

TEDC Faculty Research Grants 2016-2017

Beyond the Polar Bears: Alternative Visuals for existing social media platforms that communicate to new audiences about climate change

Principal Investigator: Wendy Popp
School/Program:

The Illustration Department of Parsons The New School for Design will address current visual

representations of the climate crisis in a departmental project. We will collaborate with 350.org, a global grass roots organization of 188 countries, providing them with visual ideas with which to connect the public and college audiences with engaging digital storytelling artworks that help communicate key climate messages. We intend to reflect on the scope of compelling conditions and ramifications of climate change.

The images created by the students of our program will be executed in formats for current web platforms, mobile apps and desktop web viewing. It is anticipated that this work will provide a broader spectrum of images to cover the growing nature of concern with provocative and compelling storytelling.

The Tar Sands Song Book

Principal Investigator: Tanya Kalmanovitch, Ph.D.
School/Program(s): Mannes School of Music

The recent seven-year battle over the Keystone XL—a 1,179-mile pipeline that would have carried 800,000 barrels a day of petroleum from Alberta to the American Gulf Coast—brought an obscure project into the mainstream conversation. Fort McMurray, once a remote northern outpost of industrial development, became the epicenter of international clashes over energy, climate change, and the economy.

The story of the Tar Sands parallels my own story as an artist. I was born in Fort McMurray in 1970, in the early years of the tar sands project. Growing up in Alberta in the boom years of the 1980s, oil soaked everything: even my childhood home was in a neighborhood called “Petrolia”.

My growing awareness of oil’s environmental impact shaped my decision, at age 14, to become a professional musician. Music, I reasoned, was like water to oil – ubiquitous, essential and unmixable. When I left Alberta in 1988 to start my studies at New York’s Juilliard School, I meant never to look back.

In this project, I will use pipelines as a literal and figurative means of connecting music to oil. Blending ethnography and musical practice, I will spend three weeks in Alberta collecting songs, sounds and stories from a diverse range of people whose lives are impacted by oil technology and its effects. This fieldwork will provide source material for a new body of musical compositions and an interdisciplinary performance project that

make the impact of tar sands development visible and audible from multiple perspectives.¹

The *Tar Sands Song Book* will be a collection of at least 15 new open-form works scored for soloists and small ensembles of variable instrumentation. In collaboration with director Cecilia Rubino (Assistant Professor of Theater, Lang) I will develop these musical pieces and narratives into an interdisciplinary documentary theater piece that we will present at The New School in February 2017.

Mobilizing Maps for Sustainable Communities

Principal Investigator: Stephen Metts

School/Program: The New School for Public Engagement

Milano School of International Affairs, Management and Urban Policy

This proposed project entitled Mobilizing Maps for Sustainable Communities (MMSM) seeks to build a robust open source mapping resource for local community members in their opposition to further expansion of natural gas infrastructure. At present, there are few effective processes by which an individual or community group member may officially deliberate on a proposed project be it a pipeline or compressor station outside an 'eComment' whereby a comment is placed in a Docket filing with the Federal Energy Regulatory Commission- FERC.

MMSM will empower local communities in this process by creating a public resource specifically designed to put local interests front and center 'on the map,' a critical asset in staging local opposition during permitting and regulatory processes. This mapping resource will utilize cutting edge technology to offer authoritative and spatially accurate information, as well as allow multiple advocacy tools and outputs, beyond the strict confines of the eComment FERC process. Community members will be enabled to literally map in situ local resources and knowledge that is either currently unmapped and thus technically indefensible; or slated to be irrevocably damaged or literally killed and habitat destroyed due to their intersection with a proposed pipeline or compressor right-of-way.

Testing the Waters - empowering the global community to act against marine plastic pollution

Principal Investigator: Barent Roth

School/Program: School of Constructed Environments, Product Design and Parsons First Year, Sustainable Systems

The first step in solving any problem is identification. We have an enormous plastic pollution problem desperate for more data. The non profit 5Gyres.org has done herculean work globally

trawling the oceans (pulling a floating device with a net on the water's surface) to create the first worldwide marine polymer detritus estimate: 270,000 metric tons of plastic from 5.25 trillion particles. They found plastic debris in every ocean around the globe; everywhere they trawled, they found plastic. This TEDC grant project collaborates with 5Gyres to refine, design and develop 2-3 low cost trawls that range in price from \$50-\$500 US. These Do It Yourself (DIY) trawls can be built either from readily available hardware components, or open source 3D printable files. The project will include designing easy to assemble instructions for how to build each trawl making it accessible for everyone from the citizen scientist to the actual scientist. The last aspect of the project involves designing and creating a publicly available smartphone mobile application and internet website capable of collecting information from each DIY trawling expedition. Once plastic pollution has been collected in a DIY trawl, scientists can upload photographs of their debris and connect the pollution they found to the exact GPS determined location/date/time. The app and online platform add to the global dataset baseline established by 5Gyres but they also perform two additional important functions. The app platform also begins to develop a networked community of engaged citizens and finally facilitates the direct connection of the problem to the appropriate local elected official accountable for maintaining that particular region's healthy marine ecosystems.

