building Design, she is the principal of Oasis Design Lab, a collaborative office for architecture and engineered design.



Fluid Frontiers

Extreme weather conditions are a key result of Climate Change, with perhaps the greatest harm coming from water-related phenomena; a particularly important concern in New York City, where more frequent wet weather events combined with aging, inadequate sewage infrastructure have the potential to negatively affect public health and the environment. New York City is currently in non-attainment of the Clean Water Act, largely due to pollution from the release of raw sewage or combined sewer outfall (CSO). Presently, the Department of Environmental Protection’s goal is to manage one inch of rainfall over 10% of the combined sewer area, mainly through the implementation of Green Infrastructure.

Our team has observed that the city ignores a wide spectrum of opportunities to implement water management solutions, by failing to engage local communities and private property owners. In order to understand the ‘gap’ between NYC DEP’s plans for Stormwater Management and the prevailing conditions on the ground, *Fluid Frontiers* developed a methodology stemming from a thorough analysis of the Red Hook sewershed. Pratt Institute proposes to implement *Fluid Frontiers*, an interdisciplinary research project, that will use Brooklyn’s Red Hook sewershed district as a test-case for developing a sewershed specific approach by which the City can engage communities in the implementation of alternative water management technologies. The project will help add to the City’s efforts and create a multi-tiered, interdisciplinary approach to engage and share responsibilities in both the public and private sector.

Geometrical Artist

Laura Owens' 2018 exhibition at the Whitney Museum of American Art inspired this collection. One drawing in particular only has black lines and a red heart in the middle, and became the inspiration for the color palette and the entire collection. Through hand drawing my looks, I wanted to show that handmade can be just as fashionable and modern as the textile designs that we frequently rely on machines to create, in an effort to not be the tool of a tool created by human beings.



Feiye Huang

chuangfe@pratt.edu

Feiye Huang was raised in China and currently lives in New York as a senior at Pratt Institute. She is a fashion designer, dreamer, textile creator, geometric figure and technology lover.

Micaela Skoknic

micaela.sk@gmail.com

After working as an Environmental and Regulatory attorney in Chile, Micaela moved to New York City in January 2017 to explore her interest for historic preservation and the right to the city. She seeks to transform her field by bringing attention to equity issues and showing that community preservation is an essential component to urban management.

Function and Fabric: An Alternative Paradigm for Urban Preservation

Presenting a critical perspective of the role of historic preservation, this work focuses on industrial New York City waterfronts to shed light on how "revitalization" processes trigger gentrification, displacement and the dismantling of working class neighborhoods where life and labor meet. As partly a historical research and part policy proposal, *Function and Fabric* is a socially-minded approach to historic preservation.

This thesis contributes a new vision for the management of cultural landscapes, departing from the practice and concept of adaptive reuse, and choosing to explore the value of retaining industrial and manufacturing uses inside historical buildings. The thesis I propose is a community-serving approach to history, one in which its historic buildings preserve people, not the other way around, and argues for the potential of historic resources to contribute to local economic growth and community.

Gamelab: ‘Near-Peer’ Collaborative App Development

The Research Open House app serves both as a framework for other location-based apps, and a method for “near-peer” project management. The students include Holly Adams ’20 (Interactive Art), Cleo Carrera ’20 (Digital Design), John Leung ’20 (Art Education), Myles Butler ’20 (Film & Video), Ally Bechtold ’21 (Communications Design), and Eve Roth ’20 (Digital Design). Additional help was provided by Veronika Kostova and Aimen Aiwan, graduate students from the School of Information. Grant Ng ’18 and Sarah Meadows ’18, recent graduates from the AOS Game Design and Interactive Media program, provided additional technical and project management support. Austin Snyder ’19, a computer science major from the University of Oregon provided programming support. Basem Aly provided staff and management support. Mark DeNardo, a professional developer and teacher, provided additional guidance and support. Ian Campbell from IT/Interactive Services developed the stand-alone kiosk campus application.

Grant Ng & Team gngx3@pratt.edu

We are a student lead team with project manager, Grant Ng.

Jeremy Tausch jtausch@pratt.edu

Dr. Tausch has been teaching at Pratt since 2015. He has taught ‘Ecology for Architects’ and currently ‘Form and Design in Nature’. He is also interested in bringing nature education to the general public. In collaboration with Sunbird Images, he worked with a team of videographers and naturalists to film wildlife near Gamboa, Panama (2014) and in Khao Sok National Park, Thailand (2015).

