

## Frederick R. Prete, Ph.D.

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### Education

- 1995-1996 Post-doctoral Research with Dr. Michael Dickinson, Dept. of Organismal Biology and Anatomy, The University of Chicago  
1992 Ph.D., Committee on Biopsychology, The University of Chicago  
1985 B.A., University of Illinois at Chicago

### Honors

- 1991 Best Graduate Student Paper, The American Society of Zoologists  
1990 John Dewey Prize Lectureship, The University of Chicago  
1989 & 1990 Best Graduate Student Papers, The American Society of Zoologists  
1989 Best Graduate Student Essay, Fishbein Center for History of Science and Medicine, The University of Chicago  
Fishbein Center Prize Lectureship, The University of Chicago  
The Kelly Scholarship, The University of Chicago  
1985-1989 Division Fellowship, The University of Chicago  
1985 & 1986 NSF Graduate Research Fellowship Honorable Mentions  
1985 University Fellowship, The University of Illinois at Chicago  
Nancy Hirschberg Award for Undergraduate Research Excellence, UIC

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### Teaching

- 2020-current Dept. of Biology, Lake Forest College, *visiting Assistant Professor (3 yrs), Instructor*  
2005-current Dept. of Biology, Northeastern Illinois University, *Senior Instructor*  
2001-2015 One-to-One Learning Center, Northfield, IL (biology, chemistry, mathematics)  
2003-2004 Dept. of Psychology, DePaul University, Chicago, IL  
1996, 1998-2000 Summer Biology Teacher Enhancement Program, The University of Tulsa  
1996-1999 Dept. Biological Sciences, DePaul University, Chicago, IL  
1993-1995 Dept. of Psychology, Denison University, Granville, OH  
1991-1993 Dept. of Psychology, Youngstown State University, Youngstown, OH

### ad hoc

- 1995 Dept. of Psychology, Roosevelt University, Chicago, IL  
1995 Chicago School of Professional Psychology, Chicago, IL  
1991, 1996 Dept. of Psychology, DePaul University, Chicago, IL  
1987-1991 Dept. of Psychology, Roosevelt University, Chicago, IL

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### Distinctions & Grants

- 2018 *nominated*: NEIU Instructor Excellence Award  
2014 NEIU **Instructor Excellence Award** for 2012-2013  
2013 NEIU Research Community Grant  
2013 NEIU **Students Choice Award**  
2013 SCSE Summer Research Opportunities Grant: “Elucidating Neural Networks... Object Recognition and its Circadian Modulation in the Praying Mantis”  
2012 CREAR Summer Research Grant: “Circadian Modulation of Appetitive Behavior and Visual Sensitivity in Praying Mantises”  
2011 CREAR Summer Research Grant: “Object Recognition by Mantises and Development of a Haptic Output Device”  
2011 *nominated*: NEIU Instructor Excellence Award  
2011 *nominated*: SACNAS Distinguished Undergraduate Institution Mentor Award

2009, 2010	NEIU Research Community Grants
2009, 2010	SCSE Summer Research Opportunities Grant
2008	NEIU <b>Instructor Excellence Award</b>
1992-1993	<i>nominated</i> : National Science Foundation Presidential Faculty Fellowship by Dr. S. Hotchkiss, Provost, Youngstown State University
1992-1993	<b>Research Professor Award</b> , Div. Arts and Sciences, Youngstown State University

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## Publications

### *Books*

Prete, F.R. (ed.) (2004) *Complex Worlds from Simpler Nervous Systems*. Cambridge: MIT Press  
 Prete, F.R., H. Wells, P. Wells, and L.E. Hurd (eds.) (1999) *The Praying Mantids*. Baltimore: Johns Hopkins University Press

*The Praying Mantids* was awarded an Honorable Mention in the category of Biological Science for OUTSTANDING PROFESSIONAL AND SCHOLARLY TITLES OF 1999 by the Association of American Publishers (AAP)

### *Chapters*

In the Mind of a Hunter: The Visual World of the Praying Mantis (with K. Kral). In FR Prete (ed.), *Complex Worlds from Simpler Nervous Systems*, Cambridge: MIT Press, pp. 75-115.  
 How Ancient, Medieval and Early Modern Writings Shaped Contemporary Questions About Mantis Prey Capture (with H. Wells, and P. Wells). In *The Praying Mantids* (Prete, et al., eds.) Baltimore: Johns Hopkins University Press, pp. 3-18.  
 Prey Recognition. In *The Praying Mantids* (Prete, et al., eds.) Baltimore: Johns Hopkins University Press, pp. 141-179.  
 Prey Capture (with K. Hamilton). In *The Praying Mantids* (Prete, et al., eds.) Baltimore: Johns Hopkins University Press, pp. 194-223.  
 Rearing Techniques, Developmental Time, and Life Span Data for Lab-Reared *Sphodromantis lineola*. In *The Praying Mantids* (F.R. Prete, et al., eds.) Baltimore: Johns Hopkins Univ. Press, pp. 303-310.  
 Designing Behavior: A Case Study. In *Perspectives in Ethology*, Vol. 11 (N. Thompson, ed.) New York: Plenum Press, 1995, pp. 255-277.

