Editorial

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Epigenetics: A Field at Continued Development

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Epigenetics: A Field at Continued Development

We are pleased to announce and introduce the new journal *"Journal of Clinical Epigenetics"* and the positive response by colleagues around the world who have participated in this venture.

The term "epigenetics" was introduced, in the early 1940s, by Conrad Waddington and derived from the word "epigenesis" introduced previously by Aristotle, (as the unfolding of a developmental program to form an animal or plant from an amorphous egg or spore) as a suitable name for ''the branch of biology which studies the causal interactions between genes and their products which bring the phenotype into being'' [1-3].

Today this term is generally accepted as ''the study of changes in gene function that are mitotically and/or meiotically heritable and that cannot be explained by changes in the DNA sequence" [3, 4], and therefore the mechanisms through which cells transmitted its functional or structural state between their lineages [2, 3].

The study of the epigenetics is very important because it has practical significance for medicine, agriculture, species conservation, and heredity and evolution. It is well-established that cells with the same genetic material may manifest different phenotypes. Understanding how the environmental influences affect the development of diseases and their severity is a major goal in this field of science.

The establishment of the epigenetic program is crucial during development, and the stability of the epigenetic reprogramming that occurs during gametogenesis and embryogenesis is essential for maintaining the functions of each cell type in the life of an organism [2, 5]. If a disturbance of the physiological environment occurs during folliculogenesis and embryogenesis the new epigenetic reprogramming, in these critical phases, could cause an alterations of clinical relevance [2]. For instance, the epigenetic change might result in cancer, coronary heart disease, stroke, diabetes, and degenerative disorders or disease of immune system [2, 6, 7]. By other hand, the main difference between the concepts related to the genetic and epigenetic process is that DNA sequence is static, and the epigenome is a dynamic entity that changes with cell type, during the cell cycle, in response to biologic signaling systems, and with environmental changes [8].

If we ask how many articles have been published over the past decade, we find that the number of articles published with the word epigenetics has increased 22-fold (January-November, 2015 vs. 2005). This represents a very important area of new development.

The *Journal of Clinical Epigenetics* will publish studies that investigate mechanisms associated with epigenetics, as well as studies aimed at disease that involve the epigenetic process. Topics include, but are not limited to, human illness, and treatment of diseases associated to aging, allergy, immunology, pathogens, cancer epigenetics and diagnostics, cardiovascular epigenetics, endocrinology and metabolic illness, epigenetic treatment and clinical trials, innovative epigenetics treatments, neurology and psychiatry, nutritional and ecological epigenetics. The field of epigenetics is at a continued development, for this

reason the *Journal of Clinical Epigenetics* will be a support for the researchers. Manuscripts submitted to *Journal of Clinical Epigenetics* will be reviewed by internationally recognized experts in the field of epigenetics.

We encourage you to submit your papers to *Journal of Clinical Epigenetics* and finally, we hope that you share our vision.

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