Not Your Average Nature Show

Not Your Average Nature Show defines a new and transformative genre of Biotainment. It follows the odd-bound adventures of Georg, Peter, and Jeremy as this unlikely squad (a stoic German, an affable Brit, and a wild American) pursue the most spectacular and dangerous creatures through unforgiving terrain and weather while finding themselves in Pythonesque situations. These unpredictable and comedic elements set *Not Your Average Nature Show* far apart from and completely ahead of any other nature show.

To fulfill their missions, these motley three bushwhack their way through torrential rains, parching heat and car-eating mud to confront, capture and present nature’s most wonderful curiosities, from the most lovable to the most vicious creatures, on planet earth. During these unique expeditions, their insightful intellects combined with the ability to get themselves into (and out of?) precarious situations guarantees truly out-of-the-box story telling beyond the cinematic text book.



sunbird images

A New Method for Determining the 3D Spatial Orientation of Molar Microwear: With Implications Regarding Sangiran 7 Homo erectus Chronostratigraphic Ecodietary Trends

Many types of behavioral and dietary information can be extracted from studies of tooth microwear. However, microwear has never been successfully and non-destructively visualized in-situ, virtually quantified and visualized in 3D. This ability yields exact information on masticatory movement, which can be used to address numerous eco-biological and eco-dietary questions in both extant and extinct organisms.

The efficacy and importance of such a technique in determining gross masticatory movement in fossil and recent hominin molars is demonstrated in this methodology, and could, in theory be applied to any organism which produces microwear on its dentition. The fields of dentistry, orthodontics, climatology, and dietary and habitat reconstructions would benefit from this application.

Jeremy Tausch *jtausch@pratt.edu*

Dr. Tausch's research is currently focused on the continental scale effects of climate change during the initial periods of human evolution. To this end, he has recently published work on two million-year-old Javanese Homo erectus molars using microwear as a proxy for dietary preference. He also participated in the survey and excavation of Miocene fossiliferous beds at Ngira and in Kenya in July of 2015. During this trip he was afflicted with Malaria, which wasn't very pleasant.

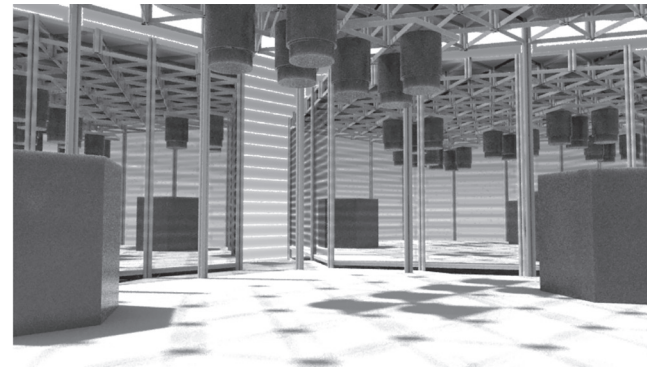
William Katavolos *wkatavolos@gmail.com*

William Katavolos, born 1924, is a Pratt Industrial Design alumni. He does not consider himself to be an architect or an engineer, but rather a designer with the ability to take on any project he is presented with. He has been part of the Pratt Architecture department since the mid-sixties and co-founded the Center for Experimental Structures in the eighties with Hareh Lalvani. He has been studying and developing 'liquid architecture' throughout his time as a research head in the center. Recently, he was honored by the Victoria & Albert Museum as they featured his collections.

Hydronic Architecture

Hydronics is the practice of using a closed loop system of liquid for heating and cooling. While this system is incorporated into architecture, it is separated from it. We propose a new architecture that not only incorporates hydronic systems but are actually built by them: air-conditioning is achieved through night sky radiation; plumbing through a series of clivus multum, biodigesters and bioreactors. All of these passive systems are in existence but severely underused. Our research aims to take these underused techniques and reimagine them into a singular, autonomous structure.

The average household has countless outlets, each being used for separate appliances that feedback into the hydronic loop systems. In the new hydronic architecture, our only outlet is the sun. Through the use of flexible PVs, all energy that is necessary to sustain the autonomous nature of the structure is taken from solar power.



