

Homer A. Neal, Leader in Physics Who Explored Matter, Dies at 75

By Karen Weintraub

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Dr. Homer A. Neal, a physicist who helped shape education for physics undergraduates nationwide and led teams that took part in the hunt for the fundamental particles of matter, died on May 23 in Ann Arbor, Mich. He was 75.

Dr. Neal had a stroke in February from which he never recovered, his wife, Donna Jean Neal, said. He died at the University of Michigan Hospital.

A longtime professor at the university, Dr. Neal ran groups there that were involved in finding the top quark and the Higgs boson, the last remaining particles — or building blocks of matter — that were ascribed to the Standard Model of physics, a best-guess description of the subatomic world.

Put forward in the 1970s, the Standard Model theorized the existence of a dozen types of matter-related particles, including so-called quarks and leptons, and different types of force-related particles. By the mid-1990s, all the quarks had been accounted for experimentally except the top quark, and by the early 2010s, the main remaining unproved ingredient was the Higgs boson, named after the British theoretical physicist Peter Higgs.

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