



## Barrett Anthony Klein

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### Education

University of Texas at Austin (UT)	PhD; Ecology, Evolution & Behavior	2003-2010
University of Arizona	MS, Entomology	2000-2003
Missouri State University (MSU)	Graduate studies, Biology	1995-1996
Cornell University	BS, Entomology	1989-1993

### Employment

Professor, Biology, University of Wisconsin – La Crosse (UWL)	2021
Associate Professor, Biology, UWL	2016-2021
Assistant Professor, Biology, UWL	2012-2016
Smithsonian Tropical Research Institute Postdoctoral Fellow	2013-2017
Innovative Lecturer, University of Konstanz, Germany	2011-2012
Visiting scientist: Neurobiology & Behavior, Cornell University	2011
University of Würzburg, Germany	2010
Senior Preparator, Exhibition Dept., American Museum of Nat. History (AMNH)	1996-1999
Model maker, illustrator, & curator of entomology: Chase Studio, Inc., MO	1995-1996
Freelance scientific illustrator and model maker	

### *Courtesy appointments*

Research Associate, Field Museum, Chicago, IL	2013-2018
Assistant Professor L/I, Dept. of Entomology, University of Wisconsin – Madison	2013-2018

### Publications

#### *Science*

- Klein BA, Busby MK.** 2020. Slumber in a cell: honeycomb used by honey bees for food, brood, heating... and sleeping. *PeerJ*. 8:e9583. doi: 10.7717/peerj.9583 <https://peerj.com/articles/9583/>
- Klein BA, Vogt M, Unrein K, Reineke DR.** 2018. Followers of honeybee waggle dancers change their behaviour when dancers are sleep-restricted or perform imprecise dances. *Animal Behaviour*. 146:71-77. doi:10.1016/j.anbehav.2018.10.010  
 bioRxiv: <http://dx.doi.org/10.1101/457598>

- Taylor RC, Page RA, **Klein BA**, Ryan MJ, Hunter KL. 2017. Perceived synchrony of frog multimodal signal components is influenced by content and order. *Integrative and Comparative Biology*. 57:902-909. doi:10.1093/icb/icx027
- Lendrum J, Seebach B, **Klein BA**, Sumei S. 2017. Antibiotic-induced microbiota depletion reduces sleep in mice. *bioRxiv*. doi:10.1101/199075v1  
<https://www.biorxiv.org/content/10.1101/199075v1>
- Klein BA**, Seeley TD. 2015. The declining use of animal and behaviour images in animal behaviour journals. *Animal Behaviour*. 103:171-177. doi:10.1016/j.anbehav.2015.02.004
- Klein BA**, Stiegler M, Klein A, Tautz J. 2014. Mapping sleeping bees within their nest: spatial and temporal analysis of worker honey bee sleep. *PLOS ONE*. 9(7): e102316. doi:10.1371/journal.pone.0102316  
<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0102316>
- Klein BA**, Stein J, Taylor RC. 2012. Robots in the service of animal behavior. *Communicative & Integrative Biology*. 5:467-473. doi:10.4161/cib.21304;  
[http://www.landesbioscience.com/journals/cib/article/21304/?show\\_full\\_text=true](http://www.landesbioscience.com/journals/cib/article/21304/?show_full_text=true)
- Wray MK, **Klein BA**, Seeley TD. 2011. Honey bees use the social information in waggle dances more fully when foraging errors are more costly. *Behavioral Ecology*. 23:125-131. doi:10.1093/beheco/arr165
- Klein BA**, Seeley TD. 2011. Work or sleep? Honeybee foragers opportunistically nap during the day when forage is not available. *Animal Behaviour*. 82:77-83. doi:10.1016/j.anbehav.2011.03.026  
*Science News: www.sciencenews.org/view/generic/id/74425/title/News\_in\_Brief\_Life\_\_*
- Taylor RC, **Klein BA**, Stein J, Ryan MJ. 2011. Multimodal signal variation in space and time: how important is matching a signal with its signaler? *Journal of Experimental Biology*. 214:815-820. doi:10.1242/jeb.043638  
*Featured on cover*
- Taylor RC, **Klein BA**, Ryan MJ. 2011. Inter-signal interaction and uncertain information in anuran multimodal signals. *Current Zoology*. 57:153-161.  
*Featured on cover*
- Klein BA**, Klein A, Wray MK, Mueller UG, Seeley TD. 2010. Sleep deprivation impairs precision of waggle dance signaling in honey bees. *Proceedings of the National Academy of Sciences, U.S.A.* 107:22705-22709. doi:10.1073/pnas.1009439108  
*Science podcast*  
*NatureNews: www.nature.com/news/2010/101213/full/news.2010.672.html*  
*NewScientist: www.newscientist.com/article/dn19864-sleepy-bees-slur-their-waggle-dance-moves.html*  
*Journal of Experimental Biology: Cadena. 2011. Sleepless nights... 214:iv.*
- Klein BA**, Olzowy KM, Klein A, Saunders KM, Seeley TD. 2008. Caste-dependent sleep of worker honey bees. *Journal of Experimental Biology*. 211:3028-3040. doi:10.1242/jeb.017426  
*Media coverage: Deutsches Bienen Journal, Dec. 2008.*
- Wray MK, **Klein BA**, Mattila HR, Seeley TD. 2008. Honeybees do not reject dances for 'implausible' locations: reconsidering the evidence for cognitive maps in insects. *Animal Behaviour*. 76:261-269. doi:10.1016/j.anbehav.2008.04.005  
*Media coverage: NatureNews, 24 Jun. 2008.*
- Taylor RC, **Klein BA**, Stein J, Ryan MJ. 2008. Faux frogs: Multimodal signalling and the value of robotics in the study of animal behaviour. *Animal Behaviour*. 76:1089-1097. doi:10.1016/j.anbehav.2008.01.031

