CURRICULUM VITAE

Hong Lei

School of Life Sciences
Arizona State University
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Education:

1988-94 Ph.D. Beijing Normal University, China (home institute). Advisor: Prof. Xu Rumei
Wageningen University, The Netherlands (thesis-work institute). Advisor: Prof. Joop van Lenteran and Dr. Freddy Tjallingii
1984-88 B.Sc. Department of Biology, Beijing Normal University

Academic Positions and Experiences:

2016/6-present Associate Research Professor, School of Life Sciences, Arizona State University
2012/3-2016/5 Associate Research Scientist, Department of Neuroscience, University of Arizona
2013/9-2014/11 (0.2 FTE) Associate Research Professor, School of Life Sciences, Arizona State University
2012/8-present Adjunct Faculty, Pima Community College, Tucson, Arizona
2004/4-2012/2 Staff Scientist, Arizona Research Laboratories, Division of Neurobiology, University of Arizona
1999/3-2004/4 Research Associate, Arizona Research Laboratory, Division of Neurobiology, University of Arizona. Postdoctoral advisor: Prof.dr. John.G. Hildebrand
1996/9-1999/2 Postdoctoral Fellow, Department of Ecology, Lund University, Sweden. Postdoctoral advisor: Prof.dr. Bill Hansson
1995-1996 Visiting Scientist, Department of Entomology, Wageningen University, The Netherlands
1994-1995 Lecturer, Department of Biology, Beijing Normal University, China
1992-1993 Guest Researcher, Department of Entomology, Wageningen University, The Netherlands
1989-1992 Teaching Assistant, Department of Biology, Beijing Normal University, China

Professional Societies and Activities:

Editorial Board of Frontiers in Chemical Ecology
Editorial Board of Frontiers in Invertebrate Physiology
Associate Faculty of 1000 Biology
Council member, Tucson Chapter of Society for Neuroscience
Member, Society of Neuroscience
Member, International Society of Chemical Ecology
Member, Association for Chemoreception Sciences
Reviewed manuscripts/grants for the following journals/organizations:
BMC Biology; Developmental Neurobiology; Entomologia Experimentalis et Applicata; European Journal of Neuroscience; Frontiers in Neurorobotics; Integrative Comparative Biology; Journal of Biology; Journal of Chemical Ecology; Journal of Comparative Neurology; Journal of

Comparative Physiology – A; Journal of Experimental Biology; Journal of Insect Physiology; Journal of Neurophysiology; Journal of Neuroscience; Neuroscience; Plos Computational Biology; Plos One; PNAS; Research Grants & Scholarships, Natural Sciences and Engineering Research Council of Canada (NSERC); Ministry of Science and Technology of PR China (MOST) (Overseas experts for reviewing grant proposals); Beijing Natural Science Foundation (Overseas experts for reviewing grant proposals).

International collaborations:

Institute of Plant Quarantine and Inspection, Chinese Academy of Inspection and Quarantine, 2013-

Institute of Zoology, Chinese Academy of Sciences, 2012-

Wenzhou Medical College, China; Guest professor, 2008-12

Honors and Awards:

2014 University of Arizona Service Award
2013 AAFSAA (Asian American Faculty Staff Alumni Association of University of Arizona) Outstanding Community Service Award
2009 Arizona Research Laboratories Service Award
2009 University of Arizona Service Award
1995-96 Multinational research fellowship from the Dutch Ministry of Agriculture and Fishery and Wageningen Agricultural University, The Netherlands
1992-93 International exchange fellowship from the Dutch Academy of Art and Science (KNAW), The Netherlands

Research Grants:

NSF Collaborative Research: Investigation of Odor-triggered Neuronal Dynamics and Experience-induced Olfactory Learning. Funding source: $488,678 from NSF DMS; Principal Investigators: Aaditya Rangan (Courant Institute, New York University) and Hong Lei (Department of Neuroscience, University of Arizona), 2012-16

University of Arizona: Dynamical Modeling and Analysis of Olfactory Decision-making Circuit in *Manduca sexta*. Center for Insect Science, University of Arizona, 2010-11. Funding: $10,000; Role: principal investigator

CAS Major International (Regional) Joint Research Project: Olfactory and molecular mechanisms underlying aggregation behavioral plasticity in *Locusta migratoria*. Funding source: $557,142 from NSF China; Principal Investigators: Kang Le (Institute of Zoology, Chinese Academy of Sciences) and Hong Lei (Department of Neuroscience, University of Arizona), 2013-16

