

## James A. Hebda

### A. Professional Preparation

Bridgewater State University	Chemistry	B.S., 2004
Yale University	Molecular Biophysics & Biochemistry	Ph.D., 2011
Amherst College	Biochemistry and Biophysics	2010-2013

### B. Appointments

2014- Present	Assistant Professor	Department of Chemistry	Austin College
2013- 2014	Visiting Lecturer	Department of Chemistry	Amherst College
2010-2013	Teaching and Research Fellow	Department of Chemistry	Amherst College

### C. Publications

#### Undergraduate student research related

1. A.H. Pearlman, S. Salvi, P.B. O'Hara, **J.A. Hebda**. 2014. Stability and Dynamics of Alpha Crystallin Probed by FRET and FCS Reveal Persistent Oligomerization Under Dilute Conditions. *Biophysical Journal*, 106 (2), p247a\*
2. R.G. Cabrejo, **J.A. Hebda**, P.B. O'Hara. (2014) Clarifying the Intersection Between Alpha-Crystallin B Function and Oligomerization by Altering Aggregation Conditions. *Biophysical Journal*, 106 (2) (Sup.1), p471a\*

#### Significant Products

3. S. Kumar, D.E. Schlamadinger, M.A. Brown, J.M. Dunn, B. Mercado, **J.A. Hebda**, I. Saraogi, E. Rhoades, A.D. Hamilton, A.D. Miranker. 2015. Islet Amyloid-Induced Cell Death and Bilayer Integrity Loss Share a Molecular Origin Targetable with Oligopyridylamide-Based  $\alpha$ -Helical Mimetics. *Chemistry and Biology*. **22**(3) p. 369-378
4. **J.A. Hebda**, M. Magzoub, A.D. Miranker. 2014. Small Molecule Screening in Context: Lipid-catalyzed Amyloid Formation. *Protein Sci.* **23**(10) p. 1341-1348
5. **J.A. Hebda**, A.D. Miranker. 2009. The Interplay of Catalysis and Toxicity by Amyloid Intermediates on Lipid Bilayers: Insights from Type II Diabetes. *An. Rev. Biophysics*. **38** p. 125-152
6. **J.A. Hebda**, I. Saraogi, M. Magzoub, A.D. Hamilton, and A.D. Miranker. 2009. A Peptidomimetic Approach to Targeting Pre-amyloidogenic States in Type II Diabetes. *Chemistry and Biology*. Sep 25;**16**(9): 943-50
7. I. Saraogi<sup>†</sup>, **J.A. Hebda**<sup>†</sup>, J. Becerril, L.A. Estroff, A.D. Miranker, and A.D. Hamilton. 2009. Synthetic  $\alpha$ -Helix Mimetics as Agonists and Antagonists of IAPP Amyloid Formation. *Angew. Chem. Int.* **49** 4, p. 736-739
8. B.W. Koo, **J.A. Hebda** and A.D. Miranker. Amide inequivalence in the fibrillar assembly of islet amyloid polypeptide. 2008. *Protein Eng Des Sel* **21** 3, pp. 147-154
9. J.D. Knight, **J.A. Hebda** and A.D. Miranker. Conserved and cooperative assembly of membrane-bound  $\alpha$ -helical states of islet amyloid polypeptide. 2006. *Biochemistry* **45**, pp. 9496-9508.

#### D. Synergistic Activities

STAR Leadership Program,– I am an active participant in the STEM Teaching and Research (STAR) leadership Program at Austin College. This program provides training and guidance to enable me to integrate leadership curriculum seamlessly into my current classes at Austin College. This project has been funded (2014-2016) by a KECK Foundation grant (\$250,000)

Grant - My research lab is funded by a 3-year grant from the Discovery Foundation (2015-2018) titled “Research 365: Providing Unified Research Experiences in Biochemistry throughout the Year. A Proposal to Study the Protein Chaperone that Inhibits Cataract Formation.” This grant funds student research in the forms of summer research experiences, semester projects for individual students, and course-linked laboratory research experiences. All of the projects are tied into one continuous project. (\$110,000)

Grant - I was awarded a competitive Mellon Digital Pedagogy project grant (\$6,000) to pilot the use of lecturing and digital grading using wireless tablet technology. This project has resulted in two campus demonstration to explain the hardware and software choices that enable untethered presentation of actively editable PowerPoint style lectures as well as “handwritten” digital grading of student assignments.

I am an active reviewer for the Journal of Chemical Education (2012-current).

I am a member of Sigma Xi (2014-current), ACS (2012-current), and ASBMB (2015-current). Each of these communities provide resources and support for both my teaching and my research endeavors.