

CURRICULUM VITAE

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Current Position

Assistant Professor, Department of Evolution, Ecology and Organismal Biology, The Ohio State University, Columbus, OH 43210

Professional Preparation

Howard University

B.S. Biology, 1998

Univ. of Wisconsin-Madison (PI: Jo Handelsman)

Ph.D. Microbiology, 2007

Univ. of Arizona (PI: Nancy Moran)

Postdoctoral Fellow, 2007-2010

Yale Univ. (PI: Nancy Moran)

Postdoctoral Associate, 2010-2012

PUBLICATIONS

Ayayee PA, Jones S and **Sabree ZL**. Essential amino acid provisioning by termite-associated gut microbiota. (*In revisions at PeerJ*)

Otero-Bravo A and **Sabree ZL**. 2015. Inside or out? Detailing the life history and potential genomic consequences of extracellular, crypt-dwelling stinkbug mutualists. *Frontiers in Ecology and Evolution* (*Accepted and in production*)

Kenyon LJ, Meulia T, **Sabree ZL**. 2015. Habitat visualization and genomic analysis of "*Candidatus Pantoea carbekii*," the primary symbiont of the brown marmorated stink bug. *Genome Biology and Evolution*. doi: 10.1093/gbe/evv006.

Bansal R, Michel AP and **Sabree ZL**. 2014. The crypt-dwelling primary bacterial symbiont of the polyphagous pentatomid pest *Halyomorpha halys*. *Environmental Entomology*. 43:537-548.

Kenyon LJ and **Sabree ZL**. 2014. Obligate insect endosymbionts exhibit increased ortholog length variation and loss of large accessory proteins concurrent with genome shrinkage. *Genome Biology and Evolution*. doi: 10.1093/gbe/evu055.

Sabree ZL and Moran NA. 2014. Host-specific assemblages typify gut microbial communities of related insect species. *SpringerPlus* 3:138.

Tokuda G, Elbourne L, Kinjo Y, Saitoh S, **Sabree Z[L]**, Hojo M, Yamada A, Hayashi Y, Shigenobu S, Bandi C, Paulsen I, Watanabe H, Lo N. 2013. Maintenance of essential amino acid synthesis pathways in *Blattabacterium* symbionts of a wood-feeding cockroach. *Biology Letters*. 9:20121153.

Sabree ZL, Huang CY, Okusu A, Moran NA, Normark BB. 2013. *Uzinura* is the sole nutrient-supplying endosymbiont of armored scale insects. *Environmental Microbiology*. 15:1988-99.

PUBLICATIONS, continued

Huang CY, **Sabree ZL**, Moran NA. 2012. Genome sequence of *Blattabacterium* sp. strain BGIGA, endosymbiont of the *Blaberus giganteus* cockroach. *Journal of Bacteriology*. 194:4450-1.

Sabree ZL, Hansen AK, Moran NA. 2012. Independent studies using deep sequencing resolve the same set of core bacterial species dominating gut communities of honey bees. *PLoS One*. 7:e41250.

Moran NA, Hansen AK, Powell JE, **Sabree ZL**. 2012. Distinctive gut microbiota of honey bees assessed using deep sampling from individual worker bees. *PLoS One*. 7:e36393.

Sabree ZL, Huang CY, Arakawa G, Tokuda G, Lo N, Watanabe H, Moran NA. 2012. Genome shrinkage and loss of nutrient-providing potential in the obligate symbiont of the primitive termite *Mastotermes darwiniensis*. *Applied and Environmental Microbiology*. 78:204-210.

Olivier-Espejel, S, **Sabree ZL**, Noge K, Becerra JX. 2011. Gut microbiota in nymph and adults of the Giant Mesquite Bug (*Thasus neocalifornicus*) (*Heteroptera: Coreidae*) is dominated by *Burkholderia* acquired *de novo* every generation. *Environmental Entomology*. 40:1102-1110.

Degnan PD, Bittleston LS, Hansen AK, **Sabree ZL**, Moran NA, Almeida RPP. 2011. Origin and examination of a leafhopper facultative endosymbiont. *Current Microbiology*. 62:1565-1572.

Sabree ZL, Degnan PH, Moran NA. 2010. Chromosome stability and gene loss in cockroach endosymbionts. *Applied and Environmental Microbiology*. 76:4076-9.

Sabree ZL, Kambhampati S, Moran NA. 2009. Nitrogen recycling and nutritional provisioning by *Blattabacterium*, the cockroach endosymbiont. *Proceedings of the National Academy of Science* 106:19521-19526.

Sabree ZL, Rondon MR, Handelsman J. 2009. Metagenomics, In: *Encyclopedia of Microbiology*, Moselio Schaechter, Editor-in-Chief. Academic Press, Oxford. 622-632.

Sabree ZL, Bergendahl V, Liles MR, Burgess RR, Goodman RM, Handelsman J. 2006. Identification and characterization of the gene encoding the *Acidobacterium capsulatum* major sigma factor. *Gene* 376:144-51.

Stapleton RD, **Sabree ZL**, Palumbo AV, Moyer CL, Devol AH, Roh Y, Zhou JZ. 2005. Metal reduction at cold temperatures by *Shewanella* isolates from various marine environments. *Aquatic Microbial Ecology*. 38:81-91.

Teaching-related Scholarship

Rios-Velazquez C, Williamson LL, Cloud-Hansen KA, Allen HK, McMahon MD, **Sabree ZL**, Donato JJ, Handelsman J. 2011. Summer workshop in metagenomics: one week plus eight students equals gigabases of cloned DNA. *Journal of Microbiology and Biology Education*. 12. <http://jmbe.asm.org/index.php/jmbe/article/view/177>

Teaching-related Scholarship cont'd

Sabree, ZL. 2004. Bacteriophage P22. <http://www.microbelibrary.org/library/resources/2820-bacteriophage-p22>

- An interactive, Flash-based teaching module describing bacteriophage lysis and lysogeny that, as a teaching assistant, I created as supplementary material for an introductory microbiology course.

