By Katie Scarlett Brandt

One floor below Nathan Smith's office in Chicago's Field Museum, a little boy runs back and forth among the dinosaur bones on display. "Look at all these fossils they dug up, Mom!" he shouts in uncewedale.

Distracted by the boy's younger siblings, his mom doesn't respond immediately, but that doesn't dampen his enthusiasm.

Upstairs, Smith is just as enthusiastic about fossils. Since 2005, he has been working toward a PhD in evolutionary biology through the program that the University of Chicago offers in conjunction with the Field Museum. As the introductory sign reads in the exhibit below, "Everything on Earth that has ever lived is connected through, and the result of, evolution. This is where our story begins."

The statement fuels Smith's zeal. "Paleontology gives us access to 4.5 billion years of history. We need that historic perspective," he said.

Earth's history began 4.5 billion years ago, but Smith focuses on the Triassic and Jurassic periods, which span about 248 million years. As a third-year student, he spends most of his time either in the field digging. In order to map their lineages, Smith looks at the relationships of each bird's bones and finds dinosaurs that possess the same structure.

Summer in Antarctica

Smith may rely on other people's excavations to aid his research on pelicaniformes, but he makes his own trips, too. This past December, Smith and co-author Diego Pol, a paleontologist at the Museo Paleontológico Egidio Feruglio in Chubut, Argentina, announced they had discovered a new species of dinosaur in Antarctica, which, since birds don't possess a strong fossil record because of their light, delicate bones.

"This thing is 200 million years old, and they have so much that they share with birds," he said as he pulled a box containing a small fossilized dinosaur femur from a cabinet.

"It's great because there are so many people here doing so many different things. There's always an expert right down the hall you can talk to," he said.

To reach his office, Smith takes an elevator near the north entrance that slides past the two-story Roman columns on its way to the third floor. Then he follows a hallway be-neath fluorescent lights to a tiled room. Tall cabinets, stocked with shoebox-like containers of fossils from all over the world, divide the room. His desk sits in the corner next to the door; across from it, more shoeboxes filled with bird-skulls cover a table.

"We're given a lot of leeway. "

"That is, until Smith's group, Dromomeron and studies of a few similar fossil assemblages in North America began to prove otherwise."

The Hayden Quarry in New Mexico where Smith and his colleagues discovered Dromomeron had preserved ideal evidence. The area's smooth sediments and large flat areas that remained intact for millions of years helped the researchers from the study the relationships of ancient predators. In particular, they examined the relationships of various types of early birds, including many preserved in the same sediments as the fish they ate.

Summer in Antarctica

"This would be a dream job, " Smith said of what his work has inspired him, and he decided to make paleontology his career. Originally a chemistry major, Smith was told "spending eight hours on nice days inside waiting for a chemical reaction." The wide stretches of land and possibilities Smith saw on that first trip made him realize that science didn't have to keep him indoors. "I wonder how they got this out," he whispers. His mouth hangs agape as he cane his neck up at Cryolophosaurus ellioti, the first dinosaur found in Antarctica. Smith could explain.