

**Qing X. Li**  
**College of Tropical Agriculture and Human Resources**  
 Department of Molecular Biosciences and Bioengineering  
 FTE Distribution: 20% I; 70% R; 10% E

**Education**

Degree	University	Major	Year
Bachelors	Shandong Agriculture University, China	Agriculture	1982
PhD	University of California at Davis	Agric. and Environ. Chemistry	1990

**Professional Appointments**

Title	Employer	Dates Employed
Faculty member	Shandong Agricultural University, China	Feb 1982 – Dec 1985
Research assistant	University of California at Davis	1986-1990
Post-doctoral fellow	University of California at Davis	Jan – June, 1991
Post-doctoral fellow	University of California at Berkeley	July 1991 – June 1994
Assistant specialist	University of California at Berkeley	July 1994 – Jan 1995
Assistant professor	University of Hawaii at Manoa	1995 – 1999
Associate professor	University of Hawaii at Manoa	1999 – 2002
Professor	University of Hawaii at Manoa	2002 – present
Visiting Professor	Seoul National University, Korea	2003
Visiting Professor	Kyoto University, Japan	2013

**Professional Editorships, Recognition and Honors**

2020	American Chemical Society AGRO International Award for Research in Agrochemicals.
2019	Vice chair, AGRO division, American Chemical Society.
2018	CTAHR Excellence in Research Award, UH-Manoa.
2017-present	Overseas editor, <i>Journal of Pesticide Science</i> .
2017	American Chemical Society AGRO Award for Innovation in Chemistry of Agriculture.
2015-present	Member, National Academy of Inventors.
2015-present	Associate editor, <i>Journal of Agricultural and Food Chemistry</i> , American Chemical Society (ACS).
2014-present	Editorial advisory board, the <i>Korean Journal of Pesticide Science</i> .
2014-present	Editorial board, <i>Chinese Journal of Pesticide Science</i> .
2005-2021	Honorary Scientist and Advisor on Agricultural Science and Technology, Rural Development Administration, Republic of Korea.

**Courses Taught**

Course Number	Title (credits)
MBBE412	Environmental Biochemistry (3)
MBBE687	Advanced Laboratory Techniques (3)
MBBE499	Directed research (variable credits)
MBBE699	Directed research (variable credits)
MBBE700	Directed research (variable credits)
MBBE800	Directed research (variable credits)

**Publications** (Current total number of publications, 400; Current H index, 48; i10 index, 105)

**Books**

Guest editor, Special Issue "Environmental Biotechnology: Current Advances, New Knowledge Gaps, and Emerging Issues" in *BioMed Research International*, edited by Hesham, A. E.-L.; Ralebitso-Senior, T.K.; Zhang, Y.; Li, Q.X. 2015.

Guest editor, Special issue “Herbicide Toxicology” in *Pesticide Biochemistry and Physiology*, edited by S. Qiang; Q.X. Li; W. Zhou; C. Preston. 2017.

Guest editor, Special issue “Fungicide Toxicology” in *Pesticide Biochemistry and Physiology*, edited by B.A. Song; Q.X. Li; W.G. Miao; W.J. Wu; Z. Chen. 2018.

#### Book Chapters

1. Baker, M.R.; Ching, T.; Tabb, D.L.; Li Q.X. 2018. Characterization of plant glycoproteins: Analysis of plant glycopeptide mass spectrometry data with plantGlycoMS, a Package in the R statistical computing environment. In: Pereira C. (Eds). *Plant Vacuolar Trafficking. Methods in Molecular Biology 1789*: 205-222. Humana Press, New York, NY.
2. Li, Q.X.; Chang, C.L. 2016. Chapter 25. Basil (*Ocimum basilicum* L.) oils. In: Victor Preedy (Ed.), *Essential Oils in Food Preservation, Flavor and Safety*. Elsevier. p231-238.
3. Keum, Y.-S.; Kim, J.-H.; Li, Q.X. 2013. Biomarkers and Metabolomics, Evidence of Stress. In: “*Encyclopedia of Sustainability Science and Technology: Environmental Toxicology*” (Editor-in-chief: Robert A. Meyers; Section Editor: Edward A. Laws). Springer, New York. Pp 71-92. DOI: 10.1007/978-1-4419-0851-3 ISBN 978-0-387-89469-0
4. Iwaoka, W.T.; Li, Q.X. 2012. Toxicants. In: *Food Chemistry: Principles and Applications*. 3rd Edition. Y.H. Hui (Editor). Science Technology System, West Sacramento, California.
5. Iwaoka, W.T.; Li, Q.X. 2007. Toxicants. In: *Food Chemistry: Principles and Applications*. 2<sup>nd</sup> Edition. Y.H. Hui (Editor). Science Technology System, West Sacramento, California.
6. Hennessee, C.T.; Li, Q.X. 2010. Chapter 18: Micrococccineae: *Arthrobacter* and Relatives. In: *Handbook of Hydrocarbon and Lipid Microbiology*. Kenneth N. Timmis, Ed-in-chief; T. McGenity, J.R. van der Meer, V. de Lorenzo (Eds.); *Volume 3: Microbes and Communities Utilizing Hydrocarbons, Oils and Lipids; Part I: The Microbes, Terry McGenity (Section Editor)*. Springer. ISBN: 978-3-540-77584-3.
7. Qi, S; and Li, Q. X. 2010. *Proteomics in Pesticide Toxicology*. In: “*Hayes’ Handbook of Pesticide Toxicology*” (R. Krieger, ed.). 3<sup>rd</sup> ed. Academic Press, New York. Pp 603-626.
8. Keum, Y. S.; Kim, J.-H.; and Li, Q. X. 2010. *Metabolomics in Pesticide Toxicology*. In: “*Hayes’ Handbook of Pesticide Toxicology*” (R. Krieger, ed.). 3<sup>rd</sup> ed. Academic Press, New York. Pp 627-643.

#### Conference Proceedings

1. Kwon, Y.W.; Kim, D.S.; Li, Q.X. 2007. Environmentally sound production-system approach in rice weed management for economical and safety benefits. In: *Proceedings of the International Workshop Weed Science and Agricultural Production Safety*. Editor-in-chief: Sheng Qiang. Nanjing, China, April 7-9, 2007.
2. Kim, H.-J.; Gee, S.J.; Li, Q.X.; Hammock, B.D. 2007. Non-competitive fluorescent immunoassay for detection of pyrethroid biomarker 3-phenoxybenzoic acid in human urine with KinExA™ 3000. In: *Rational Environmental Management of Agrochemicals – Risk Assessment, Monitoring, and Remedial Action*. Ivan R. Kennedy, Keith R. Solomon, Shirley J. Gee, Angus N. Crossan, Shuo Wang, Francisco Sanchez-Bayo (Editors). ACS Symposium Series 966. Washington DC.
3. Hong, S.-M.; Atkinson, S.; Hülck, K.; Li, Q.X. 2005. PCB concentrations and profiles in tissues of Stellar sea lions from Alaska and the Bering Sea. Eds.: Thomas R. Loughlin, Shannon Atkinson and Donald G. Calkins. *Synopsis of Research on Steller Sea Lions: 2001-2005*. Alaska SeaLife Center. p110-120.
4. Campbell, S.; Li, Q.X. 2004. Quick analysis of fipronil and its metabolites in gauze and soil samples.

