

**Mulu Ayele, PhD | Principal Scientist and Senior Consultant - Biotech, Agri and Pharma Industries**



**Early Life, Education & Training**

Born in Ethiopia, Dr. Mulu Ayele earned a **BSc with Honors** from Addis Ababa University, an **MSc in Genetics** from the University of London as a **British Council Scholar**, a **PhD in Genetics/Genomics**, and an **MSc in Computer Science** from the US specializing in Artificial Intelligence. He completed postdoctoral training at **Purdue University**, the **Human Genome Center at Baylor College of Medicine**, and the **University of Texas Health Science Center**, uniquely positioning him to bridge **genomics, computational biology, and machine learning/AI**.

**Scientific & Industry Leadership**

Dr. Ayele is the Founder and CEO of **HealthMed** and **FarmBizz AI/Analytics**. He has held senior research and leadership positions at **Invitae/Labcorp Diagnostics**, **DuPont Pioneer**, **GSK**, **Roche/Genentech**, **The Institute for Genomic Research (Craig Venter Institute)**, **Metabolon**, and other organizations across the U.S., Europe, and Asia. He holds **three global patents**, has authored over **30 peer-reviewed publications** — including several in *Nature* — and contributed **thousands of GenBank submissions** advancing genomic science.

**Genomic**

**Contributions**

He contributed to the Human Genome Project, working on the sequencing, assembly, and annotation of the entire human reference genome — including key contributions to chromosomes 3 and 12, which remain part of the reference used worldwide today. He also contributed to the renovation and publication of the *Arabidopsis thaliana* genome, the assembly of the widely used *E. coli* DH10B genome, and pioneering studies on the *Brassica* genome. His work spans human, model plant, microbial, and crop genomes — a rare breadth of genomic expertise.

**Tef Research & Agricultural Innovation**

As a faculty member at Alemaya College of Agriculture and tef researcher at Debre Zeit Agricultural Research Center, Dr. Ayele helped release high-yielding tef varieties — Gibe, Ziquala, Dukem, Holetta Key, and Ambo Toke (1993–2000). He achieved several “firsts” in tef research, including the first genome size estimate, genetic linkage map, drought-resistance assays, and anther culture integrated with mutation breeding. His later work at Purdue University advanced these efforts, producing thousands of mutant lines leading to two promising ones.

**Landmark Projects & Capacity Building**

During his years at DZARC, Dr. Ayele played a visionary role in shaping Ethiopia's modern agricultural research landscape. He conceived and secured three landmark international projects — the McKnight Foundation Tef Improvement Project, the IAEA Mutation Breeding Program that established Ethiopia's first gamma irradiation facility, and the SAREC Germplasm Rescue Mission. Together, these initiatives transformed the nation's capacity in tef breeding, laboratory infrastructure, and regulatory systems, while training over 25 Ethiopian scholars and professionals at postdoctoral, doctoral, and advanced levels. Elected by his peers, Dr. Ayele also served as Head of the Crop Science Research Department and led the Tef Research Program before departing for his PhD studies in the United States.

**Community Service & Outreach**

He founded **Empower1410**, a licensed charity supporting homeless and vulnerable youth in Hawassa and Dilla, and launched three free YouTube channels — *AI in Healthcare*, *Digital Agriculture*, and *Nutrition Innovation* — to share practical, globally informed skills. He also founded and served as the first president of the **Ethiopian and Eritrean Association of Iowa (USA)** and moderated the **World Food Prize Youth Program** (2005–2016) in Des Moines, inspiring young people toward sustainable agriculture.