

Special Issue on
**Endocrine Responses Shaped by Ageing, Diet, and
Environmental Endocrine Disruptors**

CALL FOR PAPERS

Different levels of regulation may rule endocrine axes functioning. The hormone synthesis and release, the expression of hormone receptors in the target organs, and the maintenance of the correct hormone level in circulation are the most appreciable regulative steps along the endocrine axes, and several endocrine disruptors impacting directly or indirectly on these aspects can induce endocrine dysregulation. In this scenario, evidence now suggests that epigenetics shapes endocrine functions, linking genetics, and the environment.

During life, from an embryo to adult, irreversible telomere erosion, mitochondrial dysfunction, and stem-cell exhaustion are among the hallmarks of ageing, a developmental process closely associated with global deterioration of epigenetic markers, strongly affecting endocrine responses. Cell epigenome is also shaped by the environment and mediates cellular response to environmental endocrine disruptors.

In this context, the hypothalamus-pituitary-gonadal axis is one of the best examples of an endocrine system influenced by endocrine disruptors. Stressor factors, chemical pollutants, and diet have a powerful impact on the integrity and functionality of endocrine systems through the modulation of gene expression *via* epigenetic modifications. Therefore, the epigenome can be considered an interface between the genome and environment. Recent studies have also focused on the discovery of molecular mechanisms through which maternal and paternal health influence the embryonic molecular fingerprint and the developmental trajectories of the offspring. Molecular alterations to the germ line can promote effects on subsequent generations. Frequently, endocrine disruptors do not promote genetic mutations, but alter the epigenetic programming of the germ line and transmit these alterations to the offspring, negatively modulating endocrine systems.

The new frontier of research points to the epigenetic route as a vehicle of transmission across generations.

In this special issue, we encourage authors to submit original research papers or review articles pointing out the effects of ageing, diet, and environmental endocrine disruptors on endocrine system regulation. Such a topic is highly timely and will be of benefit to the wider research community.

Potential topics include but are not limited to the following:

- ▶ Hormonal modulation and endocrine system plasticity through epigenetic mechanisms
- ▶ Environmental regulation of endocrine systems through epigenetic mechanisms
- ▶ Ageing-induced hormone modulation and epigenome modifications
- ▶ Effects of nutritional exposure on endocrine systems through epigenetic route
- ▶ Endocrine disruptors and endocrine responses through epigenetic route
- ▶ Epigenetic transgenerational inheritance of endocrine diseases promoted by ageing, diet, and environmental endocrine disruptors

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/ije/iaef/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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