

CHAD BRANDON STEIN

chadbstein@gmail.com

EDUCATION

- PhD **Harvard University**, PhD Program in Biological and Biomedical Sciences, 2023
Thesis Advisor: Karen Adelman, PhD
- BPhil **University of Pittsburgh**, Molecular Biology, 2015
Summa Cum Laude, Phi Beta Kappa

RESEARCH

- Graduate Student Researcher**, Harvard Medical School, 2018-2023
Department of Biological Chemistry and Molecular Pharmacology
Advisor: Karen Adelman, PhD
Investigating the Role of the Integrator Complex in Regulating Transcription
• Project aims: Characterize the breadth and function of the Integrator complex in terminating promoter-proximally paused RNA Polymerase II
- Postbaccalaureate IRTA Fellow**, National Institutes of Health, NIDDK 2015–2017
Advisor: Astrid Haase, MD, PhD
Dissecting the 5' Nucleotide Bias of Primary piRNAs
• Project aims: Characterize the genetic and biochemical sources of preferential loading of 1U piRNAs into Piwi, including any functional consequences of altering/abolishing it
- DAAD RISE Intern**, Justus-Liebig-Universität Gießen, Institut für Biochemie Summer 2014
Advisors: Fabian Bietz and Wolfgang Wende, PhD
Designing Novel Engineered Nucleases for Targeted Genome Editing
• Project aims: Use design principles of an existing genome engineering technology, TALENs, to create more efficient means of site-specific targeting with novel nuclease domains
- Undergraduate Researcher**, University of Pittsburgh, Department of Biological Sciences 2012-2015
Advisor: Paula Grabowski, PhD
The Effects of Genotoxic Stress on Alternative Splicing in Cancer
• Project aims: Elucidate the mechanism(s) by which genotoxic stress induces changes in alternative RNA splicing patterns, with an emphasis on oncogenes and tumor suppressor genes

PEER-REVIEWED PUBLICATIONS

- Stein CB, Field AR, Mimoso CA, Zhao C, Huang KL, Wagner E.J., and Adelman K, 2022. Integrator endonuclease drives promoter-proximal termination at all RNA polymerase II-transcribed loci. *Molecular Cell*, 82(22), pp.4232-4245.
- Zhou H, Stein CB, Shafiq TA, Shipkovenska G, Kalocsay M, Paulo JA, Zhang J, Luo Z, Gygi SP, Adelman K and, Moazed D, 2022. Rixosomal RNA degradation contributes to silencing of Polycomb target genes. *Nature*, 604(7904), pp.167-174.

Huang KL, Jee D, **Stein CB**, Elrod ND, Henriques T, Mascibroda LG, Baillat D, Russell WK, Adelman K, and Wagner EJ, 2020. Integrator recruits protein phosphatase 2A to prevent pause release and facilitate transcription termination. *Molecular Cell*, 80(2), pp.345-358.

Stein CB, Genzor P, Mitra S, Elchert A, Ipsaro J, Benner L, Sobti S, Su Y, Hammell M, Joshua-Tor L, and Haase A, 2019. Decoding the 5' nucleotide bias of PIWI-interacting RNAs. *Nature Communications*, 10(1), p.828.

ORAL PRESENTATIONS

Integrator endonuclease drives promoter proximal termination at all RNA polymerase II transcribed loci; EMBL Transcription and chromatin; Short talk; August 2022; Heidelberg, Germany

Exploring how the Integrator complex attenuates transcription in mammalian cells; NSF-funded MIT Genome Architecture and Function Workshop; Talk; June 2020; Virtual

POSTER PRESENTATIONS

Stein CB, Henriques T, Elrod E, Tatomer D, Wilusz J, Wagner E, Adelman K. The Integrator Complex Attenuates Protein-coding Gene Expression. RNA Control & Regulation, Cold Spring Harbor Laboratory; May 2019; Cold Spring Harbor, NY.

Stein CB, Ipsaro JJ, Joshua-Tor L, Haase AD. Dissecting the 5' Nucleotide Bias of piRNAs. Regulatory & Non-Coding RNAs, Cold Spring Harbor Laboratory; August 2016; Cold Spring Harbor, NY.

GRANT SUPPORT

January 2021 - December 2022

Ruth L. Kirschstein Predoctoral Individual National Research Service Award (F31)

National Institute of Allergy and Infectious Diseases, NIH

Principal Investigator, 1F31AI160672-01A1

Investigating the Integrator Complex's Role in Regulating Inflammatory Transcription

HONORS, AWARDS, AND FELLOWSHIPS

Certificate of Distinction in Teaching, Harvard University	2020
Honorable Mention, National Science Foundation Graduate Research Fellowship Program	2019
Outstanding Poster Award, NIH Postbac Poster Day	2016/2017
Brackenridge Research Fellowship, University of Pittsburgh	2014
DAAD RISE Internship in Giessen, Germany	2014
<i>(Internationally competitive award given for a summer of research at a university laboratory in Germany.)</i>	
G. Alec Stewart Student Achievement Award, University of Pittsburgh	2014
<i>(One of the Honors College's most prestigious awards; given to four students annually for outstanding academic achievement, intellectual curiosity, and sense of citizenship.)</i>	
Chancellor's Undergraduate Research Fellowship, University of Pittsburgh	2013
Brackenridge Summer Research Fellowship, University Honors College	2013
Dean's List, University of Pittsburgh	2011-2015
University Honors College Full-Tuition Scholarship, University of Pittsburgh	2011-2015

TEACHING, OUTREACH, AND SERVICE

Teaching Fellow , Cellular Biology and Molecular Medicine, Harvard University	<i>Fall 2020</i>
Teaching Fellow , Life Sciences Outreach Program, Harvard University	<i>Spring 2019</i>
Teaching Assistant , Principles of Genetics, Harvard Medical School	<i>Fall 2018</i>
Undergraduate Teaching Assistant , Honors Organic Chemistry I, University of Pittsburgh	<i>Fall 2013</i>
Teaching Certificate , Harvard University	<i>Spring 2023</i>
Undergraduate Mentoring Workshop Series , Harvard University	<i>Spring 2021</i>
Podcast Producer , Science in the News, Harvard University	<i>Fall 2020-2021</i>
Trainee Committee , Department of Biological Chemistry and Molecular Pharmacology	<i>2019-2023</i>
Mentor , Three rotation students (Harvard) and one summer student (NIH)	<i>2016, 2020-2021</i>