Call for Papers: Special Issue on Mitochondrial DNA in Health and Disease Deadline for Manuscript Submission: January 1, 2020

Guest Editors: Tito Cali and Marisa Brini; *University of Padova*

The mitochondrion is the major energy source within the cell that regulates different cellular processes. In addition to this important function the mitochondrion also houses its own DNA and protein synthesizing machinery. Human mtDNA is circular, has 16596 base pairs and encodes 13 polypeptides of the oxidative phosphorylation complex (OXPHOS) that are localized to the mitochondrial inner membrane, 22 transfer RNAs and 2 ribosomal RNAs (12S and 16S rRNAs) for mitochondrial translation. It is inherited maternally (although evidence for partial paternal inheritance has recently been described) and commonly used to establish maternal family ties. Mutations in mtDNA, which are 100-fold higher than nuclear DNA, were created by travel and mixing and are linked to disease and aging.

Since mitochondria serve as the powerhouse of the cell, mtDNA mutations often result in more pronounced disease phenotypes in highly metabolic tissues with heavy energy demands such as brain, retina, skeletal muscle, and heart. A few clinical syndromes that are currently believed to be associated with mitochondrial disease include Pearson syndrome, Leigh syndrome, Mitochondrial encephalopathy, lactic acidosis and stroke-like episodes (MELAS), Kearns-Sayre Syndrome (KSS), Myoclonic Epilepsy with Ragged Red Fibers (MERRF), Leber Hereditary Optic Neuropathy (LHON), progressive external ophthalmoplegia, exercise-induced muscle pain, fatigue, and rhabdomyolysis.

To highlight the role of mitochondrial DNA in disease and the advances in mtDNA research, ***DNA and Cell Biology*** is organizing a special issue on this burning topic. We will consider articles highlighting the full breadth of scientific findings in the form of original research papers and reviews, perspectives, profiles, commentaries, and exemplary front matter.

Areas of interest include, but are not limited to:

- mtDNA integrity
- mtDNA replication
- mtDNA damage
- mtDNA and ageing
- mtDNA and cancer
- mtDNA and mitochondrial myopathies
- mtDNA and neurodegenerative disease
- mtDNA and metabolic syndrome

Contributions will receive prompt and thorough peer review. Please refer to our Instructions for Authors before submitting your manuscript for consideration. Authors are encouraged to vet ideas directly with Carol Shoshkes Reiss, our editor-in-chief, via e-mail before submitting.

Instructions for authors can be found here: <https://home.liebertpub.com/publications/dna-and-cell-biology/13/for-authors>

DNA and Cell Biology delivers authoritative, peer-reviewed research on all aspects of molecular and cellular biology, with a unique focus on combining mechanistic and clinical studies to drive the field forward. The journal is under the editorial leadership of Editor-in-Chief **Carol Shoshkes Reiss, PhD**, Departments of Biology and Neural Science, New York University, and other leading investigators.

Editorial Questions? Contact:

Dr. Tito Cali, Guest Editor, E-mail: tito.cali@unipd.it

Prof. Marisa Brini, Guest Editor, E-mail: marisa.brini@unipd.it

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