

Kristi L. Lazar Cantrell
klazar@westmont.edu
Westmont College Department of Chemistry
955 La Paz Road, Santa Barbara, CA 93108, (805) 565-6175

ACADEMIC POSITIONS

2017-present Associate Professor and Pre-Health Advisor, Westmont College
2011-2017 Assistant Professor, Westmont College
2010-2011 Visiting Assistant Professor, Westmont College

EDUCATION/TRAINING

2007-2009 Postdoctoral Research Fellow, Genentech, Inc. Early Stage Pharmaceutical Development, South San Francisco, CA
2003-2007 Ph.D., Department of Chemistry, The University of Chicago, Chicago, IL (advisor: Stephen C. Meredith; dissertation title: *Non-amyloid protein aggregates*)
2000-2003 M.S., Department of Chemistry, Princeton University, Princeton, NJ
1996-2000 B.S., Department of Chemistry, Westmont College, Santa Barbara, CA Summa Cum Laude with Major Honors

HONORS AND AWARDS

2014-2020 Served on the Executive Committee in the Los Padres section of the American Chemical Society
2012, 2018 Westmont College Professional Development Grant
2014 Westmont College Bruce and Adaline Bare Outstanding Teacher Award
2006 Gordon Research Conference Travel Award
2005 American Chemical Society *Biochemistry* Hot Article
2003-2007 NIH Cardiovascular Pathophysiology Training Grant
2000-2003 Hugh Stott Taylor Fellowship in Chemistry, Princeton University

PROFESSIONAL MEMBERSHIPS

- American Chemical Society
- National Association of Advisors for the Health Professions
- Omicron Delta Kappa
- Phi Kappa Phi

PEER-REVIEWED PUBLICATIONS

- Arya, S., Ganguly, P., Arsiccio, A., Claud, S. L., Trapp, B., Schonfeld, G. E., Liu, X., Lazar Cantrell, K. L., Shea, J.-E., and Bowers, M. T. (2020) Terminal capping of an amyloidogenic Tau fragment modulates its fibrillation propensity, *J. Phys. Chem. B* **124**, 8772-8783.
- Gray, A. L. H., Antevska, A., Oluwatoba, D. S., Schonfeld, G. E., Lazar Cantrell, K. L., and Do, T. D. (2020) Cytotoxicity of α -Helical, *Staphylococcus Aureus* PSM α 3 Investigated by Post Ion-Mobility Dissociation Mass Spectrometry, *Anal. Chem.* **92**, 11802-11808.
- Laos, V., Bishop, D., Lang, C. A., Marsh, N. M., Lazar Cantrell, K., Buratto, S. K., Singh, A. K., and Bowers, M. T. (2020) Modulating ALS-Related Amyloidogenic TDP-43₃₀₇₋₃₁₉ Oligomeric Aggregates with Computationally Derived Therapeutic Molecules, *Biochemistry* **59**, 499-508.
- Arya, S., Claud, S. L., Lazar Cantrell, K., and Bowers, M. T. (2019) Catalytic Prion-Like Cross-Talk between a Key Alzheimer's Disease Tau-Fragment R3 and the Type 2 Diabetes Peptide IAPP, *ACS Chem. Neurosci.* **10**, 4757-4765.