### *Articles*

Prete FR (2023) ChatGPT, Lobster Gizzards, and Intelligence. *Quillette* May 1. <https://quillette.com/2023/05/01/chatgpt-lobster-gizzards-and-intelligence/>

Prete FR (2023) Understanding the ACT: Race Divides Us, Aspirations Unite Us. *Foundation against Intolerance and Racism* April 17. <https://fairforall.substack.com/p/understanding-the-act-race-divides>

Prete FR (2023) When ‘Black’ & ‘Hispanic’ Students Outscore ‘Asian’ & ‘White’ Students on the ACT, Nobody Notices. *Wrong Speak Publishing* Jan 9. <https://wrongspeak.substack.com/p/when-black-and-hispanic-students>

Prete, FR (2022) The 2022 ACT: It’s Not All Bad News. *National Association of Scholars, Minding the Campus*. Dec 1. <https://www.mindingthecampus.org/2022/12/01/the-2022-act-its-not-all-bad-news/>

Prete, FR (2022) The ACT is Still Useful. Don't Drop It. *The James G Martin Center for Academic Renewal* Sept 30. <https://www.jamesgmartin.center/2022/09/the-act-is-still-useful/>

Prete, FR (2022) The ACT Discriminates...but not in the way you might expect. *Quillette*. July 16. <https://quillette.com/2022/07/16/the-act-discriminates/>

Prete, FR (2021) Biology Won’t Solve Your Problems with Abortion. *Quillette*. Oct 05. <https://quillette.com/2021/10/05/biology-wont-solve-your-problems-abortion/>

Prete, FR, et al., (2019). The first analysis of discontinuous ventilatory abdominal pulsations in praying mantises. *Fragmenta Entomologica*, 51: 29-39 (2019). DOI <https://doi.org/10.4081/fe.2019.332>

- Schirmer A, Prete FR, et al., (2014) Circadian rhythms affect electroretinogram, compound eye color, striking behavior and locomotion of the praying mantis *Hierodula patellifera*. *Journal 40 publications of Experimental Biology*, 217: 3853-3861
- Maxwell MR, Prete FR (2014) Intraspecific and interspecific length variation in mantids: consequences for prey size and predatory strike rates. *Antenna the Bulletin of the Royal Entomology Society, special edition, 10<sup>th</sup> European Congress of Entomology*, 38-39
- Prete FR, Theis R, Dominguez S, Bogue W (2013) Visual Stimuli Eliciting Tracking and Striking in the Praying Mantises, *Parasphendale affinis* (Giglio-Tos), *Popa spurca* (Stål), and *Sphodromantis lineola* (Burmeister). *Journal of Experimental Biology*, 216: 4443-53. doi: 10.1242/jeb.089474
- Popkiewicz B, Prete FR (2013) Macroscopic Characteristics of the Praying Mantis Electroretinogram, *Journal of Insect Physiology*, 59: 812–823
- Prete FR, Dominguez S, Komito JL, Theis R, Dominguez JM, Hurd LE, Svenson GJ, (2013) Differences in Appetitive Responses to Computer-Generated Visual Stimuli by Female *Rhombodera basalis*, *Deroplatys lobata*, *Hierodula membranacea*, and *Miomantis sp.* (Insecta: Mantodea), *Journal of Insect Behavior*, 26: 261-282
- Prete FR, Theis R, Komito JL, Dominguez JM, Dominguez S, Svenson GJ, Wieland F (2012) Visual Stimuli that Elicit Visual Tracking, Approaching and Striking Behavior from an Unusual Praying Mantis, *Euchomenella macrops* (Insecta: Mantodea). *Journal of Insect Physiology*, 58: 648-659
- Prete FR, Komito JL, Domínguez S, Svenson G, López YL, Guillen A, Bogdanivich N (2011) Prey Recognition in Three Morphologically Distinct Species of Praying Mantis, *Journal of Comparative Physiology A*, 197: 877-894
- Belpedio C, Buffington L, Clusman S, Prete FR, Sadler A, Whittmore L, Mungre S (2010) Effect of multidog play-groups on cortisol levels and behavior of dogs (*Canis lupus familiaris*) housed in a humane society. *Journal of Applied Companion Animal Behavior*, 4:15-27
- Prete, FR (2007) Complex Learning in Arthropods. *International Journal of Comparative Psychology*, 19: IV-VI
- Prete FR (2007) Living with Animals: Honey Bee Society and Humans. In *Encyclopedia of Human-Animal Relationships* (M. Bekoff, ed.) Phoenix, Arizona: Greenwood Publishing Group, pp. 1128-1133.
- Prete FR (2007) Anthropomorphism: The myth of “Sexual cannibalism” by the praying mantis. In *Encyclopedia of Human-Animal Relationships* (M. Bekoff, ed.) Phoenix, Arizona: Greenwood Publishing Group, pp. 68-71
- Hurd LE, Prete FR, Jones T, Portman R, Singh TB, Co JE (2004) The first identification, synthesis and behavioral test of a mantid pheromone. *Journal of Chemical Ecology*, 30: 155-166
- Prete FR (2004) The predatory behavior of praying mantids. In *The Encyclopedia of Animal Behavior* (M. Bekoff, ed.) Phoenix, Arizona: Greenwood Publishing Group, pp. 851-857.
- Prete FR, Hurd LE, Branstrator D, Johnson A (2002), Responses to computer generated visual stimuli by the male praying mantis, *Sphodromantis lineola* (Burmeister). *Animal Behaviour*, 63: 503-510
- Gonka, MD, Laurie TJ, Prete FR (1999) Responses of movement sensitive descending visual interneurons to prey-like stimuli in the praying mantis, *Sphodromantis lineola* (Burmeister). *Brain, Behavior and Evolution*, 54: 243-262

