William R. Kuhn

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APPOINTMENTS

2018–present	**Director of Science and Research.** Discover Life in America, Gatlinburg, TN	
2016–2018	**Postdoctoral Fellow.** National Science Foundation Postdoctoral Research Fellowship in Biology, University of Tennessee, Knoxville, TN	
2011–2016	**Teaching Assistant.** Dept Biological Sciences, Rutgers University, Newark, NJ	
2011–2011	**Laboratory Technician.** Urban Entomology Laboratory, Dept Entomology, Virginia Tech, Blacksburg, VA	
2008–2010	**Graduate Research Assistant.** Dept Entomology, Virginia Tech, Blacksburg, VA	

EDUCATION

PhD in Biology, Rutgers University (RUN), July 2016. Dissertation title: "Three approaches to automating taxonomy, with emphasis on the Odonata (dragonflies and damselflies)." Advisor: Jessica L. Ware

MSc in Life Sciences (emphasis: Entomology), Virginia Tech (VA Tech), Dec. 2010. Thesis title: "Pest management of billbugs in orchardgrass grown in Virginia." Advisor: Rodger R. Youngman

BSc in Biology (emphasis: Ecology, Evolution, & Behavior), University of Texas, Dec. 2005

GRANTS AND AWARDS

Year		Amount
2016	NSF ABI (#1564386): Odomatic: Automatic species identification, functional morphology, and feature extraction to alleviate the taxonomic impediment and broaden citizen science tools (senior personnel)	$432,015
2016	NSF PRFB (#1611642): Leveraging face-detection methods to identify insects from field photos, automatically (postdoctoral fellow)	$138,000
2022	Friends of the Smokies: Continuing the All Taxa Biodiversity Inventory in Great Smoky Mountains NP: Determining the diversity of priority taxonomic groups	$16,474
2021	Tallassee Fund, TN: Inventorying insects along a powerline right-of-way in southwestern Great Smoky Mountains National Park	$13,500
2020	Tallassee Fund: Bioblitzing the western edge of the Smokies: discovery and community engagement	$13,275
2022	Tallassee Fund: DNA barcoding Tallassee-region insects from Great Smoky Mountains National Park	$11,741
2020	Great Smoky Mountains Conservation Assoc: Taking a 'before snapshot' to assess the effect of the Abrams Creek Stream Restoration Project on riparian biodiversity in Cades Cove	$10,000
2019	Friends of the Smokies: Taxonomic completeness of the All Taxa Biodiversity Inventory	$8,200
2021	REI Co-Op: Conserving the variety of life in the Smokies	$6,500
2000	Eagle Scout, Boy Scouts of America, Sam Houston Area Council, TX	

REVIEWER

Freshwater Science, International Journal of Odonatology, PLOS ONE, Scientific Reports, Virginia Journal of Science

REFEREED JOURNAL ARTICLES

6. Sáenz Oviedo, MA, **WR Kuhn**, MA Rondon Sepulveda, J Abbott, JL Ware, M Sanchez-Herrera. 2022. Are wing contours good classifiers for automatic identification in Odonata? A view from the Targeted Odonata Wing Digitization (TOWD) project. *International Journal of Odonatology* 25: 96-106. doi.org/10.48156/1388.2022.1917184

5. Kohli, MK, G Sahlén, **WR Kuhn**, E Pilgrim, JL Ware. 2018. Extremely low genetic diversity in the circumpolar dragonfly species, *Somatochlora sahlbergi* (Insecta: Odonata: Anisoptera). *Scientific Reports* 8: 15114. doi.org/10.1038/s41598-018-32365-7

4. Sanchez-Herrera, M, **WR Kuhn**, MO Lorenzo-Carballa, KM Harding, N Ankrom, TN Sherratt, J Hoffman, H Van Gossum, JL Ware, A Cordero-Rivera, CD Beatty. 2015. Mixed signals? Morphological and molecular evidence suggest a color

polymorphism in the Neotropical *Polythore* damselflies. *PLOS One* 10(4): e125074.
dx.doi.org/10.1371%2Fjournal.pone.0125074

3. **Kuhn, WR**, RR Youngman, K Love, T Mize, S Wu, and CA Laub. 2013. Billbugs (Coleoptera: Curculionidae) new to orchardgrass (*Dactylis glomerata*) grown in Virginia. *Entomolological News* 123(4): 315–316. doi.org/10.3157/021.123.0405

2. **Kuhn, WR**, RR Youngman, S Wu, and CA Laub. 2013. Ecology, taxonomy, and pest management of billbugs (Coleoptera: Curculionidae) in orchardgrass of Virginia. *Journal of Integrated Pest Management* 4(3): B1–B5. doi.org/10.1603/IPM12022

1. Biazzo, I, GR Bourne, D Evangelista, J Evangelista, V Funk, M Sanchez-Herrera, C Kelloff, MK Kohli, **W Kuhn**, N Sroczynski, and J Ware. 2012. Guyana days: Collecting in the northern Guyana Shield. *Argia* 24: 12–14.

