

Adam J. Trexler, PhD

Elder Research

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Education

2013 PhD, Yale University, New Haven, CT. Molecular Biophysics and Biochemistry
2007 BA, McDaniel College, Westminster, MD. Biology and Biochemistry.

Professional Experience

2018- Data Scientist, Elder Research, Arlington, VA.
2017-2018 Data Scientist, Research Facilitation Laboratory, Northrop Grumman, Monterey, CA.
2013-2017 Postdoctoral Fellow, National Heart Lung and Blood Institute, National Institutes of Health, Bethesda, MD.
Advisor: Dr. Justin Taraska
2007-2013 Doctoral Student, Yale University, New Haven, CT.
Advisor: Dr. Elizabeth Rhoades

Fellowships and Awards

2015 Fellows Award for Research Excellence (FARE) Travel Award Winner, NIH
2013- Intramural Research Training Award Postdoctoral Fellowship
2013 Mary Ellen Jones Dissertation Prize, Molecular Biophysics and Biochemistry, Yale University
2010-2012 Ruth L. Kirschstein National Research Service Award F31 Predoctoral Fellowship

Publications

1. **Trexler AJ**, Taraska JW. 2017. Regulation of insulin exocytosis by calcium-dependent protein kinase C in beta cells. *Cell Calcium*.
2. **Trexler AJ**, Sochacki KA, Taraska JW. 2016. Imaging the recruitment and loss of proteins and lipids at single sites of calcium-triggered exocytosis. *Molecular Biology of the Cell* 27: 2423-2434.
3. **Trexler AJ**, Taraska JW. 2016. Two-color total internal reflection fluorescence microscopy of exocytosis in endocrine cells. *Methods in Molecular Biology: Light Microscopy* 151-165.
4. **Trexler AJ**, Rhoades E. 2012. N-terminal acetylation is critical for forming structured oligomer of alpha-synuclein. *Protein Science* 21(5): 601-605.
5. **Trexler AJ**, Rhoades E. 2010. Single molecule characterization of alpha-synuclein in aggregation-prone states. *Biophysical Journal* 99(9): 3048-2055.
6. **Trexler AJ**, Rhoades E. 2009. Alpha-synuclein binds large unilamellar vesicles as an extended helix. *Biochemistry* 48(11): 2304-2306.

7. **Trexler AJ**, Rhoades E. 2012. Function and Dysfunction of α -Synuclein: Probing Conformational Changes and Aggregation by Single Molecule Fluorescence. *Molecular Neurobiology* 47(2): 622-631.
8. Rezgui R, Blumer K, Yeoh-Tan G, **Trexler AJ**, Magzoub M. 2016. Precise quantification of cellular uptake of cell-penetrating peptides using fluorescence activated cell sorting and fluorescence correlation spectroscopy. *Biochimica et Biophysica Acta* 1858: 1499-1506.
9. Ciubotaru M, **Trexler AJ**, Spiridon L, Surleac M, Rhoades E, Petrescu A, Schatz D. 2012. RAG and HMGB1 create a large bend in the 23RSS in the V(D)J recombination synaptic complex. *Nucleic Acids Research* 41(4): 2437-2454.
10. Nath A, Sammalkorpi M, Dewitt D, Schreck C, **Trexler AJ**, Rhoades E, O'Hern C. The conformational ensembles of alpha-synuclein and tau: combining single-molecule FRET and simulations. *Biophysical Journal* 103(9): 1940-1949.
11. Sevcsik E, **Trexler AJ**, Dunn JM, Rhoades E. 2011. Allostery in a disordered protein: oxidative modifications to alpha-synuclein act distally to regulate membrane binding. *Journal of the American Chemical Society* 133(18): 7152-7158.
12. Nath A, **Trexler AJ**, Koo P, Miranker AD, Atkins WM, Rhoades E. 2010. Single-molecule fluorescence spectroscopy using phospholipid bilayer nanodiscs. *Methods in Enzymology* 472: 89-117.
13. **Trexler AJ**, Nilsson MR. 2007. The formation of amyloid fibrils from proteins in the lysozyme family. *Current Protein and Peptide Science* 8(6): 537-557.

Selected Talks

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| 2016 | “Probing the lipid environment at single sites of exocytosis” FASEB Summer Research Conference, Molecular Biophysics of Membranes |
| 2015 | “Temporally resolving protein and lipid colocalization at exocytic sites” 59th Annual Meeting of the Biophysical Society. Platform Speaker in Exocytosis, Endocytosis, and Membrane Fusion. |
| 2012 | “Alpha-synuclein aggregation and conformational behavior in the cytoplasm and crowded environments” FASEB Summer Research Conferences, Protein Folding in the Cell. |
| 2012 | “Characterization of alpha-synuclein in intracellular and crowded environments” Gordon Research Seminar: Protein Folding Dynamics. |
| 2011 | “Towards understanding alpha-synuclein conformation within toxic oligomeric states” 55th Annual Meeting of the Biophysical Society. Platform Speaker in Protein Aggregates. |
| 2009 | “Single-molecule FRET on alpha-synuclein membrane-bound conformational states” 53rd Annual Meeting of the Biophysical Society. Platform Speaker in Protein Folding and Stability. |

Selected Posters

- 2015 “Temporally resolving protein and lipid dynamics at single sites of exocytosis” Gordon Research Conference: Molecular Membrane Biology
- 2014 “Investigating the regulation of pulmonary surfactant secretion using fluorescence microscopy” American Society for Cell Biology Annual Meeting.
- 2012 “Towards the native state of the intrinsically disordered protein alpha-synuclein” Cellular and Molecular Biology Training Grant Research Symposium, Yale University.
- 2012 “Characterization of alpha-synuclein in intracellular and crowded environments” Gordon Research Conference: Protein Folding Dynamics.
- 2010 “Nature of the low pH alpha-synuclein state revealed with smFRET” 54th Annual Meeting of the Biophysical Society.

Service

- 2015-2017 Fellows Advisory Committee, National Heart Lung and Blood Institute, Bethesda, MD.

Teaching Experience

- 2009-2012 Graduate Teaching Fellow, Yale University, New Haven, CT.
- 2010-2011 Writing tutor, Residential College Math and Science Tutoring, Yale University, New Haven, CT.
- 2005-2007 Teaching Assistant, Organic Chemistry Laboratory, McDaniel College, Westminster, MD.
- 2004-2007 Writing Tutor, McDaniel College, Westminster, MD.

Memberships

- 2008-2017 Biophysical Society
- 2014-2016 American Society for Cell Biology
- 2007- Phi Beta Kappa