Sara Morawetz
 smorawetz-guest304@pratt.edu

Metric Units for the Solar System

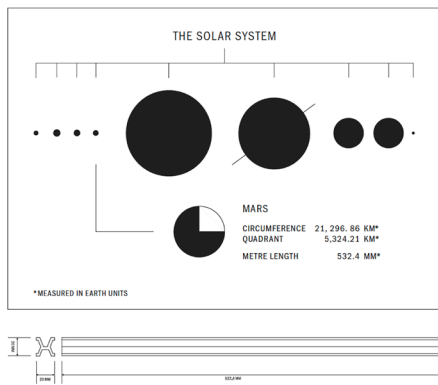
Measurement is not so benign an act. It is inevitably bound up in ideas of judgement and comparison of how one length or scale measures up to another, whether one is more precise or correct, or ultimately better. Measurement is not impersonal—it is a human construct, reflective of our desire to order and control. How then should we measure beyond the Earth? Do we take our existing Earth-bound metrics with us or offer other worlds agency in the determination of their own systems and standards?

This project is an attempt to answer these questions by creating a generalised framework for measurement throughout the solar system and a series of new ‘metre’ lengths devised for each planet.

Sara Morawetz is an interdisciplinary artist whose work explores the processes that underpin scientific action, examining how these concepts can be leveraged through artistic inquiry. Interested in the ‘Scientific Method’ and its philosophical implications, her work is devised to test and expose the internal processes of methodological labour. Sara’s recent projects have incorporated diverse collaborations between the arts and sciences, including partnerships with scientists from NASA, MIT and NIST.

She is currently a Sirovich Family Resident in Pratt’s STEAMplant program.

A METRE FOR MARS
 METRIC UNITS FOR THE SOLAR SYSTEM



Jessie Braden & Team
 jbrad344@pratt.edu

SAVI was founded informally in 2012 by Jessie Braden and Juan Camilo Osorio, with mentorship from John Shapiro of Pratt’s GCPE, to provide GIS and data support to Pratt Institute and to NYC community-based organizations and non-profits. In 2013, SAVI became an official Center at Pratt Institute and in 2015, SAVI moved into its own lab space in the ISC building on Pratt’s Brooklyn campus.

Selected clients and partners include: Museum of the City of New York, U.S. Forest Service, Brooklyn Navy Yard, Coalition for Educational Justice, Hudson River Foundation, Planned Parenthood NYC, Jacmel Ekspresyon Center in Jacmel, Haiti, and La Oficina del Historiador de La Ciudad de La Habana in Cuba.

Spatial Analysis and Visualization Initiative

SAVI is a Geographic Information Systems (GIS)-focused research and service center that uses mapping, data, and design to understand and empower urban communities. Creative professionals, designers, developers, architects, and planners are increasingly using maps and data to engage diverse communities and build innovative solutions to real-world problems.

SAVI performs academic research and project work with internal and external partners and offers two certificate programs: Spatial Analysis and Design in Pratt’s School of Information and GIS and Design in the School of Continuing and Professional Studies. SAVI also cultivates a vibrant learning community at Pratt where faculty and students share ideas across disciplines by offering many levels of support and technical assistance. Through collaboration with departments and courses, SAVI intersects analytics and design for creative storytelling.



Pratt Robotics, Research and Engagement at the Consortium

The Consortium for Research & Robotics (CR&R) is exhibiting highlights from its ecosystem of programming—robotics research and product development, successful small business incubation, industry research with international partners, and a STEM program highlighting the experiences of children who use CR&R's amazing technologies to build creative futures.



Mark Parsons & Team mark.parsons@consortiumrr.com

The Consortium for Research & Robotics (CR&R) brings together industry and education to share the resource of New York City's largest industrial robot for technology-driven research, industry R&D, incubation of small businesses, and STEM programs that invest in the community.