OTHER REFEREED PUBLICATIONS

Kuhn, WR, and JL Ware. 2013. A review of "Dragonflies and Damselflies of the East (Princeton Field Guides)" by Dennis Paulson. *Entomologica Americana* 119(1&2): 46. doi.org/10.1664/12-BR-008.1

Kuhn, WR, RR Youngman, CA Laub, KP Love, and TA Mize. 2010. Bluegrass billbug pest management in orchardgrass. *Virginia Cooperative Extension* pub. 444-440. pubs.ext.vt.edu/444/444-040/444-040.html

Kuhn, WR, RR Youngman, CA Laub, KP Love, and TA Mize. 2010. Hunting billbug pest management in orchardgrass. *Virginia Cooperative Extension* pub. 444-041. pubs.ext.vt.edu/444/444-041/444-041.html

SYNERGISTIC ACTIVITIES AND SERVICES

2017–present	Webmaster, Worldwide Dragonfly Association (worlddragonfly.org)
2016–2019	Section Representative, Early Career Professionals Committee, EntSoc
2016–2018	Board Member, Science Chair, Discover Life in America, Gatlinburg, TN
2012–2016	Co-organizer, Campus BioBlitz, RUN and NJIT
2012–2016	Member of RUN Entomology Club
2013–2015	Co-organizer & instructor of Aim High Academy summer earth ecology program for under-represented high school students, RUN

PROFESSIONAL SOCIETIES

American Association for the Advancement of Science, Dragonfly Society of the Americas, Entomological Society of America, Worldwide Dragonfly Association

INVITED PRESENTATIONS

Kuhn, WR. 2022. Fireflies of Rocky. Presentation to Friends of Lamar Alexander Rocky Fork State Park, Flag Pond, TN.

Kuhn, WR. 2022. The Smokies ATBI: a 24-year exploration of the biodiversity of Great Smoky Mountains National Park. Presentation to Sierra Club Harvey Broome Group, Knoxville, TN.

Kuhn, WR. 2022. Smokies ATBI: 23 years discovering life in the Great Smoky Mountains. Presentation to the Entomological Society of Washington.

Kuhn, WR. 2022. Exploring the biodiversity of Cades Cove. Presentation to the Great Smoky Mountains Conservation Association, Knoxville, TN.

Kuhn, WR. 2021. Bioluminescence in the Smokies: nature's light show. Presentation to Jenkins Arboretum and Gardens, Devon, PA.

Kuhn, WR. 2021. Smokies ATBI: a 23-year survey of biodiversity in the Great Smoky Mountains. Presentation to Great Smoky Mountains Heritage Center, Townsend, TN.

Kuhn, WR. 2021. Fireflies of the Smokies. Presentation to Habitat and Wildlife Keepers, Matthews, NC.

Kuhn, WR. 2021. Update from Discover Life in America. Presentation to the Gatlinburg Rotary Club, TN.

Kuhn, WR. 2020. Smokies ATBI: a 22-year biodiversity survey in the Great Smoky Mountains. Presentation to Webster Groves Nature Study Society, St Louis, MO.

Kuhn, WR. 2020. Help map life in the Smokies through community science. Science at Sugarlands speaker series, Great Smoky Mountains National Park (GSMNP), Gatlinburg, TN.

Kuhn, WR. 2018. Bioluminescence in the Smokies. Science at Sugarlands speaker series, GSMNP.

Kuhn, WR. 2018. Fireflies of the Smokies. DLIA firefly event, Gatlinburg, TN.

ORCiD: orcid.org/0000-0002-5506-6379
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Kuhn, WR. 2017. What I've been up to since I left VT: from dragonflies to machine learning and beyond. Entomology Dept. Seminar, VA Tech.

Kuhn, WR. 2017. 10 things you might not know about dragonflies. Science at Sugarlands speaker series, GSMNP.

Kuhn, WR, JL Ware, JC Abbott, M Sanchez-Herrera, D Gassmann. 2017. Automatic dragonfly identification with Odomatic and the Targeted Odonata Wing Digitization (TOWD) project. Int. Congress Odonatology, Cambridge, UK.

