MORGAN STATE UNIVERSITY
INTERDISCIPLINARY SEMINAR SERIES
Presents:

SPEAKER (S): Anita H. Corbett, Ph.D.
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Emory University School of Medicine

TOPIC: Using the Budding Yeast, *Saccharomyces cerevisiae*,
to Define the Molecular Mechanisms that Underlie a
Human Neurological Disease, Pontocerebellar Hypoplasia
Type 1 (PCH1)

DATE/TIME: March 17, 2016    TIME: 3:45 P.M.
PLACE: Traveler’s Auditorium (125 Dixon Research Center)

ABSTRACT: Many human diseases are caused by very small changes in proteins that play
important roles in all cells and tissues in our bodies. Understanding how these changes,
which are often only a single amino acid change, cause a disease in people is very
challenging. In our laboratory, we use the single-celled budding yeast as a model to
understand how these protein changes cause human disease. This seminar will focus on
a change that causes a terrible genetic disease called Pontocerebellar Hypoplasia Type 1
(PCH1) that effects specific regions of the brain. Typically children born with this disease
do not survive beyond infancy. There is currently no cure or treatment for the disease.
The protein change that causes PCH1 is in a protein that is very highly conserved
between the yeast and human. This protein is a part of a complex called the RNA
exosome which is critical for both processing RNAs and getting rid of defective RNAs. In a
project carried out by a number of undergraduate students in the laboratory, we use
molecular biology to model the patient mutations in yeast. With this approach we have
been able to determine which patient mutations are most severe and also provide
important insight into how the disease-causing change impacts cell function

BIOGRAPHY: Dr. Anita H. Corbett obtained her undergraduate degree in Chemistry at
Colgate University in upstate New York. She then attended Vanderbilt University where
she obtained a PhD in Biochemistry based on her thesis work studying the catalytic
mechanism of topoisomerase II. She moved from Nashville to Boston to pursue post-
doctoral studies at Harvard Medical School examining mechanisms of protein import
into the nucleus. In 1997, she was recruited to the Biochemistry Department at The
Emory University School of Medicine as a tenure track Assistant Professor. She rose
through the ranks and is now a full Professor of Biochemistry and also serves as Co-
Director of the MD/PhD Program at Emory. Her laboratory studies post-transcriptional
regulation of gene expression with an emphasis on the function of RNA binding proteins
particularly those altered in human disease. Current projects focus on understanding the
molecular basis of a form of inherited intellectual disability as well as a specific form of
muscular dystrophy called oculopharyngeal muscular dystrophy (OPMD).