Media coverage: *NewScientist.com*, [www.youtube.com/watch?v=OYrVugWRQsA](http://www.youtube.com/watch?v=OYrVugWRQsA)

- Klein BA**, Bukowski TC, Avilés L. 2005. Male residency and mating patterns in a subsocial spider. *Journal of Arachnology*. 33:703-710. doi:10.1636/S03-62.1
- Bernays EA, **Klein BA**. 2002. Quantifying the symbiont contribution to essential amino acids in aphids: the importance of tryptophan for *Uroleucon ambrosiae*. *Physiological Entomology*. 27:275-284. doi:10.1046/j.1365-3032.2002.00297.x
- Engel MS, **Klein BA**. 1997. *Neocorynurella*, a new genus of Augochlorine bees from South America (Hymenoptera: Halictidae). *Deutsche Entomologische Zeitschrift*. 44:155-163.

### Online database

- Klein BA**, Klein A. 2016. Insects Incorporated: Database of Cultural Entomology.  
<http://culturalentomology.org/>

### Science & Art

- Klein BA**, Brosius TR. *In press*. A Planet in Peril and the Insect Muse. *In: A Cultural History of Insects in the Modern Age*. R Peterson, Ed. Bloomsbury Publ., London, UK.
- Klein BA**. 2022. Wax, wings, and swarms: insects and their products as art media. *Annual Review of Entomology*. 67:1. doi:10.1146/annurev-ento-020821-060803  
<http://www.annualreviews.org/eprint/WK2DDQ5Z83WIFEEVUY6X/full/10.1146/annurev-ento-020821-060803>  
*Knowable Magaz.:* <https://knowablemagazine.org/article/living-world/2021/alien-beauty-creepy-fascination-insect-art>  
*Smithsonian:* <https://www.smithsonianmag.com/arts-culture/the-creepy-crawling-history-insect-art-180979288/>
- Klein BA**. 2021. Exposing the murky depths, part 2: Producing a scientific illustration. *In the Drift* (Society for Freshwater Science newsletter). Issue 40.  
<https://freshwater-science.org/news/in-drift-issue-40-spring-2021#MI>
- Klein BA**. 2020. Exposing the murky depths, part 1: The value of scientific illustration for freshwater science. *In the Drift* (Society for Freshwater Science newsletter). Issue 37.  
<https://freshwater-science.org/news/in-drift-issue-37-spring-2020#Sci>
- Klein BA**. 2017. The six-legged muse. *Introduction to: Inspired by Insects: Bugs in Contemporary Art*. EA Rooney, Ed. Schiffer, Publ., Inc., Atglen, PA, USA.  
*Also one of 39 featured artists*
- Klein BA**. 2015. Encaustics: repurposing the architecture of insects. *Introduction to: The Buzz Stops Here: an exhibition of encaustic artwork about the science and conservation of bees*. Art.Science.Gallery., Austin, TX, USA. [http://issuu.com/artsciencegallery/docs/buzzcatalogue\\_20150411\\_1608](http://issuu.com/artsciencegallery/docs/buzzcatalogue_20150411_1608)
- Klein BA**. 2013. Standing on the shoulders of wee giants. *Introduction to: ECLOSION: a juried group exhibition of insect-inspired art*. Art.Science.Gallery., Austin, TX, USA.  
<http://issuu.com/artsciencegallery/docs/eclosioncatalogue>
- Klein BA**. 2012. The curious connection between insects and dreams. *Insects*. 3:1-17.  
doi:10.3390/insects3010001; <http://www.mdpi.com/2075-4450/3/1/1/>  
