VOLKER H.W. RUDOLF

ASSOCIATE PROFESSOR OF ECOLOGY & EVOLUTIONARY BIOLOGY

ASSOCIATE CHAIR OF BIOSCIENCES

BIOSCIENCES

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RESEARCH INTERESTS

Community & population & evolutionary ecology, focus on temporal & spatial & "individual" variation; ecosystem functioning; biodiversity; climate change; infectious diseases; aquatic ecology; cannibalism.

ACADEMIC POSITIONS HELD

2016- present	Associate Chair, BioSciences Department , Rice University
2014-2016	Director of the Graduate program in Ecology and Evolutionary Biology
2013- present	Associate Professor, Rice University, Department of Ecology & Evolutionary Biology
2007- 2013	Assistant Professor, Rice University, Department of Ecology & Evolutionary Biology

EDUCATION

2003 – 2007:	**PhD** in Ecology & Evolution, University of Virginia, Department of Biology. PhD Advisor: **Henry M. Wilbur** (MacArthur recipient)
2003	**Diplom in Biology** (**MS**), Julius-Maximilians-Universität Würzburg; Theodor-Boveri-Institute of Bioscience, Department of Animal Ecology and Tropical Biology
2000	**Pre-Diplom in Biology (BS**), University of Regensburg, Department of Biology
1996	**Abitur***: Double major in Biology and Mathematics*, Mathematical - Natural Science Gymnasium Mühldorf

SELECTED HONORS & AWARDS

2015	Nominated for ***Blavatnik National Awards for Young Scientist***
2015	***Arnold & Mabel Beckman Foundation*** (Postdoctoral Award for B. Toscano)
2015	***Keynote Speaker***, Oikos (Swedish Ecological Society) Annual Meeting
2014	Nominated for ***Secretary of the American Society of Naturalists***
2014	***Keynote Speaker***, Japanese Ecological Society Symposium
2011	***Robert May Lecture,*** Princeton University
2011	Research papers selected by "***Faculty of 1000***"
2010	"***Featured member***" of the ***Society of American Naturalists***
2010	Selected as "***Opponent***" for University of Umea, Department of Biology
2010	Research papers selected by "***Faculty of 1000***"
2008	***The American Society of Naturalists' Young Investigator Award***. Awarded by the Society to "*recognize outstanding and promising work by young investigators*".
2008	***Andrew Flemming Award***. Awarded by the Department of Biology of the U. Virginia for " *a doctoral dissertation of outstanding quality, originality, and significance*"
2008	***International Collaboration Award***, Rice University
2006	***Faculty Senate Award for Excellence in Research and Teaching***. Awarded by the University of Virginia to "*reward graduate students who have taught extraordinarily well while also maintaining a record of research excellence in their discipline*".
2006	***Buell Award*** for best student presentation at the ESA meeting 2006, Memphis. - Honorable Mention, in "*recognition for the high quality of their research & presentation*".

FUNDING AWARDS

2017-2021 **NSF DEB**: *Linking seasonal shifts in the timing of species interactions to the dynamics of temporary pond communities*. Sole PI (recommended for funding $669,750)
2016-2017 **NSF DDIG**: *Scaling within host interactions to epidemic patterns***.** Co-PI: Patrick Clay ($20,102)
2015-2017 **Arnold & Mabel Beckman Foundation** (Postdoctoral Fellow Award for B. Toscano; $115,705)
2013-2018 **NSF DEB**: *Linking ontogenetic niche shifts and functional diversity: Consequences for community dynamics and biodiversity loss***.** Sole PI ($600,000+$6,250 REU)
2013-2014 **NSF DDIG**: *Carry-over effects in space: Beyond single species studies and towards meta-community dynamics*, Co-PI: Benjamin van Allen ($10,435)
2012-2014 **USDA AFRI NIFA** Predoctoral Fellowship: *Elucidating the mechanistic basis and population level consequences of immune priming in Tribolium beetles*. Co-PI with Andrea Grahaem ($75,000)
2012-2013 **NSF DDIG**: *Phenological shifts and species interactions: Disentangling the role of timing and synchrony*. Co-PI: Nicholas Rasmussen ($14,916)
2012 **NSF REU** supplement ($7,500)
2010 -2011 **Shell Center for Sustainability** Grant "*Linking climate change to the structure and functioning of native communities***"** Principal PI, Co-PIs: A. E. Dunham (EEB) & Caroline Massiello (Earth Sciences) ($30,000)
2011 **NSF REU** supplement ($8,625)
2010 **NSF REU** supplement ($19,500)
2009-2011 **National Institute of Mathematical and Biological Sciences** (NIMBios) working group grant "*Population and community ecology consequences of intraspecific niche variation***"** Co-PI with D. Bolnick and K. McCann ($75,450)
2009-2012 **NSF DEB**: "*From individuals to communities: Consequence of ontogenetic functional diversity for community structure and functioning*" ($352,501 + REU supplements)
2008 **International Collaboration Award**, Rice University ($4,000)
2006-2007 **Faculty Senate Award** for Excellence in Research and Teaching. UniV.Virginia. ($25,000)
2006-2007 **NSF Dissertation Improvement Grant** ($9,596)
2006 **Sigma Xi Grant**-in-Aid of Research Award ($990)
2005 **Robert J. Huskey Award** ($500)
2004, 2005 Mountain Lake Biological Station Research Fellowship (2 total, $2,500 ea)
2003-2005 Pratt Bequest Fellowship ($31,900)
2003-2005 GSAS Fellowship ($3,000)

PUBLICATIONS

(NOTATION: * UNDERGRADUATE STUDENT **GRADUATE STUDENT § POST DOC)

PEER REVIEWED:

In review/ under revisions

S. Carter**, D. Saenz, **V.H.W. Rudolf:** Shifts in phenological distributions reshape interaction potential in natural communities.
C. Keiser§, **V.H.W. Rudolf**, S. Elizabeth*, E. Every*, J. Saltz: Social context alters host behavior and infection risk
P.A. Clay**, M. H. Cortez, M.A. Duffy, **V.H.W. Rudolf**: Priority effects within co-infected hosts alter prevalence relationships between parasites at the host population scale.
V. H. W. Rudolf & A. Roman**: Trophic structure alters consequences of environmental warming.
V.H.W. Rudolf: Non-linear effects of phenological shifts link inter-annual variation to species interactions.
C.J. Dibble**, **V.H.W. Rudolf:** Phenotype-environment matching predicts both positive and negative effects of intraspecific variation in a population.

