Professor urges paleobiologists to use data, technology to back up theories about prehistoric life

For years, scientists have made conclusions about the behavior of ancient life on Earth using a hodgepodge of clues from fossils, geologic patterns and theory.

However, an increasing number of them are applying more advanced data collection, coding and software to substantiate well-known claims about the evolution of different plants and animals.

In two recently published articles in the journal Paleobiology, Phil Novack-Gottshall, Ph.D., associate professor of Biological Sciences at Benedictine, proposes new methods for verifying the habits of ancient life. While on sabbatical last fall, he created an open-source software package called “ecospace,” which utilizes a database of fossil records to provide a more statistically-sound picture of how prehistoric organisms lived.

“The core objective was to build this large database on how these organisms behaved, how they ate, where they moved and where they lived,” Novack-Gottshall said. “A lot of people have done it in qualitative ways, which is good. I don’t think they are wrong, but if you are only dealing in subjective measures, it’s hard to know if what you are measuring is real or just perceptual.”

“People haven’t really confirmed these things until recently, because in the past, these answers were settled by the elders of the field who said this is what the patterns were. No one really questioned it, but now it is time to go back and make sure what they are saying is true.”

—Phil Novack-Gottshall, Ph.D.
He also teaches a Paleobiology course in the spring which features a fossil hunting trip to the Thornton Quarry in Thornton, Ill. It is one of the largest quarries in the world and a relic of an ancient limestone reef that spanned the Chicago area and the Great Lakes approximately 300 million years ago.

“It is really one of the best places in the Midwest to do fossil collecting and it’s right in our backyard,” Novack-Gottshall said.

Students in his class first learn how to do their own analysis of different fossils, such as where they were found, their size, feeding habits, and how paleobiologists use computers and online databases to study the history of life. On the quarry trip, they learn how to collect data in the field — something not many undergraduate students get the chance to do.

“As far as I know, no one has the data for this period of time in this kind of a database,” Novack-Gottshall said. “There are a few who have some data, but they are not looking at the full breadth of what’s out there. There is a race going on scientifically to try and get this data, and I am trying to get there first.”

Among some of the claims that Novack-Gottshall could better answer is why more predators lived in a certain time period or how rapidly organisms evolved in body size over time, he said.

“Hopefully, by the end of the year I will have completed enough of the database that I can answer these questions, at least in the first broad brush stroke,” Novack-Gottshall said. “My guess is we will have many years of fun with this data, but it’s the big questions that I’m hoping we will be able to make the first quantitative answer on.”

Novack-Gottshall involves undergraduate students in his research and will include them on this new project.

Currently, the database numbers about 3,000 different kinds of fossils dating back to when animals first emerged about 500 million years ago.

Many paleobiologists focus on how life became significant on Earth during the Paleozoic Era. Others are concerned with the Cenozoic Era because of the availability and quality of the fossils and their relationship to living organisms today, which makes it easier to confirm their ecology, Novack-Gottshall said.

But much research and data is missing from a key middle period, the Mesozoic Era, when dinosaurs thrived 65 to 250 million years ago.

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“There’s a lot behind the scenes students miss when they look at fossils in the classroom,” Novack-Gottshall said. “You really have to be out in the field getting dirty, getting dusty, doing that fun, hard work to appreciate that every fossil came from somewhere.”

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It was two decades ago that Benedictine first became a university—thanks in large part to the launch of its first doctoral program, the Ph.D. in Organization Development (OD).

Peter Sorensen, Ph.D., was directing the successful Master of Science in Management and Organizational Behavior program at Benedictine when in 1995, an external review team composed of faculty from other major universities recommended he and the University work to build upon the program’s success. They proposed the addition of the doctoral program in OD that would be designed to help high-level executives and managers more successfully manage and organize change within their organizations.

“They said, ‘You have a dynamite master’s program, so why don’t you create a Ph.D. program?’” Sorensen recalled. “It was people from the field who really said we should do this.”

With strong support throughout the University, the OD program became the first doctoral-level program at Benedictine, the first doctoral degree at any Benedictine college or university, and one of the first doctoral programs of its kind in the field.

The program launched in 1996 with 17 students. It has since become a top-rated, award-winning program known internationally for preparing more than 200 senior leaders and change agents in a wide variety of fields and at global organizations such as CNN Worldwide, Abbott Laboratories, McDonald’s Corporation, and other Fortune 500 organizations such as Boeing, Dow Chemical Company and General Motors.

Years later, the external review team came back and said the program had established itself as one of the preeminent programs in the field.

Today, a major hallmark of the program is the number of research contributions students continue to make through published papers or as authors in major texts after they graduate from the program, said Therese Yaeger, Ph.D., a professor in the program who is acknowledged as a leader in corporate and organization dynamics.

“It’s our alumni who continue to be scholarly practitioners and academics in the field who make our program so well-known,” Yaeger said. “With other programs, you get the letters and you are out. Our students understand lifelong contribution.”

Professor Ramkrishnan Tenkasi, Ph.D., joined the program in 1998 as a Fulbright scholar. His work is widely recognized as important research in the field and includes organizational knowledge, learning and change, and mediation/moderation by organizational design choices.

