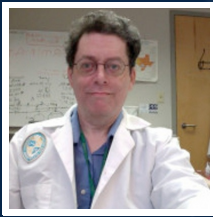


# Elucidating the Mechanisms of Telomeres



Arthur Lustig

Professor, Biochemistry and Molecular Biology

## CURRENT RESEARCH

### Unraveling the complex telomere system

The DNA of an organism is distributed among multiple coordinated structures called chromosomes and are the road map to the composition of the genetic information for living organisms. It turns out that at the end of each chromosome are telomeres (from the latin "ends"), tiny tools that protect our chromosomes from self-obliteration while being able to turn off the expression of genes. Therefore telomeres are a part of an elaborate mechanism involving not only proteins specific to the telomere but proteins specific to DNA damage. Using yeast as a model system, Dr. Arthur Lustig, Professor of Biochemistry and Molecular Biology at Tulane University, investigates the processes that act at the telomere. Dr. Lustig's research is helping to elucidate the pathways and processes in molecular systems that regulate telomere function in an effort to understand the disease state. For instance, his basic research with yeast has helped identify pathways present in human cells that were previously unknown to cause cancer. In this way, the impact of Dr. Lustig's work is the discovery of new and unusual pathways for the protection of the chromosome.

Unique to Dr. Lustig is his use of a model system, budding yeast, that has been extensively characterized with mutations present in most genes as a primary tool to ask basic questions. By asking novel questions with curiosity driven research, he and his team have sought out answers by isolating some of the mutations in the process and making sense of the probable mechanisms through the behavior of yeast using molecular tools. With the strong believe that basic science is necessary to lead to translational research endeavours, Dr. Lustig's research is a driving force in the...

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## AFFILIATION

 Tulane University

## EDUCATION

- Ph.D., in Biochemistry, 1981, The University of Chicago
- B.A., in Biology, 1975, The University of Chicago

## AWARDS

- Fellow, American Association for the Advancement of Science 2007
- Distinguished Service as a Reviewer, Elsevier Publications 2014
- Distinguish Service as an Editor, PLOS One, 2015
- Member, NIH Study Section, 2015

## RESEARCH AREAS

Life Science, Oncology / Cancer, Oncology / Cancer

## FUNDING REQUEST

Your contributions will support the continued research of Dr. Arthur Lustig, of Tulane University, as he discovers new and unusual pathways for the protection of the chromosome. Donations will fund the necessary \$250K required for personnel, equipment, mutant yeast strains, and the means to analyze the DNA of the model system. Join in unraveling the mysteries of the telomere as basic research becomes necessary for applied medicine.