P.A. Clay** & **V.H.W. Rudolf:** Evolving parasite warfare: parasite interaction strategies affect virulence evolution in co-infections.

C. Ma, L. Wang, W. Zhang, **V.H.W. Rudolf**: Resolving biological impacts of heat waves: interaction of hot days and recovery periods.

2017 & in press/online early

B.J. Toscano[§], V. Hin, **V.H.W. Rudolf** (*in press*): The many faces of cannibalism: Coexistence, competitive exclusion, and the loss of alternative states in intraguild predation systems. **The American Naturalist**

B.G. Van Allen**, N. L. Rasmussen**, C.J. Dibble**, P.A. Clay**, **V.H.W. Rudolf**[+] (*in press*)**:** Top predators determine how biodiversity is partitioned across time and space. **Ecology Letters** ([+]Corresponding author)

C. Keiser[§], S. Vojvodic; I. Butler*; E. Sartain*, **V.H.W. Rudolf,** J. Saltz (in press): Queen presence mediates the relationship between collective behavior and disease susceptibility in ant colonies. **Journal of Animal Ecology**

B.G. Van Allen**, F.F. Dillemuth, A.J. Flick, M.F. Faldyn, D.R. Clark, **V.H.W. Rudolf**, B.D. Elderd (in press): Cannibalism and infectious diseases: friend or foe? **The American Naturalist**

K.Takatsu**, **V.H.W.Rudolf**, O. Kishida (in press): Giant cannibals drive selection for inducible defensive in heterospecific prey. **Journal of Freshwater Biology**

N.L. Rasmussen** and **V.H.W. Rudolf** (online early): Individual and combined effects of two types of phenological shifts on predator-prey interactions. **Ecology**

V.H.W. Rudolf & B.G. Van Allen** (2017): Legacy effects of developmental stages determine the functional role of apex predators. **Nature - Ecology & Evolution 1: 0038**

2016

B.J. Toscano[§], B. R. Rombado*, **V.H.W. Rudolf** (2016): Deadly competition and life-saving predation: the potential for alternative stable states in a stage-structured predator-prey system. **Proceedings of the Royal Society B: Biological Sciences** 283: 20161546

B.G. Van Allen** and **V.H.W. Rudolf** (2016): Carry-over effects alter the structure of two species meta-communities. **Proceedings of National Academy of Sciences (PNAS) 113**: 6939-6944

C.J. Dibble** and **V.H.W. Rudolf** (2016): Intraspecific trait variation and colonization sequence alter community assembly and disease epidemics. **Oikos125:** 229-236

2015

W. Zhang, **V.H.W. Rudolf,** C. Ma (2015): Stage-specific heat effects: Timing and duration of heat waves alter demographic rates of a global insect pest. **Oecologia 179:** 947-957

B.G. Van Allen** and **V.H.W. Rudolf** (2015): Habitat-mediated carry-over effects lead to context dependent outcomes of species interactions. **Journal of Animal Ecology 84:** 1646-1656

N.L. Rasmussen** and **V.H.W. Rudolf** (2015): Phenological synchronization drives demographic rates of populations. **Ecology 96:** 1741-1753 (Featured on the cover)

G. Ma, **V.H.W. Rudolf**, C. Ma (2015): Extreme temperature events alter demographic rates, relative fitness, and community structure. **Global Change Biology 21: 1794-1808**

2014

L. Krenek* & **V.H.W. Rudolf** (2014)**:** Allometric scaling predicts non-consumptive effects in multi-predator systems. **Journal of Animal Ecology 83: 1461-1468**

C. J. Dibble**, S.R. Hall, **V.H.W. Rudolf** (2014)**:** Intraspecific priority effects and disease interact to alter population growth. **Ecology 95:** 3354-3363

V.H.W. Rudolf, N. L. Rasmussen**, C.J. Dibble**, B.G. Van Allen** (2014): Resolving the roles of body size and species identity in driving functional differences among consumers. **Proceedings of the Royal Society B: Biological Sciences 2813:** 20133203 (Featured on the cover)

N. L. Rasmussen**, B. Van Allen**, **V.H.W. Rudolf** (2014)**:** Linking phenological shifts to species interactions through size-mediated priority effects. **Journal of Animal Ecology 83:** 1206-1215

2013

V.H.W. Rudolf & N. L. Rasmussen** (2013): Population structure determines functional differences among species and ecosystems processes. **Nature Communications 4:**2318

V.H.W. Rudolf & M. Singh* (2013)**:** Disentangling climate change effects on species interactions: Body size mediates interaction of temperature and phenological shifts. **Oecologia 173:** 1043-1052

V.H.W. Rudolf & N. L. Rasmussen** (2013): Ontogenetic functional diversity: Size-structure of a keystone predator alters functioning of a complex ecosystem. **Ecology 94:** 1046-1056

B.G. Van Allen** & **V.H.W. Rudolf** (2013)**:** Ghost of habitats past: Environmental carry-over effects drive population dynamics in novel habitat. **American Naturalist 181:** 596-608

W. Parson*, B. Zhong*, **V.H.W. Rudolf**[+] (2013)**:** Mating status and kin recognition determine cannibalism rates. **Animal Behaviour 85: 365-369** ([+]Corresponding author)

2012

V.H.W. Rudolf, A. Pedersen, I. Sorell (2012): Revenge of the host: Cannibalism as a driving force of the evolutionary dynamics in host-parasitoid systems. **Evolutionary Ecology Research 14:** 31-49

B.G. Van Allen**, A. E. Dunham, C. M. Asquith, **V.H.W. Rudolf** (2012): Life history predicts risk of species decline in a stochastic world. **Proceedings of the Royal Society: B 279:** 2691-2697