Teaching and Mentoring Experiences:

Teaching:

2012- Adjunct Faculty, *Anatomy and Physiology*, *General Biology*, Pima Community College, Tucson, Arizona
2006 Adjunct Faculty, *Current Issues in Biology*, Pima Community College, Tucson, Arizona
2005 Teaching Assistant, *General Biology*, Pima Community College, Tucson, Arizona
1995 Instructor, *Sensory Ecology and Advances in Entomological Research*, Department of Biology, Beijing Normal University, Beijing, China

Research mentorship/co-mentorship*:

Jenna Pimentel, Neuroscience undergraduate, University of Arizona, 2016
Weijie Xiang, Math undergraduate, University of Arizona, 2015-2016
Nyssa Burdic, Neuroscience undergraduate, University of Arizona, 2015
JungMin Kim, Neuroscience undergraduate, University of Arizona, 2015-2016
- Hired as research technician in the Department of Neurosceince

Alec Nienhauser, Neuroscience undergraduate, University of Arizona, 2015
Tiffani Bledsoe, Student Research Assistant, Pima Community College, 2014
Ning (Neil) Zhang, Research Intern, China Agricultural University, 2014
- Accepted by the Graduate School of University of California at San Barbara

Angelica Alvarez*, Honors Thesis, Neuroscience undergraduate, University of Arizona, 2014-
Yanxue Yu, Visiting scholar, Chinese Academy of Quarantine and Inspection, 2014
Aracely Romero, Ecology and Evolutionary Biology undergraduate, University of Arizona, 2013-15
- Poster presentation at the 2015 Undergraduate Biology Research Program conference
- Honored as Galileo Circle Scholar of University of Arizona 2015
- Accepted into postbacculaureate program of NIH, 2015

Jessica Fletcher, Physics and Philosophy undergraduate, University of Arizona, 2013-2014
- First prize winner of the poster competition of 2014 Pacific Branch Entomological Society of America Annual Meeting for undergraduate students

Jinglei Zhang, Mathematics and Computer Science undergraduate, University of Arizona, 2013-15
- Accepted by the Graduate School of Rutgers University

Yossenia Magana, Neuroscience undergraduate, University of Arizona, 2012-13
Petimat Dudurkaeva*, Physiology undergraduate, University of Arizona, 2011-13
Corrine Smith, Physiology undergraduate, University of Arizona, 2012
Angela Wu, Physiology undergraduate, University of Arizona, 2011-12
Rachel Bober*, postdoc, University of Arizona, 2011-12
Cecile Faucher*, postdoc, University of Arizona, 2011-
Bradley Shane, Neuroscience undergraduate, University of Arizona, 2011-12
- Honored as Galileo Circle Scholar of University of Arizona for 2012
- Honored as Science Ambassador of University of Arizona for 2012-2013

Chen-Zhu Wang*, senior visiting scholar, Institute of Zoology, Chinese Academy of Sciences, 2010
Andrew Tseng*, Molecular and Cellular Biology undergraduate, University of Arizona, 2010-11
Hongyan (Vicky) Chiu, Molecular and Cellular Biology undergraduate, University of Arizona, 2009-12
- Honored as Galileo Circle Scholar of University of Arizona for 2012
- Coauthored on an original research paper in J Comp Physiol A (2013)

Yeeck Kim, Undergraduate Independent Study and Honors Thesis, University of Arizona, 2005-06
Josh P. Martin*, Graduate Program of Neuroscience, University of Arizona, 2005
Jonathan Dyhr*, Graduate Program of Neuroscience, University of Arizona, 2004

Caroline Wilson*, Graduate Program of Neuroscience, University of Arizona, 2003
Marco A. Herrera-Valdez*, Graduate Program of Physiological Sciences, University of Arizona, 2002
Andrew Dacks*, Graduate Program of Insect Science, University of Arizona, 2001
Naghme Saghafi, Undergraduate Biology Research Program, University of Arizona, 2005
Daniel Doty*, Undergraduate Biology Research Program, University of Arizona, 2001

Publications and Presentations:

Original Research:

Lei H, Yu YX, Zhu SF, Rangan AV (2016) Intrinsic and network mechanisms constrain neural synchrony in the moth antennal lobe. Frontiers in Physiology 7:80 (doi: 10.3389/fphys.2016.00080)

Ma, ZY, Guo XJ, **Lei H** et al. (2015) Octopamine and tyramine respectively regulate attractive and repulsive behavior in locust phase changes. Scientific Reports 5: 8036 (doi:10.1038/srep08036).