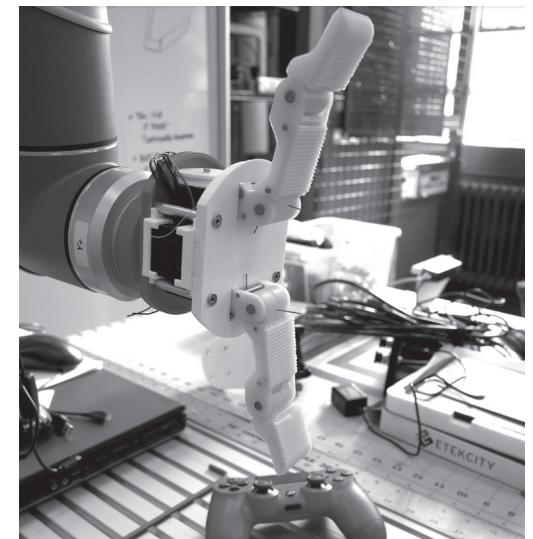
Established in 2014 and located at the Brooklyn Navy Yard, CR&R houses advanced technologies, including state of the art 3D Printing and Laser Cutting machines, digital manufacturing tools, and multiple robots including the largest industrial robot in New York City; resources that prompt onsite collaborative relationships with academic institutions, small business, and industry. In just over three years, the Consortium has established a regional and international reputation as a venue that spurs the creation of new ideas emanating from interdisciplinary and cross-industry collaborations, as well as administering programming that stimulates youth interest in math, science and technology.

Richard Sarrach rsarrach@pratt.edu

The Interdisciplinary Technology Lab is a space where intellectual networks converge and where future worlds are being prototyped. As a design and technology think tank, it is shaping the discourse through pedagogical development, case studies, and new forms of knowledge dissemination. These pillars are cumulatively charting a course for both the future of education and the way we practice. ITL's primary area of focus is built around the work of the Medium Analysis Group (MAG). It is here where we are developing a diverse network of applications in robotics, simulation, mechatronics and collaborative computation. Through the design of more eloquent questions, we are laying the groundwork to take on the more difficult challenges we are confronted with today. This trajectory of thinking and practice places Pratt Institute at the vanguard of technological output, as we are building an ecology of hard and soft tools that fortify creative inquiry and research while affording our community the opportunity to become change agents in their respective fields.

M.A.G (Medium Analysis Group)

The *Medium Analysis Group (MAG)* explores how data augments and mediates design processes by creating more intelligent feedback loops between the physical and virtual worlds. This knowledge is applied to material practice, spatiotemporal constructs, and ecological psychology, with a goal to enhance the relationship between the human condition and the environments that we surround ourselves with. *MAG* is capitalizing on enabling technologies to create new forms of design workflows, environmental performance systems, and production efficiency in a broad set of applications across multiple scales. The work is highlighted in diverse application areas that include sentient collaborative robotics, engineered design fabrication tools, spatial analysis & simulation, and high-performance environmental enclosures.



d.r.a. (center for design research in architecture): Curved Folding Pavilion and StrapSteel PopUp

The United Nations predicts that the existing footprint of all cities worldwide will have to double by 2050 and we are interested in finding novel ways of building that are light, fast and easy. There is an inherent benefit in the manufacturing of a flat (2D) building assembly, which can then be lifted or formed into its final configuration on-site. Form-work and scaffolding is eliminated and we avoid the use of complex 3D manufactured parts, which is more efficient in terms of material use and saves energy.

‘Making’ is a very productive way of learning, as students create the ‘mental model’ with which they think. Architecture education has become surprisingly removed from the construction process in the past four decades, and we want to re-introduce ‘making’ as a way to solve problems. To insure an innovative process, we chose materials that perform poorly, but are readily available, so students cannot fall back on given solutions. Our goal is to increase the material’s structural performance and adequacy as a building material.

Studios and seminars with undergraduate students incorporate full-scale building and revolve around two geometric and structural concepts:

- Shaped 2D surfaces [the building assembly is based on a flat surface that gets bent into its final configuration with curved creases]
- Bending active meshes [the building assembly is based on a unit-based flat mesh that creates or pops into a curved surface after being subjected to compression forces]

Duks Koschitz & Team

duks@pratt.edu

Duks Koschitz is an associate professor in Design & Technology and has been integrating his own research work into Pratt’s curriculum since he started in 2014. His research projects are rooted in using geometry for design and he focuses on computational paper-folding and visual programming. He holds a PhD in Design and Computation from MIT and Masters of Architecture from the Technical University in Vienna. Students who worked on *Curved Folding Pavilion* are: Sharon Broyn, Xuechen Chen, Chafiq Ennaoui, David Huh, Bharati Kodnani, Yen Chi Lee, Shaun Mehta, Jonathan Ovshayev, Massi Surratt, Yuheng Wu and Runyu Zheng. Students who worked on *StrapSteel PopUp* are Anabel Baquerizo, Khadeeja Boriyawala, Irmak Ciftci, Joshua Cooper, Jingfei Huang, Tyler Kruppa, Yalai Pang, Marie Park, Lindsay Unger, Shucong Wang, Xinyu Zhang and Xun Zhang.