*Translated into Russian for an anthology of papers about dreaming (2017)*
- Monto G, **Klein BA**. 2011. In conversation: Barrett Anthony Klein. *Current Science*. 100:16-18.
- Abbott JC. 2011. Illustrated by **Klein BA**. *Damselflies of Texas*. University of Texas Press.
- Klein BA**. 2007. Insects in art. *In: Encyclopedia of Human-Animal Relationships: A Global Exploration of Our Connections with Animals*. Bekoff, M., ed. Greenwood Press, Westport, CT, USA. 1:92-99.
- Klein BA**. 2003. Par for the palette: Insects and arachnids as art media. *In: Insects in Oral Literature and Traditions*. Motte-Florac, E. and J.M.C. Thomas, eds. Peeters, Paris, France.

*Journal SLEEP abstracts (full manuscript not yet published):*

**Klein BA**, Rath L, Klein A, Ghosh SS, Galizia G, Kleineidam C. 2013. Neural imaging of honey bees sensing odors during sleep. *SLEEP*. 36:A57.

**Klein BA**. 2003. Signatures of sleep in a paper wasp. *SLEEP*. 26:A115-A116.

**Awards**

US-Israel Binational Science Foundation	2017-2022
Eagle Teaching Excellence Award, UWL	2020
Teaching in a Crisis Resource Gallery MiniGrant, UWL	2020
International Scholarship Grants, UWL (2020: Covid-19 cancelation)	2013, 2020
Faculty Development Grants, UWL (2020: Covid-19 cancelation)	2017, 2020
Faculty Research Grants, UWL	2013, 2014, 2019, 2020
International Development Fund Grants, UWL	2013, 2019
Competitive Pell Grant for Science	2015-2017
Smithsonian Tropical Research Institute Postdoctoral Fellowship	2011-2017
Lesson Study Project Grants, Ctr. for Advancing Teaching & Learning, UWL	three in 2014
Carol A. Dobrunz Endowment Fund Award, UWL	2013
International Science & Engineering Visualization Challenge finalist, NSF	2012
Hamilton Book Award runner-up (illustrated Damsselfies of Texas)	2012
Labby Award finalist, The Scientist	2012
George C. Eickwort Student Research Award, <a href="http://iussi.cyberbee.net/awards/">http://iussi.cyberbee.net/awards/</a>	2010
IUSSI travel award	2010
George H. Mitchell Award for Excellence in Graduate Research	2009
University Continuing Fellowship, UT	2009
Deutscher Akademischer Austauschdienst (DAAD) Fellowship	2008
Carl Gottfried Hartman Graduate Fellowship	2008
Texas Academy of Sciences Student Research Competition Award	2007, 2008
Teaching Assistant Awards (entomology, invertebrate zoology), UT	2005, 2008
National Science Foundation Doctoral Dissertation Improvement Grant	2007
UTOPIA Grant	2007
Texas EcoLab Grants	2005, 2006, 2007
Dorothea Bennett Memorial Graduate Research Fellowship awards	2004, 2005, 2007
Sleep Research Society: Honorable Mention Abstract award	2006
IUSSI: Honorable Mention poster award	2006
President's Prize: Honorable Mention, Entomological Society of America	2003, 2005, 2006
Continuing University Tuition Fellowship, UT	2005
Environmental Science Institute GK-12 Fellowship	2005
Sleep Research Society Trainee Research Excellence Award	2003
Mellon Foundation Grant	2002
National Science Foundation Research Training Grant	2002
Cornell Arts Grant	1993