Sorensen and Yaeger have received lifetime achievement awards and distinguished educator awards from leading professional associations in the field.

Students in the program have access to distinguished thinkers through the visiting scholars brought to campus from all over the world, people who are well known throughout academia, according to Sorensen. Students can also build relationships with top leaders in the field through one of the largest alumni networks of executive leaders in the international Academy of Management.

“That’s an important plus for our students,” he said. “They’ve literally studied with the best.”

In addition, students can easily fit weekend classes into a busy career schedule, which makes earning this degree convenient.

For more information about the Ph.D. in OD program, visit ben.edu/OD, contact (630) 829-6208 or pmeyers@ben.edu.
Nuns’ studies at Benedictine part of larger humanitarian calling in Tanzania

Benedictine University has a special connection with three inspirational nuns who came all the way from Tanzania to Lisle to study and obtain skills to improve the lives of women and children in one of the poorest countries in Africa.

Two of the nuns—Sr. Beatrice Kayombo, O.S.B., and Sr. Afra Mgwama, O.S.B.—have already earned bachelor’s and master’s degrees from Benedictine. The third, Sr. Fausta Mtweve, O.S.B., is taking courses at Benedictine while living at Sacred Heart Monastery.

Sr. Beatrice and Sr. Afra came to Benedictine in 2003 to study tuition-free under an arrangement with the University and their home convent, the African Benedictine Sisters of St. Gertrude, Imiliwaha. While at Benedictine, they received free room and board, clothing, school fees and occasional airplane tickets to Tanzania from the Benedictine Sisters of Sacred Heart Monastery. They also received—and continue to receive—ongoing support from a Lisle nonprofit, “Friends of Imiliwaha,” which is committed to helping the nuns reach their goals.

“A doctor was needed in most of the work I used to do,” Sr. Beatrice said. “I would think about this and wish I were a doctor so that I could help more. But how could I become a doctor? I did not know.”

Her prioress reached out to a group of Benedictine sisters and made contact with Sr. Judith Ann Heble, O.S.B., a former prioress of Sacred Heart Monastery and current member of the Benedictine University Board of Trustees. The two made plans for Sr. Beatrice and Sr. Afra to travel to the United States and stay at the monastery, study at Benedictine and eventually return to Tanzania as highly skilled professionals with strong backgrounds in medicine and education.

When Sr. Beatrice and Sr. Afra arrived at Benedictine, they did not know the full extent of the challenges that awaited them.

Born in Mlangali, Tanzania, Sr. Beatrice grew up in a small village without running water or electricity. School was a 1.5 hour walk in both directions and their classrooms lacked many commonplace materials like textbooks and lab equipment.

Tanzania is renowned for the majestic Serengeti National Park, Mount Kilimanjaro and abundant wildlife. But for the people who live there, it is a country that lacks many skilled professionals and the vital resources necessary for providing quality education and health care.

Before coming to Benedictine, Sr. Beatrice was the only medical professional in her village. As a registered nurse and midwife, she saw many women die in childbirth.
“It was very difficult for me to catch up at Benedictine,” Sr. Beatrice said. “I had to work so hard to learn, especially in the laboratory. Our first classes were so challenging. Every time I cried and thought, ‘I am not going to make it,’ I thought of going back home. But because of Sr. Afra, we were two. We empowered each other to keep going.”

Eventually, the hard work paid off. Sr. Beatrice earned a Bachelor of Science in Health Science in 2009 and completed the final requirements for a Master of Public Health in 2014 while earning a Doctor of Medicine from Poznan University of Medical Science in Poznan, Poland, the same year.

Today, she is a certified medical doctor at a hospital in Mwanza, Tanzania. In three years, she hopes to become an obstetrics and gynecology specialist.

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Encouraged to provide more educational opportunities for underserved young women and girls, Sr. Afra earned a Bachelor of Arts (B.A.) in Elementary Education in 2009 and a Master of Education (M.Ed.) in 2011 from Benedictine.

At the urging of her prioress, she returned to Tanzania in 2012 to oversee the start of a new elementary school in Sumbawanga, Tanzania.

“She insisted that if I didn’t, we would lose the piece of land that we had for the school because the government wanted to take it back,” Sr. Afra recalled. “It took a while for me to say ‘yes’ to my prioress because there was zero money to begin with, and I had no idea what to do.”

She soon found support from the Friends of Imiliwaha in Lisle, who had encouraged both her and Sr. Beatrice to complete their studies at Benedictine.

Today, the school houses 85 students in four classrooms.

However, there is still more work to do and many students who could be served by the school, she said.

“This is just the beginning,” Sr. Afra said. “We will need to continue to build more classes up to seventh grade. Our goal is to empower women and to see the girls we educate today continue their studies to the University level.”

Back in Lisle, Sr. Fausta continues to work toward a B.A. in Elementary Education and hopes to pursue an M.Ed. so that she can support Sr. Afra with the growth of the school.

The Friends of Imiliwaha includes Margarete Roth, Ph.D., Benedictine professor emeritas; Alice Sima, director of Pre-Professional Health Programs at the University; and other supportive faculty, alumni and friends of Benedictine.
Benedictine’s Office of Alumni Development honored four Visionaries and 10 Rising Stars at the 2016 Who’s Who Among Benedictine University Alumni awards banquet in April.