V.H.W. Rudolf (2012): Seasonal shifts in predator body size diversity and trophic interactions in size-structured predator-prey systems. **Journal of Animal Ecology 81:** 524-532 (Featured on cover)

A.T. Tate** & **V.H.W. Rudolf** (2012): Immune priming across life stages and generations: Implications for infectious disease dynamics in insects. **Oikos 121:**1083-1092

2011

P. Delclos* & **V.H.W. Rudolf**[+] (2011): Effects of size structure and habitat complexity on predator-prey interactions. **Ecological Entomology 36:** 744-750 ([+]Corresponding author)

D.A. Vasseur, P. Amarasekare, **V.H.W. Rudolf**, J.M. Levine (2011): Eco-evolutionary dynamics enable coexistence via neighbor-dependent selection. **American Naturalist 178:** E96-E109

T.E.X. Miller & **V.H.W Rudolf**[+] (2011): Thinking inside the box: community-level consequences of stage structured populations. **Trends In Ecology and Evolution 26:** 457-466 ([+]Corresponding author)

D.I. Bolnick, P. Amarasekare, M.S. Araújo, R. Bürger, J. Levin, M. Novak, **V.H.W. Rudolf**, S. Schreiber, M. Urban, D. Vasseur (2011): Why intraspecific variation matters in community ecology. **Trends In Ecology and Evolution 26**: 183-192

V.H.W. Rudolf, K. D. Lafferty (2011): Stage Structure alters how complexity affects stability. **Ecology Letters 14**: 75-79 (*Faculty of 1000 recommended as a "**must read**" and featured in the public media in ScienceDaily News*)

2010

V.H.W. Rudolf, M. Kamo, M. Boots (2010): Cannibals in space: The co-evolution of cannibalism and dispersal in spatially structured populations. **American Naturalist 175:** 513-524

A. M. Thomas* & **V.H.W. Rudolf**[+] (2010): Challenges of metamorphosis in invertebrate hosts: Maintaining parasite resistance across life-history stages. **Ecological Entomology 35**: 200-205 ([+]Corresponding author)

L. Yang & **V.H.W. Rudolf**[+] (2010): Phenology, ontogeny, and the effects of climate change on the timing of species interactions. **Ecology Letters 13:** 1-10 ([+]Corresponding author) (*Faculty of 1000 recommended as a "**must read**" & "**hidden jewel**"*)

2009

A. E. Dunham & **V.H.W. Rudolf** (2009): Evolution of sexual size monomorphism: The influence of passive mate guarding. **Journal of Evolutionary Biology 22**: 1376-1386

2008

V.H.W. Rudolf (2008)**:** The impact of cannibalism in the prey on predator-prey systems. **Ecology 89:**

3116-3127

V.H.W. Rudolf & J. Armstrong* (2008)**:** Emergent impacts of cannibalism and size-refuges in the prey on intraguild predation systems. **Oecologia 157:** 675- 686

S. Schreiber[+] & **V.H.W. Rudolf**[+] (2008)**:** Crossing habitat boundaries: Coupling the dynamics of ecosystems through complex life cycles. **Ecology Letters 11:** 576-587 ([+]Authors contributed equally)

V.H.W. Rudolf (2008): Impact of cannibalism on predator-prey dynamics: Size-structured interactions and apparent mutualism. **Ecology 89:** 1650-1660

V.H.W. Rudolf (2008)**:** Consequences of size-structure in the prey for predator-prey dynamics: The composite functional response. **Journal of Animal Ecology 77**: 520-528

2007

V.H.W. Rudolf (2007): Consequences of stage-structured predators: cannibalism, behavioral effects and trophic cascades. **Ecology 88:** 2991-3003

V.H.W. Rudolf (2007): The interaction of cannibalism and omnivory: Consequences for community dynamics. **Ecology 88:** 2697-2705

V.H.W. Rudolf & J. Antonovics (2007): Disease transmission by cannibalism: Rare event or common occurrence. **Proceedings of the Royal Society London: B Biological Science 274:** 1205-1210 (*featured in the public media in **LifeScience news***)

J. Antonovics, J. Abbate, C.H.Baker, D. Daley, M.E. Hood, C.E.Jenkins, L.J.Johnson, J.J. Murray, V.Panjeti, **V.H.W. Rudolf**, D. Sloan, J. Vondrasek (2007): Evolution by any other name….Antibiotic resistance and avoidance of the e-word. **PLOS Biology 5:** 137-139

G. Ferris* & **V.H.W. Rudolf**[+] (2007): Detection of conspecific predators in larvae of the dragonfly *Plathemis lydia*. **Ecological Entomology 32:** 283-288 ([+]Corresponding author)

V.H.W. Rudolf & M.-O. Rödel (2007): Phenotypic plasticity and optimal timing of metamorphosis under uncertain time constraints. **Evolutionary Ecology 21:** 121-142

Pre 2007

H.M. Wilbur[+] & **V.H.W. Rudolf**[+] (2006): Life History Evolution in uncertain environments: Bet-hedging in time. **American Naturalist**. **168**: 398-411 ([+]Authors contributed equally)

V.H.W. Rudolf (2006): The influence of size-specific indirect interactions in predator-prey systems. **Ecology 87:** 362-271

V.H.W. Rudolf & J. Antonovics (2005): Species coexistence and pathogens with frequency-dependent transmission. **American Naturalist 166**: 112-118.

