## Professor helps open all eyes to the sky

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Scattered atop the desk of Bernhard Beck-Winchatz, an astronomer and DePaul professor, are various readings in Braille, a set of learning aides for blind astronomy students and a few raised-ink maps of star clusters and the earth's moon.

Still fresh in his mind are lectures—presented by him and delivered by others—at the National Federation for the Blind's national conference, held in July.

Without meeting the man, one might think Beck-Winchatz is blind, himself.

Instead, the sighted associate director of DePaul's NASA Space Science Center for Education and Outreach is so steeped in his work educating blind people about astronomy that the fine line he says exists between blind and sighted astronomers is left unseen, which is his goal.

Beck-Winchatz, who lived in his native Germany until the age of 26, came to DePaul in 1998 after completing his doctorate in astronomy at the University of Washington. He met his wife—an American—in Germany while working on a master's degree, and both decided to move to the United States where Beck-Winchatz discovered an academic world that encouraged more creativity than the one he had known in Germany.

Since then he has made a top priority of working with blind people and other groups who haven't always had an open door to the field of astronomy.

The publication of "Touch the Universe: A NASA Braille Book of Astronomy," a joint project between Beck-Winchatz and noted fellow astronomer Noreen Grice, brought national attention to the cause, but Beck-Winchatz's dedication to the subject and the continuing support of DePaul and its mission ensure that his crusade has only begun.

"My passion is to make science accessible to people who traditionally haven't been part of it," he says. "When I started working with blind people, I really didn't know anything about them. I had this idea: Who would I think, by definition, is excluded from doing astronomy?"



Bernard Beck-Winchatz makes his next move in a chess game that features astronauts, planets and space shuttles as playing pieces. Bernard Beck-Winchatz makes his next move in a chess game that features astronauts, planets and rockets as the playing pieces.

From there, Beck-Winchatz, an assistant professor, decided to figure out how to bring astronomy to visually impaired people. It started with "Touch the Universe" which shows Braille versions of images from the Hubble Space Telescope and continues now with Beck-Winchatz and Grice's latest grant for The Space Exploration Experience Project for the Blind and Visually impaired.

This project aims to actively engage blind and visually impaired students in astronomy using tools such as Braille star finders and raised-print images from telescopes.

"I think, typically, the decision to go into science or math is made in middle school or elementary school. And there's nothing available for blind kids at that level," Beck-Winchatz says. "That means they go through that age when this decision is made and they don't really have anything that could get them excited about science."

Beck-Winchatz is tired of the cliché image of astronomers, which he says is seen in Gary Larson's comic strip, "The Far Side" as an older bald gentleman looking through a telescope, and hopes his work will inspire a new generation of star gazers, both blind and sighted.

"You don't have to operate telescopes at all [today]; for example, my data comes from the Hubble Space Telescope, and all you do is you download it. Someone else operates the telescope for you and all you have do is work with the data," says

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Beck-Winchatz. "There's no real handicap that would prevent [the blind] from doing what I'm doing in my research."

Among the things contributing to the success of his various projects, Beck-Winchatz notes the flexibility working at DePaul allows him. He also feels that the specific aims of both the NASA Space Science Center—which he describes as a "broker facilitator" between NASA and small planetariums in the seven-state region—and the university's Vincentian mission have encouraged him to look to the community in ways that other universities might not have.

"DePaul is a great place because it's not a university that focuses on research in astronomy and space science, but it's a university that is very interested in bringing communities into science that have traditionally been excluded – such as intercity kids [and] minorities," he says. "It's impossible to overstate that DePaul really supports these kinds of things."

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