Science Lectures in the Arctic's "Science City": Barrow, Alaska

by J.C. George and Anne M. Jensen

WHERE CAN YOU HEAR A PRESENTATION ABOUT mushing dogs to the North Pole, life on Mars, traditional bowhead whaling, the anatomy of seals, robot airplanes used for atmospheric research, or the geology of Europa, the ice-covered moon of Jupiter? If you said the Smithsonian Institution, you're probably correct. But if you named the refurbished powerhouse in Barrow, Alaska, where the Barrow Schoolyard Project talks are held each week, you would also be correct.

Beginning in spring 2002, the Science Division of the Utqiagvik Iñupiat Corporation (UIC), Barrow's local village corporation, took over the renovated original powerhouse building at the Northern Arctic Research Laboratory, formerly the Naval Arctic Research Laboratory (NARL). The newly named UIC Science Center, about three miles north of Barrow, has become the venue for a number of programs. One is the Barrow Schoolyard lecture series, funded under the Long-term Ecological Research (LTER) program of the National Science Foundation, which includes a science-education outreach component. Toolik Station, an LTER base on Alaska's North Slope, did not have a community associated with it. Under the urging of Dr. Jerry Brown, Barrow was appointed as the location for the Schoolyard Project. The program teams scientists with local teachers for public presentations of the researchers' projects or areas of interest, and is administered by the Barrow Arctic Science Consortium (BASC).

The Schoolyard talks take place at 1:30 every Saturday afternoon. The format is a relatively short (30–40 min), plain-language presentation followed by, or including, hands-on activity or a visit to a field site. There have been several types of presentations. Some researchers have just given a talk and shown slides. Some have talked and demonstrated how they use equipment. Others have taken the audience on a short field trip.

Since the program's inception in June 2002, the number attending the lectures has steadily increased, and audiences now average over 30 people (range: ~20–120) per session. Total attendance to date is about 2500 person-days. Unfortunately, the crowd has outgrown the building. But the free gourmet coffee and cookies, coupled with an amiable crowd, make for a great experience despite the lack of space. People from six to sixty years old lie on the floor, double up in chairs, or cram into doorways, but find it all worthwhile.

A main objective of the Schoolyard Project talks is to make them attractive to students. The Schoolyard funds have also been used to sponsor an ongoing series of tundra experiments involving small greenhouses and fertilizers, similar to those being run at Toolik Lake. The students did a science fair project on them last year, and those students who returned this academic year are continuing the observations. Their science fair project, along with some others that went to the state science fair, is on exhibit at the UIC Science Center. The students (Joanna Leavitt, Christine Jeffries, and Rita Frantz) and their teacher Leslie Pierce also traveled to Oklahoma to give a poster on their project at the Women in Science, Technology, Engineering and Mathematics (STEM) Conference. Future plans for the Schoolyard series at the UIC Science Center include making the events available, via videoconferencing over the Web, to viewers elsewhere in Alaska and in the Lower 48.

UIC Science Center during a Schoolyard talk. Audience members can be seen in the lobby and doorways to exhibit rooms. Photo: Anne M. Jensen.

If the Schoolyard talks aren't a sufficient dose of science for the small community of Barrow (population in 2002 was 4434), the BASC has regular outreach talks as well.

UIC Science Center during a Schoolyard talk. Sea ice radar and receivers for remote nest-cams can be seen on towers at left. Photo: Anne M. Jensen.

These talks have included some renowned scientists, such as Dr. Frank Drake, who started the Search for Extraterrestrial Intelligence (SETI) project, and Dr. Susan Solomon, who first demonstrated the link between chlorinated fluorocarbons (CFCs) and ozone holes. The talks generally take place on weekday nights, and attendance can be more variable. They are held in the new Iñupiat Heritage Center building in Barrow, which has a more central location and considerably more room than the UIC Science Center. These talks are supported as part of the outreach component of the Cooperative Agreement between the BASC and the NSF.

About one-third to one-half of the attendees are students, ranging from first graders to Ph.D. candidates. One challenge is Native attendance: most of those attending are non-Native. But this has always been the case with such talks, and increasing local Native attendance is clearly a focus of the program. Clearly, many Native people have different priorities during evenings and weekends—especially if spring or fall whaling is underway. But how do you make these talks interesting to the general Native population? One way is to pay attention to attendance, timing, and reactions to the various programs and schedule future talks accordingly. For instance, a presentation by Dr. Ernest Burch about the early Eskimo "Nations" of Northwest Alaska and a recent one on coastal erosion by Jim Maslanik (and colleagues) from Colorado State University were notable exceptions. In each case, over 100 people attended, of whom over half were Iñupiat (Eskimo).

For the coastal erosion talk, it was important that local people attend for two reasons: 1) to give the researchers local feedback about future plans to deal with a precarious erosion problem and 2) to gather traditional knowledge on storm and erosion events in the past. The solution was to make the lecture a more festive affair and include catered food and door prizes. Whether it was the timely topic, the food, or the prizes is not clear, but the results were impressive: over 134 adults and many young people attended, forming perhaps the largest group ever to attend a science presentation in Barrow. Furthermore, local input was considerable, lively debates followed, and scientists and locals alike enjoyed an interesting and productive evening.

While it is too soon to measure results, clearly the injection of high-quality science into the community will have a positive effect on science education in the local schools. The hope of NSF and the local scientists is to make science accessible and useful to the community and to stimulate young people to consider a career in science.

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