V.H.W. Rudolf & M.-O. Rödel (2005): Oviposition site selection in a complex and variable environment: The role of habitat quality and conspecific cues. **Oecologia 142**:316-325

M.-O. Rödel, **V.H.W. Rudolf**, S. Froschammer and K.E. Linsenmair (2004): Life History of a West African tree-hole breeding frog, *Phrynobatrachus guineensis*, Guibé and Lamotte, 1961 (Amphibia: Anura: Petropedetidae); Ann Arbor, **Special Publications of the University of Michigan Museum of Zoology**: 31-44

Rödel M.-O., T.U. Grafe, **V.H.W. Rudolf** & R. Ernst (2002): Review of West African spotted Kassina, including a description of *Kassina schioetzi sp*. noV.(Amphibia: Anura: Hyperoliidae). **Copeia 3**: 800-814

BOOK CHAPTERS

V.H.W. Rudolf: Trait-mediated indirect interactions in size-structure populations: Causes and consequences for species interactions and community dynamics. *In* **Interaction Richness and Complexity: Ecological and Evolutionary Aspects of Trait-Mediated Indirect Interactions.** Eds.: T. Ohgushi, O. Schmitz, R.D. Holt. , Cambridge University Press (2012)

PROFESSIONAL PRESENTATIONS

Invited Seminars

2017 University of Michigan, Ann Arbor, Ecology & Evolution

2016 University of California, Davis, Ecology & Evolution Seminar Series

2015 Santa Fe Institute, New Mexico
Invited Keynote Speaker, Oikos (Swedish Ecological Society) Annual Meeting
University of Toronto, Biology Seminar Series
Rutgers University, School of Environment & Biological Science
University of Texas at Arlington, Biology Department

2014 Indiana University, Department of Biology
Case Western Reserve University, Department of Biology
Invited Keynote Speaker, Ecological Society of Japan, Hiroshima, Japan
Baylor University, Department of Biology

2013 Chinese Academy of Agricultural Sciences, Climate Change Biology Research Group, China
UC San Diego, Section of Ecology, Behavior and Evolution
Auburn University, School of Fisheries, Aquaculture, and Aquatic Sciences
Florida International University, Department of Biology, Graduate School Research Colloquium

2012 Invited Keynote Speaker (for Thematic Topic), British Ecological Society Annual Meeting
University of Connecticut, Department of Ecology & Evolutionary Biology
University of Florida, Department of Biological Sciences

2011 Robert May Lecture, Princeton University, Department of Ecology & Evolutionary Biology

2010 University of Umea, Umea, Sweden, Department of Biology
Texas A&M University, Department of Wildlife & Fisheries Sciences
University of Houston, Houston, Department of Biology

2009 University of Texas, Austin, Department of Integrative Biology
Auburn University, Department of Fisheries & Allied Aquacultures, Department of Biology
Sam Houston State University, Department of Biology
University of Virginia, Department of Biology

2008 Texas State University San Marcos, Department of Biology
University of Sheffield, UK, Department of Animal and Plant Sciences
American Society of Naturalist, Young Investigator Symposium, Minneapolis

2007 UC Santa Barbara, Department of Ecology, Evolution and Marine Biology
College of William and Mary, Department of Biology & Department of Mathematics
Virginia Tech University, Department of Biological Sciences

2006 Rice University, Department of Ecology and Evolution
Georgia Tech University, Department of Biology
Annual meeting of the American Entomological Society (BES), Charlottesville, USA

2003 Department of Ecology and Evolution, SUNY Stony Brook, NY

Scientific meetings

Keiser C.N., Saltz J.B., **Rudolf V.H.W** (2017) *Social context alters host behavior and infection risk*. Ecology and Evolution of Infectious Disease. Santa Barbara, CA.

Keiser C.N., Vojvodic S., Butler I., Sartain E., **V.H.W. Rudolf**, J.B. Saltz (2017): *Queen presence mediates collective behavior and disease susceptibility in ant colonies*. Animal Behavior Society, June 12-16 2017, Toronto

S. Carter, D Saenz, **V.H.W. Rudolf** (2016). *Single measures of phenology do not accurately predict phenological shifts.* Annual meeting of the Ecological Society of America (ESA) August 7-12, 2016, Fort Lauderdale, Florida.

Toscano B.J., V. Hin, V.H.W. Rudolf. (2016). Cannibalism inhibits predator persistence in life-history intraguild predation systems. Ecological Society of America Meeting. Fort Lauderdale, FL, USA.

Toscano B.J., V. Hin, V.H.W. Rudolf. (2016). Cannibalism inhibits predator persistence in life-history intraguild predation systems. Beckman Symposium. Irvine, CA, USA.

B.G. Van Allen, A. Flick, M. Faldyn, D. Clark, **V.H.W. Rudolf,** B. Elderd (2016). *Cannibalism and infectious disease: friend or foe?* Evolution 2016, June 17-21, Austin, TX

N. L. Rasmussen & **V.H.W. Rudolf** (2016). *Consequences of shifts in the mean and variance in prey phenology for predator-prey interactions.* „Unifying biological principles across disciplines“ A Conference of the American Soceity of Naturalist, January 10-14, Asilomar, CA

S. Carter, D Saenz, **V.H.W. Rudolf** (2016). *Single measures of phenology do not accurately predict*

phenological shifts. „Unifying biological principles across disciplines“ A Conference of the American Soceity of Naturalist, January 10-14, Asilomar, CA

B. Toscano, B. Rombado, **V.H.W. Rudolf** (2016). *Juvenile competitive bottleneck dynamics in freshwater zooplankton.* „Unifying biological principles across disciplines“ A Conference of the American Soceity of Naturalist, January 10-14, Asilomar, CA

V.H.W. Rudolf, B.G. Van Allen, C.J. Dibble, N. L. Rasmussen, P. A. Clay (2016). *The temporal dynamics of Biodiveristy.* „Unifying biological principles across disciplines“ A Conference of the American Soceity of Naturalist, January 10-14, Asilomar, CA

V.H.W. Rudolf (2015). *Ontogenetic niche shifts in complex communities.* Conference on „The evolutionary ecology of complex life investment strategies“, Santa Fe Institute October 28-30, Santa Fe, USA

P.A. Clay & **V.H.W. Rudolf** (2015*). Identifying mechanisms driving assembly of parasite communities within hosts*, Annual meeting of the Ecological Society of America (ESA), 9- 14 August, 2015, Baltimore, USA

N.L. Rasmussen &**V.H.W. Rudolf** (2015). *Consequences of shifts in the mean and variation in prey phenology for predator-prey interactions*, Annual meeting of the Ecological Society of America (ESA), 9- 14 August, 2015, Baltimore, USA

S.K. Carter &**V.H.W. Rudolf** (2015). *Single measures of phenology do not accurately predict phenological shifts*, Annual meeting of the Ecological Society of America (ESA), 9- 14 August, 2015, Baltimore, USA

