

Genoma 's Founder



Dr. Francesco Fiorentino, is founder of GENOMA laboratory. With nearly fifteen years of experience as molecular biologist, he is expert in all aspects of diagnosis, treatment and technology.

Dr. Fiorentino is internationally recognized in the fields of reproductive genetics, for its leadership in Preimplantation Genetic Diagnosis (PGD) and for its pioneering work in infertility and genetics.

He is also well known as one of the pioneers in the creation of the specialties of reproductive and prenatal genetics in Italy and was the impetus behind development of many important concepts and techniques that have become standard in these important fields.

Education

Dr. Fiorentino graduated from Messina University, Italy, in **1992**, with a degree in molecular biology, after 2 years of internship in the department of genetics. In the same year he completed the residency in biology. He then graduated as specialist in Microbiology and Virology from the above University in **1995**, getting his PhD.

Career

In **1995** he was appointed to the **Italian Police Department- Forensic Science Service (FSS)**, Rome - Italy, where he spent 3 years performing research and investigation on forensic genetics, coordinating the DNA analysis unit. While at FSS he determined to specialize in the fields of forensic genetics; its main activity was focused on nuclear and mitochondrial DNA analysis from old and degraded biological samples and low copy number DNA samples, feeling that the combination of all these disciplines would provide a nearly unique foundation of formal qualifications for pursuing his professional and research interests.

In **1998**, Dr. Fiorentino established **GENOMA**, a private molecular genetics laboratory, which is now one of the world's largest, fully integrated, specialized provider of genetics services, internationally renowned for its leadership in PGD diagnosis and for its pioneering work in infertility and genetics. GENOMA was founded on several core insights that created the model for molecular genetics centre across the country and around the world. GENOMA also conceived providing genetic services specifically for infertility treatment, an integration which improves quality of care and efficiency.

In 1998, under Dr. Fiorentino's leadership, GENOMA started the first PGD laboratory in Italy. This facility made it possible for GENOMA to test IVF embryos for genetic factors and to prevent genetic diseases in the offspring of at-risk families. The GENOMA 's PGD program is now one of the worldwide leaders in both in quality and volume, and has developed several important new disease-related PGD tests. Dr. Fiorentino was instrumental in forming the PGD. He has been involved in developing each of the tests currently offered in the PGD lab for both single gene defect testing by polymerase chain reaction (PCR) and chromosomal testing by fluorescence in situ hybridization (FISH).

Dr. Fiorentino also conceived and implemented the innovation of using **Minisequencing technique** for mutation detection on single cells. This procedure is now widely used by most of the centers performing PGD testing.

Dr. Fiorentino has also introduced, first in his country and one of the first in the world, an approach for **PGD of genetic disorders combined with HLA testing**. This resulted several well-known studies where the cord blood of unaffected children, born after PGD, was used for saving the life of affected siblings with beta thalassemia, Wiskott-Aldrich Syndrome and leukemia. These 'designer babies' led to headlines in Italy and across the world. This important step enabled his Centre to become one of the five clinics worldwide offering this therapeutic application.

Dr. Fiorentino then initiated the **PGD for inherited predisposition to cancer**, such as familial adenomatous polyposis coli (FAP), Von Hippel-Lindau syndrome (VHL), Retinoblastoma, Li Fraumeni syndrome, or Neurofibromatosis. Recently, he has extended the use of this technique also for **late onset disorders**, such as Huntington disease and Alzheimer's disease, demonstrating the great usefulness of preimplantation diagnosis for the wide range of common disorders of adult life.

Dr. Fiorentino's clinical success has been achieved in collaboration with several other geneticists in the team. Their success led them to the routine use of PGD to diagnose chromosome abnormalities and monogenic disorders in preimplantation embryos. This team has become the world's leaders in both fields. Current research activity remains focused in developing new PGD techniques.

His enthusiasm for his field and to help patients worldwide is shown by his establishment of an international **network of IVF and Preimplantation Genetics Centres**, to assist clinics throughout Europe and Middle East offering PGD services, performing many hundreds of clinical cycles annually. His network's current accumulated experience in preimplantation genetic diagnosis provides a substantial contribution to the overall world experience.

In addition to his extensive experience in practice, Dr. Fiorentino is the author or co-author of several book chapters and peer reviewed **publications** as well as **presentations** at national and international meetings in the fields of genetics, prenatal diagnosis and reproductive genetics. His authoritative work has and still makes major contributions to the improvement and higher specificity of PGD in a competitive and constantly expanding field.

Indefatigable in the search for improvements in the care of his patients, and travelling incessantly, Dr. Fiorentino is known worldwide for his devotion to his subject and his Center. He is a welcome speaker at numerous international conferences reporting on his successful advances in his field. He is also a member of several international organizations, including the **American Society for Reproductive Medicine (ASRM)**, **European Society of Human Reproduction and Embryology (ESHRE)**, **Preimplantation Genetic Diagnosis International Society (PGDIS)**. He is also an active member in **ESHRE PGD Consortium**.



In the last years Dr. Fiorentino has served as a consultant to several academic and research institutions. In **2002**, he established a modern molecular genetics laboratory in **Memorial Hospital, Istanbul, Turkey**, where he started the first PGD program of the country. This program has attracted international patients who have come to it for treatment. Dr. Fiorentino has also established similar projects in other countries, such as **UK, Saudi Arabia, Greece and Albania**. Dr. Fiorentino's consultant activity encompasses also other fields: he is **court-appointed consultant** in forensic cases involving DNA analysis from forensic specimens and paternity disputing. He is also consultant to humanitarian non-profit associations regarding kinship tests by DNA analysis and its use for migration purposes.

Today Dr. Fiorentino is a very active member of the **GENOMA** Board of Directors, serving as its Scientific Director and CEO. He pursues his lifelong thirst for new ideas and developments in reproductive genetics by continuing to study the latest scientific and professional developments and helping catalyze continuing GENOMA innovations. As a molecular biologist and research scientist Dr. Fiorentino embodies what GENOMA has come to represent. Today GENOMA is the leader for combining infertility treatment and genetics for the delivery of important, pioneering, high quality medical treatment and patient care. GENOMA continues to be an organization not only where outstanding medical care is offered, but also one firmly dedicated to expanding its well-deserved reputation as a center where scientific knowledge and innovation are created and highly valued, and where the latest reproductive and genetic innovations are transformed from theory into everyday practice.

[See Dr. Fiorentino's peer-reviewed publications](#)