The awards recognize alumni for the many accomplishments they have achieved since graduating from Benedictine, and celebrate a diverse group of talented and gifted individuals who have embraced the Benedictine values in their personal and professional lives.

The Visionary award recognizes alumni who have made a significant impact on the world around them through leadership and philanthropy. The Rising Star award is given to alumni who earned their undergraduate degrees less than 25 years ago, have made considerable strides in their careers in a relatively short period of time and have shown dedication to philanthropic endeavors.

CONGRATULATIONS TO THIS YEAR’S AWARD RECIPIENTS.

VISIONARIES
Christos M. Linardakis, J.D., LL.M., C88, International Business and Economics
Suzet M. McKinney, Dr.P.H., M.P.H.’01
Donald B. Pope-Davis, Ph.D., C76, Psychology
Richard R. Vondrak, Ph.D., C65, Physics

RISING STARS
Sanem (Tezcan) D’Angelo, C01, Communication Arts
MaryAnhthu T. Do, D.O., C94, Biology
Lisa Eaton Wright, M.S.’10, Nutrition and Wellness, C08, Nutrition
James J. Fedinec, M.D., C92, Biology
Khizar Jafri, C10, International Business and Economics
Alex Johnson, C01, Marketing
Carrie A. Johnson, C94, Literature and Communication
Erik L. Johnson, M.D., C91, Biochemistry
Nick LoGalbo, C05, English Language and Literature
Gregory J. Wolcott, C93, Elementary Education

Read more about them: ben.edu/whoswho2016
University Art Collection on Display in Goodwin Hall

Staff members overseeing the University Art Collection installed 80 pieces of artwork in Goodwin Hall in keeping with a campus tradition of displaying art collected by the late Fr. Michael E. Komechak, O.S.B., throughout the University’s academic buildings.

The recent installment opens a greater selection of the collection for visitors to peruse. It features the work of Chicago area artists on the second floor, nationally recognized artists on the third floor and international artists on the fourth floor.

In addition to Goodwin Hall, selections of the collection can be viewed in the Fr. Michael E. Komechak, O.S.B., Art Gallery, and in hallways and common areas throughout the Krasa Center, and Birck, Kindlon and Scholl Halls.

For information on guided art tours, contact Teresa J. Parker, curator of the University Art Collection, at (630) 829-6270 or tparker@ben.edu.

Notice of Site Visit by Accrediting Agency

Benedictine University is seeking comments from the public about the University in preparation for its periodic evaluation by its regional accrediting agency, the Higher Learning Commission (HLC). The University will host a site visit November 7-9, 2016, with a team representing the HLC. Benedictine University has been accredited by the HLC since 1958. The team will review the University’s ongoing ability to meet the HLC’s Criteria for Accreditation.

The public is invited to submit comments regarding the University to the following address:
Public Comments on Benedictine University
Higher Learning Commission
230 South LaSalle Street, Suite 7-500
Chicago, IL 60604-1411

The public may also submit comments on HLC’s website at www.hlcommission.org/comment. Comments must address substantive matters related to the quality of the University or its academic programs. Comments must be in writing.

All comments must be received by October 7, 2016.
UPCOMING EVENTS

BenU Presents:
An Evening With Haley Scott DeMaria

June 15
7:00 p.m.

An inspirational story on finding the strength to get through tragedy. The event will feature themes of never giving up, helping others, the bonds of family/friendship, and the need for a faith/belief system.

Ticket information at ben.edu/speakers.

Raising Money for Student Scholarships
22nd Annual President’s Invitational Golf Outing featuring special guest Ben Crenshaw

July 19
Cog Hill Golf & Country Club in Lemont
Golf, dinner, raffles. Sign up today.
ben.edu/golf

MAKE AN IMPACT:

As a nonprofit institution, BenU relies on your contributions to help fund student scholarships, make upgrades to campus, improve technology and academic programs, and so much more.

Your help allows the University to continue to follow its mission and provide students with a values-based education that will enable them to contribute to the greater good and make a difference in the world.

Thank you for your support!

Mail gifts to:
Benedictine University
Annual Fund
5700 College Rd.
Lisle, IL 60532

Give online:
ben.edu/giving

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You can contact the editor at lhale@ben.edu.

Stay Connected.

Benedictine University
is located in Lisle, Illinois, just 25 miles west of Chicago, and has branch campuses in Springfield, Illinois, and Mesa, Arizona. Founded as a Catholic university in 1887, Benedictine enrolls nearly 10,000 students in 56 undergraduate and 19 graduate programs. Forbes magazine named Benedictine among "America's Top Colleges" for the fifth consecutive year in 2015. A 2016 PayScale Inc. report ranked BenU one of the top 10 colleges in Illinois for return on investment and in the top 20 percent nationally. Accredited by the Higher Learning Commission (hlccommission.org). For more information, contact (630) 829-6300, admissions@ben.edu or visit ben.edu.

Benedictine University • 5700 College Rd. • Lisle, IL 60532