- Bullaro M, Prete FR (1999) The Thoracic and Prothoracic Leg Neuromuscular System of the Praying Mantid, *Sphodromantis lineola* (Burmeister). *The Journal of Comparative Neurology*, 409: 325-338
- Chan, WP, Prete FR, Dickinson MH (1998) A visually guided motor-controlled gyroscope in flies. *Science*, 280: 289-292
- Prete FR, McLean T (1996) Responses to moving small-field stimuli by the praying mantis, *Sphodromantis lineola* (Burr.). *Brain, Behavior and Evolution*, 47: 52-54
- Prete FR, Cleal K (1996) The predatory strike of free ranging praying mantises, *Sphodromantis lineola* (Burr.). I: Strikes in the midsagittal plane. *Brain, Behavior and Evolution*, 48: 173-190
- Cleal K, Prete FR (1996) The predatory strike of free ranging praying mantises, *Sphodromantis lineola* (Burr.). II: Strikes in the horizontal plane. *Brain, Behavior and Evolution*, 48:191-204
- Prete, FR and Mahaffey RJ (1993) A chamber for mass hatching and early rearing of praying mantid (Orthoptera: Mantidae). *Entomological News*, 104: 47-52
- Prete, FR and Mahaffey RJ (1993) Appetitive responses to computer generated visual stimuli by the praying mantis *Sphodromantis lineola* (Burr.). *Visual Neuroscience*, 10: 669-679
- Prete, FR, Placek PJ, Wilson MA, Mahaffey RJ, Nemcek RR (1993) The effects of stimulus speed and order of presentation on the discrimination of visual stimuli representing prey by the praying mantis *Sphodromantis lineola* (Burr.). *Brain, Behavior and Evolution*, 42: 281-294.
- Prete, FR (1993) Stimulus direction and retinal image location affect appetitive responses to computer generated stimuli by the praying mantis *Sphodromantis lineola* (Burr.). *Visual Neuroscience*, 10: 997-1005
- Prete, FR (1992) Predatory behavior of the praying mantids, *Tenodera aridifolia sinensis* (Sauss.) and *Sphodromantis lineola* (Burr.). Ph.D. dissertation, The University of Chicago.
- Prete, FR (1992) A review of Darwin's Influence on Freud. *Victorian Studies*, 35: 331-2
- Prete, FR (1992) The discrimination of visual stimuli representing prey versus non-prey by the praying mantis, *Sphodromantis lineola* (Burr.). *Brain, Behavior and Evolution*, 39: 285- 288
- Prete, FR, Lum H, Grossman SP (1992) Non-predatory ingestive behaviors of the praying mantis *Sphodromantis lineola* (Burr.). *Brain, Behavior and Evolution*, 39: 124-32
- Prete, FR, Wolfe MM (1992) Religious supplicant, seductive cannibal, or reflex machine? In search of the praying mantis. *Journal of History of Biology*, 25: 91-136
- Prete, FR (1992) The effects of background pattern and contrast on prey discrimination by the praying mantis *Sphodromantis lineola* (Burr.). *Brain, Behavior and Evolution*, 40: 311-320
- Prete, FR (1991) Configurational prey selection by the praying mantis, *Sphodromantis lineola* (Burr.): The effects of size and direction of movement. *Brain, Behavior and Evolution*, 36: 300-6
- Prete, FR (1991) Can females rule the hive? The controversy over honey bee gender roles in British beekeeping texts of the 16<sup>th</sup>-18<sup>th</sup> centuries. *Journal of the History of Biology*, 24: 113-44
- Prete, FR, Bergmann B, Holtzman P, Obermeyer W, Rechtschaffen A (1991) Sleep deprivation in the rat: XII. Effect on Ambient Temperature Choice. *Sleep*, 14: 109-15

Bergmann, B, Everson C, Gilliland M, Kushida C, Obermeyer W, Pilcher J, Prete FR, Rechtschaffen A (1990) Sleep deprivation and thermoregulation. In (J. Horne, ed.), *Proceedings of the 1988 European Sleep Research Congress*. Stuttgart: G. F. Verlag, pp. 91-95

Prete, FR (1990) The conundrum of the honey bees: One impediment to Darwin publishing his theory. *Journal of the History of Biology*, 23: 271-290

Prete, FR (1990) Prey catching in mantids: The role of the prothoracic tibial flexion reflex. *Journal of Insect Physiology*, 36: 335-338

Prete, FR, Klimek CA, Grossman SP, (1990) The predatory strike of the mantis, *Tenodera aridifolia sinensis*. *Journal of Insect Physiology*, 36: 561-565

Prete, FR, Bergmann B, Rechtschaffen A (1988) The effect of total sleep deprivation on behavioral thermoregulation in the rat. *Sleep Research*, 17: 324

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**Research Student & Faculty Presentations / Invited Talks**  
*selected titles*

- 2024 **16th Annual NEIU SCSE Research Symposium (27 Sept)**
- Evaluating Pleasantness, Distinguishability, and Directional Associations of Haptic Stimuli in a Mobility Cane For Blind/Low Vision Users *with* Ellis Mudrik
- 2024 **John Sargon Albazi Research and Creative Activities Student Symposium (Apr26)**
- Haptic Feedback Enhanced Mobility ('White') Cane Increases Environmental Awareness in the Absence of Vision. *with* Suma Pasupulati
- 2023 **Robert B. Glassman Memorial Brain, Mind, and Behavior Symposium (Nov 2-3)**
- Obstacle Avoidance Improved by a Haptic- Enhanced White Cane for the Visually Impaired. *with* Suma Pasupulati, Lauren Steidl, Ellis Mudrik
- 2023 **John Sargon Albazi Research and Creative Activities Student Symposium (April 28)**
- Haptic Feedback in a Mobility ('White') Cane Enhances Environmental Awareness in the Absence of Vision, , *with* Suma Pasupulati
- 2022 **Lake Forest College Student Research Symposium (Apr 5)**
- Hedonic Assessment of Haptic Stimuli Used in a Wearable Mobility Aid, , *with* Haynes Rosson
- 2019 **NEIU 10th Annual Faculty Research and Creative Activities Symposium (Nov 15)**
- Helping Blind and Visually Impaired Children to Feel the World Around Them: My Life Comes Full Circle
- 2019 **NEIU 27th Annual Student Research and Creative Activities Symposium (12 Apr)**
- Cellular Organization of the Brain and Thoracic Ganglia of the Praying Mantis, *with* Xhilio Zeka
- 2018 **NEIU 9th Annual Faculty Research and Creative Activities Symposium (Nov 16)**
- 25 Years of Battling Academic Hegemony, Gender Stereotypes and Political Power: Deconstructing the Mantis Visual System in the Service of Helping Children
- 2018 **10th Annual NEIU SCSE Research Symposium (21 Sept)**
- Responses to Headband Mounted ERM Haptic Actuators Driven by the Drv2605 Integrated Circuit Library, *with* C. López-Martinez
  - Cellular Organization of the Brain and Thoracic Ganglia of the Praying Mantis , *with* X. Zeka
- 2018 **American Society of Safety Engineers Annual Conference San Antonio TX (invited) (2 Jun)**
- Think Outside the Box – Design and Deploy a Dynamic Safety Training Strategy, *with* SD Kemerer, T Mortenson
- 2018 **NEIU 26th Annual Student Research and Creative Activities Symposium (20 Apr)**

