



QUANTITATIVE & SYSTEMS BIOLOGY SEMINAR: Tuning Translation with Ubiquitin

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About The Speaker:

Professor 6/2021 to present
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Associate Professor 6/2017 to 5/2021
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Postdoctoral Research 1/2007 – 6/2011
Harvard Medical School
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Mentor – J. Wade Harper, Ph.D.

Ph.D. Biological Sciences 9/2001 - 12/2006
Stanford University, Stanford, CA
Dissertation Advisor - Ron Kopito, Ph.D.

B.S. Biochemistry Magna Cum Laude 9/1997 - 5/2001
Boston College, Chestnut Hill, MA



Abstract:

Ribosomes are the molecular engines that drive protein biogenesis. Key quality control and proteostasis signaling pathways exist to monitor ribosome progression and guard against the production of defective nascent polypeptides. Ribosomes that experience prolonged stalls during elongation which result in ribosome collisions elicit a multifaceted ribosome-associated quality control (RQC) response. Conserved site-specific regulatory ribosomal ubiquitylation (RRub) events on the 40S proteins play a critical role in propagating RQC responses. A spatially adjacent but distinct set of ubiquitylation events which do not play a functional role in the characterized RQC pathway, are triggered by integrated stress response activation. The function and key regulators of these abundant stress-responsive ribosomal ubiquitylation events are unknown. Here, we will discuss the mechanisms by which ubiquitylation directly regulates multiple phases of translation.

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Date:
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Time:
2:30 PM-3:45 PM

Location:
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