- In: "Environmental Fate and Safety Management of Agrochemicals"; M. Akamatsu and T. Hoshino (Eds). Chapter 6, 62-69. ACS Symposium Series 899, Washington, DC. Total pages 340.
5. Oh, B.-Y.; Kim, J.H.; Li, Q.X. 2004. Monitoring and assessment of pesticide residues in major river, arable soil and agricultural produce in Korea. *Proceeding of the International Symposium on "Assessing and Management of the Agro-ecosystems for Clean and Friendly Future Environment"*, Seoul National University, Seoul, Korea. October 21-25, 2003.
  6. Pellequer, J.-L.; Chen, S.W.; Feeney, A.; Zhao, B.; Kao, H.-I.; Karu, A.E.; Li, K.; Li, Q.X.; Roberts, V.A. 2000. Architecture of antibody binding sites for polynuclear aromatic hydrocarbons. In: *Nuclear Site Remediation – First Accomplishments of the Environmental Management Science Program*; P. Gary Eller and W.R. Heineman (Eds.). ACS Symposium Series 778, Washington, DC. pp398-416.
  7. Li, Q.X.; Karu, A.E.; Li, K.; Thomas, S. 2000. Refinement of immunochemical methods for environmental analysis of polycyclic aromatic hydrocarbons. In: *Nuclear Site Remediation – First Accomplishments of the Environmental Management Science Program*; P. Gary Eller and W.R. Heineman (Eds.). ACS Symposium Series 778, Washington, DC. Pp 379-396.
  8. Hammock, B.D.; Gee, S.J.; Harrison, R.O.; Jung, F.; Goodrow, M.H.; Li, Q.X.; Lucas, A.D.; Sundaram, S. 1990. Immunochemical technology in environmental analysis: addressing critical problems, In: *Immunochemical Methods for Environmental Analysis*; J. Van Emon and R. Mumma (Eds.). ACS Symposium Series 442, Washington, DC. pp112-139.
  9. Seiber, J.N.; Li, Q.X.; Van Emon, J. 1990. Barriers to adopting immunoassays in pesticide analytical laboratory, In: *Immunochemical Methods for Environmental Analysis*; J. Van Emon and R. Mumma (Eds.). ACS Symposium Series 442, Washington, DC. pp156-167.

#### Refereed Journal Publications

1. Ortega Ramirez, C.A.; Kwan, A.; Li, Q.X. 2019. Rhamnolipids induced by glycerol enhance dibenzothiophene biodegradation in *Burkholderia* sp. C3. *Engineering* accepted 8/1/2019
2. Li, A.S.; Iijima, A.; Huang, J.; Li, Q.X.; Chen, Y. 2019. Putative mode of action of the monoterpenoids linalool, estragole, methyl eugenol and citronellal on ligand-gated ion channels. *Engineering* Accepted 8/1/2019
3. Lv, P.; Chen, Y.; Wang, D.; Wu, X.; Li, Q.X.; Hua, R. 2019. Synthesis, characterization and antifungal evaluation of thiolactomycin derivatives. *Engineering*. Accepted 8/1/2019
4. Liu, L.; Li, Y.; Yoza, B.A.; Hao, K.; Li, Q.X.; Li, Y.; Wang, Q.; Guo, S.; Chen, C. 2019. A char-clay composite catalyst derived from spent bleaching earth for efficient ozonation of recalcitrants in water. *Science of the Total Environment* accepted 9/8/2019. DOI: 10.1016/j.scitotenv.2019.134395
5. Wang, Y.; Wang, L.; Zhu, M.; Xue, J.; Hua, R.; Li, Q.X. 2019. Comparative studies on biophysical interactions between gambogic acid and serum albumin via multispectroscopic approaches and molecular docking. *J. Luminescence* 205: 210-218. DOI: 10.1016/j.jlumin.2018.09.005
6. Chen, C.; Yan, X.; Xu, Y.; Yoza, B.A.; Wang, X.; Koua, Y.; Ye, H.; Wang, Q.; Li, Q.X. 2019. Activated petroleum waste sludge biochar for efficient catalytic ozonation of refinery wastewater. *Science of the Total Environment* 651: 2631-2640. DOI: 10.1016/j.scitotenv.2018.10.131
7. Chen, C.; Ming, J.; Yoza, B.A.; Liang, J.; Li, Q.X.; Guo, H.; Liu, Z.; Deng, J.; Wang, Q. 2019. Characterization of aerobic granular sludge used for the treatment of petroleum wastewater. *Bioresource Technology* 271: 353-359. DOI: 10.1016/j.biortech.2018.09.132
8. Wu, Y.; Chen, C.; Zhou, Q.; Li, Q.X.; Yuan, Y.; Tong, Y.; Wang, H.; Zhou, X.; Sun, Y.; Sheng, X. 2019. Polyamidoamine dendrimer decorated nanoparticles as an adsorbent for magnetic solid-phase

extraction of tetrabromobisphenol A and 4-nonylphenol from environmental water samples. *Journal of Colloid and Interface Science* 539: 361–369. DOI: 10.1016/j.jcis.2018.12.064

9. Wang, K.; Vasylieva, N.; Wan, D.; Eads, D.A. Yang, J.; Tretten, T.; Barnych, B.; Li, J.; Li, Q.X.; Gee, S.J.; Hammock, B.D.; Xu, T. 2019. Quantitative detection of fipronil and fipronil-sulfone in sera of black-tailed prairie dogs and rats after oral exposure to fipronil by camel single-domain antibody-based immunoassays. *Analytical Chemistry* 91(2): 1532-1540. DOI: 10.1021/acs.analchem.8b04653
10. Liu, J.; Shi, P.; Ahmad, S.; Yin, C.; Liu, X.; Liu, Y.; Zhang, H.; Xu, Q.; Yan, H.; Li, Q.X. 2019. Co-culture of *Bacillus coagulans* and *Candida utilis* efficiently treats *Lactobacillus* fermentation wastewater. *AMB Express* 9:15. DOI: 10.1186/s13568-019-0743-3. Featured article
11. Feng, N.-X.; Yu, J.; Xiang, L.; Yu, L.-Y.; Zhao, H.-M.; Mo, C.-H.; Li, Y.-W.; Cai, Q.-Y.; Wong, M.-H.; Li, Q.X. 2019. Co-metabolic degradation of the antibiotic ciprofloxacin by the enriched bacterial consortium XG and its bacterial community composition. *Science of the Total Environment* 665: 41-51. DOI: 10.1016/j.scitotenv.2019.01.322
12. Fang, L.; Shi, T.; Chen, Y.; Wu, X.; Zhang, C.; Tang, X.; Li, Q.X.; Hua, R. 2019. Kinetics and catabolic pathways of the insecticide chlorpyrifos, annotation of the degradation genes and characterization of enzymes TcpA and Fre in *Cupriavidus nantongensis* X1<sup>T</sup>. *Journal of Agricultural and Food Chemistry* 67(8): 2245-2254. DOI: 10.1021/acs.jafc.9b00173.
13. Wang, K.; Liu, Z.; Ding, G.; Li, J.; Vasylieva, N.; Li, Q.X.; Li, D.; Gee, S.J.; Hammock, B.D.; Xu, T. 2019. Development of a one-step immunoassay for triazophos using camel single-domain antibody–alkaline phosphatase fusion protein. *Analytical and Bioanalytical Chemistry* 411(6): 1287-1295. DOI: 10.1007/s00216-018-01563-7
14. Fan, L.; Li, Q.X. 2019. Characteristics of intestinal microbiota in the Pacific white shrimp *Litopenaeus vannamei* differing growth performances in the marine cultured environment. *Aquaculture* 505:450-461. DOI: 10.1016/j.aquaculture.2019.02.075
15. Li, H.; Ding, X.; Chen, C.; Zheng, X.; Han, H.; Li, C.; Gong, J.; Xu, T.; Li, Q.X.; Ding, G.-C.; Li, J., 2019. Enrichment of phosphate solubilizing bacteria during late developmental stages of eggplant (*Solanum melongena* L.), *FEMS Microbiology Ecology* 95(3): fiz023. DOI: 10.1093/femsec/fiz023
16. Zhu, M.; Liu, X.; Yang, Y.; Wang, L.; Wu, X.; Wu, X.; Hua, R.; Wang, Y.; Li, Q.X. 2019. A ratiometric fluorescence probe with large stokes based on excited-stated intramolecular proton transfer (ESIPT) for rapid detection and imaging of biothiols in human liver HepG2 cells and zebrafish. *Journal of Molecular Liquids* 287: 111016. DOI: 10.1016/j.molliq.2019.111016
17. Xu, Y.; Wang, Q.; Yoza, B.A.; Li, Q.X.; Kou, Y.; Tang, Y.; Ye, H.; Li, Y.; Chen, C. 2019. Catalytic ozonation of recalcitrant organic chemicals in water using vanadium oxides loaded ZSM-5 zeolites. *Frontiers in Chemistry* 7:384. DOI: 10.3389/fchem.2019.00384
18. An, F.; Baker, M.R.; Qin, Y.; Chen, S.; Li, Q.X. 2019. Relevance of class I $\alpha$ -mannosidases to cassava post-harvest physiological deterioration. *ACS Omega* 4: 8739-8746. DOI: 10.1021/acsomega.8b03558
19. Xiang, L.; Wang, X.-D.; Chen, X.-H.; Mo, C.-H.; Li, Y.-W.; Li, H.; Cai, Q.-Y.; Zhou, D.-M.; Wong, M.-H.; Li, Q.X. 2019. Sorption mechanism, kinetics and isotherms of di-n-butyl phthalate to different soil particle-size fractions. *Journal of Agricultural and Food Chemistry* 67: 4734-4745. DOI: 10.1021/acs.jafc.8b06357
20. Liu, Z.; Wang, K.; Wu, S.; Wang, Z.; Ding, G.; Hao, X.; Li, Q.X.; Li, J.; Gee, S.J.; Hammock, B.D.; Xu, T. 2019. Development of a camelid variable domain of heavy chain antibody-based immunoassay for the detection of carbaryl in cereals. *Journal of the Science of Food and*