- Correlated Neural Activity in the Optic Lobe and Ventral Nerve Cord of the Praying Mantis Confirms the Link Between Subjective Prey Recognition and the Predatory Strike , *with* CA Nielsen, BA Prete
- 2018 **TRIO Leading and Learning Week** NEIU (5 Apr)
- If You Want to be a Successful Student, Treat Your Subjects Like Sports
- 2018 **Illinois Institute of Technology**, Biological Sciences Department, (*invited*) (Jan 22)
- Deconstructing and Reconstructing the Mantis Visual System: Psychology, Neuroscience, and Computer Programming
- 2017 **University of Illinois at Champaign Urbana**, Department of Entomology, (*invited*) (4 Dec)
- How I Figured Out That Mantises Are As Smart As You Are: From Psychology to Cells
- 2017 **University of Wisconsin Madison**, Department of Zoology, (*invited*) (Nov 9)
- From Cognitive Psychology to Interneurons: How Praying Mantises Construct the Abstract Category, "Prey"
- 2017 **Epilepsy Foundation of Greater Chicago** (*invited*) (14 Jun)
- Solving the Puzzles of the Brain
- 2017 **NEIU Faculty Research and Creative Activities Symposium** (17 Nov)
- Deconstructing the Mantis Visual System: Merging Literature, Psychology, Neuroscience, and Computer Programming
- 2017 **University of Wisconsin Milwaukee** (*invited*) (7 Apr)
- From Cognitive Psychology to Potassium Channels: figuring out how praying mantises recognize prey
- 2017 **NEIU 25th Annual Student Research and Creative Activities Symposium** (15 Apr)
- Evidence of binocular interactions in the praying mantis electroretinogram , *with* C. Nielsen
- 2016 **7<sup>th</sup> Annual Faculty Research and Creative Activities Symposium**, NEIU, Chicago (18 Nov)
- The circadian modulation of physiology in the praying mantis: a novel insect model system , *with* AE Schirmer, B vAlphen, ES Mantes, W Bogue, AF Urdiales, SA Patel, C Carrion, GM Prete, VM Skital
- 2016 **NEIU 24th Annual Student Research and Creative Activities Symposium** (15 Apr)
- Assessing Optic Lobe ERG Responses in the Praying Mantis Using an Arduino Controlled LED Matrix , *with* W. Bogue
- 2016 **Washington & Lee University**, Dept. of Biology, (*invited*), Lexington VA (31 Mar & 01 Apr)
- If You Want Students to Learn Science and Math, Teach them Like You Teach Sports
  - Understanding How Praying Mantises Recognize Prey: From Cognitive Psychology and Ecology to Potassium Channels
- 2016 **Learn & Lead Symposium**, NEIU, Chicago, IL (08 Feb)
- What my Special Ed, High School and College Students Have Taught Me About Teaching
- 2015 **Sapienza – Università di Roma** (*invited*), Rome, Italy (25 Nov)
- How Praying Mantises Recognize Prey: Merging Ecology, Psychology, and Neurobiology
- 2015 **6<sup>th</sup> Annual Faculty Research and Creative Activities Symposium**, NEIU, Chicago IL (13 Nov)
- If You Want Students to Learn Science and Math, Teach them Like You Teach Sports... *lessons learned by a special ed., high school, university teacher*
  - The Circadian Modulation of Physiology in the Praying Mantis: A Novel Insect Model System , *with* AE Schirmer, B v Alphen, ES Mantes, W Bogue, AF Urdiales, SA Patel, C Carrion, G Prete, VM Skital
- 2015 **TEDx**, NEIU, Chicago IL (09 Oct)
- If You Want Students to Learn Science and Math, Teach them Like You Teach Sports...
- 2015 **Society for Neuroscience Annual Conference**, Chicago, IL (17-21 Oct)
- The circadian modulation of physiology in the praying mantis: A novel insect model system , *with* A.E. Schirmer, E.S. Mantes, W. Bogue, A.F. Urdiales, S.A. Patel, C.Carion, G. Prete, V.M. Skital
- 2015 **SACNAS National Meeting**, Washington DC (29-31 Oct)
- First Analysis of the Unique Breathing Patterns in the Praying Mantis (Insecta: Mantodea) *with* V. Skital, S. Patel, C. Carrion, G. Prete, E. Fioramonti, B.v. Alphen, A. Schirmer
- 2015 **Annual Biomedical Research Conference for Minority Students**, Seattle, WA (11-14 Nov)

