

BRADLEY C. PAASCH

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EDUCATION

- 2018* **Ph.D. – Biochemistry and Molecular Biology**
Michigan State University, East Lansing, MI
MSU-DOE Plant Research Laboratory
Advisor: Dr. Sheng Yang He
Dissertation: Function and mechanism of the plant microbiome
- 2012 **B.S. – Agricultural Biotechnology**
Dual Major – Biology
University of Kentucky, Lexington, KY

Academic Memberships:

- Appalachian & Minority Science, Technology, Engineering, and Mathematics Majors (AMSTEMM)

PROFESSIONAL EXPERIENCE

- 2011-2013 **Research Assistant**
Department of Molecular and Cellular Biochemistry, College of Medicine, University of Kentucky
Advisor: Dr. Matthew Gentry
Research Area 1: Structural and biochemical characterization of glucan phosphatases involved in polyglucosan degradation.
Research Area 2: Identification of novel substrates for enzymes involved in the neurodegenerative Lafora Disease.
- 2010-2011 **Undergraduate Research Assistant**
Department of Anatomy and Neurobiology, College of Medicine, University of Kentucky
Advisor: Dr. Greg Gerhardt
Research Area: Determination of real-time neurotransmission in animal models of epilepsy using microelectrode arrays.

PUBLICATIONS

1. M. Sutter, M. Faulkner, C. Aussignargues, **B. C. Paasch**, S. Barrett, C. A. Kerfeld, L. Liu, Characterization of bacterial microcompartment facet assembly using high-speed atomic force microscopy. *Nature Nanotechnology* (Submitted).
2. C. Aussignargues, **B. C. Paasch**, R. Gonzalez-Esquer, O. Erbilgin, C. A. Kerfeld, Bacterial microcompartment assembly: The key role of encapsulation peptides. *Communicative & Integrative Biology* 8, e1039755 (2015).
3. M. Raththagala, M. K. Brewer, M. W. Parker, A. R. Sherwood, B. K. Wong, S. Hsu, T. M. Bridges, **B. C. Paasch**, L. M. Hellman, S. Husodo, D. A. Meekins, A. O. Taylor, B. D. Turner, K. D. Auger, V. V. Dukhande, S. Chakravarthy, P. Sanz, V. L. Woods Jr., S. Li, C. W. Vander Kooi, M. S. Gentry, Structural mechanism of laforin function in glycogen dephosphorylation and Lafora disease. *Molecular cell* 57, 261-272 (2015).
4. A. R. Sherwood, **B. C. Paasch**, C. A. Worby, M. S. Gentry, A malachite green-based assay to assess glucan phosphatase activity. *Analytical biochemistry* 435, 54-56 (2013).
5. D. A. Meekins, H. F. Guo, S. Husodo, **B. C. Paasch**, T. M. Bridges, D. Santelia, O. Kötting, C. W. Vander Kooi, M. S. Gentry, Structure of the Arabidopsis glucan phosphatase like sex four2 reveals a unique mechanism for starch dephosphorylation. *The Plant Cell* 25, 2302-2314 (2013)