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NIU Profs Part Of Antarctica Study

Two Northern Illinois University professors are part of an international research team trying to anticipate rising sea levels in Antarctica. They will also be looking into which life forms can survive in one of the coldest places on earth.

“Doing this sort of research is really fun understanding that you’re undoubtedly the first people who have ever seen this sort of thing,” said Ross Powell, Professor of Sedimentology and Climate Change.

Powell and NIU colleague Prof. Reed Scherer are part of the Whillans Ice Stream Subglacial Access Research Drilling ([WISSARD](#)) project. Before they head to Antarctica, they will take the next step in the project by conducting engineering tests out west on a newly designed robotic submarine.

This submarine will be used for future research exploring the ocean beneath the Ross Ice Shelf in Antarctica. Before heading to the South Pole, it will undergo its first test in the waters at Lake Tahoe in California, one of the deepest freshwater lakes in the country.

“This testing up in Tahoe is primarily going to be oriented to engineering tests making sure that everything is working,” Powell explained. “After that, we’ll be able to do a bit of science investigation for the State of California because they know that there are geological faults that run through the lake, and they’re concerned about the earthquake activity.”

Powell said there is evidence that the lake’s faults have produced a tsunami in the past and, with some funding from the California Seismic Safety Commission, the submarine will be used to study the lake bed.

Instruments on the submarine will include three cameras, a robotic arm for gathering samples, and sonar and lasers for navigation. The scientists on the surface will receive a continual feed through a four-kilometer umbilical cord.

Powell said that, after the submarine is lowered into the ocean beneath the Antarctic ice, this 24-foot-long torpedo-shaped device will alter in shape.

“It goes through this transformer-type of operation,” he said. “To get through the hole we have to melt in the ice, it has to be a cigar-like shape, and that configuration is 22 inches in diameter. When it goes into the ocean, it transforms and opens.”

As for the cost, Powell pegs the project at roughly 20 million dollars. It is funded by several donors, including the National Science Foundation for its investigation of the future of rising sea levels in Antarctica.

“The studies we do in the Antarctic can potentially have worldwide effects,” he said, “because there is the effect of global sea level. That will not directly affect us here in the Midwest, but it will certainly have compound ramifications because if people are affected in Florida or along the other coastlines of the U.S. that will have economic consequences to the whole country.”

Last winter, this research team was the first to [extract samples](#) from a subglacial lake. [They discovered microbial life](#) more than 2,000 feet below the Antarctic ice. NASA – the National Aeronautics and Space Administration – also contributes to funding the project. NASA wants to know how these life forms can survive in such extreme conditions. The submarine will extend their investigation to the ocean beneath the ice shelf.

Powell said the ecosystems surviving in the waters at these depths may be similar to other planetary bodies in the solar system.

“We have proven that there’s microbial life in the lakes and when we use the submarine and go to the ocean we will undoubtedly find microbial life there as well. There is a potential, in the ocean at least, to find larger forms of life.”

Powell will head the executive committee that will return to the Antarctic this December. That team will include around 50 people including professor Scherer and three students from NIU. Their research will continue to study what’s

happening under the ice and how the warming oceans affect the globe's weather patterns.

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Progress On Cooperation Is Slow

Last month, elected officials from Rockford and Winnebago County gathered in hopes of improving cooperation between the city and the county. The sense of urgency from the meeting has dwindled with little action taken since.

“We have one community to serve together, and we need to continue to have dialogue,” Ald. Frank Beach, chair of the City Council Republican caucus, said.

In recent discussions, caucus chairmen from the county board and city council have been trying to figure out the best ultimate option moving forward. Setting up committees to address specific problems such as high crime and economic development is in the works.

“The meetings in the past were good, and now it's time to build on that steam,” Winnebago County Board member John Sweeney, chair of the Republican caucus, said. “The political leaders of each committee will be the newly created channels of communication.”

Ald. Karen Elyea, chair of the City Council Democratic caucus, said in an email to WNIJ, “Our legal attorneys are advising that work be done through existing committee structure with [the open meetings act](#) in mind.”

What specific issues each committee will address, and who will be in them, has yet to be determined.

Even though nothing has been enacted yet, there are indicators of progress with the caucus chairmen discussing the initial steps. Elyea also said there are no referrals for action on the city side at this time.

The sheer number of people in city council and the surrounding municipalities make getting on the same page a difficult task. “With 35 officials, it is hard to get things done -- but that’s why we ran,” Ald. Thomas McNamara, D-3, said. “It’s going to be a tough process, but we weren’t elected to take the easy route.”

Despite the optimism, Mayor Larry Morrissey and Winnebago County Board Chairman Scott Christiansen have a track record of disagreement. This has resulted in separate programs backed by the city and county to deal with prisoner re-entry to the community and police drug enforcement. There are even two 911 call centers.

