



Ogobara Doumbo

Leading malaria researcher. Born in the Dogon region of Mali, Africa, on Jan 1, 1956, he died after complications from surgery in Marseille, France, on June 9, 2018, aged 62 years.

As a medical student at the National School of Medicine and Pharmacy in Bamako, Mali, during the late 1970s, Ogobara Doumbo captured the attention of Philippe Rangue, a French parasitologist who had helped establish the faculty and was teaching there. Rangue, who died in 2006, made a deal with the Malian student: he would send Doumbo to the University of Aix Marseille in France to study parasitology so long as he agreed to return to Mali when he had completed his education. "He had to go back to Mali and build in Mali", said Didier Raoult, a French biologist and head of the Institut Hospitalo-Universitaire Méditerranée Infection in Marseille, who first met Doumbo during his time studying in Marseille. Doumbo upheld his end of the deal, returning to Bamako. He became a leading malaria researcher and professor of medicine at the University of Bamako, where he co-founded and directed the Malaria Research and Training Centre. "He was somebody very, very important for Africa", Raoult said. "It was important that he did not immigrate somewhere else. He was keen to care about Africa and to train people."

Doumbo, the son and grandson of traditional healers, hailed from the Dogon country in central Mali. Raoult said Doumbo told him that he was the first member of his family to learn to read and that he would walk kilometres every day to attend school. He decided at a young age to be a doctor and attended medical school at Bamako's National School of Medicine and

Pharmacy. After he graduated, he spent several years working as the district medical officer in Selingué in southern Mali. "We were a generation of young doctors who wanted to solve all the problems by working hard", he told *The Lancet* in 2008. "Eventually, I realised that it was impossible to do if you were alone", which fuelled his commitment to become a professor and help grow the ranks of medical professionals in Mali. With Ranque's offer in hand, he pursued a masters degree in parasitology and immunology from the University of Aix Marseille, before receiving his PhD in parasitology from the University of Montpellier in 1992. That year he returned to Bamako to co-found the Malaria Research and Training Centre, which became a leading centre for malaria research.

"They were able to define the actual gene that was involved in chloroquine resistance and that was very important", said Louis Miller, who heads the malaria cell biology section at the US-based National Institute of Allergy and Infectious Diseases. Doumbo was also a leader in global efforts to develop malaria vaccines, including work on *Plasmodium falciparum* sporozoite-based vaccines. "His work was so broad", said Pedro Alonso, the Director of the WHO Global Malaria Programme. "He went all the way from understanding molecular mechanisms to resistance and his group has really become a leader in clinical trials in the development of antimalarials. All of that happened under his umbrella. He then went on to explore the role of chemoprevention, both in pregnancy, as well as in children."

The Malaria Research and Training Centre became an important training ground for Malian medical students and researchers. "A lot of his accomplishments were by mentoring younger people who he pushed out to take the lead and first author papers", said Christopher Plowe, the Director of the US Duke Global Health Institute. Plowe points to research on malaria vaccine by Mahamadou A Thera and on seasonal malaria chemoprevention by Alassane Dicko as two important efforts that Doumbo helped guide. For his malaria research and training efforts, Doumbo received numerous awards, including the Ordre National du Mali, the French Légion d'Honneur, and the Prix Christophe Mérieux de l'Institut de France. "The quality of the people who have been trained and come back to Mali is incredible", Raoult said.

"His loss is tragic on many grounds for research in Africa", Alonso said. "At this point, he was in that sweet spot where it was not only about him doing his own research, but about taking global leadership." In recognition of his service, Doumbo was given a state funeral by the Malian Government. He is survived by his two wives and ten children. "Ogobara Doumbo gave a lot to science, to his continent, and to his people", said Cheikh Sokhna, a parasitologist at the Institut de Recherche pour le Développement in Marseille. "His vision and example must continue—to each and every one of us—to inspire us in our research and our daily work."

Andrew Green