- Assessing Optic Lobe ERG Responses in The Praying Mantis Using an Arduino Controlled LED Array Matrix, , with W. Bogue
- 2015 **10<sup>th</sup> Annual all School Research Consortium**, Rosalind Franklin Univ, N. Chicago IL (18 Mar)
  - Previous visual experience modifies predatory behavior in several species of praying mantis in a size dependent manner , with R.C. Thompson, A.T. Grieco
- 2015 **NEIU 23rd Annual Student Research & Creative Activities Symposium** (17 Apr)
  - Respiratory Patterns in the Praying Mantises , with S. Patel, C. Carrion, A. Greico, E. Fioramonti, G. Prete, V. Skittle, B.v. Alphen, A. Schirmer
  - Identification of the Period gene in the Mantodea , with G. Prete, E. Fioramonti, C. Carrion, S. Patel, A. Schirmer
- 2015 **Michigan State University, Neurobiology Seminar Series (invited)** (19 Feb)
  - From cognitive psychology to neural networks: Understanding how praying mantises recognize their prey
- 2014 **University of Akron, Department of Biology (invited)** (20 Oct)
  - How Praying Mantises Recognize Their Prey: A Scientist's Frugal Journey from Cognitive Psychology to Potassium Channels
- 2014 **SACNAS National Meeting**, Los Angeles, CA
- 2014 **SCSE Research Symposium**, NEIU, Chicago IL
  - First Description of Discontinuous Respiration in the Praying Mantis *Hierodula patellifera* , with S. Patel, C. Carrion, E. Fioramonti, G. Prete, B. van Alphen, A. Schirmer
  - Identification of the Period Gene in the Praying Mantis *Hierodula patellifera*, with E. Fioramonti, G. Prete, C. Carrion, S. Patel, A. Schirmer
- 2014 **Society for Research on Biological Rhythms Conference**, Big Sky, MT
  - First description of circadian rhythms in visual sensitivity, predatory behavior, and locomotion in a praying mantis , with A. Schirmer, E. Mantes, W. Bogue, A. Urdiales
  - Utilizing Electroretinograms (ERG) to Analyze Circadian Rhythms in *Gromphadorhina Portentosa* Photoreceptor Sensitivity , with W. Bogue, A. Urdiales, E. Mantes, A. Schirmer
- 2014 **Northwestern University Biology Club (invited)**
  - Serendipity Led Me to Discover How Praying Mantises Recognize Prey: From Potassium Channels to Cognitive Psychology
- 2014 **NEIU 22st Annual Student Research & Creative Activities Symposium**
  - The Electroretinogram of the Madagascar Hissing Cockroach (*Gromphadorina Portentosa*) Is Modulated by Both Ambient Light And Circadian Rhythms , with W. Bogue, A. Urdiales, E. Mantes, A. Schirmer
  - Previous Visual Experience Modifies Predatory Behavior in Several Species of Praying Mantis , with R. Thompson, S. Rogers, M. Garcia
- 2014 **UIC, Biology Colloquium Course series (invited)**
  - Serendipity Led Me to Discover How Praying Mantises Recognize Prey: From Potassium Channels to Cognitive Psychology
- 2014 **Animal Behavior Conference**, University of Indiana, Bloomington
  - A first Analysis of the Electroretinogram of the Madagascar Hissing Cockroach (*Gromphadorina Portentosa* , with W. Bogue, A. Urdiales, E. Mantes, A. Schirmer
  - Previous Visual Experience Modifies Predatory Behavior in Several Species of Praying Mantis , with R. Thompson, S. Rogers, M. Garcia
- 2014 **TEDxNEIU**, NEIU, Chicago, IL
  - Seeing what's in the world: Why praying mantises are as smart as you are
- 2014 **European Congress of Entomology (invited)**, York, England
  - Intraspecific and interspecific length variation in mantids: consequences for prey size and predatory strike rates , with Mike Maxwell
- 2014 **Emerging Researchers National (ERN) Conference in STEM**, Washington, D.C.
  - The First Analysis of the ERG in *Gromphadorhina portentosa*, with W. Bogue, A. Urdiales, A. Schirmer
- 2013 **4<sup>th</sup> Annual Faculty Research & Creative Activities Symposium**, NEIU, Chicago, IL
  - From Potassium Channels and Neural networks to Cognitive Psychology and Ecology: Understanding How Praying Mantises Recognize Prey