**Presentations**

*Science meetings:*

- Klein BA.** 2019. Sleeping on six legs. Sleep Across Taxa conference, Tel Aviv University, Israel.
- Klein BA.** 2018. Sleeping in a society of honey bees. International Congress for Neuroethology, Brisbane, Australia.
- Klein BA.** 2016. Insects Incorporated: Cultural entomology as interdisciplinary online resource. International Congress of Entomology, Orlando, FL, USA.
- Giebink NW, Harrison TJ, **Klein BA.** 2016. Developing a new method for defining sleep using response thresholds. Animal Behavior Society, Columbia, MO, USA.
- Klein BA,** Vogt M, Unrein K, Reineke DM. 2016. Honey bees following sleep-deprived waggle dancers switch dancers rather than exit the nest. Gordon Conference, Galveston, TX, USA.
- Lendrum J, Seebach B, **Klein B,** Liu Sumei. 2016. Depletion of murine gut-microbiota with broad-spectrum antibiotic gavage alters intestinal motility, secretion, mucosal barrier function, immune homeostasis, energy harvest capacity and sleep architecture. Experimental Biology, San Diego, CA, USA.
- Klein BA,** Schneider S. 2014. Following the lead of a sleep-deprived dancer: Honey bees (*Apis mellifera*) following waggle dancers respond differently if the dancers had lost sleep. Entomological Society of America, Portland, OR, USA.
- Klein BA,** Rath L, Klein A, Ghosh SS, Galizia G, Kleineidam C. 2013. Imaging the brains of honey bees sensing odors while they sleep. Entomological Society of America, Austin, TX, USA. Sleep Research Society, Baltimore, MD, USA.
- Klein BA.** 2012. The insect in science and art. Society for Literature, Science, & the Arts, Milwaukee, WI, USA.
- Klein A, Ghosh SS, **Klein BA,** Rath L, Galizia G, Kleineidam C. 2012. Applying human brain image processing methods to honeybee calcium image data. Neuroinformatics, Munich, Germany.
- Klein BA,** Seeley TD. 2011. The graphical display of animal behaviour. Deutsche Zoologische Gesellschaft, Saarbrücken, Germany.
- Klein BA,** Klein A, Wray MK, Mueller UG, Seeley TD. 2010. Sleep deprivation impairs precision of waggle dance signaling in honey bees. International Union for the Study of Social Insects (IUSI), Copenhagen, Denmark.
- Klein BA,** Stiegler MS, Klein A, Tautz J. 2009/2008. Mapping sleep across a society: Spatial and temporal analysis of worker honey bee sleep. Sleep in Non-Mammalian Models conference, Janelia Farm, VA, USA. Entomological Society of America. Reno, NV & Indianapolis, IN, USA. Sleep Research Society, Baltimore, MD, USA.
- Klein BA,** Seeley TD. 2007. Work schedules impact sleep schedules in foraging honey bees. Sleep Research Society, Minneapolis, MN, USA.
- Klein BA,** Seeley TD. 2006. Temporal availability of food resources affects sleep schedules of honey bees. Entomological Society of America. Indianapolis, IN, USA.
- Klein BA.** 2006. Caste-dependent sleep of worker honey bees. IUSI. Washington D.C., USA. Sleep Research Society of America. Salt Lake City, UT, USA.
- Klein BA.** 2005. Sleep in a society of honey bees. Entomological Society of America. Fort Lauderdale, FL, USA.
- Klein BA.** 2005. Experimental art: esthetics uncovered in the science of entomology. Entomological Society of America (cultural entomology symposium). Fort Lauderdale, FL, USA.