*Agriculture* 99:4383-4390. DOI 10.1002/jsfa.9672

21. He, J.; Tao, X.; Wang, K.; Ding, G.; Li, J.; Li, Q.X.; Gee, S.J.; Hammock, B.D.; Xu, T. 2019. A rapid one-step immunoassay for carbaryl using a chicken single-chain variable fragment (scFv) fused to alkaline phosphatase. *Analytical Biochemistry* 572: 9-15. DOI: 10.1016/j.ab.2019.02.022.
22. Zhu, M.; Wang, L.; Wu, X.; Na, R.; Wang, Y.; Li, Q.X.; Hammock, B.D. 2019. A novel and simple imidazo[1,2-a]pyridin fluorescent probe for the sensitive and selective imaging of cysteine in living cells and zebrafish. *Analytica Chimica Acta* 1058: 155-165. DOI: 10.1016/j.aca.2019.01.023
23. Wang, K.; Liu, Z.; Ding, G.; Li, J.; Vasylieva, N.; Li, Q.X.; Li, D.; Gee, S.J.; Hammock, B.D.; Xu, T. 2019. Development of a one-step immunoassay for triazophos using camel single-domain antibody-alkaline phosphatase fusion protein. *Analytical and Bioanalytical Chemistry* 411(6): 1287-1295. DOI: 10.1007/s00216-018-01563-7.
24. Ma, W.; Hu, J.; Yoza, B.A.; Wang, Q.; Li, Y.; Li, Q.X.; Guo, S.; Chen, C. 2019. Kaolinite based catalysts for efficient ozonation of recalcitrant organic chemicals in water. *Applied Clay Science* 175: 159-168.
25. Wang, L.; Wu, X.; Yang, Y.; Liu, X.; Zhu, M.; Fan, S.; Wang, Z.; Xue, J.; Hua, R.; Wang, Y.; Li, Q.X. 2019. Multi-spectroscopic measurements, molecular modeling and density functional theory calculations for interactions of 2,7-dibromocarbazole and 3,6-dibromocarbazole with serum albumin. *Science of the Total Environment* 686: 1039-1048. DOI: 10.1016/j.scitotenv.2019.06.001
26. Zhu, M.; Wu, X.; Sang, L.; Wang, L.; Fan, S.; Wang, L.; Wu, X.; Hua, R.; Wang, Y.; Li, Q.X. 2019. A novel and effective benzo[d]thiazole-based fluorescent probe with dual recognition factors for highly sensitive and selective imaging of cysteine *in vitro* and *in vivo*. *New Journal of Chemistry* 43: 13463-13470
27. An, F.; Chen, T.; Li, Q.; Qiao, J.; Zhang, Z.; Carvalho, L.J.C.B.; Li, K.; Chen, S. 2019. Protein cross-interactions for efficient photosynthesis in the cassava cultivar SC205 relative to its wild species. *Journal of Agricultural and Food Chemistry* 67(32): 8746-8755. DOI: 10.1021/acs.jafc.9b00046.
28. Wang, J.; Awaya, J.; Zhu, Y.; Motooka, P.S.; Nelson, D.A.; Li, Q.X. 2019. Tests of hexazinone and tebuthiuron for control of exotic plants in Kauai, Hawaii. *Forests* 10: 576; DOI: 10.3390/f10070576
29. Li, H.; Hou, L.; Zhang, Y.; Jiang, F.; Zhu, Y.; Li, Q.X.; Hu, C.Y.; Wang, C. 2019. Up-expression of *PFN2a* suppresses C2C12 myogenic development through p53 pathway proliferation inhibition and apoptosis promotion. *Cells* 8(9), 959; <https://doi.org/10.3390/cells8090959>
30. Xiang, L.; Li, Y.-W.; Liu, B.-L.; Zhao, H.-M.; Li, H.; Cai, Q.-Y.; Mo, C.-H.; Wong, M.-H.; Li, Q.X. 2019. High ecological and human health risks from microcystins in vegetable fields in southern China. *Environment International* 133: 105142. DOI: 10.1016/j.envint.2019.105142
31. Lan, J.; Wang, M.; Shang Ding, S.; Fan, Y.; Diao, X.; Li, Q.X.; Zhao, H. 2019. Simultaneous detection of carbofuran and 3-hydroxy-carbofuran in vegetables and fruits by broad-specific monoclonal antibody-based ELISA. *Food and Agricultural Immunology* 30(1):1085-1096. DOI: 10.1080/09540105.2019.1664997.
32. Liang, Z.; Zhang, B.; Morisseau, C.; Hwang, S.H.; Hammock, B.D.; Li, Q.X. 2019. 1-Trifluoromethoxyphenyl-3-(1-propionylpiperidin-4-yl) urea, a selective and potent dual inhibitor of soluble epoxide hydrolase and p38 kinase intervenes in Alzheimer's signaling in human nerve cells. *ACS Chemical Neuroscience* 10(9): 4018-4030. DOI: 10.1021/acchemneuro.9b00271
33. Xu, C.; Fan, Y.; Zhang, X.; Kong, W.; Miao, W.; Li, Q.X. 2020. DNA damage in liver cells of the tilapia fish *Oreochromis mossambicus* larva induced by the insecticide cyantraniliprole at sublethal

doses during chronic exposure. *Chemosphere* 238: 124586. DOI: 10.1016/j.chemosphere.2019.124586