Benjamin La Rocco
bjlarocco@gmail.com

Ben La Rocco is an artist with an interest in the connection between art, religions and mythology. He teaches at Pratt Institute and lives with his family in Brooklyn where he has often exhibited his painting and sculpture. He was recently co-curator of “Paintings in Trees” at the People’s Garden in Bushwick. He is represented by John Davis Gallery in Hudson, New York.

Redemption Center

Sacred space has a very flexible character and it is constantly in danger of collapse. It seems this is a necessary risk in pursuit of growth. I connect growth with sacrifice and I identify art as a form of truth.

In my private practice, I have tried to build a sacred space for myself. What I have found is that any externalized attempt of this kind does not admit of permanence. I have learned that sacred space is impermanent, in flux.

The structure I wish to build represents a paradox. It is a manifestation of an inner space and is entirely my own through art. But its purpose is to represent a space that is, by my understanding of its nature, permanently for everyone.

Redemption Center is my name for the structure that embodies this space. It’s part church, part rural recycling center, part painting rack. It’s a ten-foot cube building made of paintings with a pitched, stretched canvas roof.



Productive Collisions

In the Fall 2016 and 2017 Design Studios for Pratt Interior Design seniors, students focused on issues of rapid neighborhood change, both local and global, and identified the 'productive' points of intersection between disciplines, physical spaces and ideas.

Through collaborations between Interior Design faculty (Jack Travis and Latoya Kamdang) and then between Communications Design faculty (David Frisco and Michael Kelly), the idea to co-develop mission-driven pop-up concepts for *Reconnect Brooklyn* was conceived. With support from the Taconic Fellowship, we assisted in *Reconnect Brooklyn's* mission to create opportunity pathways for disconnected youth in Bedford Stuyvesant, Brooklyn. Professor Kamdang and interior design students worked during Spring 2018 to provide technical assistance in managing the fabrication and deployment of the final pop-up structure, while Frisco and Kelly, along with graduate assistant Shannon Kilbride, assisted in branding implementation.

Jeffrey Chen
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Jeffrey Chen is an architectural designer and has been involved in community engaged design around issues of rapid urban development in Bedford Stuyvesant, Red Hook, Bushwick and East Williamsburg in conjunction with various Brooklyn-based community partners since 2010. Jeffrey holds a Masters of Architecture from the University of Pennsylvania and and a B.S. in Agricultural Resource Managerial Economics from Cornell University.

Rebecca Pailes-Friedman & Students
rpailes@pratt.edu

Rebecca Pailes-Friedman is an expert in designing wearable technology with smart textiles. Her experience as an industrial and fashion designer, researcher and professor at Pratt Institute in Brooklyn led to the development of Interwoven Design Group, an interdisciplinary design practice. Rebecca has over 25 years of experience designing wearable product and has held positions as Design Director for Nike, Champion and Fila. Rebecca has won grant funding from Intel, The NYC Media Lab COMBINE, Verizon Connected Futures and NASA. The four student teams are—Team Future Vision: Kathy YuTing Want, Joseph Lee, Stephanie Hao Chen; Team Auxilium: Charlotte Logeais, Miles Wright, Jason Yuanxin Yao; Team Monkey Bar: Zijian Chen, Vishal Vanka, Jin Kim; Team Avalanchers: Samuel Hardman and Kristine Hsuan Yang.