- Klein BA.** 2004. Hitchhiking: Dynamics of leaf-riding in tropical leaf-cutter ants. IUSSI, North American Section. Camp Tontozona, AZ, USA.
- Klein BA.** 2003. Signatures of sleep in a paper wasp. Entomological Society of America. Cincinnati, OH, USA. Associated Professional Sleep Societies. Chicago, IL, USA.
- Klein BA.** 2003. Fabricating insects: the unnatural history of insects on display. Entomological Society of America (cultural entomology symposium). Cincinnati, OH, USA.
- Klein BA.** 2003. Depriving an insect of sleep. Entomological Society of America, Pacific Branch. Tucson, AZ, USA.
- Klein BA.** 2002. Quiescent paper wasps. Ecological Society of America. Tucson, AZ, USA.
- Klein BA.** 2000. Male residency and mating patterns in a subsocial spider. HexaPodium, Tucson, AZ, USA.
- Klein BA.** 2000. Insects and arachnids as art media. 1<sup>st</sup> International Symposium: Insects in Oral Literature and Traditions. Villejuif, France.

*Invited talks:*

Sleep.

University of Hong Kong (online)	2021
Catholic University of Louvain, Belgium (online)	2021
Silwood Park, Imperial College, London, UK (online)	2020
La Crosse Area Regional Beekeepers, La Crosse, WI	2020
La Trobe University, Melbourne, Australia	2018
Henry Hagedorn Speaker, University of Arizona, Tucson, AZ	2017
Michigan State University, Lansing, MI	2017
Keynote speaker, Darwin Day, Indiana State University, Terre Haute, IN	2017
Tulane University, New Orleans, LA	2014
UC Riverside – Riverside, CA	2014
University of Wisconsin – Madison	2013
Upper Midwest Environmental Sciences Center (UMESC), La Crosse, WI	2013
University of Illinois at Urbana – Champaign	2013
St. Mary’s University, Winona, MN	2013
University of Wisconsin – Milwaukee	2013
University of Minnesota, Minneapolis	2012
Smithsonian Tropical Research Institute, Panama City, Panama	2012
University of Zurich, Switzerland	2012
Smithsonian Institute, Washington DC	2011
University of Konstanz, Germany	2010
University of Lausanne, Switzerland	2010
Indian Institute of Science, Bengaluru, India	2010
Rice University, Houston, TX	2009
University of Copenhagen, Denmark	2009
University of Zurich, Switzerland	2008
UC Berkeley, CA	2007
Freie Universität Berlin, Germany	2007
Indiana State University, Terre Haute, IN	2006

Max Planck Institute, Andechs, Germany	2006
Sleep Research Society (trainee symposium), Salt Lake City, UT	2006
Visualizing behavior/nature.	
La Trobe University, Melbourne, Australia	2018
University of Illinois at Urbana – Champaign	2015
Plenary address, 1 <sup>st</sup> Internat. Conference of Science Art, Moscow, Russia	2012
Srishti School of Art, Design and Technology, Bengaluru, India	2010
Centre for the Study of Culture and Society, Bengaluru, India	2010
Center for the Study of Science, Technology, and Policy, Bengaluru, India	2010
Insect esthetics and the importance of imagery in entomology.	
Swarm to Table event, University of Wisconsin – Madison	2019
DNK Hall, Central House of Artists, Moscow, Russia	2012
Plenary address, joint meeting of entomological societies, Halifax, Canada	2011
Cultural entomology.	
Earth and Life Institute, Catholic University of Louvain, Belgium	2021
Prairie Enthusiasts conference, La Crosse, WI	2018
University of Wisconsin – Madison	2017
Arizona Insect Festival, University of Arizona, Tucson, AZ	2017
Kellogg Biological Station, Michigan State University, Kalamazoo, MI	2017
UW – Stevens Point, WI	2014
Augustana College, Rock Island, IL	2014
Smithsonian Institute, Washington DC	2011
University of Konstanz, Germany	2010
Insects and folk art. Austin Friends of Folk Art, TX	2009
Insects in art. New York Entomological Society, NY	1998
Naturalist embraces technology. Science Foo Camp, Googleplex, Mountainview, CA	2015
Art and science.	
Visiting Artist series, UWL	2013
Career Day, University of Arizona, Tucson, AZ	2001
Arizona Entomological Society, Tucson, AZ	2001
BYU – Idaho, Rexburg, ID	1996
Alternate careers for biologists. Salisbury University, MD	2009
Robotic frogs and sleeping bees. University of Berne, Switzerland	2008
Tropical biodiversity. Santa Cruz Museum of Natural History, CA	2008
Fabricating insects. Turtle Bay Exploration Park, Redding, CA	2005

## Professional activities

### *Scientific consultation:*

Abbott JC. 2022. Peterson Field Guide: Insects.

