



UNIVERSITÀ
DEGLI STUDI
DI PADOVA



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TIME: 10:00 - 11:00

LOCATION: University of Padua, Bo Palace, Archivio Antico

The end of genetics?

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ABSTRACT

THE END OF GENETICS? This may appear as a stupid question, especially when all media enthusiastically report on novel discoveries regarding genes and genomes. Nevertheless, the question is legitimate if history of Genetics is considered.

At its beginning, this discipline was strongly characterized by theory-driven research, both in the fields of animal and plant genetics and in population genetics.

Basic achievements (e.g. recombination, concept of gene as unit of mutation, recombination and function, and so on) were obtained by experiments confronting with a theoretical background and statistical testing of results. For this reason, Genetics was considered a "hard" discipline, more similar in its methods to Physics than to other biological disciplines, mostly based on observations.

The advent of molecular biology drastically changed the nature of genetic investigation; it was indeed necessary to coin a new word: "Molecular Genetics". However, original genetic method persisted in Human Genetics (more properly named: Human Molecular Genetics) and in Population Genetics.

The rampant ascent of Genomics surpassed Molecular Genetics; it is presently the most fascinating perspective of research, although it still appears as mostly observational in nature and characterized by technology-driven research.

The availability of growing mass of genetic and genomic data and increasing computational power should encourage to create novel theoretical models, in particular in Developmental Genetics, so renovating Genetics as a "hard science".

FURTHER READINGS

Will be provided during the lecture.