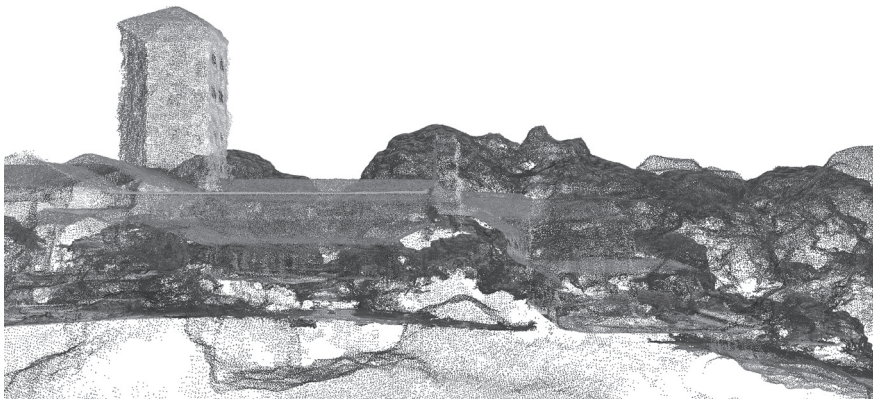
NASA Wearable Technology Workshop

Four student teams have been assigned to develop proof-of-concept prototypes for wearable technology challenges submitted by the NASA Johnson Space Center. The results of their work will be presented at the Wearable Technology Workshop at NASA in April. One group is working on functional prototypes for the control of perspiration while using the VIVE Pro VR headset and two groups are working independently to solve the same problem—creating a handrail for use with inflatable habitats for space travel. The final group is working to improve the functionality of avalanche transceivers. All students are working to understand, research and derive new solutions to solve their challenges and create working prototypes that demonstrate their hypotheses.



Designing the Subjectless Survey

For millennia, the survey of ground has maintained itself as a subject-oriented optic procedure. Accompanying trigonometry and geometry, tools would be inclusive of theodolites, totaling stations, and the camera—all developed as a means of advancing the human eye. Recently, a new technology has emerged that re-orientates the act of surveying away from the human as subject, to the human as one within the field of objects, inclusive with both building and landscape. Drone photogrammetry employs the camera, devoid of the human subject, amassing hundreds of triangulated photos to algorithmically generate a three-dimensional point cloud model of the surrounding environment. Unlike the human eye, the drone in its surface-oriented pursuit does not discriminate between figure and ground, architecture and landscape, amalgamating the two into a continuous, triangulated surface of color.



Jonathan Scelsa *jscelsa@pratt.edu*

Jonathan Scelsa is a licensed architect and partner in the cross-disciplinary practice op.AL. He teaches at Pratt Institute and has taught at University of Pennsylvania, RISD, and Harvard GSD. He received his Masters of Architecture in Urban Design with distinction from Harvard University and his Bachelor of Architecture from Carnegie Mellon University.



Figuring Self Support

This research examines the potential of interlocking geometry to perform as a construction aid for limited scaffolding in thin-shell tile-vault or guastavino vault approaches suitable for interior and exterior architectural ceiling applications. Our research has been about using standardized curvature interchangeable molds to maximize the economic output of the concerning mold. The thin pour research utilizes GFRC, or glass fiber reinforced concrete to create a stabilized surface oriented matrix for each individual unit.

Exploring Data Worlds at the Public Library

Data literacy is new to the world of libraries and its meaning is still open to negotiation. Although many have advocated for the education of a data-literate population, there is little consensus on what such educational programs should look like, particularly in the context of informal learning at the public library.

The *Exploring Data Worlds at the Public Library* project investigates how youth data literacy is supported through technology-grounded programs for young people at the public library. The project aims to increase awareness of the unique data literacy needs of youth and develop strategies for training youth librarians so they can empower young people in our data-driven world. This project is made possible in part by the Institute of Museum and Library Services (RE-31-16-0079-16).

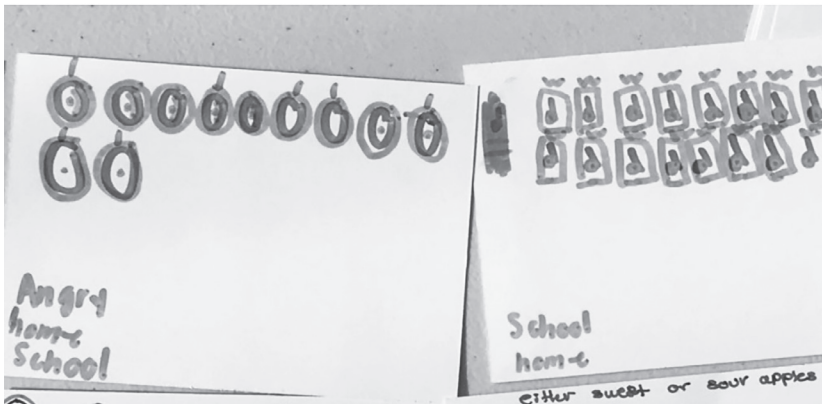
Leanne Bowler
lbowler@pratt.edu

Leanne Bowler is an associate professor at Pratt Institute in the School of Information. Her research and teaching focuses on young peoples' interactions with information and data, their technology practices, STEM learning, and how family, teachers, and out-of-school organizations, like libraries and museums can support young people's competencies in a socio-technical world.