- Circadian Rhythms in *Hierodula Patellifera* (Insecta:Mantodea) , with A. Schirmer, E. Mantes, W. Bogue, A. Urdiales
- 2013 **Illinois State University Department of Biology Seminar Series (invited)**
- From Potassium Channels and Neural networks to Cognitive Psychology and Ecology: Understanding How Praying Mantises Recognize Prey
- 2013 **SCSE Research Symposium**, NEIU, Chicago IL
- Responses to Prey-Like Stimuli Can Be Affected by Prior Visual Experience in The Praying Mantises, *Parasphendale Affinis* and *Sphodromantis lineola*
  - Oscillations in Optic Lobe Sensitivity, Respiration, and Locomotor Behavior In Representatives of Two Closely Related Sister Taxa, the Blattodea (Cockroaches) and Mantodea (Praying Mantises) , with M. Garcia, E. Mantes, W. Bogue, A. Urdiales, A. Schirmer
- 2013 **Animal Behavior Conference**, University of Indiana, Bloomington
- Adaptations to Life in the Dark: the Effects of Stimulus Duration, Intensity, and Circadian Rhythms on Photoreceptor Responses in the Madagascar Hissing Cockroach (*Gromphadorhina portentosa*) , with Bogue, W., Urdiales A., Mantes, E., Schirmer, A.E.
  - Circadian Rhythms Modulate Behaviors of the Praying Mantis, *Hierodula Multispina* at Various Levels of Analysis: Retinal Physiology, Locomotion, and Prey Catching Behavior , with Mantes, E., Bogue, W., Popkiewicz, B., Urdiales, A., Schirmer, A.E.
  - A Detailed Analysis of the Praying Mantis Electroretinogram: Implications for Successful Prey Recognition , with Popkiewicz, B.W., Mantes, E.S., Schirmer, A.E.
- 2013 **NEIU 21st Annual Student Research & Creative Activities Symposium**
- Macroscopic Characteristics of the Praying Mantis Electroretinogram , with B. Popkiewicz, E. Mantes
  - The Effects of Circadian Rhythms on *Hierodula Multispina*, and *Sphodromantis lineola* (Insecta: Mantodea) , with E. Mantes, W. Bogue, B. Popkiewicz, A. Urdiales, A. Schirmer
  - First Analysis Of The Electroretinogram In The Madagascar Hissing Cockroach (*Gromphadorhina portentosa*) , with Bogue, W., Urdiales, A., Mantes, E., Schirmer, A.E.
- 2013 **The 14th Annual LSAMP Spring Symposium & Student Research Conference in STEM**
- First Analysis of the Electroretinogram in the Madagascar Hissing Cockroach (*Gromphadorhina portentosa*) , with Bogue, W., Urdiales, A., Mantes, E., Schirmer, A.
- 2012 **3<sup>rd</sup> Annual Faculty Research & Creative Activities Symposium**, NEIU, Chicago, IL
- Are Praying Mantises Really Like People? , with Schirmer, A.E.
  - Circadian, Behavioral, and Physiological Rhythms in the Praying Mantis, *Hierodula multispina* (Insecta:Mantodea) , with Mantes, E.S., Bogue, W., Popkiewicz, B.W., Urdiales, A., and Schirmer, A.E.
- 2012 **SCSE Research Symposium**, NEIU, Chicago IL
- The Effects of Stimulus Duration and Intensity, and Circadian Rhythmicity on the Electroretinogram of the Madagascar Hissing Cockroach (*Gromphadorhina portentosa*) , with Bogue, W.D., Urdiales A.F., Mantes, E. S., Schirmer, A.E.
  - The First Analysis of the Electroretinogram in Three Species of Praying Mantis (Insecta: Mantodea) , with Popkiewicz, B.W., Mantes, E. S., Schirmer, A.E.
  - First Analysis of Circadian Rhythms in the ERG, Compound Eye Pigment Migration, and Responses to Prey-like Stimuli in the Praying Mantis, *Hierodula Multispina* (Insecta:Mantodea) , with Mantes, E., Bogue, W., Popkiewicz, B., Urdiales, A., Prete, F., Schirmer, A.
- 2012 **SACNAS National Meeting, University of Washington**
- Evidence For Circadian Rhythms In A Previously Untested Taxon: A Temporal Analysis of the ERG, Compound Eye Pigment Migration, and Responses to Prey-Like Stimuli in the Praying Mantis, *Hierodula multispina* (Insecta:Mantodea) , with Mantes, E.S., Bogue, W., Popkiewicz, B.W., Urdiales, A.F., Schirmer, A.E.
  - First analysis of the ElectroRetinaGram in the Madagascar Hissing Cockroach *Gromphadorhina portentosa*, with Bogue, W.D., Urdiales A.F., Mantes, E. S., Schirmer, A.E.
  - The first analysis of the Electroretinogram in the praying mantis (Insecta: Mantodea) , with Popkiewicz, B.W., Mantes, E. S., Schirmer, A.E.

- 2012 **NEIU 20<sup>th</sup> Annual Student Research and Creative Activities Symposium**, Chicago, IL
- Object Recognition In Two Unusual Species Of Mantis , *with* T. Slapinski, W. Bogue, R. Theis
  - The First Analysis Of The Erg In Praying Mantises , *with* B. Popkiewicz, R. Theis, A.E. Schirmer
- 2011 **SCSE Research Symposium**, NEIU, Chicago IL
- Circadian Rhythmicity in Locomotor Activity but Not in Responses to Visual Stimuli in Two Species of Praying Mantis: *Sphodromantis lineola* and *Popa spurca*, *with* J.M. Dominguez, R. Theis, A. Salis, T. Slapinski, A. Schirmer
- 2011 **SACNAS National Meeting**, San Jose CA
- 2011 **SACNAS Midwest Regional Meeting**, Chicago IL
- 2011 **NEIU 19<sup>th</sup> Annual Student Research and Creative Activities Symposium**, Chicago, IL
- The First Analysis of Brain Neuroanatomy in a Praying Mantis , *with* S.M. Vorpahl, J.M. Dominguez
  - Circadian Rhythms in the Praying mantis *Sphdromantis lineola*, *with* S.M. Vorpahl, J.M. Dominguez Aaron Schmer, Ph.D.
- 2011 **18<sup>th</sup> Annual Animal Behavior Conference**, Bloomington, IN
- Object recognition in the species, *Parasphendale affinis*: as unique as we think or just another plain Jane? S. Dominguez, J. Dominguez, R.J. Theis , J.L. Komito
  - Differential Effects of Color on Prey Recognition by Praying Mantises,, *with* J. Dominguez, S. Dominguez, J. Komito, R. Theis
- 2010 **Entomological Society of America**, San Diego, CA
- talks**
- The mantis prey recognition algorithm: Species variations on a theme, , *with* S. Dominguez, J. Komito, R. Theis, J. Dominguez
  - Object Recognition in the Praying Mantis *Parasphendale affinis*, , *with* S. Dominguez, J. Komito, R. Theis, J. Dominguez
  - Visual Orienting, and Prey Recognition by the Praying Mantis, *Euchomonella Macrops*,, *with* Justin Komito, Salina Dominguez, Robert Theis, Jessica Dominguez
- posters**
- The Prey Recognition Algorithm and Gross Morphology of the Praying Mantis, *Euchomonella Macrops*, , *with* Robert Theis, Salina Dominguez, Justin Komito, Jessica Dominguez, Steven Hogan
  - Differential Effects of Color on Prey Recognition by Praying Mantises,, *with* Jessica Dominguez, Salina Dominguez, Justin Komito, Robert Theis, Steven Hogan, Damien Laudier
  - Eye Morphology, Visual Orienting, and Responses To Stationary Prey Objects by the Praying Mantis, *Euchomonella Macrops*,, *with* Justin Komito, Salina Dominguez, Robert Theis, Jessica Dominguez
- 2010 **First Annual Faculty Research Symposium**, NEIU, Chicago, IL
- Object Recognition in Praying Mantids: Theory And Application, , *with* Justin Komito, Salina Dominguez, Robert Theis, Jessica Dominguez
- NEIU Biology Department Seminar Series**
- For the Last Time, I am not an Entomologist, or *Thinking Outside of the Box...*
- 2010 **SCSE Research Symposium**, NEIU, Chicago IL (*for titles, see following entry*)
- 2010 **SACNAS Undergraduate Research Symposium**, Anaheim, CA
- Differential Effects of Color on Prey Recognition by Praying Mantises,, *with* Jessica Dominguez, Salina Dominguez, Justin Komito, Robert Theis, Steven Hogan
  - Eye Morphology, Visual Orienting, and Responses To Stationary Prey Objects by the Praying Mantis, *Euchomonella Macrops*, *with* Justin Komito, Salina Dominguez, Robert Theis, Jessica Dominguez
- 2010 **21st Annual Illinois Student Research Conference**, Chicago State University, IL
- Does Color Play a Role in Object Recognition by The Praying Mantis, *Hierodula Membranacea?* , *with* Z. Hosseinian, A. Diallo, A. Qureshi, S. Dominguez, S. Saszik, T. Puryear