*Cosmos: Possible Worlds* television series (2017)

Russell PJ, Hertz PE, McMillan B. 2016. *Biology: The Dynamic Science*, 4<sup>th</sup> ed. (Chapter 4). Brooks Cole, Boston, MA.

Kuper, P. 2015. *Ruins*. SelfMadeHero, London, UK. (Eisner Award winner, Best Graphic Album)

BBC, *Invisible Worlds* television series (2009)

American Museum of Natural History, *Dinosaurs: Ancient Fossils, New Discoveries* exhibit (2004)

Lyman, F. 1998. Inside the Dzanga-Sangha Rain Forest. Workman, NY  
BBC & Smithsonian Tropical Research Institute, Panama (1993)

### *Reviews:*

Proposals: National Science Foundation (NSF) Panel to review Integrative Organismal Systems (IOS) proposals (2021), National Research Foundation (South Africa), Cultural History of Insects (book series, Bloomsbury Publ.)

Journals: Am Entomol, Am Nat, Anim Behav, Apidologie, Behav Ecol, Curr Opin Behav Sci, Ethnoentomology, Insects, J Apicultural Res, J Exper Biol, J Insect Physiol, J Insect Science, PLoS ONE, Science, Scientific Reports

### *Committees:*

Topic editor, Insects (MDPI open access journal) (2021-2024)

Board of Directors, Art & Science Collaborators, Inc. (2015-present)

Board of Advisors, Art.Science.Gallery, Austin, TX (2013-present)

Chair and Convener, University Joint Committee on Environmental Sustainability, UWL (2015-2017)

Chair, Warner Memorial Fund Speaker Committee, UWL (2015-2017)

Faculty advisor, Biology Club; Search & Screen; Curricular Redesign; Museum Oversight; etc. (UWL)

## **Educator**

### *Research mentorship/supervision:*

UWL: 55+ undergrads, 3 Master's, French postdoc (Kevin Tougeron)

Prior to UWL: 20 undergrads at Univ. of AZ, Cranberry Lake Biol. Station, Univ. Würzburg, UT, Cornell

### *UWL teaching:*

Animal Behavior

Entomology (lec/lab)

Scientific Visualization (lec/lab)

Ant Art, Fly Food, and Moth Music: How Insects affect our Lives (First Year Seminar)

Organismal Biology (lec/lab)

Animal Biology (lec/lab)

General Biology

Senior Capstone

### *Other courses:*

Visual impact: the use and abuse of visual information, Univ. Konstanz, Germany (2011-2012)

Creating visuals for scientific publication (short courses)

Max Planck Institutes: Radolfzell, Germany (2012), Seewiesen, Germany (2011)

Schwerpunktprogramme for German PhD students (2012)

### *Guest teaching highlights:*

Visits include Tel Aviv University, Israel (2019); Centre for Contemporary Studies, Indian Institute of Science, Bengaluru, India (2010); Univ. Würzburg, Germany (2010); Salisbury Univ., MD (2009)

### *Public outreach highlights:*

Television, radio, podcasts, stage:

*Here We Are* podcasts, <http://herewearepodcast.com/> (2019-2022)

e.g., <https://www.herewearepodcast.com/episodes/episode-363-sleeping-dreaming-zlatan-krian-and-barrett-klein>

Travel Channel: *Ripley's Believe It or Not* (2019)

*Stand Up Science*, with Shane Mauss, Cavalier Theater, La Crosse, WI (2019)

Wisconsin Public TV: *University Place* (2016)



Wisconsin Public Radio: *The Newsmakers*, <http://www.wpr.org/robofrog> (2013)

BBC: *Invisible Worlds* (produced thermography, 2009)

Modern rock radio station “Bug Guy” appearances: Springfield, MO (1996)

Walks, talks, workshops:

Creative Imperatives Festival, UWL (2017)

Villa St. Joseph, La Crosse, WI (2017)

Arizona Insect Festival, University of Arizona, Tucson, AZ (2017)

STEAM workshop: *10 Quintillion & Counting – Art & Science of the Insect*, UWL (2014)

Bug Day: Wehr Nature Center, Franklin, WI (2017, 2018)

Insect walks, Deep Roots Community Farm, La Crosse, WI (2013-2015, 2017)