- Laos, V., Do, T. D., Bishop, D., Jin, Y., Marsh, N. M., Quon, B., Fetters, M., Lazar Cantrell, K., Buratto, S. K., and Bowers, M. T. (2019) Characterizing TDP-43₃₀₇₋₃₁₉ Oligomeric Assembly: Mechanistic and Structural Implications Involved in the Etiology of Amyotrophic Lateral Sclerosis, *ACS Chem. Neurosci.* **10**, 4112-4123.
- Ilitchev, A. I., Giammona, M. J., Olivas, C., Claud, S. L., Lazar Cantrell, K. L., Wu, C., Buratto, S. K., and Bowers, M. T. (2018) Hetero-oligomeric Amyloid Assembly and Mechanism: Prion Fragment PrP(106-126) Catalyzes the Islet Amyloid Polypeptide β -Hairpin, *Journal of the American Chemical Society* **140**, 9685-9695.
- Feinstein, H. E., Benbow, S. J., LaPointe, N. E., Patel, N., Ramachandran, S., Do, T., Gaylord, M. R., Huskey, N. E., Dressler, N., Korff, M., Quon, B., Lazar Cantrell, K., Bowers, M.T., Lal, R., Feinstein, S. C. (2016) Oligomerization of the Microtubule Associated Protein Tau is Mediated by its N-Terminal Sequences: Implications for Normal and Pathological Tau Action, *Journal of Neurochemistry* **137**, 939-954.
- Do, T. D., Chamas, A., Zheng, X., Barnes, A., Chang, D., Veldstra, T., Takhar, H., Dressler, N., Trapp, B., Miller, K., McMahon, A., Meredith, S. C., Shea, J.-E., Lazar Cantrell, K., and Bowers, M. T. (2015) Elucidation of the aggregation pathways of helix-turn-helix peptides: Stabilization at the turn region is critical for fibril formation, *Biochemistry* **54**, 4050-62.
- Lazar, K. L., Patapoff, T. W., and Sharma, V. K. (2010) Cold denaturation of monoclonal antibodies, *MAbs* **2**, 42-52.
- Bockhorn, J. J., Lazar, K. L., Gasser, A. J., Luther, L. M., Qahwash, I. M., Chopra, N., and Meredith, S. C. (2010) Novel semi-synthetic method for generating full length β -amyloid peptides, *Biopolymers* **94**, 511-520.
- Lazar, K.L., Kurutz, J. W., Tycko, R., and Meredith, S. C. (2006) Encapsulation and NMR on an Aggregating Peptide before Fibrillogenesis, *J. Am. Chem. Soc.* **128**, 16460-16461.
- Lazar, K. L., Greene, B. E., Stein, C. S., Johnson, W. P., Choi, P. J., Marten, D. F., Nishimura, A. M., and Tinti, D. S. (2006) Optically detected magnetic resonance of alpha-deuterated 2-indanone, *Journal of Luminescence* **118**, 21-32.
- Lazar, K. L., Miller-Auer, H., Getz, G. S., Orgel, J. P. R. O., and Meredith, S. C. (2005) Helix-Turn-Helix Peptides That Form α -Helical Fibrils: Turn Sequences Drive Fibril Structure, *Biochemistry* **44**, 12681-12689.
- Lazar, K. and Walker, S. (2002) Substrate analogues to study cell-wall biosynthesis and its inhibition, *Curr. Opin. Chem. Biol.* **6**, 786-793.

INVITED ORAL PRESENTATIONS

- Pepperdine University Research Presentation, September 2016, Malibu, CA.
- Supramolecular Materials Meeting Research Presentation, August 2016, Berlin, Germany.
- University of La Verne Research Presentation, December 2015, La Verne, CA.
- UCSB Research Presentation, August 2011, Santa Barbara, CA.
- Westmont College Summer Research Celebration, September 2010, Santa Barbara, CA.
- IBC Life Sciences Formulation Strategies for Protein Therapeutics, October 2009, Raleigh, NC.
- Westmont College NBS Seminar Series, January 2009, Santa Barbara, CA.
- ACS National Meeting BIOT Division, August 2009, Washington, D.C.
- Northwestern University Midwest Stress Response and Chaperone Meeting, February 2007, Evanston, IL.
- University of Chicago Biomolecular Interactions Symposium, December 2005, Chicago, IL.
- University of Notre Dame Midwest Protein Folding Conference, April 2005, South Bend, IN.

POSTER PRESENTATIONS

- American Chemical Society National Meeting and Exposition, March 2016, San Diego, CA.
- American Association of Pharmaceutical Sciences Annual Meeting and Exposition, November 2008, Atlanta, GA.
- American Peptide Society Symposium, June 2007, Montreal, Quebec, Canada.
- Gordon Research Conference, Chemistry and Biology of Peptides, February 2006, Ventura, CA.
- Northwestern University Midwest Stress Response and Chaperone Meeting, January 2006, Evanston, IL.
- 19th American Peptide Society Symposium, June 2005, San Diego, CA.
- Northwestern University Midwest Stress Response and Chaperone Meeting, January 2005, Evanston, IL.

WORKSHOPS AND SEMINARS

- Attended the National Association of Advisors for the Health Professions (NAAHP) Annual Meeting, June 2016, Minneapolis, MN.
- Attended the National Association of Advisors for the Health Professions (NAAHP) Annual Meeting, June 2014, San Francisco, CA.
- Selected to attend the National Science Foundation (NSF) Medicinal Chemistry Workshop, July 2013, University of Minnesota, Minneapolis, MN.