Urban Food Security in Context: the Lived Experience of Hunger at The New School

Principal Investigator: Fabio Parasecoli _____
School/Program: School of Public Engagement

In conjunction with the newly opening New School Food Pantry, Student Success, and TEDC, the project creates a transformative educational experience grounded in the tenets of social justice that focuses on issues of food security at different levels: from the students' awareness of the needs of their food insecure peers to the functioning of food banks from a strategic and service design point of view, the systems and social hierarchies that affect food insecurity, and the impact of food policy on urban environments.

The educational project constitutes an innovative model for collaboration between the university academic programs, Student Success, and external partners, to support socially innovative student learning from both a pedagogical and an experiential point of view. This would happen through a formal course on food insecurity, students' participation in the pantry, food demos on how to cook healthy food on a limited budget, public events open to the community, and partnerships with external organizations such as the Food Bank for New York City.

Students would become more aware of the implications and pervasiveness of the often invisible aspects of food insecurity, while learning the practical functioning of relief organizations through participation in activities meant to address this issue. They would also learn to apply social justice and sustainability frameworks to enhance their understanding of the problem in terms of service design, policy, and politics.

Good Drones for Good Neighborhoods

Principal Investigators: Brian McGrath and Mehdi Salehi

School/Program(s): Parsons School of Design School of Constructed Environments
School of Art, Media and Technology

Good Drones for Good Neighborhoods is to engage New York City's youth in the planning of their neighborhoods through a pilot project on the use of unmanned aerial systems and new forms of 3D architectural visualizations that can be generated from drones.

Ariel drones, like any new technology, immediately draws crowds and fosters discussion. More recently it has been introduced into higher education and has been recognized as an important research tool. In our early experiments with Parsons graduate architecture students, they also provided new perspectives and insights on the environmental design and social life of New York City neighborhoods undergoing change. This project will introduce small scale and friendly personal aerial drone technology, equipped with video and sensing technologies, to New York City youth in neighborhoods currently organizing as part of New York City's neighborhood planning process. Funding will be used to connect a new elective developed at Parsons, but open to students across The New School, Drones and the Environment with New York City's Department of Housing Preservation and Development's Office of Neighborhood Strategies five phase neighborhood planning process: organize, learn, create, finalize, and implement.

Addressing Environmental Health Risks through Community Action Research and Local Knowledge: Pilot Study in Williamsburgh and Greenpoint, Brooklyn

Principal Investigators: Ivan J. Ramirez and Ana I. Baptista,

School/Program(s): Eugene Lang College, Interdisciplinary Science Program
Milano School of International Affairs, Management and Urban Policy

One overarching goal within my current research agenda (Ivan Ramirez) is to better understand how climate variability, extremes and changes interact with social dynamics to impact the health of residents in New York City in general, and communities of color and socioeconomically poor populations in particular in present and future states. In previous work (some funded through TEDC [ReNew School Project 14K grant]), I began building a geodatabase of health, social, and environmental data for a quantitative assessment of health vulnerability. I also began developing a conceptual framework that takes into account the coupled interactions of climate and social dynamics at multiple geographic scales (global, regional, national, subnational, etc). The framework is adapted from a widely used sustainability framework (Turner et al. 2003). One unique aspect of this framework in addition to its application to population health is that it considers interlinkages between various health-related risks (e.g., syndemics, multiple diseases afflicting a population) within a place and the social and environmental conditions in

which health-related risks emerge and persist. While considerable progress has been made towards this work (e.g., two manuscripts are currently in preparation: Peru and U.S. case studies), a major challenge has been to capture the urban local scale using publicly available data (e.g., from the New York City Department of Health and Mental Hygiene [NYC DOHMH]). While these data are useful to understand how health varies across neighborhoods in New York City, the neighborhood scale itself is limited because it aggregates numerous zipcodes to represent a neighborhood (e.g., Williamsburgh-Bushwick is a neighborhood and composed of 3 zipcodes - see Figure 1). In doing so, the aggregation may mask variability of environmental health risks within a neighborhood, and more importantly, mask environmental health disparities within and across a place. Thus, current public health assessments in NYC may underestimate the severity of environmental health risks within a neighborhood at the community-level, which may have serious implications for how resources and interventions in those communities are allocated and implemented.

One way to address this potential gap in public health assessment in NYC is to engage with local communities within a neighborhood or across neighborhoods and conduct a community-based assessment where the community participates in the research process. Thus, the community becomes a partner in the investigation. Such an assessment, also known as community-based participatory action research (CBPAR), is grounded in principles of environmental and social justice (Corburn 2005).

In this proposed project, I seek to develop and design a CBPAR study that assesses environmental health risks within a neighborhood (spatial distribution and variability) at the community level. This project will include collaborations with Dr. Ana I. Baptista of the Milano School of International Affairs at The New School. Dr. Baptista's extensive background in environmental justice and community engagement in terms of hands-on practice and policy will greatly compliment my theoretical training (certificate in community engagement at Michigan State University) and climate-health modeling background.

Specifically, the proposed project will collaborate with El Puente (<http://elpuente.us/>), a community-based social and environmental justice organization located in Brooklyn to assist in the design of the study, and eventually the implementation.