Capurro A, Baroni F, Kuebler LS et al. (2014) Temporal features of spike trains in the moth antennal lobe revealed by a comparative time-frequency analysis. PlosOne 9(1): e84037.

Lei H, Chiu H-Y, Hildebrand JG (2013) Responses of protocerebral neurons in *Manduca sexta* to sex-pheromone mixtures. J Comp Physiol A 199(11): 997-1014 (DOI 10.1007/s00359-013-0844-4)

Martin JP, **Lei H**, Riffell JA, Hildebrand JG (2013) Synchronous firing of antennal-lobe projection neurons encodes the behaviorally effective ratio of sex-pheromone components in male *Manduca sexta*. J Comp Physiol A 199(11): 963-979 (DOI 10.1007/s00359-013-0849-z)

Riffell JA, **Lei H**, Abrell L, Hildebrand JG (2012) Neural basis of a pollinator's buffet: olfactory specialization and learning in the *Manduca sexta* moth. Science 339: 200-204 DOI: 10.1126/science.1225483)

Lei H, Reisenman CE, Wilson CH, Gabbur P, Hildebrand JG (2011) Spiking patterns and their functional implications in the antennal lobe of the Tobacco Hornworm *Manduca sexta*. PlosOne 6(8): e23382. doi:10.1371/journal.pone.0023382

Lei H, Riffell JA, Gage SL, Hildebrand JG (2009) Contrast enhancement of stimulus intermittency in a primary olfactory network and its behavioral significance. J Biol 8: 21 (doi:10.1186/jbiol120)

Riffell JA, **Lei H**, Christensen TA, Hildebrand JG (2009) Characterization and coding of behaviorally significant odor mixtures. Current Biol 19: 335-340

Riffell JA. **Lei H**, Hildebrand JG (2009) Neural correlates of behavior in the moth *Manduca sexta* in response to complex odors. Proc Natl Acad Sci USA 106: 19219-19226

Lei H, Christensen TA, Hildebrand JG (2004) Spatial and temporal organization of ensemble representations for different odor classes in the moth antennal lobe. J Neurosci 24(49): 11108-11119

Daly K, Christensen TA, **Lei H**, Smith B, Hildebrand JG (2004) Learning modulates the ensemble representations for odors in primary olfactory networks. Proc Natl Acad Sci USA 101: 10476-10481

Christensen TA, **Lei H**, Hildebrand JG (2003) Coordination of central odor representations through transient, non-oscillatory synchronization of glomerular output neurons. Proc Natl Acad Sci USA 100: 11076-11081

Lei H, Christensen TA, Hildebrand JG (2002) Local inhibition modulates odor-evoked synchronization of glomerulus-specific output neurons. Nature Neurosci 5: 557-565

Lei H, Anton S, Hansson BS (2001) Olfactory protocerebral pathways processing sex pheromone and plant odor information in the male moth *Agrotis segetum*. J Comp Neurol 432: 356-370

Lei H, van Lenteren JC, Xu RM (2001) Effects of plant tissue factors on the acceptance of four greenhouse vegetable host plants by the greenhouse whitefly: an Electrical Penetration Graph (EPG) study. Eur J Entomol 98: 31-36.

Christensen TA, Pawlowski VM, **Lei H**, Hildebrand JG (2000) Multi-unit recordings reveal context-dependent modulation of synchrony in odor-specific neural ensembles. Nature Neurosci 3: 927-931

Lei H, Hansson BS (1999) Central processing of pulsed pheromone signals by antennal lobe interneurons in the male moth *Agrotis segetum*. J Neurophysiol 81: 1113-1122

Lei H, van Lenteren JC. Tjallingii WF (1999) Analysis of tomato and sweet pepper resistance against the greenhouse whitefly through electrically monitored and visually observed probing and feeding behaviour. Entomol Exp Appl 92: 299-309