34. Sun, R.-X.; Pan, C.; Li, Q.X.; Peng, F.; Mai, B.-X. 2020. Occurrence and congener profiles of polybrominated diphenyl ethers in green mussels (*Perna viridis*) collected from northern South China Sea and the associated potential health risk. *Science of the Total Environment* 698: 134276. DOI: 10.1016/j.scitotenv.2019.134276.
35. Clukey, K.E.; Lepczyk, C.A.; Balazs, G.H.; Work, T.M.; Li, Q.X.; Bachman, M.J.; Lynch, J. 2018. Persistent organic pollutants in fat of three species of Pacific pelagic longline caught sea turtles: Accumulation in relation to ingested plastic marine debris. *Science of the Total Environment* 610-611:402-411. DOI: 10.1016/j.scitotenv.2017.07.242
36. Chen, C.; Yan, X.; Yoza, B.A.; Zhou, T.; Li, Y.; Zhan, Y.; Wang, Q.; Li, Q.X. 2018. Efficiencies and mechanisms of ZSM-5 zeolites loaded with cerium, iron, or manganese oxides for catalytic ozonation of nitrobenzene in water. *Science of the Total Environment* 612: 1424–1432. DOI: 10.1016/j.scitotenv.2017.09.019
37. Liu, J.; Pan, D.; Wu, X.; Chen, H.; Cao, H.; Li, Q.X.; Hua, R. 2018. Enhanced degradation of prometryn and other *s*-triazine herbicides in pure cultures and wastewater by polyvinyl alcohol-sodium alginate immobilized *Leucobacter* sp. JW-1. *Science of the Total Environment* 615: 78-86.
38. Sun, R.; Luo, X. Li, Q.X.; Wang, T.; Zheng, X.; Peng, P.; Mai, B. 2018. Legacy and emerging organohalogenated contaminants in wild edible aquatic organisms: Implications for bioaccumulation and human exposure. *Science of the Total Environment* 616–617: 38-45.
39. Sun, R.; Luo, X.; Zheng, X.; Cao, K.; Peng, P.; Li, Q.X.; Mai, B. 2018. Hexabromocyclododecanes (HBCDs) in fish: evidence of recent HBCD input into the coastal environment. *Marine Pollution Bulletin* 126: 357-362. DOI: 10.1016/j.marpolbul.2017.11.040
40. Li, Y.; Li, Y.; Pan, X.; Li, Q.X.; Chen, R.; Li, X.; Pan, C.; Song, J. 2018. Comparison of a new air-assisted sprayer and two conventional sprayers in terms of deposition, loss to the soil and residues of azoxystrobin and tebuconazole applied to sunlit greenhouse tomato and field cucumber. *Pest Management Science* 74(2): 448-455. DOI: 10.1002/ps.4728
41. Sun, L.; Pan, D.; Liu, J.; Wu, X.; Hua, R.; Li, Q.X. 2018. *Leucobacter prometrynivorans* sp. nov., a prometryn-degrading bacterium isolated from sludge. *International Journal of Systematic and Evolutionary Microbiology* 68: 204-210. DOI: 10.1099/ijsem.0.002483
42. Islam, F.; Wang, J.; Farooq, M.A.; Khan, M.S.S.; Xu, L.; Zhu, J.; Zhao, M.; Muños, S.; Li, Q.X.; Zhou, W. 2018. Potential impact of the herbicide 2,4-dichlorophenoxyacetic acid on human and ecosystems. *Environmental International* 111: 332-351. DOI: 10.1016/j.envint.2017.10.020. PMID: 29203058
43. Lv, P.; Chen, Y.; Zhao, Z.; Shi, T.; Wu, X.; Li, Q.X.; Hua, R. 2018. Design, synthesis and antifungal activities of 3-acyl thiotetronic acid derivatives: New fatty acid synthase inhibitors. *Journal of Agricultural and Food Chemistry* 66(4): 1023–1032. DOI: 10.1021/acs.jafc.7b05491
44. Fu, B.; Xu, T.; Cui, Z.; Ng, Ho, L.; Wang, K.; Li, J.; Li, Q.X. 2018. Mutation of phenylalanine-223 to leucine enhances transformation of benzo[a]pyrene by ring-hydroxylating dioxygenase of *Sphingobium* sp. FB3 by increasing accessibility of the catalytic site. *Journal of Agricultural and Food Chemistry* 66(5), 1206-1213. DOI: 10.1021/acs.jafc.7b05018
45. Zhang, L.; Zhou, L.; Li, Q.X.; Liang, H.; Qin, H.; Masutani, S.; Yoza, B. 2018. Toxicity of lanthanum oxide nanoparticles to the fungus *Moniliella wahieum* Y12<sup>T</sup> isolated from biodiesel. *Chemosphere* 199: 495-501. DOI: 10.1016/j.chemosphere.2018.02.032
46. Chu, S.; Baker, M.R.; Leong, G.; Letcher, R.J.; Li, Q.X. 2018. Covalent binding of the

- organophosphate insecticide profenofos to tyrosine on  $\alpha$ - and  $\beta$ -tubulin proteins. *Chemosphere* 199: 154-159. DOI:10.1016/j.chemosphere.2018.02.003
47. Wang, Y.; Ma, W.; Yoza, B.A.; Xu, Y.; Li, Q.X.; Chen, C.; Wang, Q.; Gao, Y.; Guo, S.; Zhan, Y. 2018. Investigation of catalytic ozonation of recalcitrant organic chemicals in aqueous solution over various ZSM-5 zeolites. *Catalysts* 8(4), 128; DOI:10.3390/catal8040128
  48. Sanchis, A.; Salvador, J.-P.; Campbell, K.; Elliott, C.T.; Shelver, W.L.; Li, Q.X.; Marco, M.-P. 2018. Fluorescent microarray for multiplexed quantification of environmental contaminants in seawater samples. *Talanta* 184: 499-506. DOI.org/10.1016/j.talanta.2018.03.036
  49. Wang, Y.; Liu, J.; Zhu, M.; Wang, L.; Zen, X.; Fan, S.; Wang, Z.; Li, H.; Na, R.; Zhao, X.; Li, Q.X. 2018. Biophysical characterization of interactions between falcarinol-type polyacetylenes and human serum albumin via multispectroscopy and molecular docking techniques. *Journal of Luminescence* 200: 111-119. DOI: 10.1016/j.jlumin.2018.03.082
  50. Chen, C.; Yao, X.; Li, Q.X.; Wang, Q.; Liang, J.; Zhang, S.; Ming, J.; Liu, Z.; Deng, J.; Yoza, B.A. 2018. Turf soil enhances treatment efficiency and performance of phenolic wastewater using an up-flow anaerobic sludge blanket reactor. *Chemosphere* 204: 227-234. DOI: 10.1016/j.chemosphere.2018.04.040
  51. Wang, Y.; Na, R.; Zhu, M.; Jiang, E.; Wang, L.; Fan, S.; Wang, Z.; Li, Q.X.; Hua, R. 2018. A colorimetric and ratiometric dual-site fluorescent probe with 2,4-dinitrobenzenesulfonyl and aldehyde groups for imaging of aminothiols in living cells and zebrafish. *Dyes and Pigments* 156: 338-347.
  52. Nzila, A.; Ortega Ramirez, C.; Musac, M.M.; Sankaraa, S.; Chanbashac, B.; Li, Q.X. 2018. Pyrene biodegradation and proteomic analysis in *Achromobacter xylosoxidans*, PY4 strain. *International Biodeterioration & Biodegradation* 130: 40-47. DOI: 10.1016/j.ibiod.2018.03.014.
  53. Chen, X.; He, S.; Liang, Z.; Li, Q.X.; Yan, H.; Hu, J.; Liu, X. 2018. Biodegradation of pyraclostrobin by two microbial communities from Hawaiian soils and metabolic mechanism. *Journal of Hazardous Materials* 354: 225-230. DOI: 10.1016/j.jhazmat.2018.04.067
  54. Sun, R.; Sun, Y.; Li, Q.X.; Zheng, X.; He, Y.; Luo, X.; Mai, B. 2018. Polycyclic aromatic hydrocarbons in sediments and marine organisms: implications of anthropogenic effects on the coastal environment. *Science of the Total Environment* 640-641: 264-272.
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#### Non-refereed Journal Publications

