



Postdoctoral Researcher Position

**The Lucks Laboratory
Department of Chemical and Biological Engineering
Center for Synthetic Biology
Northwestern University**

What we are looking for: We are seeking a creative and enthusiastic postdoctoral researcher interested in studying the link between dynamic RNA folding and function. Current NIH-funded projects include studying bacterial riboswitches to understand the principles of RNA cotranscriptional folding and its impact on fundamental gene expression processes. We are also interested in studying eukaryotic phenomena, and in using these principles to design synthetic RNAs to control genetic processes. We develop and apply cutting edge experimental and computational approaches that enable the high throughput interrogation and design of RNA regulatory systems. We are interested in candidates that are passionate about these questions, are excited to lead projects, and that have interest in experimental and/or computational approaches.

Who we are: We are a highly energetic, multidisciplinary, and collaborative research group working at the bleeding edge of RNA biology. We come from a wide array of backgrounds (molecular biology, genetics, systems biology, chemical engineering, bioengineering, biophysics, and more) and are driven to creatively tackle fascinating and challenging problems in RNA biology. We research both fundamental RNA biology questions, as well as questions related to engineering synthetic RNA systems to address important global challenges. We are embedded in a highly collaborative network of Departments, Programs and Centers around Northwestern, and are integral members of the ChicagoLand RNA club that links Northwestern, the University of Chicago, the University of Illinois at Chicago and other regional groups interested in RNA.

Relevant recent publications:

- K. E. Watters, E. J. Strobel, A. Yu, J. B. Lucks (2016). "Cotranscriptional Folding of a Riboswitch at Nucleotide Resolution", *Nature Structural and Molecular Biology*, 23, 1124-1131, doi:[10.1038/nsmb.3316](https://doi.org/10.1038/nsmb.3316).
- E. J. Strobel, L. Chang, K. Berman, P. D. Carlson, J. B. Lucks (2019). "A ligand-gated strand displacement mechanism for ZTP riboswitch transcription control." *Nature Chemical Biology*, 15, 1067-1076, doi:[10.1038/s41589-019-0382-7](https://doi.org/10.1038/s41589-019-0382-7).
- A. Y. Xue, A. M. Yu, J. B. Lucks, N. Bagheri*, (2019). "DUETT quantitatively identifies novel events in nascent RNA structural dynamics from chemical probing data." *Bioinformatics*, 35, 5103-5112, doi:[10.1093/bioinformatics/btz449](https://doi.org/10.1093/bioinformatics/btz449).
- A. Yu, P. M. Gasper, L. Cheng, L. B. Lai, S. Kaur, V. Gopalan, A. A. Chen, J. B. Lucks (2020). "Computationally reconstructing RNA cotranscriptional folding pathways from experimental data reveals rearrangement of non-native folding intermediates". *BioRxiv*, doi:[10.1101/379222](https://doi.org/10.1101/379222).
- P. D. Carlson, J. B. Lucks (2019). "Elements of RNA Design." *Biochemistry*, 58, 1457-1459. doi:[10.1021/acs.biochem.8b01129](https://doi.org/10.1021/acs.biochem.8b01129).

For more information: Please visit <http://luckslab.org>.

To apply: Provide a cover letter describing your previous research and your interest in our lab, and a CV with names and contact information for references to jblucks@northwestern.edu. Applications will be reviewed until early January, 2021.