India Institute of Science, Bengaluru, India (2010)

Wild Basin Nature Ctr., Austin, TX (2007)

Storytelling & role-playing workshop: Turtle Bay Exploration Park, Redding, CA, USA (2005)

Bob Bullock Museum, Austin, TX (2004)

Resource guide/lecturer: expedition of Peruvian Amazon (International Expeditions/AMNH, 2000)

Lectures: *History of Natural History Museums*, The World Financial Center, NY, USA (1998)

Workshop: Making Microbes with the Masses, AMNH (1998)

Entomophagy lecture & feast: Watermargin Cooperative, Cornell Univ. (1993)

K-12:

GK-12 Fellow, Covington Middle School, Austin, TX (spring 2005)

Inquiry-based educator, Content through Inquiry Project, Tucson, AZ schools (2001)

High school educator, AMNH Education Dept. (1998-1999)

Storytelling and role-playing, AMNH teachers’ symposia (1998)

## Art

### *Gallery and art museum exhibits:*

*Swarm to Table*. Show associated with edible insects banquet, Univ. of Wisconsin – Madison, WI (2019)

*Hidden Ubiquity: celebrating the tiny majority*. Solo show at NCRC, Univ. of Michigan (2019)

*Focus on Nature XV*. Roberson Museum and Science Center, Binghamton, NY (2018)

*Insect Dreams* (collaborative edition in permanent collection). Kohler Art Library, Madison, WI (2018)

*Eating Insects Athens Art Exhibition*. Athens, GA (2018)

*FAKE*. Science Gallery, Dublin, Ireland (2018), featured: Nature, <https://www.nature.com/articles/d41586-018-03271-9>

*Making Life Visible*. Grinnell College, Grinnell, IA (2018)

*Fashion Week*. Fashion show and demo, featuring fashion composed of insect products, UWL (2017)

*Insecta*. Central Booking, New York, NY (2016)

*Creative Imperatives Festival*. Center for the Arts, UWL (2016)

*Second Shift*. Murphy Library, UWL (2015-2016)

*The Buzz Stops Here*. Juror, Art.Science.Gallery., Austin, TX (2015)

*The Machine Inside, Biomechanics*. Infrared videography for traveling exhibit, Field Museum (2014)

*Beyond the Hive*. Univ. of Wisconsin – Stevens Point, WI (2014)

*Insects Inspire Art*. Augustana College, Rock Island, IL (2014)

*Jeepers Creepers - Bugs in Art*. Traveling exhibit; i.d.e.a. Museum, Mesa, AZ (2014-2018)

*FACETS - Bees, Art and Science* (translated). Schloss Sayn, Germany (2014)

*ECLOSION*. Co-curation, Art.Science.Gallery., Austin, TX (2013)

*UnEarthed*. Alice C. Sabatini Art Gallery, Topeka, KS (2013)

*Metanexus Institute*, <http://www.metanexus.net/visual-exploration/thermal-society> (2012)  
*Science Art*. DNK Hall, Central House of Artists, Moscow, Russia (2012)  
*Art & Science Collaborations, Inc.* featured member, [www.asci.org/artikel1214.html](http://www.asci.org/artikel1214.html) (2012)  
*Focus on Nature XII*. NY State Museum, [www.nysm.nysed.gov/illustrations/fon/exhibitions/index.html](http://www.nysm.nysed.gov/illustrations/fon/exhibitions/index.html) (2012)  
*Engaging Insects*. USM Art Gallery, Gorham, ME (2011)  
 Projection of art on bands: *Boy with a Fish*. Ithaca Festival, NY (2011); *Gorch Fock*. Emo's, Austin, TX (2004); *Lori Surfer & Co.* Room 710, Austin, TX (2003)  
*Book of Hours*. Arnold Klein Gallery, [www.lmstudio.com/BOH/](http://www.lmstudio.com/BOH/) (2010)  
*Entomologia*. Observatory, Proteus Gowanus art complex, Brooklyn, NY (2010)  
*Invisible Worlds*. Filmed and edited infrared sequences for BBC program (2009)  
*Horizon*. Arnold Klein Gallery, Royal Oak, MI (2009)  
*Insects and Art*. Royal Entomological Society, University of Plymouth, UK (2008)  
*Dionysium*. Alamo Drafthouse, South Lamar, Austin, TX (2006)  
*Art Wing*. Entomological Soc. of America, Fort Lauderdale, FL (2005)  
*Numbers*. Arnold Klein Gallery, Royal Oak, MI (2004)  
*The Great Insect Fair*. HUB Gallery, PennState Univ. (2002)  
*Bugs! A Children's Exhibition of Bugs in Art*. Anchorage Museum of History and Art, AK (2001)  
*Mimesis*. Hazmat Gallery, Museum of Contemporary Art, Tucson, AZ (2001)  
*Insects and Arachnids as Art Media*. Designed showcase exhibit for Univ. of Arizona (2001)  
*Earth*. Arnold Klein Gallery, Royal Oak, MI (2001)  
*Insectal art*. Curated art within HexaPodium scientific meeting, Tucson, AZ (2000)  
*Bugs*. Click Gallery, Royal Oak, MI (2000)