Jiang YX, **Lei H**, Collar JL, Martin B, Muniz M, Fereres A (1999) Probing and feeding behavior of two distinct biotypes of *Bemisia tabaci* (Homoptera : Aleyrodidae) on tomato plants. J Eco Entomol 92: 357-366

Lei H, Tjallingii WF, van Lenteren JC (1998) Probing and feeding characteristics of the greenhouse whitefly in association with host-plant acceptance and whitefly strains. Entomol Exp Appl 88: 73-80

Lei H, Tjallingii WF, van Lenteren JC (1997) Effect of tethering during EPG recorded probing by adults of the greenhouse whitefly. J Appl Entomol 121: 211-217

Lei H, Xu RM, Tjallingii WF, van Lenteren JC (1997) Electrical penetration graphs of Greenhouse Whitefly, *Trialeurodes vaporariorum* (Westwood). Acta Entomol Sinica 41: 113-123

Lei H, Tjallingii WF, van Lenteren JC, Xu RM (1996) Stylet penetration by larvae of greenhouse whitefly, *Trialeurodes vaporariorum* (Westw.) on cucumber. Entomol Exp Appl 79: 77-84

Lei H, Xu R (1996) EPG–an effective technique to study probing behavior of homopteran insects. Entomological Knowledge 33: 116-120 (in Chinese)

Lei H, Xu RM (1995) Cellular and chemical sampling during phloem finding and host-plant acceptance by homopteran insects. Entomologia Sinica 2: 145-162

Lei H, Xu R (1995) Insect's orientation to host plant by olfactory cues. Bull Biol 30: 9-11 (in Chinese)

Lei H, Xu R (1993) Studies on honeydew excretion by greenhouse whitefly, *Trialeurodes vaporariorum* (Westw.) on its host plant, *Cucumis sativas*. J Appl Entomol 115: 43-51

Lei H, Xu RM (1993) The chain process of feeding behavior of homopteran insects. Bull Biol 12: 12-15 (in Chinese)

Book chapters/Reviews:

Reisenman CE, Lei H and Guarenstein PG (2016) Neuroethology of olfactory-guided behavior and its potential application in the control of harmful insects. Frontiers in Physiology (being reviewed).

Martin JP, Beyerlein A, Dacks AM, Reisenman CE, Riffell JA, **Lei H**, Hildebrand JG (2011) The neurobiology of insect olfaction: Sensory processing in a comparative context. Prog in Neurobiol 95: 427-447

Lei H, Oland LA, Riffell JA, Beyerlein A, Hildebrand JG (2010) Microcircuits for olfactory Information processing in the antennal lobe of *Manduca sexta*. In: Gordon Shepherd (ed.) Handbook of Brain Circuits, pp.415-426, Oxford University Press

Dacks AM, Guerenstein PG, Reisenman CE, Martin JP, **Lei H**, Hildebrand JG (2009) Olfaction in invertebrates: *Manduca*. In: Squire LR (ed.) Encyclopedia of Neuroscience, volume 7, pp. 49-57. Oxford: Academic Press

Lei H, Vickers N (2008) Central processing of natural odor mixtures in insects J Chem Ecol 34: 915-927

Lei H, Qiu YT, Christensen TA (2005) Olfaction in insects: structural correlates of function. In: Kang L and Liu TX (eds.), Entomological Research: Progress and Prospect. Science Press, Beijing, China

Pawlowski VM, Christensen TA, **Lei H**, Hildebrand JG (2004) A primer on multichannel neural ensemble recording in insects. In: Christensen TA (ed), New Frontiers in Insect Neuroscience, CRC Press

Lei H, Tjallingii WF, van Lenteren JC (1996) Recording of EPGs and honeydew excretion by the greenhouse whitefly. In: Gerling D, Mayer RT (eds), Bemisia 1995: taxonomy, biology, ecology, control and management. Andover Intercept

Lei H, Xu R (1991) Honeydew excretion of greenhouse whitefly and impairment to host plant. In: Eco. Soc. CN. (Ed.), Advances of Ecology in China

Invited academic seminars:

Lei H, December 15, 2015. Neurobiological mechanisms of olfactory behaviors: a case study in a sphinx moth. Henan Agricultural University, Zhengzhou, China

Lei H, December 12, 2015. Neurobiological mechanisms of olfactory behaviors: a case study in a sphinx moth. Huanan Agricultural University, Guangzhou, China

Lei H, October 25-27, 2014. Odor mixture processing in the olfactory system of a moth. The 10th Conference of the Chinese Association of Chemical Ecology. Nanchang, China.