Kuhn, WR, M Sanchez, MO Lorenzo-Carballa, K Harding, N Ankrom, T Sherratt, J Hoffmann, H Van Gossum, J Ware, A Cordero-Rivera, C Beatty. 2015. Untangling highly polymorphic *Polythore* damselflies using computer vision. Int. Congress Odonatology, La Plata, Argentina.

Kuhn, WR, JL Ware. 2014. Ich bin geflogen, um zu sehen wie Flügel fliegen (I flew to see how wings fly): My summer visit to Germany. EntSoc, Portland.

Kuhn, WR. 2014. Automating feature extraction from wings of Odonata. Christian-Albrechts-Univ. Kiel & Johannes Gutenberg-Univ. Mainz, Germany.

Kuhn, WR, N Dharithreesan, and G Russell. 2013. An automated system for identifying dragonflies from wings. Int'l Congress Odonatology, Freising, Germany.

Kuhn, WR, D Evangelista. 2012. Explorations of evolution and biodiversity in the Odonata and Blattodea, Centre for the Study of Biol Diver, Univ Guyana, Georgetown, Guyana.

Kuhn, WR, RR Youngman, CA Laub, KP Love, TA Mize. 2010. Billbugs in orchardgrass: ID, scouting & current research. Pest Manag. in Orchardgrass Workshop, Upperville, VA.

OTHER PRESENTATIONS

Kuhn, WR, M Robinson. 2022. How many arthropod species live in Great Smoky Mountains National Park? A comprehensive estimate of biodiversity in America's most-visited national park. 2022 ESA, ESC, and ESBC Joint Annual Meeting, Vancouver, BC.

Kuhn, WR. 2021. Smokies ATBI: An update on the 23-year biodiversity inventory of Great Smoky Mountains National Park. EntSoc, Denver, CO.

Kuhn, WR, B Nichols, P Super, T Witcher. 2019. Smokies ATBI: Status, needs, and future directions of the inventory. EntSoc, St Louis, MO.

Gassmann, D, JL Ware, **WR Kuhn**, JC Abbott, M Sanchez. 2018. The Targeted Odonata Wing Digitization (TOWD) project: Creating a unique resource for styding wing evolution in dragonflies (Odonata). 2018 ESA, ESC, and ESBC Joint Annual Meeting, Vancouver, BC.

Kuhn, WR, JC Abbott. 2017. Progressing toward Odomatic: Automatic species identification of Odonata from *in situ* photographs. EntSoc, Denver, CO.

Kuhn, WR, G Russell, J Ware. 2016. Ode-omatic ID: A system for automatically identifying dragonflies and damselflies from wings. XXV Int'l Congress Entomology, Orlando, FL.

Sanchez-Herrera, M, C Beatty, **WR Kuhn**, E Realpe, C Salazar, AC Encalada, J Ware. 2016. The story of "Many Thunders": Species delimitation of the highly polymorphic Neotropical damselfly genus *Polythore*. XXV Int'l Congress Entomology, Orlando, FL.

Kuhn, WR. 2016. Three approaches to automating taxonomy, with emphasis on the Odonata (dragonflies and damselflies). Dissertation defense, RUN.

Kuhn, WR, G Russell, JL Ware. 2015. Identifying the world's dragonflies and damselflies ode-omatically! Dragonfly Soc. Amer. Annual Meeting, State College, PA.

Kuhn, WR, JL Ware. 2015. Auto-taxonomy and Odonata. Colloquium, RUN Biology Dept.

Kuhn, WR, M Jocque, JL Ware. 2014. The relationship between body size, distribution range and species richness in American odonates. EntSoc, Portland, OR.

Kuhn, WR, N Dharithreesan, G Russell. 2013. An automated system for identifying dragonflies (Odonata: Anisoptera) from wings. EntSoc, Austin, TX.

Kuhn, WR, JL Ware. 2012. An Assessment of the dichotomous flight strategies of corduliid dragonflies. Entomol Soc Amer, Knoxville, TN.

Wu, S, RR Youngman, LT Kok, **WR Kuhn**, CA Laub. 2010. Evaluation of entomopathogenic nematodes against masked chafer white grubs, EntSoc Eastern Branch Mtg, Annapolis.

Kuhn, WR, RR Youngman. 2009. The evolutionary history and diversity of weevils. EntSoc, Indianapolis, IN.

Kuhn, WR, RR Youngman. 2009. Management of the hunting billbug (*Sphenophorus venatus vestitus*) and bluegrass billbug (*S. parvulus*) in orchardgrass (*Dactylis glomerata*). VA Tech Dept. Entomology.