1. Zhang, C.; Lu, Y.; Feng, L.; Li, C.; Barako, T.; Liu, K.; Zhou, Q.; Cheng, S.; Pan, A.; Xue, L.; Zhang, S.; Lee, D.; Li, Q.; Li, L.; Yu, J.; Sisodia, S.; Ran, C. 2019. Proceedings of the Harvard-Shanghai conference on brain health - A special meeting for understanding and intervention of Alzheimer's disease. *Journal of Advances in Health* 1(1): 1-8. <https://doi.org/10.3724/SP.J.2640-8686.2019.0024>
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4. Kliks, M.; Wang, J.; Li, Q.X., Jun, S. 2011. Rapid, inexpensive biochemical analyses of honey to determine geographic origin. *WAS Journal*. November 2011 issue: 24026. Pp 24-26. <http://digitalwasjournal.advancedpublishing.com/RIDE/viewer.aspx?id=4&pageId=1&lang=&lid=0>
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6. Montgomery, M.T.; Coffin, R.B.; Boyd, T.J.; Hamdan, L.J.; Smith, J.P.; Plummer, R.E.; Walker, S.E.; Dittel, A.; Masutani, S.M.; Li, Q.X.; Osburn, C.L. 2009. Bacterial production and contaminant

mineralization in sediments of the Ala Wai Canal, Oahu, Hawaii. *Naval Research Laboratory*. NRL/MR/6114-09-9212. <http://www.dtic.mil/cgi-bin/GetTRDoc?Location=U2&doc=GetTRDoc.pdf&AD=ADA507110>

7. Campbell, S.; Chong, P.; Corpus, T.; Cripps, M.; Fox, P.; Galvez, L.; Li, Q.X.; Martin, C.; and Sciulli, R. Training manual titled “All Hazards Field Sampling and Categorization – A training manual”, 2006. DVD video. Copyright 2006<sup>©</sup> State of Hawaii Department of Health and the University of Hawaii.

#### Patents and Technology Disclosures

1. Li, Q.X.; Liang, Z. Inhibitors of soluble epoxide hydrolase and p38 kinase as Alzheimer's therapeutics. The US provisional patent, 2019.
2. Li, Q.X.; Wen, B.; Fu, B.; Baker, M.; Cao, Z. Recombinant and engineered windmill palm tree (*Trachycarpus fortunei*) and royal palm tree (*Roystonea regia*) peroxidases. The US provisional patent, 2018.
3. Li, Q.X.; Zhang, Z.; Wu, Z. Bioactive flavonoids in maize for food supplements, anti-aging, anti-dementia and anti-inflammation. The US provisional patent, 2018.
4. Li, Q.X. Bioinsecticidal compositions containing monoterpenes and methods of use Thereof. PCT, 2018.
5. Li, Q.X.; Liang, Z. GSK-3 $\beta$  inhibitors and use thereof in methods of treatment. PCT, 2018.
6. Li, Q.X.; Wen, B.; Fu, B.; Baker, M.; Cao, Z. Recombinant and engineered windmill palm tree (*Trachycarpus fortunei*) and royal palm tree (*Roystonea regia*) Peroxidases. The US provisional patent, 2017
7. Li, Q.X.; Liang, Z. Discovery of potent, selective, substrate-competitive and bioavailable glycogen synthase kinase-3 $\beta$  inhibitors for Alzheimer's disease: design, synthesis and biological evaluation of novel C-glycosylflavones. The US provisional patent, 2017.
8. Li, Q.X.; Liang, Z. Novel GSK3 inhibitors for prevention and treatment of neurodegenerative and neuropsychiatric disorders and metabolic Diseases. The US provisional patent, 2017.
9. Li, Q.X.; Fan, Y.; Peng, H. Monoterpenoids are insecticidal to insects. The US provisional patent, 2017.
10. Li, Q.X.; Wen, B. Expression and characteristics of windmill palm tree peroxidase (*Trachycarpus fortunei*) in *Pichia pastoris*. Provisional patent, 2016.
11. Li, Q.X.; Liang, Z. Novel GSK3 inhibitors for prevention and treatment of neurodegenerative and neuropsychiatric disorders and metabolic diseases. The US provisional patent, 2016.
12. Li, Q.X.; Fan, Y.; Peng, H. Monoterpenoids are insecticidal to agricultural, storage and household insect pests. The US provisional patent, 2016.
13. Li, Q.X.; Liang, Z. C-Glycosylflavones and extracts from corn silks for prevention and treatment of Alzheimer's disease. Provisional patent, 2015.
14. Chang, C.L.; Li, Q.X.; Cho, I.K.; Vargas, R. Discovery of “Attract and Kill” Properties of Basil Oil in the Field. ARS Invention Disclosure, 2012
15. Rima, J.; Aouezova, L.; Li, Q.X. 2011. Generation of free radicals, analytical methods, bacterial disinfections, and oxidative destruction of organic chemicals using zero valent iron and other metals. US patent 8,048,317
16. Rima, J.; Li, Q.X.; Mroueh, M.; Assaf, M. Rapid generation of pulse flash free radicals to kill human cancer cells, recycle human urine, and mineralize organic chemicals in wastewater by using

metallic cations and hydrides. Provision patent, 2007.

17. Chang, C.L.; Cho, I.K.; Li, Q.X. Human consumable essential oil is highly toxic to pest tephritid fruit flies. Provision patent, 2007.
18. Rima, J.; Aouezova, L.; Li, Q.X. Encapsulation technology for continuous, efficient and in-situ harvest of natural aromas. Provision patent, 2005.
19. Shelver, W.; Kim, H.-J.; Keum, Y.S.; Li, Q.X. "Biological Materials License Agreement #1327-001 with Environlogix, Ltd" for thiamethoxam hybridoma cell lines 2Th2E1E2A11 and 2Th3D1F2D4. 2004.
20. Wu, L.; Li, Q.X. Programmed-temperature retention index database for identification and analysis of polychlorinated biphenyls and other organochlorines. Licensing disclosure, 2002.
21. Karu, A.E.; Li, Q.X. Recombinant Fab antibody specific for coplanar polychlorinated biphenyls, and haptens for PCB congeners with no, one, and two ortho chlorines. Licensing disclosure, 2001.
22. Li, Q.X.; Li, K. Antibodies to imidacloprid. Provisional patent, 2000.

#### Extension Publications

1. Campbell, S.; Chong, P.; Corpus, T.; Cripps, M.; Fox, P.; Galvez, L.; Li, Q.X.; Martin, C.; and Sciulli, R. Training manual titled "All Hazards Field Sampling and Categorization – A training manual", 2006. Copyright 2006<sup>©</sup> State of Hawaii Department of Health and the University of Hawaii.