- 2010 **NEIU 18<sup>th</sup> Annual Student Research and Creative Activities Symposium**, Chicago, IL
- Object Recognition and Eye Morphology In *Eucomenella Macrops* (Insecta: Mantodea): What Makes This Mantis Unique? , with R.J. Theis, J. Komito, S. Dominguez,
  - Does Color Play A Role In Object Recognition By The Praying Mantis, *Hierodula Membranacea?* , with Z. Hosseinian, A. Diallo, A. Qureshi, S. Dominguez, S. Saszik, T. Puryear
- 2010 **17<sup>th</sup> Annual Animal Behavior Conference**, Bloomington, IN
- Prey Recognition by Four Species of Praying Mantis: Does Size Matter? , with S. Dominguez, J.L. Komito, R.J. Theis, L.E. Hurd, G. Svenson
  - Differences in Prey Recognition and Eye Allometry In Three Species Of Praying Mantis , with J. Komito, S. Dominguez
- 2010 **FASEB Experimental Biology Conference**, Anaheim, CA
- 2009 **SCSE Research Symposium**, NEIU, Chicago IL (*for titles, see following entry*)
- 2009 **SACNAS Undergraduate Research Symposium**, Dallas TX
- Prey (Object) Recognition in Four Previously Untested Species of Praying Mantis , with S. Dominguez, J. Komito
  - Differences in Allometry and Eye Morphology in Three Species of Praying Mantis, with J. Komito, S. Dominguez
- 2009 **Entomological Society of America**, Indianapolis, IN
- Open-field, prey capture behavior of the empusid *Idolomantis diabolica* (Mantodea: Empusidae) exhibits motor plasticity similar to cockroaches and other mantids
  - Praying Mantids Use Complex, Perceptual Algorithms to Identify Prey, with S. Dominguez, L. López, J. Komito
  - Differences In Prey Recognition And Allometry In Three Species Of Praying Mantis , with J. Komito, S. Dominguez, L. López
- 2009 **20<sup>th</sup> Annual Student Research Conference**, Chicago, IL (*for titles, see following entry*)
- 2009 **NEIU 17<sup>th</sup> Annual Student Research and Creative Activities Symposium**, Chicago, IL
- Praying Mantids Use Complex, Perceptual Algorithms To Identify Prey
  - Differences In Prey Recognition and Allometry In Three Species Of Praying Mantis , with J. Komito, S. Dominguez, L. López, A. Guillen, N. Bogdanovich
  - Foreleg Muscle Activity During the Predatory Strike of a Praying Mantis , with V. Dongas
- 2008 **NEIU 16<sup>th</sup> Annual Student Research and Creative Activities Symposium**, Chicago, IL
- The Cellular Organization of The Thoracic Ganglia in The Cockroach *Gromphadorhina portentosa* and Several Species of Praying Mantid , with Maria Akhter
- 2007 **NEIU 15<sup>th</sup> Annual Student Research and Creative Activities Symposium**, Chicago, IL
- The First Attempts To Characterize an LGMD-DCMD Complex in The Visual System of the Madagascar Hissing Cockroach, *Gromphadorhina portentosa* , with Maria Akhter
- 2006 **European Neuroscience Meeting**, Vienna, Austria
- Motion parallax signals can provide both distance and structure information in praying mantis , with Karl Kral
- 2004 **Biology Dept., Lake Forest College (invited)**, IL
- Organismal Biology, Praying Mantids and Helping Visually Impaired Children: Understanding Nature as Nested Systems
- 2002 **Psychology Dept., DePaul University (invited)**, Chicago, IL
- Using Abstract Concepts: Why Praying Mantids Are As Smart As You Are
- 2002 **International Society for Comparative Psychology**, Chicago, IL
- 2001 **Society for Integrative and Comparative Biology**, Chicago, IL
- Scent of a Woman: The First Identification and Assay of a Mantid Pheromone , with L. Hurd, T. Jones, R. Portman, T.B. Singh, J.E. Co
- Other**
- 2000 **Entomological Society of America**, Montreal, Canada
- 1999 **Washington & Lee University**, Dept. of Biology, (*invited*), Lexington VA
- King's College**, Dept. of Psychology, (*invited*), Wilkes-Berre, PA