Lei H, July 11-16, 2013. Neurobiological mechanisms of chemical Communication in a Moth. The 4th Annual Workshop on Theories and Technologies in Insect Science. Beijing, China.

Lei H, September 9, 2013. Applications of chemoreception principles in insect quarantine and inspection. The 2nd Annual International Conference of Inspection and Quarantine in China. Beijing, China.

Lei H, July 20, 2012. A new understanding of inhibitory mechanisms that shape neuronal responses in the antennal lobe of *Manduca sexta*. International Symposium on Olfaction in Insects under Debate: from Receptors to Behavior. University of Wuerzburg, Germany.

Lei H, Oct.9-11, 2011. GABAergic feedback pathway underlying intermittency coding in moth antennal lobe. The 1st China-US Symposium on Insect Chemical Communication. Beijing Institute of Life Sciences, Chinese Academy of Sciences, Beijing, China.

Lei H, Oct.12-15, 2011. Preservation and enhancement of stimulus intermittency in moth antennal lobe. The 6th Asian-Pacific Conference of Chemical Ecology. Beijing, China.

Lei H, Feb 22, 2011. Homeostatic maintenance of intermittency coding in antennal lobe. DFG-Schwerpunkt-meeting. University of Kassel, Kassel, Germany.

Lei H, July, 2010. Dynamical regulation of an insect olfactory circuit in response to a wide range of odor concentrations. Dynamical Olfactory Workshop. Brighton, UK.

Lei H, July, 2008. Probing a neural code for the stimulus intermittency of natural olfactory stimulus. Institute of Zoology, Chinese Academy of Sciences, Beijing, China

Lei H, July, 2008. Probing a neural code for the stimulus intermittency of natural olfactory stimulus. Wenzhou Medical College, Wenzhou, China

Lei H, July 22-26, 2007, Deciphering a neural code for stimulus intermittency. 23rd ISCE Annual Meeting of International Society of Chemical Ecology. Jena, Germany.

Lei H, 2005. Pharmacological dissection of the inhibitory interactions in the glomerular network of the moth, *Manduca sexta*. 9th European Symposium for Insect Taste and Olfaction (9th E.S.I.T.O.) September 24-30, 2005 – Villasimius (Cagliari), Italy

Lei H, 2005-7-5. Olfactory information processing in a moth brain: an example of integration of spatial and temporal coding mechanisms. Host: Dr. Luo, Minmin, Institute of Neuroscience, Chinese Academy of Sciences, Shanghai, China

Lei H, 2005-7-11. Central processing of olfactory information in the antennal lobes of the tobacco hawk moth, *Manduca sexta*. Host: Prof. Yuan, WuZou, College of Life Sciences, Hunan Normal University, Changsha, China

Lei H, 2005-7-7. Neural mechanisms for processing dynamic odor stimuli in the antennal lobe of *Manduca sexta*. Host: Dr. Wang, ChenZhu, Institute of Zoology, Chinese Academy of Sciences, Beijing, China

Lei H, 2003. Central coding of olfactory information through transient non-oscillatory synchronization. XXV AChemS Annual Meeting, Sarasota, FL

Lei H, van Lenteren JC, Tjallingii WF, 1998. Analysis of resistance in tomato and sweet pepper against the greenhouse whitefly through electrically monitored and visually observed probing and feeding behavior. 2nd International Workshop on Bemisia and Geminiviruses. San Juan, Puerto Rico

Lei H, Tjallingii WF, van Lenteren JC, 1996. Recent studies on whitefly's EPG. EPG Summer School, Lyon, France

Conference posters:

Lei H, Yu YX, Hildebrand JG and Rangan A, 2014. Both Instrinsic and circuit mechansisms regulate the afterhyperpolarization phase of projection neurons in the moth antennal lobe. Society for Neuroscience Annual Meeting, Washington DC, USA, Nov.15-19, 2014.

Fletcher J, Zhang JL, Hildebrand JG, **Lei H**, 2014. Single-cell recordings to elucidate neuronal dynamics of pheromone detection in *Manduca sexta*. 2014 Pacific Branch Entomological Society of America Annual Meeting, Tucson, AZ, USA.