C.J. Dibble &**V.H.W. Rudolf** (2015). *Eco-evolutionary consequences of trait variance depend on the trait mean and the local environment*, 13 Ecology and Evolution of Infectious Diseases conference (EEID), May 26-29, Athens, Georgia

V.H.W. Rudolf (2014). *Linking variation in the timing of species interactions to the dynamics of species interactions and community assembly*, Annual meeting of the Ecological Society of America (ESA), 10- 15 August, 2014, Sacramento, USA

N.L. Rasmussen & **V.H.W. Rudolf** (2014). *Changes in phenological synchronization within populations alter demographic rates*, Annual meeting of the Ecological Society of America (ESA), 10- 15 August, 2014, Sacramento, USA

P.A. Clay & **V.H.W. Rudolf** (2014). *The consequences of asymmetric parasite interactions for the evolution of virulence* , Annual meeting of the Ecological Society of America (ESA), 10- 15 August, 2014, Sacramento, USA

P.A. Clay & **V.H.W. Rudolf** (2014). *Complex parasite interactions and the evolution of virulence* Ecology and Evolution of Infectious Disease, 12th Annual Meeting, 1-4 June, 2014, Fort Collins, Colorado

V.H.W. Rudolf (2014). *Thinking inside the box: community level consequences of stage-structured populations.* 61st Annual Meeting of the Ecological Society of Japan, 14-18 March, 2014, Hiroshima, Japan

V.H.W. Rudolf (2014). *Resolving the roles of body size and species identity in driving functional differences among consumers”* 21st Century Naturalists: Integrating pattern and processes to understand biodiversity, Conference of the American Society of Naturalists 13-15 January, 2014, Asilomar, CA, USA

N.L. Rasmussen, B.G. Van Allen, **V.H.W. Rudolf** (2013). *Consequences of phenological shifts for species interactions: testing the importance of size-mediated priority effects*. Annual meeting of the Ecological Society of America (ESA), 5- 8 August, 2013, Minneapolis, USA

C.J. Dibble & **V.H.W. Rudolf** (2013). *Dispersal “type” and amount interact to affect ecological (and evolutionary?) dynamics in a zooplankton metapopulation*. Annual meeting of the Ecological Society of America (ESA), 5- 8 August, 2013, Minneapolis, USA

C.J. Dibble & **V.H.W. Rudolf** (2013). *Dispersal “type” and amount interact to affect ecological (and evolutionary?) dynamics in a zooplankton metapopulation*. Annual meeting of the Ecological Society of America (ESA), 5- 8 August, 2013, Minneapolis, USA

Van Allen, B. and V.H.W. Rudolf. June 2013. Developmental plasticity and maternal effects drive population and community dynamics in a flour beetle system. Evolution. Snowbird UT.

Rasmussen, N.L., B.G. Van Allen, and V.H.W. Rudolf. (2013) *Consequences of phenological shifts for species interactions: Testing the importance of size-mediated priority effects using a dragonfly naiad*

system. Society for Freshwater Science Annual Meeting. Jacksonville, FL

B.G. Van Allen & **V.H.W. Rudolf** (2013).*Environmental carry-over effects drive context dependent competitive dynamics*. Annual meeting of the Ecological Society of America (ESA), 5- 8 August, 2013, Minneapolis, USA

V.H.W. Rudolf (2012). *Thinking inside the box: community level consequences of stage-structured populations.* Keynote lecture - Annual meeting of the British Ecological Society (BES), 17-20 December2012, Birmingham, UK

V.H.W. Rudolf (2012). *Disentangling climate change effects on species interactions: Body size mediates interaction of temperature and phenological shifts."*Climate change and species interactions: Ways forward" Workshop, 13-16 November 2012, Cary Institute for Ecosystem Studies, NY

V.H.W. Rudolf (2012). *Disentangling climate change effects on species interactions: Body size mediates interaction of temperature and phenological shifts.* Annual meeting of the Ecological society of America (ESA), 6- 9 August 2012, Portland, OR, USA

N.L. Rasmussen & **V.H.W. Rudolf** (2012).*The role of arrival phenology and size-mediated priority effects for species interactions in simple food webs.* Annual meeting of the Ecological society of America (ESA), 6- 9 August 2012, Portland, OR, USA

C.J. Dibble & **V.H.W. Rudolf** (2012). *Intraspecific priority effects mediate population growth and trait change in a host-pathogen system.*Annual meeting of the Ecological Society of America (ESA), 6- 9 August 2012, Portland, OR, USA

V.H.W. Rudolf & N. L. Rasmussen (2011) *From individuals to ecosystems: Consequences of ontogentic niche shifts for community structure and ecosystem functioning.* Annual meeting of the Ecological society of America (ESA), 8-12 August 2011, Austin,TX, USA

E.E. Mattson, V.H.W. Rudolf, C.J. Dibble (2011) *Ontogenetic niche shifts, juvenile bottlenecks, and the dynamics of predator-prey systems.* Annual meeting of the Ecological society of America (ESA), 8-12 August 2011, Austin,TX, USA

D.A. Vasseur, P. Amarasekare, **V.H.W. Rudolf**, J.M. Levine (2011): *Eco-evolutionary dynamics enable coexistence via neighbor-dependent selection.* Annual meeting of the Ecological society of America (ESA), 8-12 August 2011, Austin,TX, USA

D.I. Bolnick, P. Amarasekare, M.S. Araújo, R. Bürger, J. Levin, M. Novak, **V.H.W. Rudolf**, S. Schreiber, M. Urban, D. Vasseur (2011) *Why does intraspecific variation matter in ecology?* Annual meeting of the Ecological society of America (ESA), 8-12 August 2011, Austin,TX, USA

B.G. Van Allen & **V.H.W. Rudolf** (2011) *Natal habitat alters population dynamics in novel environments.*Annual meeting of the Ecological society of America (ESA), 8-12 August 2011, Austin,TX, USA

N.L. Rasmussen & **V.H.W. Rudolf** (2011) *Phenology of species interactions: Size-mediated priority effects and the dynamics of predator-prey systems in seasonal communities.* Annual meeting of the Ecological society of America (ESA), 8-12 August 2011, Austin,TX, USA