MENTORING ACTIVITIES

Current: Paul Ayayee, PhD (postdoc since Feb 2014); Ben Jahnes (Microbiology-EEOB PhD student since March 2015); Alejandro Otero-Bravo (EEOB PhD student, will begin in Aug 2015 but has begun working with PI-Sabree); Undergrads: Reed Walter, Sema Osman, Michael Brockman*, Yanbing Zhou, Alison Brandel*

*-recipient of OSU Undergraduate Research Office funding

Past: Laura J. Kenyon, MS 2014 (currently a research scientist at Stanford Medical School)

GRANTS

2015 OARDC SEEDS-Interdisciplinary Grant (\$51,203)

SYNERGISTIC ACTIVITIES: AD HOC REVIEWER (SINCE 2012)

BMC Biology, Genome Biology and Evolution, Genomics, Journal of Insect Physiology, Journal of Apicultural Research, Microbial Ecology, Molecular Ecology, Molecular Phylogenetics and Evolution, Proceedings of the National Academy of Science (USA), Proceedings of the Royal Society B, PeerJ, PLoS One, Symbiosis, Microbiology, Ecology letters, Frontiers in Microbiology

SYNERGISTIC ACTIVITIES: STEM Education (SINCE 2015)**Biology Modeling Instruction Workgroup**

Development of Next Generation Science Standards/Ohio Science Learning Standards-compliant high school biology curricula based on American Modeling Teachers Association (<http://modelinginstruction.org/>) modeling instruction pedagogy in collaboration with OSU faculty (Kathy Malone, Asst. Prof., STEM Ed.; Jason Cervenec, PhD, Outreach, Byrd Polar Research) and three Ohio high school science instructors (can give their info if desired).

TIME COMMITMENT: 1.5 day weekend/month.

GOAL. To develop modeling instruction-based biology curricula around brown marmorated stink bug (BMSB)-symbiont system and identify/connect with high schools (and teachers) for deploying and evaluating the curriculum as part of NSF CAREER grant submission in July

2015. Specifically, the BMSB-symbiont system can provide tangible and accessible examples for conveying ecological, population genetics, evolutionary, genomics and molecular principles.

SYNERGISTIC ACTIVITIES: GRANT REVIEW

YEAR	AGENCY
2014	NSF-Evolutionary Processes Panelist

SYNERGISTIC ACTIVITIES: SPEAKING AND SERVICE

YEAR	ACTIVITY
2015	Invited Seminar, Dep't of Microbiol. and Immunol. Univ. of Michigan (12 March 2015) Guest Lecturer, Insect Physiol. and Molecular Biol. 6310 (18 February 2015)
2014	Guest Lecturer, Environmental Microbiology (13 November 2014) Invited Seminar, Dep't of Entomology, Univ. of Cincinnati, Cincinnati, OH Contributed seminar, USDA, Brown Marmorated Stink Bug Working Group Invited Seminar, Corpogem, Bogota, Colombia PhD Thesis External Reviewer, Dep't of Biological Sciences, Univ. de los Andes, Bogota, Colombia Invited Seminar, Dep't of Entomology, Penn State Univ., State College, PA Invited Seminar, Dep't of Biology, Univ. of Mississippi, Oxford, MS Invited Seminar, Dep't of Entomol., Univ. Ill. Urbana-Champaign, IL Invited Seminar, Dep't of Biology, Ohio-Wesleyan University, Delaware, OH Guest Lecturer, EEOB 5320 (26 March 2014) Interviewee, Jiwon Kim (kim.4783; 19 March 2014)
2013	Guest lecture in EEOB 3410 (3 April 2013) Invited Seminar, Dep't of Molec. Genetics, Ohio State Univ., Columbus, OH Invited Seminar, Otterbein University, Westerville, OH Invited Seminar, Entomol. Soc. of Amer. General Meeting, Austin, TX Invited Seminar, Dep't of Entomol., Ohio State Univ., Columbus, OH
2012	Invited talk, 14 th Int'l Symp. Microb. Ecol. (ISME-14), Copenhagen, Denmark. Chaired "Microbial Symbiosis-2" session, ISME 14.

SYNERGISTIC ACTIVITIES: OSU ADDITIONAL SERVICE

YEAR	ACTIVITY
2014	Advisory Committee, EEOB Departmental weekly seminar organizer The STEAM Factory, Core Member/STEAM Exchange WG leader
2013	Nomination review committee for Harlan Hatcher Award

SYNERGISTIC ACTIVITIES: OSU ADDITIONAL SERVICE (cont'd)

YEAR	ACTIVITY
2014	Departmental weekly seminar organizer The STEAM Factory, Core Member/STEAM Exchange WG leader
2012-2013	Measurement and Instrumentation Committee
2012	Graduate Faculty Representative for Doctoral Final Oral Examination

PROFESSIONAL ASSOCIATIONS

Society for Molecular Biology and Evolution
Entomological Society of America
Society for the Study of Evolution

PROFESSIONAL REFERENCES

David Denlinger	Faculty Mentor	denlinger.1@osu.edu
Nancy Moran, PhD	Postdoc Advisor	nancy.moran@austin.utexas.edu
Howard Ochman, PhD	Collaborator	howard.ochman@austin.utexas.edu
Jo Handelsman, PhD	Primary PhD Advisor	jo.handelsman@yale.edu
Mary Walkinshaw, PhD	Teaching Mentor-Pima CC	mwalkinshaw@pima.edu