Lei H, Martin JP, Riffell JA, Chiu HY and Hildebrand JG 2013 Neuronal synchrony as a mechanism to encode concentration ratios in the olfactory system of *Manduca sexta*. The 35th AChemS Annual Meeting, April 16-20, 2013, Huntington Beach, CA, USA.

Lei H, Chiu HY and Hildebrand JG 2010 Dynamic control of odor-induced responses to a wide range of odor concentrations. Society for Neuroscience Annual Meeting, San Diego, USA.

Lei H, Reisenman C, Wilson C, Gabbur P, and Hildebrand JG 2008 Spike bursting as an indicator for neuronal sensitivity in an insect olfactory network. Society for Neuroscience Annual Meeting, Washington DC, USA

Lei H, Riffell JA, Gage S, Hildebrand JG 2007 Odor-source seeking behavior of *Manduca sexta* is disrupted by pharmacological manipulation of projection neurons' capability to follow intermittent stimuli. Society for Neuroscience Annual Meeting, San Diego, CA.

Lei H, Reisenman C, Christensen TA and Hildebrand JG 2004 Lateral inhibition: it makes scents as a neuronal coding strategy in olfaction. XXVI AChemS conference, Sarasota, FL.

Lei H, Christensen TA and Hildebrand JG 2003 Spatiotemporal dynamics of olfactory ensemble coding in the antennal lobe of the moth *Manduca sexta*. 33rd Annual Meeting of Society for Neuroscience, New Orleans, LA.

Lei H, Christensen TA, Pawlowski VM and Hildebrand JG 2002 Analysis of odor selectivity in the moth antennal lobe using neural-ensemble recording. XXIV AChemS conference, Sarasota, FL.

Christensen TA, **Lei H** and Hildebrand JG 2002 Parallel mapping of multiple stimulus features using multichnnel recording arrays in the insect antennal lobe. XXIV AChemS conference, Sarasota, FL.

Lei H, Christensen TA, Collemann CC, Pawlowski VM, Nighorn A and Hildebrand JG 2001 Nitric oxide modulates odor-evoked activity patterns in the glomeruli of the moth antennal lobe. XXIII AchemS conference, Sarasota, FL.

Lei H, Christensen TA, Wilson CH and Hildebrand JG 2001 Effects of interglomerular interactions on odor representations in the moth antennal lobe. 31st Annual Meeting of Society for Neuroscience, New Orleans, LA.

Lei H, Christensen TA, Pawlowski VM and Hildebrand JG 2000. Odor-evoked synchronization of olfactory networks: Comparison of output neurons innervating the same and different glomeruli in the antennal lobe of male *Manduca Sexta*. 30th Annual Meeting of Society for Neuroscience, San Diego, CA.

Daly KC, Christensen TA, Pawlowski VM, **Lei H**, Smith BH and Hildebrand JG 2000 Olfactory discrimination in *Manduca sexta*: Differential conditioning produces evolution of odor-specific neural ensemble patterns in the antennal lobe. 30th Annual Meeting of Society for Neuroscience, San Diego, CA.

Lei H, Christensen TA and Hildebrand JG 2000 Transient synchrony of output neurons evoked by stimulation in *Manduca sexta*. XXII AchemS conference, Sorasota, Florida.

Hildebrand JG, Christensen TA, Mechaber W, Willis M, Cray J, **Lei H**, Pawlowski VM, Crary S, Najuli K, Smith BH and Daly K 2000 Olfactory control of insect flight behavior – Strategic exploitation of a controlled biological system. III DARPA CBS conference, San Antonio, TX.

Lei H and Hansson BS, Aug 1998 Central processing of pulsatile pheromone signal in male *Agrotis segetum*. The 5th International Congress of Neuroethology. Aug. 22-28, San Diego, California.

Lei H and Hansson BS, May 1998 How is a pulsatile signal processed in moth CNS? The 2nd Neuroscience Day in Lund University, Sweden.

Lei H and Hansson BS, April 1998 Central processing of pulsed pheromone signals by antennal lobe interneurons in male *Agrotis segetum*. The 2nd International Symposium on Insect Pheromones, Wageningen, The Netherlands.

Lei H and Hansson BS, September 1997 Resolution of pheromone pulses in antennal lobe interneurons of the male turnip moth, *Agrotis segetum*. The 5th International conference on Invertebrate Neurochemistry & Neurophysiology (ICINN), Eilat, Israel.