V.H.W. Rudolf (2008) *The impact of size-structure and cannibalism on the dynamics of communities*, Annual Evolution meeting, 20-24 June 2008, Minneapolis, USA

V.H.W. Rudolf & L. Yang (2008) *The phenology of species interactions: The role of ontogeny, body size, and climate change.* Annual meeting of the Ecological society of America (ESA), 3-8 August 2008, Milwaukee, USA

A.E. Dunham & **V.H.W. Rudolf** (2008) *The enigma of sexual size monomorphism in strepsirrhines: A new explanation.* Annual meeting of the American Primatological Society, June 2008, FL

V.H.W. Rudolf (2007) *Cannibalism in the prey: Emergent indirect interactions, mortality risk reduction, and consequences for predator-prey dynamics.* Annual meeting of the Ecological society of America (ESA), 5-10 August 2007, San Jose, USA

V.H.W. Rudolf (2006) *Indirect interactions in stage-structure predator-prey systems: Cannibalism, trait mediated interactions and trophic cascades*. Annual meeting of the Ecological society of America (ESA), 6-11 August 2006, Memphis, USA

V.H.W. Rudolf (2006) *Indirect interactions in stage-structure predator-prey systems: Cannibalism, trait mediated interactions and trophic cascades*. Peter Yodzis Colloquium in Fundamental Ecology: "Biodiversity, Structure and Ecosystem Functioning", 16-18 May 2006, Toronto, Canada

V.H.W. Rudolf (2005) *The influence of size-specific indirect interactions in predator-prey systems.* Annual meeting of the British Ecological Society (BES), 5-7 September 2005, Hatfield, UK

V.H.W. Rudolf (2005) *The influence of size-specific interactions in predator-prey systems*. Special symposium of the BES Aquatic Ecology group: Body size and the organisation of aquatic communities. 2-4 September, Hatfield, UK

V.H.W. Rudolf (2005) *The influence of size-specific interactions in predator-prey systems*. Annual meeting of the Ecological society of America (ESA), 7-12 August 2005, Montreal, Canada

Rödel, M.-O., Kosuch, J., Adeba, P.J., Assemian, N.E., Kouamé, G.N., Tohé, B., Ernst, R., Hillers, A., **Rudolf, V.H.W**., Schorr, G., Linsenmair, K.E., Veith, M. (2003): *Bio-Diversity changes in West African amphibian communities: global, regional or local causes? Sustainable use and conservation of biological diversity, a challenge for society*, International Symposium 1-4 December 2003, Berlin: 174-175.

V.H.W. Rudolf, Rödel, M.-O (2002): *Tree-hole breeding frogs in the Upper Guinea rain forest, West Africa*; Conference of the Society of Ecology (GFÖ), 16–20 September 2002, Cottbus, Germany (32): 160

Rödel, M.-O., **V.H.W. Rudolf** (2002): *Tree-hole breeding frogs in the Upper Guinean rain forest, West Africa*. Joint meeting of Ichthyologists and Herpetologists, July 3-8, 2002, Kansas City: 225-226.

Rödel, M.-O., J. Kosuch, R. Ernst, **V.H.W. Rudolf**, G. Schorr, C. Harbig, S. Frohschammer, G. Leistner, M. Wegmann, P.J. Adeba, G.N. Kouamé, A.A. Cudjoe, K.E. Linsenmeir & M. Veith (2001): *Amphibian diversity and diversity changes in West Africa: global, regional or local causes*? – German Programme on Biodiversity and Global Change (Phase I, 2000-2004), funded by BMBF, status report 2001: 142-143.

TEACHING EXPERIENCE

Instructor Rice University	EBIO 331 Biology of infectious diseases
Instructor Rice University	EBIO 520 Student Seminar in Ecology and Evolution
Instructor Rice University	EBIO 562 Topics in Ecology and Evolution
Instructor Rice University	EBIO 541/542 Special Topics in Ecology & Evolution
Instructor Rice University	EBIO 568 Topics in Biodiversity
Instructor Rice University	EBIO 306 Undergraduate Independent Research in EEB
Instructor Rice University	EBIO 403/404 Undergraduate Honors Research in EEB
Instructor Rice University	EBIO 569 EEB Graduate Core Course
Instructor Rice University	EBIO 591 EEB Graduate Teaching
Instructor Rice University	EBIO 801 EEB Graduate Research

ADVISING

Postdoctoral fellows:

- Benjamin Toscano, Beckerman Fellow (2015-present)
- C. Nick Keiser, Rice Academy Fellow (2016 - present)

PhD students:

- Shannon Carter, Rice University (in progress)
- Patrick Clay, Rice University (in progress)
- Nick Rasmussen, Rice University (2014, currently postdoctoral fellow at UC Davis)
- Benjamin van Allen, Rice University (2014, currently postdoctoral fellow at UCSD)
- Christopher Dibble, Rice University (2014, currently postdoctoral fellow at SCRIBBS)

PhD Committee member

- Michael Chislock, Biological Sciences, Auburn University
- Roger Shaw, Integrative Biology, University of Texas, Austin
- Lizette Leon-Rodriguez, Earth Sciences, Rice University
- Becky Minzoni, Earth Sciences, Rice University
- Benjamin Slotnick, Earth Sciences, Rice University
- Corwin Miller, Biochemistry and Cell Biology, Rice University
- Therese Lamperty, EEB, Rice University
- Eric Wise, EEB, Rice University

- Marion Donald, EEB, Rice University
- Scott Chamberlain, EEB, Rice University
- Christopher Gabler, EEB, Rice University
- Andrew Davitt, EEB, Rice University
- Maria Mesa-Lopez, EEB, Rice University
- Onja Razafindratsima, EEB, Rice University
- Christopher Roy, EEB, Rice University
- Michelle Sneck, EEB, Rice University
- Michelle Downey, EEB, Rice University
- Andrew Bibian, EEB, Rice University
- Bradley Ochocki, EEB, Rice University
- Brian Mainter, EEB, Rice University
- Joshua Hwang, EEB, Rice University

Undergraduate students (independent research & senior thesis advisor)