#### *Technical Reports of Pesticide residues for Registration (submitted 50 reports to support registration of 20 pesticides on 26 crops)*

1. Leong, G.; Li, Q.X. 2013. Magnitude of residues of NAA and its metabolites in or on pomegranate. IR-4 headquarters, Rutgers Univ., NJ (4 trials).
2. Leong, G.; Li, Q.X. 2013. Magnitude of residues of fluazifop-p-butyl and its metabolites in or on coffee. IR-4 headquarters, Rutgers Univ., NJ (1 trial).
3. Leong, G.; Li, Q.X. 2012. Magnitude of residues of spinosad and its metabolites in or on Coffee. IR-4 headquarters, Rutgers Univ., NJ (3 trials).
4. Yanagihara, K.; Leong, G.; Li, Q.X. 2012. Magnitude of residues of fluazifop-p-butyl and its metabolites in or on coffee. IR-4 headquarters, Rutgers Univ., NJ. (2 trials)
5. Yanagihara, K.; Yanagihara, J.; Li, Q.X. 2011. Magnitude of residues of oxyfluorfen and its metabolites in or on ti. IR-4 headquarters, Rutgers Univ., NJ (2 trials).
6. Yanagihara, K.; Yanagihara, J.; Li, Q.X. 2011. Magnitude of residues of oxyfluorfen and its metabolites in or on coffee. IR-4 headquarters, Rutgers Univ., NJ (5 trials).
7. Yanagihara, K.; Yanagihara, J.; Li, Q.X. 2010. Magnitude of residues of 1,3-dichloropropene and its metabolites in or on pineapple. IR-4 headquarters, Rutgers Univ., NJ (6 trials).
8. Leong, G.; Li, Q.X. 2010. Magnitude of residues of fludioxonil and its metabolites in or on pineapple. IR-4 headquarters, Rutgers Univ., NJ (4 trials).
9. Leong, G.; Li, Q.X. 2010. Magnitude of residues of NAA and its metabolites in or on Rambutan. IR-4 headquarters, Rutgers Univ., NJ (2 trials).
10. Leong, G.; Li, Q.X. 2010. Magnitude of residues of NAA and its metabolites in or on Avocado. IR-4 headquarters, Rutgers Univ., NJ (5 trials).
11. Yanagihara, K.; Yanagihara, J.; Li, Q.X. 2009. Magnitude of residues of mancozeb and its metabolites in or on blueberry. IR-4 headquarters, Rutgers Univ., NJ (5 trials).
12. Yanagihara, K.; Yanagihara, J.; Li, Q.X. 2009. Magnitude of residues of mancozeb and its metabolites in or on lychee. IR-4 headquarters, Rutgers Univ., NJ (3 trials).
13. Yanagihara, K.; Yanagihara, J.; Li, Q.X. 2009. Magnitude of residues of mancozeb and its

- metabolites in or on guava. IR-4 headquarters, Rutgers Univ., NJ (3 trials).
14. Yanagihara, J.; Yanagihara, K.; Li, Q.X. 2009. Magnitude of residues of metaldehyde and its metabolites in or on taro. IR-4 headquarters, Rutgers Univ., NJ (3 trials).
  15. Leong, G.; Li, Q.X. 2008. Magnitude of residues of imidacloprid and its metabolites in or on Papaya. IR-4 headquarters, Rutgers Univ., NJ (4 trials).
  16. Leong, G.; Yanagihara, K.; Li, Q.X. 2007. Magnitude of residues of triflumizole and its metabolites in or on pineapple. IR-4 headquarters, Rutgers Univ., NJ (3 trials).
  17. Leong, G.; Yanagihara, K.; Li, Q.X. 2007. Magnitude of residues of triflumizole and its metabolites in or on papaya. IR-4 headquarters, Rutgers Univ., NJ (4 trials).
  18. Yanagihara, J.; Yanagihara, K.; Li, Q.X. 2007. Magnitude of residues of burofezin and its metabolites in or on coffee. IR-4 headquarters, Rutgers Univ., NJ (5 trials).
  19. Yanagihara, J.; Leong, G.; Yanagihara, K.; Li, Q.X. 2006. Magnitude of residues of spinosad and its metabolites in or on almonds. IR-4 headquarters, Rutgers Univ., NJ (6 trials).
  20. Yanagihara, J.; Li, Q.X. 2006. Magnitude of residues of spinosad and its metabolites in or on pineapple. IR-4 headquarters, Rutgers Univ., NJ (3 trials).
  21. Leong, G.; Yanagihara, J.; Li, Q.X. 2004. Magnitude of residues of mefenoxam and its metabolites in or on papaya. IR-4 headquarters, Rutgers Univ., NJ (3 trials).
  22. Leong, G.; Yanagihara, J.; Li, Q.X. 2004. Magnitude of residues of mefenoxam and its metabolites in or on kimi fruit. IR-4 headquarters, Rutgers Univ., NJ (3 trials).
  23. Yee, A.; Li, Q.X. 2004. Magnitude of residues of imidacloprid and its metabolites in or on cranberry. IR-4 headquarters, Rutgers Univ., NJ (9 trials).
  24. Yee, A.; Li, Q.X. 2003. Magnitude of residues of imidacloprid and its metabolites in or on coffee. IR-4 headquarters, Rutgers Univ., NJ (2 trials).
  25. Yee, A.; Li, Q.X. 2003. Magnitude of residues of imidacloprid and its metabolites in or on pineapple. IR-4 headquarters, Rutgers Univ., NJ (2 trials).
  26. Yee, A.; Li, Q.X. 2003. Magnitude of residues of abamectin and its metabolites in or on pomegranate. IR-4 headquarters, Rutgers Univ., NJ (3 trials).
  27. Leong, G.; Li, Q.X. 2002. Magnitude of residues of mefenoxam and its metabolites in or on papaya. IR-4 headquarters, Rutgers Univ., NJ (8 trials).
  28. Yanagihara, K.; Li, Q.X. 2002. Magnitude of residues of MCPA and its metabolites in or on pea. IR-4 Headquarters, Rutgers Univ., NJ. (5 trials).
  29. Leong, G.; Li, Q.X. 2002. Magnitude of residues of imidacloprid and its metabolites in or on avocado. IR-4 Headquarters, Rutgers Univ., NJ. (5 trials).
  30. Yanagihara, J.; Li, Q.X. 2002. Magnitude of residues of spinosad and its metabolites in or on banana. IR-4 Headquarters, Rutgers Univ., NJ. (3 trials).
  31. Yanagihara, J.; Li, Q.X. 2002. Magnitude of residues of imidacloprid and its metabolites in or on banana. IR-4 Headquarters, Rutgers Univ., NJ. (5 trials).
  32. Leong, G.; Li, Q.X. 2002. Magnitude of residues of dimethomorph and its metabolites in or on taro. IR-4 Headquarters, Rutgers Univ., NJ. (3 trials).
  33. Yanagihara, J.; Li, Q.X. 2002. Magnitude of residues of spinosad and its metabolites in or on nectarine. IR-4 Headquarters, Rutgers Univ., NJ. (8 trials).
  34. Yanagihara, K.; Li, Q.X. 2001. Magnitude of residues of imidacloprid and its metabolites in or on coffee. IR-4 Headquarters, Rutgers Univ., NJ. (5 trials).
  35. Leong, G.; Li, Q.X. 2001. Magnitude of residues of propiconazole and its metabolites in or on pineapple. IR-4 Headquarters, Rutgers Univ., NJ. (4 trials).



