



Pacific Center for
Emerging Infectious Diseases
Research



UNIVERSITY
of HAWAII
MĀNOA

COBRE RESEARCH SEMINAR SERIES

The Selfish Ribosomal RNA Genes

Nucleolar dominance is a dramatic epigenetic phenomenon by which cells of interspecies hybrids selectively express the 45S rRNA precursor and form nucleoli from the chromosomes of only a single progenitor, typically dependent on species rather than maternal or paternal effects. Genome-wide approaches enable us to shed new light on patterns, mechanisms, and consequences of nucleolar dominance, a phenomenon observed long before the discovery of DNA structure, yet to this date remaining a major cytogenetic puzzle. With its extreme genomic and epigenomic patterns of reprogramming, comparable only with X chromosome inactivation, nucleolar dominance in *Xenopus* hybrid genomes provides a fascinating model for understanding the regulation of rRNA expression, nucleolus formation, and transgenerational effects. We have observed that inheritance of rRNA genes is largely non-Mendelian, a plausible hallmark of genomic conflicts whereby certain alleles are transmitted from one generation to the next in a biased manner.

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Thursday, June 6, 2013 at 2:00 p.m.

John A. Burns School of Medicine, Kaka'ako

Medical Education Building, Auditorium (Room 315)

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