2016-2017

- Jodie Nghiem: *Evolution of cannibalism, dispersal and kin discrimination under food limitation.*
- Imani Butler: *Queen loss and resistance to infections.*
- Lizzy Sartain: *Queen loss, collective behavior and colony collapse.*

2015-2016

- Jodie Nghiem: *Cannibalism under food limitation.*
- Bianca Rombado: *Juvenile competitive bottlenecks with ontogenetic niche shifts.*
- Rachel Buissereth: *Dilution effects and competition in host-pathogen systems.*
- Belle Harris: *Cannibalism, fitness, and carry-over effects.*
- Imani Butler: *Effects of stress on sex specific cannibalism behavior.*

2014-2015

- Jakie Olive: *Multidimensional analysis of emerging infectious diseases and their potential for global transmission.*
- Linda Giang: *Food quality and cannibalistic behavior in Tribolium.*
- Rachel Buissereth: *Dilution effects and competition in host-pathogen systems.*
- Laura Krannich: *Parasites mediated priority effects*
- Lauren Gernon: *Experimental evolution of cannibalism and kin-recognition*
- Carly Beidul: *Genetic and sex specific determinants of cannibalistic behavior*
- Raven Wrencher: *Kin selection in Tribolium across and within strains*

2013-2014

- Emily Crowder: *Biodiversity and size effects in host-pathogen systems: identifying underlying mechanisms.*
- Sena McCrory: *Consequences of nutrient enrichment on host-pathogen dynamics*
- Carly Biedul: *Impact of sex ratios on cannibalism rates*
- Brittney Olivarez: *Parasite-host dynamics in Trobolium*
- Alyssa Thomas: *Genetic variation to parasite infection*
- Lauren Krannich: *Effects of parasites on intraguild predation dynamics*
- Allison Schaich: *Effects of parasites on priority effects*

2012-2013

- Preeya Bhavsar: *Carry-over and density effects on habitat selection*
- Jordan Bunch: *Trophic diversity and community resilience*
- Erica Harris, Mellon Mays fellow: *Immune priming and host-pathogen population dynamics*
- Mathew Moran : *Cannibalism, priority effects and dynamics of community assembly*
- Emily Crowder: *Biodiversity effects in host-pathogen systems: identifying underlying mechanisms.*
- Samantha Masaki: *Disentangling functional diversity*: *The role of body size vs. species diversity*

- Sena McCrory: *Effects of phenological shifts under different productivity regimes*
- Alexandra Santorum: *Genetic variation in life-history traits of Trobilium*

2011-2012
- Jordan Bunch: *Host-pathogen dynamics*
- Kenna Fowler: *Predation and host-pathogen dynamics*
- Erica Harris, Mellon Mays fellow: *Immune priming and host-pathogen population dynamics*
- Mathew Moran : *Seasonal dynamics of community assembly*
- Vinny Singh: *Size-structured interactions and predator-prey dynamics*
- Samantha Masaki: *Climate change and predator-prey interactions in seasonal communities*
- Mingyang Zhu: P*riority effects and species interactions*

2010-2011
- Mingyang Zhu: *Temperature and infection risk*
- Samantha Masaki: *Dragonfly traits and community assembly*
- Johanna Ohm: *Dragonfly traits and community assembly*
- Peter Silvers: *Carry-over effects and adult behavior*
- Gordon Ross, Century Scholar: *Parasite infection & cannibalistic behavior*
- Erin Mattson: *Ontogenetic niche shifts, juvenile bottlenecks and predator-prey dynamics*
- Samantha Berkey: *Intra-specific variation in a predatory Notonectid*
- Erika Harris, Mellon Mays Fellow: *Consequences of immune priming for host-parasite dynamics*
- Mingyang Zhu: *Host-parasite interaction along a temperature gradient*
- Michaela Reynolds: *Intra-specific variation & biodiversity loss*
- Ye-jin Kang, Rhodes Scholar*: Effects of and habitat quality on host invasion success*

2009-2010
- Lauren Krenek: *Stage-structured IGP and trait mediated indirect effects*
- Marianne Braun: *Size, mutual predation and trophic relationships*
- Boris Zhong: *Evolution of cannibalism*
- Sarah Nouri: *Stage structured priority effects and species coexistence*
- Vinny Singh: *Effects of climate change on species interactions*
- Stephanie Price: *Immune response in hosts with complex life cycles*
- Pablo Delclos, Century Scholar: *The interaction of stage structure and habitat complexity on predator-prey interactions*

2008-2009
- Ann Thomas: *Immune memory in invertebrates across metamorphosis*
- Lauren Krenek: *Adaptive significance of gill loss in damselfly larvae under different predation regimes*
- Whitney Parsons: *The influence of kin recognition and reproductive status on the propensity for cannibalism*
- Ye-jin Kang*: Effects of non-lethal parasites on host population dynamics*

Pre 2007
- Joanna Armstrong: *The interaction of intraspecific and interspecific predation in aquatic communities*. Funded by the MLBS NSF REU program.
- Gavin Ferris: *Identification of cues for conspecific recognition and behavioral consequences in the dragonfly Plathemis lydia*. Funded by the MLBS NSF REU program.
- Joel Adeba and Germain Kouamé (Ivory Coast nationals from Université de Cocody): *Ecology of the tadpoles of Kassina lamottei; Reproductive ontogeny of Phrynobatrachus sp. noV.*Carried out in Taï National Park, Ivory Coast, West Africa. Funded BIOTA West Africa

Selected student awards

PhD students:
- NSF Graduate Research Fellowship (Clay, 2014)