36. Yanagihara, J.; Li, Q.X. 2001. Magnitude of residues of spinosad and its metabolites in or on mint. IR-4 Headquarters, Rutgers Univ., NJ. (3 trials).
37. Leong, G.; Li, Q.X. 2000. Magnitude of residues of imidacloprid and its metabolites in or on peach. IR-4 Headquarters, Rutgers Univ., NJ. (4 trials).
38. Leong, G.; Li, Q.X. 2000. Magnitude of residues of imidacloprid and its metabolites in or on plum. IR-4 Headquarters, Rutgers Univ., NJ. (8 trials).
39. Fukui, H.; Yanagihara, J.; Li, Q.X. 2000. Magnitude of residues of clofentezine and its metabolites in or on persimmon. IR-4 Headquarters, Rutgers Univ., NJ. (3 trials).
40. Yanagihara, J.; Fukui, H.; Inatsuka, C.; Li, Q.X. 2000. Magnitude of residues of spinosad and its metabolites in or on raspberry. IR-4 Headquarters, Rutgers Univ., NJ. (2 trials).
41. Yanagihara, J.; Fukui, H.; Li, Q.X. 2000. Magnitude of residues of spinosad and its metabolites in or on grape. IR-4 Headquarters, Rutgers Univ., NJ. (7 trials).
42. Yanagihara, J.; Fukui, H.; Inatsuka, C.; Li, Q.X. 2000. Magnitude of residues of spinosad and its metabolites in or on coffee. IR-4 Headquarters, Rutgers Univ., NJ. (3 trials).
43. Yanagihara, J.; Li, Q.X. 2000. Magnitude of residues of spinosad and its metabolites in or on banana. IR-4 Headquarters, Rutgers Univ., NJ. (2 trials).
44. Yanagihara, J.; Fukui, H.; Li, Q.X. 1999. Magnitude of residues of spinosad and its metabolites in or on artichoke. IR-4 Headquarters, Rutgers Univ., NJ. (3 trials).
45. Yanagihara, K.; Li, Q.X. 1998. Magnitude of residues of oxyfluorfen and its metabolites in or on pejobaye. IR-4 Headquarters, Rutgers Univ., NJ. (3 trials).
46. Yanagihara, K.; Li, Q.X. 1998. Magnitude of residues of oxyfluorfen and its metabolites in or on banana. IR-4 Headquarters, Rutgers Univ., NJ. (5 trials).
47. Yanagihara, J.; Li, Q.X. 1998. Magnitude of residues of chlorothalonil and its metabolites in or on persimmon. IR-4 Headquarters, Rutgers Univ., NJ. (1 trial).
48. Leong, G.; Li, Q.X. 1997. Magnitude of residues of dimethoate and its metabolites in or on taro. IR-4 Headquarters, Rutgers Univ., NJ. (3 trials).
49. Leong, G.; Li, Q.X. 1997. Magnitude of residues of chlorpyrifos and its metabolites in or on coffee. IR-4 Headquarters, Rutgers Univ., NJ. (1 trial).
50. Yanagihara, K.; Li, Q.X. 1997. Magnitude of residues of diuron and its metabolites in or on currant. IR-4 Headquarters, Rutgers Univ., NJ. (1 trial).

Extension Workshops, Conferences, Demonstrations, Seminars, etc., Organized and Conducted

1. Organizer and principal investigator, "Biotechnology Workshop" under State of Hawaii Millennium Workforce Development Initiative and NSF-MarBEC program, 2000, 2001 and 2004.
2. Organizer and principal investigator, "All Hazard Field Sampling and Categorization" training for the Fire Department Hazmat teams of Oahu (2003), Kauai (2004), Maui (2005 and 2008) Counties, Hawaii.
3. Provide Proteomics services to Hawaii researchers since 2011 to present.
4. Proteomics Core Web: <http://manoa.hawaii.edu/jabsom/proteomics>

Creative Works (ex. Extension Videos, Websites, Blogs, etc.)

None

Extension Stakeholder Contacts (Total Number of Direct and Indirect Contacts)

None

Extension Leadership Roles (Committees, Boards, Advisory, etc.)

1. Advisory Committee on Pesticides, State of Hawaii Department of Agriculture, 2007-2015.

## Graduate Students

Category	Number of Students	Number that graduated
Chair (or co-chair) of Master Committees	8 (7 MBBE MS students)	5 (4 MBBE MS graduated)
Chair (or co-chair) of PhD Committees	23 (8 MBBE PhD students)	19 (7 MBBE PhD graduated)
Member of Master Committees	26	24
Member of PhD Committees	26	18

## Grant Support

N00014-10-1-0310 (Richard Rocheleau, PD) 12/2009-6/2017  
ONR \$50,000

*Hawaii Energy and Environmental Technologies (HEET)*

Task: Blended fuel biodesulfurization. The goal is to develop a field detection method for sulfate reducing bacteria in biodiesel and work toward the potential determination of a sulfate metabolism inhibitor.

Overlap: None; Role: Subcontract PI

N00014-11-1-0391 (Richard Rocheleau, PD) 1/2011-9/2017  
ONR \$75,000

*Hawaii Energy and Environmental Technologies (HEET)*

Task: Blended fuel biodesulfurization. The goal is to develop a field detection method for sulfate reducing bacteria in diesel and work toward the potential determination of a sulfate metabolism inhibitor.

Overlap: None; Role: Subcontract PI

N00014-12-1-0496 (Richard Rocheleau, PD) 3/2012-9/2019  
ONR \$308,202

*Asia Pacific Research Initiative for Sustainable Energy Systems (APRISES).*

Task: Biocontamination of fuels. The goal is to investigate biological growth in fuel-water interfaces using the standardized fuel blends and specific microbes.

Overlap: None; Role: Subcontract PI

HI DOA 201407 (H. Ako, PI) 7/2014 – 7/2016  
State of Hawaii Dept of Agriculture \$79,860

*Industrial hemp, phytoremediation, biofuel, and other Purposes.*

The goal is to assess agronomic traits of industrial hems in Hawaii, which may be used for hempcrete, biofuel and phytoremediation.

Overlap: None; Role: Co-PI

13-ENV1628-04 (Q.X. Li, PI) 5/2015-12/2017  
Saudi Arabia National Science, Technology & Innovation Plan \$37,000

*Isolation and characterization of microorganisms that biodegrade high molecular weight polycyclic aromatic hydrocarbon pyrene.*

The goal is to identify enzymes and understand catabolic pathways of pyrene in bacteria.

Overlap: None; Role: PI

5 G12 RR003061-30 (M. Berry, PD) 9/2011-7/2017  
NIH NIMHHD RCMI \$2,100,000 (approximately for proteomic core)

*Bioscience Research Infrastructure Development for Grant Enhancement and Success (BRIDGES).*  
The goal is to provide state-of-the-art proteomics platforms, expertise, and training to facilitate the conduct of biomedical research at the University of Hawaii. We ensure that these services are readily available in a timely fashion as needed by investigators at UH and its affiliates.

Overlap: None; Role: Proteomics core PI

CDCP NIOSH 2U54OH007550 (M. Schenker, PD) 9/2011-9/2016  
NIOSH via the Western Center for Ag. Health and Safety \$273,012

*The Western Center for Agricultural Health and Safety*

Task: Rapid assays to assess human exposure to pesticides. The goal is to evaluate novel rapid assays to assess human exposure to pesticides.

