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AT A **RECENT CELEBRATION** OF THE INTERNATIONAL POLAR YEAR IN NEW YORK, **ARTISTS AND SCIENTISTS** SHARE WORK INSPIRED BY THE **SHIFTING LANDSCAPE** OF ANTARCTICA.

Cold TruthREPORTING ON / BY **CATRINEL BARTOLOMEU** /[PRINT](#) [SHARETHIS](#)

Antarctica's Weddell Sea, taken from a B-105 helicopter. Photo: Dr. Karen St. Germain.

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March 2009 will mark the end of the fourth ever [International Polar Year](#) (IPY), a scientific program that intensively studies the poles. In order to have full and equal coverage of both the Arctic and the Antarctic, a polar year actually spans two annual cycles. In the era of global warming and melting icecaps, polar research reaches beyond the scientific community, agitating politicians, [celebrities](#), artists, musicians and implicating any person, really, who has experienced the weather.

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It was in this context that new media artist [Andrea Polli](#) found herself part of the International Polar Year Celebration on Monday evening at the CUNY Graduate Center's Segal Theater, as part of the [Graduate Center's Science & the Arts series](#). Polli shared the stage with Dr. Karen St. Germain, algorithm chief at [National Polar-orbiting Operational Environmental Satellite System](#) (NPOESS) and music experimentalist Paul Miller, aka [DJ Spooky](#), who recently traveled to Antarctica to compose a 70-minute acoustic portrait of its rapidly changing environment.

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Sonification is the process of translating numerical data into sound. Polli, who sonically interpreted climatic data from Antarctica's McMurdo Station, played her eerie soundscapes Monday night while the crowd got settled, saturating them with gusts and drops, sloshes and whirs representing [sound filtered by data](#) of ice movement, temperature changes, glacial snow levels, and other Arctic processes. Polli wrote a computer program that directly correlates changes in the data to changes in the timbre, as well as the pitch and loudness, of the sounds.

RESILIENCE
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Polli, who was sporting a fanny pack Monday night and seemed like she'd be more comfortable outdoors, originally traveled to Antarctica to study instruments that remotely record data, like thermometer and anemometers, but found that there were many more humans measuring data conditions on the ground than instruments. She picked up the term "ground truth," which refers to the data collected by people on location, as opposed to what is gathered remotely.

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WATER
PANDEMICS

In her documentary short film about her experiences, [Ground Truth](#), which screened while ambient sounds played in the background, Polli interviews scientists about why they are willing to go to remote, uncomfortable, and hazardous locations. Many respond that no matter how sophisticated and reliable instruments get, a human element will always be necessary to relate image data to the real characteristics and materials on the ground.

Since her first trip to Antarctica in the late 80s, Dr. Karen St. Germain has spent decades “ground truthing” at the poles. Monday night during a half-hour presentation on her career, she cheerily noted that field work is not glamorous, describing how she watched ice grow, lived in a tent, and survived on Cheetos, and how her instruments often failed her: “Even if you checked that it worked before you left, once you’re in the field, it’s likely going to break.” St. Germain also described her current work, developing sensors for the first NPOESS satellite, which will make measurements and observations of the oceans, land cover, snow and ice cover, and the atmosphere of the entire planet.

St. Germain showed [a series of animations](#) illustrating [fluctuating sea-ice levels](#), and when the levels suddenly and radically shrunk, the audience gasped; it would have been an ideal moment for a *Deep Impact* style tidal wave to hit New York. Several times, St. Germain noted that the decrease was due in part to cyclical variations, but emphasized that in the past few years the loss of sea ice has increased dramatically. When an audience member asked about the reliability of data via high-tech imaging versus from the ground, St. Germain took a tone similar to the scientists in Polli’s video: “All data are wrong,” she laughed. “Hopefully they are wrong in different ways.”

DJ Spooky (Paul Miller) was last to take the floor, and the crowd was primed to hear the history and myth of the continent and Spooky’s own story of traveling for weeks on a ship through the icy Antarctic waters with a heavily boozing Russian crew. Spooky described how he would often lean over the bow of the ship to collect sound, video, and photo footage. His short film, *Terra Nova: the Antarctica Suite*, which he screened, is scored from his collected sounds of moving ice, and addresses ground truth through a historical lens. The myth of Antarctica, Spooky told the audience, is about how the fiction of government and nation-states does not exist there. It’s a place that exists beyond the gauge of normalcy, where sculptural chunks of ice are the size of city blocks and temperatures are uninhabitable to most of us. World governments have [tried to claim it](#) for more than a hundred years by [dropping flags](#) and drawing meaningless boundary lines (Spooky screened a Stalinist propaganda film of tanks rolling into Antarctica). It’s a place, as the three storytellers revealed on Monday night, where ground truth has many meanings.

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