- NSF Graduate Research Fellowship Honorable Mention (Carter, 2016)
- Houston Rodeo and Livestock Fellowship (Carter, 2014)
- NSF-DDIG (Rasmussen 2012, van Allen 2013, Clay 2016)
- American Society of Naturalist-Student Research Award, (Dibble 2012, Rasmussen 2012, honorable mention)
- Lodieska Stockbridge Vaughn Fellowships (2013 van Allen)
- Sam and Helen Worden Fellowship (2013, Clay)
- Conchologists of America Research Award (van Allen 2012)
- Sigma Xi Grant in Aid of Research (Van Allen 2010, Dibble 2010)
- Texas Herpetological Society (Rasmussen 2009, 2011, Carter 2015)
- Best graduate student presentation, Society for Freshwater Biology (Rasmussen 2013)
- Peter Savas Nelson Award, Rice (Clay 2015)
- Best PhD Thesis, EEB, Rice (van Allen 2014)
- Best graduate student paper, EEB, Rice (van Allen 2012, Rasmussen 2014, Dibble 2015)
- Best graduate student presentation, EEB, Rice (Rasmussen 2013, van Allen 2014, Carter 2016)
- Joe Davies Award for Excellence in Teaching (Rasmussen, 2010,2013 van Allen 2011, 2013 Dibble 2012, 2014, Carter 2016)

Undergraduate students:

- Rhodes scholarship (Kang, 2010)
- Fullbright scholarship (Buissereth 2017)
- Udall Scholar Fellowships (honorable mention, McCrory, 2013)
- NSF-Graduate Research Fellowship (Delclos 2011, Harris 2014)
- Federation of Houston Professional Women Educational Foundation (Zhu 2011)
- Mellon Mays Fellowship (Harris 2011- 2013)
- Clark P. Read Award of Excellence, Rice University (Zhang 2012)
- Distinction in Research and Creative Works Award (Zhong, 2013, Bhasvar 2014, Krannich 2015)
- Award of Excellence in Undergraduate Research, Rice University (Thomas 2009, Krenek 2010)
- Best student presentation, RURS, Rice University (Whitney 2009, Krenek 2010, McCrory 2014)

UNIVERSITY & DEPARTMENTAL SERVICES

- Associate Chair, BioSciences Department (2016-present)
- BioSciences EEB graduate Recruitment Committee member (2008-present)
- BioSciences EEB graduate Evaluation Committee member (2008-present)
- Chair of BioSciences search committee for tenure track open ranked EEB faculty position (2015)
- Director of Graduate Program in Ecology & Evolutionary Biology (2014-2016)
- IACUC committee member (2015-2016)
- Graduate Advisory Committee Member (2014-2016)
- ELA (Rice Empowering Leadership Program) mentor (2014-2015)
- Rice Triad Program Mentor (2015)
- Triad Mentor in the “Junior Faculty Professional Development Program” (2014)
- Chair of search committee for EEB senior faculty position (2013-2014)
- Biology BA & BS, Major advisor (2013)
- Ecology & Evolutionary Biology BA & BS, Major advisor (2013)
- University Committee on Fellowship Awards Member (2012-2016)
- Divisional Advisor for Natural Sciences, Duncan College (2012-2015)
- Mellon Mays Fellow Mentor (2011-2013)
- Chair of search committee for Huxley faculty position (2010-2011, 2014)
- Huxley faculty search committee member (2008, 2013)

- Search committee member for EEB Administrator position (2011)
- Advance Program, Post Doc Discussion Forum Leader (2010)
- Faculty Associate, Duncan College (2009-present)

PROFESSIONAL SERVICES

Editor:

- Associate Editor for the *American Naturalist*; 2013 - present
- Associate Editor for the *Journal of Animal Ecology*; 2008- present

NSF Panel: 2009, 2010, 2011, 2013, 2015

Organizer

- Director of American Society for Naturalists stand-alone Meeting, Asilmoar 2016
- Special session: *Phenology, ontogeny, and the timing of species interactions: Building a temporally-explicit framework*, Annual meeting of the Ecological Society of America 2014, Sacramento, CA, USA (with L. Yang)
- National Institute of Mathematical and Biological Sciences (NIMBios) working group *"Population and community ecology consequences of intraspecific niche variation"* Co-PI with D. Bolnick and K. McCann
- Special session: *Emergent impacts of size-structured interactions*, Annual meeting of the Ecological Society of America 2007, San Jose, USA (with P. Crumrine)

Science Judge: Served as student award judge to select Frost- Graduate student awards (Exceptional Promise Award & Best Student Paper) for Ecological Society of America.

Opponent: Invited multiple times to serve as opponent in a PhD defence at University of Umea, Sweden

External Reviewer: NSF, Strategic Environmental Research and Development Program (SERDB), DOE, NERC, European Research Council, Netherlands Organization for Scientific Research,

Scientific Journal Reviews: Nature Communications, Proceedings of the National Academy of Sciences (PNAS), PLOS Biology, Trends in Ecology and Evolution, American Naturalist, Ecology, Ecology Letters, Proceedings of the Royal Society B: Biological Sciences, Ecological Monographs, Evolution, Global Change Biology, Functional Ecology, Oikos, Journal of Animal Ecology, Oecologia, Ecosphere, Ecology and Evolution, PLOS Computational Biology, PLOS One, Ethology, Journal of Theoretical Ecology, Theoretical Population Biology, Behavioral Ecology, Journal of Zoology, Freshwater Biology, Ecological Research, Aquatic Ecology, Journal of North American Benthological Society, Ecological Entomology, Community Ecology, Journal of Tropical Herpetology, Journal of Herpetology, Amphibia-Reptilia, Applications & Applied Mathematics

PROFESSIONAL SOCIETIES

American Society of Naturalists (2004-present), Ecological Society of America (ESA) (2003-present), Sigma Xi (The Scientific Research Society, 2010-present)

COLLABORATION PARTNERS (PAST 5 YEARS)

Priyanga Amarasekare, UC LA
Daniel Bolnick, UT Austin, TX
Michael Boots, University of Exeter, UK
Amy E. Dunham, Rice University
Kim Edmond, Univ.Québec à Rimouski, Canada
Chun-Sen Ma, CAAS, China
Tom E.X. Miller, Rice University
Osamu Kishida, Hokkaido University, Japan
Kevin Lafferty, UC Santa Barbara, USGS
Jonathan Levine, UC Santa Barbara
Amy Pedersen, University of Edinburgh, UK
Daniel Saenz, USDA, TX
Ian Sorell, University of Lancaster, UK
Sebastian Schreiber, UC Davis
David Vasseur, Yale University
Louie Yang, UC Davis