### *Natural history museum exhibits:*

Bronx Zoo, Bronx, NY *Congo Rainforest* permanent exhibit  
 American Museum of Natural History, NY  
     *Hall of Biodiversity* permanent exhibit  
     *Epidemic!: The World of Infectious Disease* traveling exhibit  
     *Endangered!* temporary exhibit  
     *Up in Central Park* temporary exhibit  
 Chase Studio, Inc., for: Royal Tyrrell Museum (Alberta, Canada), Earthworks (Kansas City, MO), Living Desert Museum (Palm Desert, CA), Sternberg Museum of Natural History (Hays, KS), Museum of the Rockies (Bozeman, MT), Needles Visitor Center (Canyonlands, UT), Salato Wildlife Education Center (Frankfort, KY), Smithsonian traveling exhibit, Public Museum of Grand Rapids (Grand Rapids, MI)

### *Illustrations/models in science publications (I am not an author):*

Quintana ADT. (*in prep.*) Libélulas de Cuba.  
 Mueller UG. et al. (*in prep.*) Fungus Growing Ants of the United States.  
 Leigh EG, Ziegler C. 2019. *Nature Strange and Beautiful: How Living Beings Evolved and Made the Earth a Home*. Yale Univ. Press, New Haven, CT. (with Karen Anne Klein)  
 Wilson EO. 2013. *Letters to a Young Scientist*. Liveright Publ.  
 Abbott JC. 2011. Illustrated by B.A. Klein. *Damselflies of Texas*. University of Texas Press.  
 Loíacono M, Margaría C. 2010. *Insectos y hombres: una diversidad de interacciones*. Argentina.  
 Rabeling C, Brown JM, Verhaagh M. 2008. Newly discovered sister lineage sheds light on early ant evolution. *PNAS*. 105:14913-14917.

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- Moczek AP. 2007. Developmental plasticity and the origins of diversity: a case study on horned beetles. *In: Phenotypic plasticity in insects: mechanisms and consequences*. Ed: T.N. Ananthkrishnan and D. Whitman. Science Publishers, Inc. Plymouth, UK.
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- Seeley TD. 1996. *Wisdom of the Hive: the Social Physiology of Honey Bee Colonies*. Harvard Univ. Press. Cambridge, MA. (*adapted from original*)
- Vance SA. 1996. Morphological and behavioural sex reversal in mermithid-infected mayflies. *Proceedings of the Royal Society of London Series B-Biological Sciences*. 263:907-912.
- Conway G. 1995. A novel gene expressed during zebrafish gastrulation identified by differential RNA display. *Mechanisms of Development*. 52:383-391.

*Other art (<http://www.pupating.org>):*

- Book cover graphic design: novels and violin repair guide by Korinthia Klein
- Logos: MS River Research Consortium (2014, 2015), Southwestern Association for Biologists (2007)
- AMNH illustrations: *Hall of Biodiversity* activity book, Planetarium & Education Dept. websites (e.g., <https://www.amnh.org/explore/ology/biodiversity/life-in-the-city2>)
- Chicken in a Snowstorm Press collaborations (with Karen Anne Klein)

**Addendum activities and interests**

- Scientific illustration and natural history exhibit design and production.
- Cultural entomology (insects in all realms, spheres and permutations of human interaction and representation), and the history and art of natural history museums.