

Legendary UNC scientist retires, leaving groundbreaking legacy

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Dr. Hans Paerl holding a sample of water from China's Lake Taihu during an algal bloom

BEAUFORT - Dr. Hans Paerl, of University of North Carolina at Chapel Hill's Institute of Marine Sciences (IMS), officially retired from his post as a Kenan Professor as of July 1, and has taken on the title of Research Professor at the Institute.

With roughly 600 academic articles published under his name, seven major scientific awards and a curriculum vitae that extends well beyond 50 pages, Dr. Paerl leaves a prolific legacy in the disciplines of ecology, limnology, or the study of lakes, microbiology and any combination of those fields.

However, after 47 years at IMS, Paerl isn't really leaving — just changing his title. As IMS Director Joel Fodrie puts it, it's actually a “promotion of sorts,” as Paerl will be able to “let go of some of the academic bureaucratic” aspects of being a professor, like heading courses and dealing with administrative demands, focusing instead on “what he really wants to do,” Fodrie explained.

Paerl intends to continue his work with colleagues and publishing.

“I really enjoy writing papers with my colleagues. I've always had a great deal of curiosity about the world, going way beyond science” Paerl said.

This curiosity, arguably, landed Paerl where he is today. As the son of Dutch immigrants, born in Amsterdam, The Netherlands and raised in the San Francisco Bay area, Paerl got his start in a work study program as a University of California Davis undergraduate.

"I was sort of interested in environmental biology, so, one of my friends at Davis was like, 'you need to talk to this guy, Charles Goldman, he works on lakes and he's really well-known and, on top of it all, he's really well-funded,'" Paerl said, "So, I went and saw Charles and, well, he just kinda took me under his [wing] from the first day we met."

Paerl began working for Goldman during his senior year at UC Davis.

"It was this kind of 'work hard, play hard' mentality and I thought, 'that's pretty much what I want to do,'—I wanna work hard and accomplish something, but I want it to be fun," Paerl said.

In that role, Paerl found himself working on a project with Goldman at Clear Lake, north of the Bay Area, "but, it's a total misnomer because it's not clear," Paerl was sure to add. At this site, he was formally introduced to cyanobacteria, otherwise, informally, known as blue-green algae.

"We think cyanobacteria were the first microbes to produce oxygen," Paerl said, "without them, we might not be here talking to each other."

The bacteria has other "interesting biochemical tricks," according to Paerl; namely, nitrogen fixation, or, the process of turning nitrogen, a gas in our atmosphere, into ammonium, which can be used by plants and other life.

Cyanobacteria, what Paerl referred to as his "go-to organism, in terms of these [algal] blooms," served as either the central focus or contextualizing factor for almost, if not, all of his research that carried him through just about every European nation, the Caribbean, North and South America, Asia, New Zealand and Antarctica.

It was during his 1977 work in New Zealand that Paerl received notice, via job advertisement clipping, of a job in North Carolina. At the time, he was finishing up his role, with plans "to travel back to California, the long way," making stops in "Australia, New Guinea, Indonesia, Thailand, Burma, Japan [and] Korea," along the way. He responded to the job recruiter, "saying: 'I'm interested in the position, but I won't be back in the U.S. for quite a while. So, if you're interested in interviewing me, please leave a letter with my parents in California,'" Paerl said.

Lo and behold, waiting for him upon his return to the states was an invitation to interview with the University of North Carolina at Chapel Hill. After interviews in Chapel Hill, Morehead City and Chapel Hill again, Paerl successfully landed his role at IMS.

"The opportunities have always been tremendous here [...] the diverse systems we have, the issues that we're looking at, [...] all panned out really well," Paerl said.

But, just as Carteret County supported Paerl's pursuits, his work stood to benefit eastern North Carolina, as well.

While conducting research in Finland, Paerl was introduced to the Finns' "ferry service, which was doing automated water quality monitoring," Paerl said, "So, I came back all excited because we have this fleet of ferries [here], and I got together with [...] the director of the Duke Marine Lab at the time and we invented FerryMon."

FerryMon sought to use N.C. Department of Transportation ferries for continuous water quality monitoring in the Albemarle-Pamlico Sound System, providing data to support fisheries, scientists and decision makers.

It wasn't until after Hurricane Floyd slammed the N.C. coast in 1999, that a window of opportunity really opened up for FerryMon. In the aftermath, the Raleigh News and Observer published "a remote sensing picture [...] showing the [Pamlico] Sound full of mud," prompting state legislators to

allocate funding to FerryMon's equipment, analyses and technicians in the state's hurricane relief bill.

"Our local legislators [...] have been very supportive; both Senator Sanderson and Representative Cairns," Paerl said. "In fact, Representative Cairns has been here several times, popping into my office to get information, and we had both of them here earlier this year to give them an informational seminar."

FerryMon, now in its 25th year of operation, serves as a complement to earlier ModMon, which, "started in the early 80's," according to Paerl, for continuous water quality in the Neuse River Estuary. Between ModMon and FerryMon, Paerl's efforts led to decades of continuous water quality data on the nation's second largest estuary.

Paerl's work, according to Fodrie, is "what put IMS on the map," and Paerl, himself, is "the giant whose back IMS stands on."

IMS Colleague, Dr. Rick Lutteich, adds, "Throughout the years he has provided an authoritative voice on coastal water quality whether at national and international meetings or for guiding state policy. His friendly and unabashed personality have left an indelible mark on the Institute, North Carolina, and the coastal science community."

"I think having the freedom to pursue both academic and [...] more applied management kinds of things, where my colleagues in the university have enough faith in me to make the right decisions, [...] those have all been very positive things that, kind of, kept me going," Paerl said looking back on his tenure at IMS.

As for his retirement, Paerl is looking forward to playing more music, spending more time in the kitchen and even possibly "breaking in at the farmer's market in Beaufort," to sell smoked fish.

His parting words of advice? "strive for interdisciplinary ways of thinking about things and approaches to solving problems [...] the other thing is, convey your findings so that they're understandable by audiences that range from local [children's] clubs to scientific meetings," Paerl said.

Though he's not leaving IMS entirely, the disciplines of limnology and estuarine ecology, as well as the state of North Carolina, are left irrevocably changed by Dr. Paerl's work as a UNC Kenan Professor.