Ald. Ann Thompson-Kelley, D-7, feels that there is progress despite the recent disagreements. “The personality differences between them is giving the impression that there is no communication happening,” she said, “which is just not true.”

As of Thursday, no new meetings are scheduled.

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Celebrating the Catalog: The Beatles

The Beatles not only beat the odds with their prolific output; their experimentation and innovation in the studio is one of the many reasons their music still resonates today. *Revolver* was the tipping point where The Beatles went from being a great rock band to a greater studio band. Even with the emergence of The Who, Rolling Stones, and The Kinks, they still found ways to push the envelope and stay relevant in an industry that tried to suck every drop of life out of them. They performed their last concert caged in a six-foot-high fence behind second base of Candlestick Park, on a stage equipped with an armored vehicle ready for extraction. After this, save the impromptu gig on Apple’s rooftop in ‘69, The Beatles ceased performing live; after a brief hiatus, Paul found the solution to their creative woes. Enter the alter-ego group: Sergeant Pepper’s Lonely Hearts Club Band.

Sgt. Pepper’s opens with a faux live performance as the washed-up Lonely Hearts Club Band trying to make a comeback. Their desire to entertain is a satirical reenactment of the industry’s love affair with nostalgia that plagued The Beatles after their debut on the Ed Sullivan Show. Besides the title track, its reprise, and “With a Little Help From My Friends,” the initial idea of a concept album didn’t pan out as initially planned. Yet the alter-ego effect benefited

the group psychologically resulting in a true masterpiece of an album. This album is the only one in The Beatles catalog to be listed in the Library of Congress' National Recording Registry for its cultural and aesthetic significance.

The unsung heroes of *Sgt. Pepper's* are Principal Engineer Geoff Emerick and Producer George Martin. Automatic Double Tracking (ADT) was introduced in the studio with *Revolver*, but by *Sgt. Pepper's* inception Martin & Co. peaked in their ability to make the band's sound more ambitious, refined, and in the case of "A Day In The Life," devastatingly beautiful. Increased time in the studio didn't impact their charm in songs like "When I'm Sixty-Four," but where *Sgt. Pepper's* stands out among previous albums is the surplus of psychedelic noises and effects. Even Lennon couldn't derail the album's attraction on "Getting Better" by admitting, "*I used to be cruel to my woman/ I beat her and kept her apart from the things she loved.*"

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Gem Club: In Roses

The grace of classical music and stillness from minimalist pop rarely coexist, but Gem Club use both to intimately embrace listeners. Their craft is an isolating experience and the transcending effect is solely their own. Similar to how Perfume Genius succeeds with naked piano ballads, Gem Club excels with just a cello, keyboard, and vocals. In much the same way that Beach House's Victoria Legrand uses her vocals to draw the listener into a labyrinth by forcing her audience to hang on every syllable, Christopher Barnes whispers his lyrics like they're deep secrets that can only be heard in a separate room. And joining Barnes are vocalist Leva Berberian and cellist Kristen Drymala, who brew a subglacial soundscape on their sophomore album, *In Roses*.

By featuring the [Magik Magik Orchestra](#) and conductor/arranger Minna Choi, Gem Club has gently expanded their sound by moving beyond a Boston bedroom to John Vanderslice's analog [Tiny Telephone](#) studio in San Francisco. Recorded entirely to tape, *In Roses* sticks with the capacious formula and powerful silence of their debut LP [Breakers](#). And where Gem Club has employed fading piano chords to extend breaks between measures before, here they are more ambitious and dramatic. The first piano-driven ballad is "First Weeks," in which a simple fading chord splits the two separate halves, resulting in a clean approach and gorgeous achievement. By lessening the dominance of the piano, songs like "Soft Season" use a distorted cello and a reverberating effect separating the song differently while also offering pleasurable results.

The cold and lonely music of *In Roses* is suitable for any occasion where one needs an escape for at least fifty minutes. Even the abstract cover art is a good visual for how spacious and seamless the album can feel.

However, *In Roses* is almost *too* seamless, with many of its songs resembling each other at times, but the charm of Gem Club's chamber pop is that it's never overbearing or too faint. Even with an abundance of plaintive piano melodies, *In Roses* offer more than pure melancholy. "Braid" stands out as one of the most beautiful songs with an

uplifting light percussion, but Gem Club thrives in sorrow with “Polly” as an appropriate conclusion with its organ and poly-synth combos behind their lamenting lyrics.

Gem Club hasn’t ventured too far from the winning formula on their [Hardly Art](#) debut, but their follow-up adds even more space to their music. There’s more going on with background noise and layered vocals, and the improvement in production makes their gentle sound much bigger than it was before.