Adam Friedman
afriedman@prattcenter.net

Pratt Center for Community Development

Pratt Center for Community Development works for a more just, equitable, and sustainable city for all New Yorkers by empowering communities to plan for and realize their futures. Over the past 55 years, *Pratt Center* has advanced meaningful community participation in public decision making and has delivered technical assistance in support of affordable housing, environmental sustainability, and equitable economic opportunity. This mission is carried out by a diverse team of professional planners, economic development practitioners, and sustainability specialists, augmented by the participation of Pratt Institute students and faculty. *Pratt Center* has helped hundreds of community-based organizations to create and preserve affordable housing, ensure equitable transportation access, revitalize commercial corridors, preserve manufacturing jobs, create community green spaces, and much more.

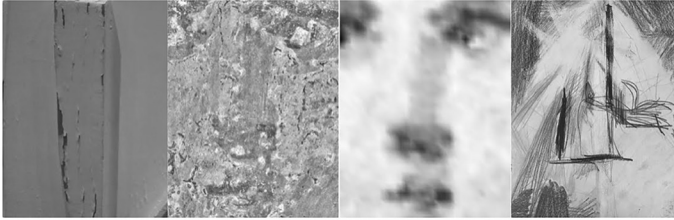


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Center for Research of Art and Design Materials



Acquire knowledge about material properties to preserve art for the future and to learn about the past

Cindie Kehlet & Team
ckehlet@pratt.edu

The Center for Research of Art and Design Materials aims to promote and advance the science of cultural heritage. Since materials change and deteriorate over time, the Center works to establish knowledge about material composition and its degradation in order to minimize the loss of irreplaceable works of art and design. In studying material composition, we uncover information on the past technologies employed by ancient or even modern artists. This insight ultimately expands our knowledge of culture, as the materials used by the artist or designer are reliant on the technology available during its time of use. The Center aims to relay advances in materials science to the next generation of artists and designers, allowing them to better choose the materials that produce their work through a sound knowledge of deterioration modes.

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ACKNOWLEDGMENTS

Thank you to:

All of our Pratt Faculty, Staff & Students that presented throughout the day

Pratt Leadership: President Frances Bronet and Provost Kirk Pillow

Our Keynote Spark Speakers: Joan Fallon, Martha Wilson

Our ROH Organizing Committee: Allison Druin, Andrea Jeyaveeran, Kathryn Kelly, Todd Shalom. With guidance from Ellen Connell

Research Open House Design and Identity: Aditi Verma

Our Judges: Johanna Angele-Kuehn, Meghana Ashkok, Margaret Bryant, Jesse Cappozzi, Ires Chan, Severn Clay-Youman, Anthony Cocciolo, Joshua Cruz, John Decker, Nathan Ginter, Monique Glover, LiLi Jackson, XiaoXiao Jiang, Sherri Jones, Katriane Kirsch, Heather Lewis, Longna Liu, Alexis Portilla, Alexa Saulsbury, Audrey Schultz, Jane South, Eleanor Watson, Dawn Zeng, and students from the Brooklyn Navy Yard STEAM Center & head judge, Jennifer Leao

Our Tour Guides: President Frances Bronet, Margaret Fox, Bruce Gitlin, Daphne Halpern, Donna Heiland, Elle Liu,

Amir Parsa, Provost Kirk Pillow, Nandan Sawant, Rhonda Schaller, Maria José Soares

Our Research Space Captains: Georgina Annenberg, Leanne Bowler, Cindie Kehlet, Monica Maceli, Rebeccah Pailes-Friedman

Our Saturday Art School Student Photographers: Maha Almatari, Aviva Bederson, Tesfaye Cantave, Jiale Chen, Nagham El Nazer, Le'Ann Hinds, Elizabeth Li, Lesly Morales, Skyy Presley, Jason Reyes, Dylan Schaffel, Eva Self, Leah Smith, Nicolette St. Fleurant, Karina Teslenko. Instructor: Stephanie Powell

Our Research Leaders: Deborah Gans, Macarena Gomez-Barris, Leslie Mutchler, Rebeccah Pailes-Friedman, M. Cristina C. Pattuelli, Jane South

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Registration Specialists: Irene Di Bartolo, Brandi Holt, and Janki Patel

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One Community with special thanks to Karen Best and Jed Marcus