Lei H and Hansson BS, May 1997. Dynamic response to sex pheromone pulses in antennal lobe interneurons of the male turnip moth, *Agrotis segetum*. Neuroscience Day in Lund University, Sweden.

Lei H and Hansson BS 1997 Pulsed plant odors as orientation cues to plant source by turnip moth. The 39th Symposium of British Ecology Society. Wageningen, The Netherlands.

Lei H and Van Lenteren 1995 Tomato resistance against the greenhouse whitefly. IOBC workshop, Arhnem, The Netherlands.

Lei H and Xu R, 1992 Relationships of feeding behaviors and honeydew production of greenhouse whitefly on food plants. The XIX International Conference of Entomology. Beijing, China.

Lei H and Xu R, 1991. Honeydew excretion of greenhouse whitefly and impairment on host plant. The 4th National Congress of Ecology Society of China. Nanjing, China.

Services:

Broad Impact services

2016/03 Electroantennogram demonstration. Arizona Book Festival. Tucson, AZ

2015/09 Electroantennogram demonstration. The 5th Annual Arizona Insect Festival.
2015/03 Electroantennogram demonstration. Arizona Book Festival. Tucson, AZ
2014/09 Electroantennogram demonstration. The 4th Annual Arizona Insect Festival.
2014/09 From Micro Brain to Macro Science. Lulu Walker Elementary School.
2014/04 Electroantennogram demonstration. Tucson Unified School District (TUSD) STEM Night at Mansfeld Middle School, Tucson, AZ
2013/04 Electroantennogram demonstration. Drexel Elemental School. Tucson, AZ
2013/03 Electroantennogram demonstration. Arizona Book Festival. Tucson, AZ
2005/12 Tucson Chinese Cultural Center/Tucson Chinese School, Tucson, AZ
2005 Junior Scientists Day, University of Arizona, Tucson, AZ
2005 Brain Awareness Week, University of Arizona, Tucson, AZ
2001/05 Science Outreach at Gwiz Science Center, organized by AChemS, Sarasota, FL
2003/04 Science Fair judge for SS. Peter and Paul elementary school, Tucson, AZ
2004 Classroom Helper at Hughes Elementary School, Tucson, AZ
2001/02 Science Outreach at Hand in Hand Preschool, Tucson, AZ

Department/University services

2015/05 Volunteer instructor in neuroscience and cognitive science (NSCS) summer boot camp of University of Arizona
2014/05 Volunteer instructor in neuroscience and cognitive science (NSCS) summer boot camp of University of Arizona
2012- Member of the International Student Work Group of the International Student Services (ISS) University of Arizona
2009- Faculty advisor for the Association of Chinese Students and Scholars of University of Arizona
2010 Facilitated the signing of a Letter of Intent between the University of Arizona (Vice Provost Office for Outreach Global Initiative) and the Wenzhou Medical College, China.
2009 Facilitated the signing of a Letter of Intent between the Department of Neuroscience, University of Arizona and the Beijing Institute of Life Sciences, Chinese Academy of Sciences (CAS).
2008 Facilitated the signing of a Letter of Intent between Center for Insect Science (CIS), University of Arizona (U of A) and Wenzhou Medical College (WMC), China;
1999- Weekend Bug Duty, Division of Neurobiology/Department of Neuroscience, University of Arizona;
2001-02 Antennal Lobe lunch meeting organizer, ARL-Neurobiology, University of Arizona;
EPG International Summer School, Lyon, France, 1996;
1990 President of Graduate Student Association, Department of Biology, Beijing Normal University, China;

Leadership in community

2015- Overseas Outreach Director, Tucson Chinese Cultural Center
2014- Member, Board of Directors of Tucson Chinese Association
2014- Member, Board of Directors of Asian American Faculty Staff Alumni Association of the University of Arizona
2011- Vice President, Arizona Chinese Association
2009-11 Vice President, Arizona Chinese United Association

2009-12 Chief Editor, Tucson Chinese Connection (e-newsletter)
2008-09 Member, Board of Directors, Arizona Chinese United Association
2009-12 Principal, Tucson Chinese School
2007-09 Vice Principal, Tucson Chinese School
2006-07 Member, Board of Directors, Tucson Chinese School