- 1998 **University of Tulsa**, Dept. of Biology, OK (*invited*)  
**International Congress of Neuroethology**, San Diego, CA:  
**Midwest Neurobiologists Conference**, Chicago, IL  
**The Society for Integrative and Comparative Biology**, Boston, MA
- 1997 **University of Illinois at Urbana-Champaign**, Dept. of Entomology (*invited*),  
**Midwest Neurobiologists Conference**, St. Paul, MN  
**DePaul University**, Faculty Research Seminar Series, Chicago, IL
- 1996 **DePaul University**, Dept. of Biological Sciences Seminar Series, Chicago, IL
- 1995 **University of Tulsa**, Dept. of Biology, (*invited*), Tulsa, OK  
**University of Oklahoma**, Dept. of Zoology (*invited*)  
**Society for Neuroscience**, San Diego, CA  
**International Congress of Neuroethology**, Cambridge, England  
**Entomological Society of America**, Las Vegas, NV
- 1994 **Animal Behavior Society**, Seattle, WA  
**Midwest Animal Behavior Conference**, Carbondale, IL
- 1988-91 **International Soc. for the History, Philosophy & Social Studies of Science**, Evanston, IL  
**American Soc. of Zoologists**, Atlanta, GA  
**American Soc. of Zoologists**, Boston, MA  
**Soc. for the Social Studies of Science**, San Diego, CA  
**American Soc. of Zoologists**, San Antonio, TX  
**Soc. for Literature and Science**, Albany, NY  
**History of Science Society**, Cincinnati, OH

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#### **Master's Thesis Committees**

- 2014 The neuroethology of learned vocalizations in parrots. *candidate*: Oksana Pasieka
- 2013 Understanding the neuronal dysfunction associated with the ALS-related disease protein TDP-43. *candidate*: Quan Hieu Nguyen
- 2013 The neurobiology of clinical depression. *candidate*: Moiz Hassan
- 2012 Evaluating the effect of crowd density and exhibit choice on the behavior of zoo-housed chimpanzees (*Pan troglodyte*) and Western Lowland Gorillas (*Gorilla gorilla gorilla*).  
*candidate*: Andrea Salis
- 2012 Evaluating the role of temperature in the reproduction of *Urobatis jamaicensis* (Urotrygonidae). *candidate*: Tess Capen
- 2010 Monitoring stress and resiliency building in animal-assisted therapy dogs (*Canis familiaris*).  
*candidate*: Camille Belpedio

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#### **Consulting**

- 2011 BBC Natural History Unit, Whiteladies Rd, Clifton, Bristol, UK, BS8 2LR
- 2005 *National Geographic* magazine photo essay on praying mantids by Mark Moffett
- 2000 "A Mantis Robot for In-Space Operations Including Maintenance, Servicing, and Assembly of Spacecraft" submitted by Roger Quinn, Case Western Reserve University, in response to NASA Research announcement 99-OSS-05
- 2000 Consultant on mantid behavior for the BBC Natural History Unit series "Wildlife on One"
- 1996 Consultant on mantid behavior for the PBS children's program "The Magic School Bus"

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#### **Editing & Reviewing**

##### *Journals, editing*

- 2015-current Scientific Advisory Board member, *Fragmenta Entomologica*
- 2014-2020 Associate Editor, *International Journal of Comparative Psychology*
- 2004-5 Guest editor, *International Journal of Comparative Psychology* special edition

##### *Journals, ad hoc reviewer*

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| <p><i>Annals of the Entomological Society of America</i></p> <p><i>Brain, Behavior and Evolution</i></p> <p><i>Developmental Psychobiology</i></p> <p><i>J. Comparative Physiology A</i></p> <p><i>J. Ethology</i></p> <p><i>J. Insect Behavior</i></p> | <p><i>Animal Behaviour</i></p> <p><i>Bulletin S California Acad. Sciences</i></p> <p><i>J. Comparative Psychology</i></p> <p><i>J. Experimental Biology</i></p> <p><i>Insect Science</i></p> <p><i>J. Kansas Entomological Society</i></p> |
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***Granting organizations, ad hoc reviewer***

Fonds zur Förderung der wissenschaftlichen Forschung  
National Institutes of Health  
National Science Foundation

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**Professional Activities, Service**

2020-current	Association for the Education and Rehabilitation of the Blind and Visually Impaired Publications Committee
2015-current	President, Haptic Insight LLC <a href="http://www.hapticinsight.org">www.hapticinsight.org</a>
2013-2020	IDPC committee, Department of Biology NEIU (Co-chair 2017, 2018)
2017	NEIU Faculty Excellence Committee for Instructors, ASP & ARP
2017-2018	University Advisory Council, NEIU, elected member
2014-2016	University Advisory Council, NEIU, elected member, elected Vice Chair
2010	Symposium Organizer, "Praying Mantises (Mantodea): Form, Function, and Biology," Entomological Society of America, San Diego, CA, , <i>with</i> LE Hurd and G Svenson
2000-2001	Education and Outreach Committee, International Society for Neuroethology
1998	Program Committee, annual meeting of the Midwest Neurobiologists

***Societies***

IEEE (Institute of Electrical and Electronics Engineers)  
Illinois Parents of Visually Impaired Children  
Association for the Education and Rehabilitation of the Blind and Visually Impaired  
The National Federation of the Blind of Illinois

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