

Jared Bard – Curriculum vitae
Assistant Professor
Texas A&M University, Department of Biology
BSBE 314B, College Station, TX 77843

Email: jbard@tamu.edu

Mobile telephone: (860) 546-8866

Research interests

I study how protein levels are regulated in cells, with a particular focus on how translation is rapidly reprogrammed in response to environmental stresses and viral infection. I use an integrative approach, combining biophysical, biochemical and cell biological tools to gain a deep understanding of how translational specificity is modulated, from the fluctuating dynamics of macromolecular machines to the dramatic reorganization of the cytoplasm by biomolecular condensation.

Education

University of California, Berkeley, Berkeley, CA Ph.D., Molecular and Cell Biology	2012-2018
Yale University, New Haven, CT B.S., Molecular Biophysics and Biochemistry, <i>magna cum laude</i> , Phi Beta Kappa	2008-2012

Research Experience

2012-2018	<i>Ph.D. candidate – UC Berkeley – Department of Molecular and Cell Biology</i> NSF Graduate Research Fellow Advisor: Andreas Martin, Ph.D. Investigated the mechanisms and timing of substrate degradation by the 26S proteasome using <i>in vitro</i> reconstitutions and fluorescence assays.
2018-2023	<i>Postdoctoral Scholar - University of Chicago - Chicago, IL</i> Helen Hay Whitney Fellow Advisor: D. Allan Drummond, Ph.D. Studying the regulation of the stress response in <i>Saccharomyces cerevisiae</i> including the role of biomolecular condensation of proteins and RNA in controlling translation.
2024-Present	<i>Assistant Professor – Texas A&M University – College Station, TX</i> Studying the post-transcriptional regulation of gene expression during the cellular stress response, tumorigenesis and viral infection.

Publications

Kik SK, Christopher D, Glauninger H, Hickernell CW, **Bard JAM**, Ford M, Sosnick TR, and Drummond, DA (2023). An adaptive biomolecular condensation response is conserved across environmentally divergent species. *bioRxiv*, 2023.07.28.551061.

Ali A, Garde R, Schaffer OC, **Bard JAM**, Husain K, Kik SK, Davis KA, Luengo-Woods S, Igarashi MG, Drummond DA, Squires AH, Pincus D. Adaptive preservation of orphan ribosomal proteins in chaperone-dispersed condensates. *Nat Cell Biol.* 2023 Nov;25(11):1691–703. DOI: 10.1038/s41556-023-01253-2.

Jonsson E*, Htet ZM*, **Bard JAM**, Dong KC, Martin A. (2022). Ubiquitin modulates 26S proteasome conformational dynamics and promotes degradation. *Science Advances*. 8, eadd9520.

Glauninger H, Hickernell CJW, **Bard JAM**, Drummond, DA. (2022). Stressful steps: progress and challenges in understanding stress-induced mRNA condensation and stress granule coalescence. *Molecular Cell*. 82, 2544–2556.

Yoo H, **Bard JAM**, Pilipenko E, Drummond DA. (2022). Chaperones directly and efficiently disperse stress-triggered biomolecular condensates. *Molecular Cell*. 82, 741–755.e11.

Bard, JAM, Bashore C, Dong KC, Martin A. (2019). The 26S Proteasome Utilizes a Kinetic Gateway to Prioritize Substrate Degradation. *Cell*. 177, 286-298.e15.

Bard JAM*, Goodall EA*, Greene ER, Jonsson E, Dong KC, Martin A. (2018) Structure and Function of the 26S Proteasome. *Annual Review of Biochemistry*. 87: 697-724. *Authors contributed equally

Bard JAM, Martin A. (2018) Recombinant expression, unnatural amino-acid incorporation, and site-specific labeling of 26S proteasomal subcomplexes. *Methods in Molecular Biology*. vol 1844.

Oral Presentations

Bard JAM, Glauninger H, Hickernell CJ, Wallace EW, Katanski CD, Drummond DA. Linking translational regulation and biomolecular condensation. **15th Midwest Conference on Protein Folding, Assembly and Molecular Motions**. May 7, 2022.

Bard JAM, Glauninger H, Hickernell CJ, Wallace EW, Katanski CD, Drummond DA. Linking translational regulation and biomolecular condensation. **Cold Spring Harbor meeting: Protein Homeostasis in Health and Disease**. April 29, 2022.

Bard JAM, Glauninger H, Hickernell CJ, Wallace EW, Katanski CD, Drummond DA. Stalled translation initiation leads to length-independent biomolecular condensation of RNA. **Cold Spring Harbor meeting: Systems Biology: Global Regulation of Gene Expression**. March 11, 2022.

Bard JAM, Martin A. Illuminating the path to degradation: A kinetic exploration of substrate degradation by the 26S proteasome. **American Society for Cell Biology Annual Meeting**. December 12, 2018.

Bard JAM, Martin A. Illuminating the path to degradation: A kinetic exploration of substrate degradation by the 26S proteasome. **Midwest Yeast Meeting**. November 10, 2018.

Bard JAM, Martin A. Illuminating the path to degradation: A kinetic exploration of substrate degradation by the 26S proteasome. **The Proteasome hub: Fine-tuning of proteolysis according to cellular needs**. February 13, 2018.

Bard JAM, Martin A. Timing the sub-steps of proteasomal substrate processing. **Berkeley Biophysics Graduate Group Retreat**. October 6, 2017.

Bard JAM, Jonsson E, Martin A. Illuminating the proteasome: Fluorescence assays for investigating the kinetics of proteasome substrate processing. **American Society for Biochemistry and Molecular Biology Annual Meeting**. April 4, 2016.

Bard JAM, Martin A. Illuminating the proteasome: Fluorescence assays for investigating proteasome mechanism. **UC Berkeley Biochemistry, Biophysics and Structural Biology Annual Retreat**. January 11, 2016.

Poster Presentations

Bard JAM, Glauninger H, Katanski CD, Airoidi EM, Wallace EWJ, Drummond DA. Linking RNA condensation to translational regulation. **RNA 2023**. June 2, 2023. *awarded poster prize

Bard JAM, Glauninger H, Katanski CD, Airoidi EM, Wallace EWJ, Drummond DA. Linking stress-induced condensation to translational regulation. **EMBL: Protein Synthesis and Translational Control**. September 8, 2021.

Bard JAM, Jonsson E, Martin A. Illuminating the belly of the beast: A kinetic dissection of proteasomal substrate processing. **Cold Spring Harbor Meeting: The Ubiquitin Family**. April 19, 2017.

Bard JAM, Jonsson E, Martin A. Fluorescence assays for investigating proteasomal substrate processing. **UC Berkeley Biochemistry, Biophysics and Structural Biology Annual Retreat**. January 7, 2017. *awarded poster prize

Bard JAM, Jonsson E, Martin A. Fluorescence assays for investigating proteasomal substrate processing. **HHMI Science Meeting**. September 7, 2016.

Bard JAM, Jonsson E, Martin A. Illuminating the proteasome: Fluorescence assays for investigating the kinetics of proteasome substrate processing. **American Society for Biochemistry and Molecular Biology Annual Meeting**. April 4, 2016.

Fellowships and Awards

- Helen Hay Whitney Fellowship 2020-2023
- The Proteasome hub travel grant 2018
- NSF Graduate Research Fellow 2012-2017
- Yale Science Scholar 2011
- Yale Tetelman Fellow 2010