Overlap: None; Role: Subcontract PI

PJ00947203 (QX Li, PI) 9/2013-12/2015  
Korean Rural Development Administration \$150,000

*Studies on biological activity of individual  $\gamma$ -oryzanol from agro-food.*

The goal is to determine anti-cancer activity of  $\gamma$ -oryzanol on human breast cancer MCF-7 cells and understand molecular mechanisms of the effects, protein network and responses to  $\gamma$ -oryzanol.

Overlap: None; Role: PI

1 R01 HD084633-01A1 (L. Garmire, PD) 7/2016-7/2021  
NIH NICHD \$3,824,397 (~\$150,000 for Li lab)

*An Integrative Omics Approach to Identify Biomarkers Related to Preeclampsia and Breast Cancer Risks in Offspring.*

The goal is to identify biomarkers related to preeclampsia and breast cancer risks in offspring.

Overlap: None; Role: Co-PI

HAW5032R (QX Li, PI) 10/2016-9/2018  
USDA Hatch and Smith Lever \$70,000

*Flavones from corn silks for Alzheimer's disease prevention and treatment.*

The goal is to study mechanisms of action of isoorientin to GSK3 $\beta$  as the primary therapeutic target and identify isoorientin target proteins in neuroblastoma cells.

Overlap: None; Role: PI

18ADVC-90801 (QX Li, PI) 7/2018 – 12/2019  
Hawaii Community Foundation \$70,000

*Structural optimization and pharmacokinetics evaluation of glycogen synthase kinase-3 $\beta$  inhibitors as Alzheimer drug candidates.*

The goal is to improve potency and elucidate pharmacokinetics of GSK3 $\beta$  inhibitors for Alzheimer's disease drug candidates.

Overlap: None; Role: PI

HEMPSEED17 OC-17-06 (QX Li, PI) 7/2017 – 12/2018  
Hawaii State Department of Agriculture \$75,000

*Selecting and developing industrial hemp cultivars for high performance in the Hawaiian environment.*

The goal of this project is to deliver high quality industrial hemp seed to enable subsequent hemp growers participating in the State's pilot program to succeed in developing this new industry for Hawaii.

Overlap: None; Role: PI

Grants4Targets 2017-01-018 (QX Li, PI)  
Bayer AG.

7/2017 – 12/2019  
€ 30,000

*A (+)-monoterpenoid is a potent insecticide selective for thrips.*

The goal is to validate the selective toxicity of (+)-isomer and (-)-isomer to different insect species, and to determine the toxicity of the more potent (+)-isomer to target and non-target species.

Overlap: None; Role: PI

2018-67012-28082 (QX Li, PI)  
USDA NIFA

3/2018 – 3/2020  
\$165,000

Development of *Brachypodium distachyon* as a model system for studies of complex N-glycosylation in regulation of root growth and development.

This is Margaret Baker's post-doc fellowship.

Overlap: None; Role: PI

### Presentations at Conferences between 2015 and June 2019

1. Li, Q.X.; Baker, M.R. and Sakharov, I.Yu. Structural characterization of windmill palm (*Trachycarpus fortunei*) peroxidase with mass spectrometry. International conference biocatalysis – 2015: fundamentals and applications. June 21-25, 2015. Moscow, Russia.
2. Xu, T.; Wang, J.; Shelver, W.L. and Qing X. Li. Development of phage-based immunoassays for 2,2',4,4'-tetrabromodiphenyl ether (BDE-47) in fish fillet. The 4<sup>th</sup> international conference on food processing & technology, August 10-12, 2015. London, UK.
3. Wang, J.; Huang, B.; Li, Q.X. Organochlorine pesticides in follicular fluid of women undergoing assisted reproductive technologies. 250th ACS National Meeting. August 16-20, 2015. Boston, Massachusetts. Invited.
4. Wu, L.; Li, Q.X. Recent advances in gas chromatography retention model and retention mechanism. Pacificchem 2015, December 15-20, 2015. Honolulu, Hawaii, USA.
5. Xu, T.; Wang, J.; Bever, C.; Gee, S.J.; Li, Q.X.; Hammock, B.D. Environmental and human exposure monitoring for tetrabromobisphenol A by immunoassays based on a variable domain of heavy chain antibody. Pacificchem 2015, December 15-20, 2015. Honolulu, Hawaii, USA.
6. Gao, S.; Li, Q.X.; Li, J. *Stenotrophomonas* sp. L60 degrades Cry1Ab. Pacificchem 2015, December 15-20, 2015. Honolulu, Hawaii, USA.
7. Liang, Z.; Li, Q.X. Neuroprotective compounds from corn silks alleviate amyloid cytotoxicity in SH-SY5Y cells. Pacificchem 2015, December 15-20, 2015. Honolulu, Hawaii, USA.
8. Jia, R.; Li, Q.X.; Guo, A.; Guo, Y. The advantage of proteomics study in microorganism involved plant-plant interaction complex. Pacificchem 2015, December 15-20, 2015. Honolulu, Hawaii, USA.
9. Jia, R.; Li, Q.X.; Wei, Q.; Guo, A.; Guo, Y. Identification and Classification of Rhizobia by Matrix-Assisted Laser Desorption/Ionization Time-Of-Flight Mass Spectrometry. Pacificchem 2015, December 15-20, 2015. Honolulu, Hawaii, USA.
10. Zhao, H.; Li, Q.X. Expression and site-directed mutagenesis of the highly stable royal palm peroxidase in *pichia pastoris*. Pacificchem 2015, December 15-20, 2015. Honolulu, Hawaii, USA.
11. Clukey, K.E.; Lepczyk, C.A.; Balazs, G.; Work, T.; Li, Q. Lynch, J.M. Assessment of plastic ingestion and persistent organic pollutants in sea turtles across the Pacific Ocean. 36th Annual Symposium on Sea Turtle Biology and Conservation, 29 February – 4 March 2016. Lima, Perú.

12. Wu, L.; Duan, X.; Liu, C.; Zhang, G.; Li, Q.X. Dual- and single-retention behaviors of solutes in linear programmed temperature gas chromatography. 252nd ACS National Meeting, August 21-25, 2016. Philadelphia, PA.
13. Liang, Z.; Li, Q.X. Glycosylflavone as glycogen synthase kinase-3 $\beta$  inhibitor alleviates tau hyperphosphorylation and amyloid neurotoxicity. 252nd ACS National Meeting, August 21-25, 2016. Philadelphia, PA.
14. Liang, Z.; Zhang, B.; Su, W.W.; Williams, P.G.; Li, Q.X. Glycosylflavone as glycogen synthase kinase-3 $\beta$  inhibitor alleviates tau hyperphosphorylation and amyloid neurotoxicity. Hawaii 2016 Neuroscience Symposium. August 20, 2016. Honolulu, HI.
15. Clukey, K.E.; Lepczyk, C.A.; Balazs, G.; Work, T.; Li, Q. Lynch, J.M. Assessment of plastic ingestion and persistent organic pollutant concentrations in sea turtles from the pelagic realm of the Pacific Ocean. Society of Environmental Toxicology and Chemistry World Congress, November 6-10, 2016. Orlando, Florida.
16. Li, Q.X. Terpenoids and recent advances in tephritid fruit fly control. The international conference on ecological pesticides for industry, agricultural and hygiene (EPIAH2016). November 2-4, 2016. Shanghai, China. Invited.
17. Li, Q.X. Scientific Writing and Communications. The 11th National Youth Academic Seminar of Technological Innovation in Plants Protection. December 8, 2016. Nanjing, China. Invited.
18. Li, Q.X. Synergy between agricultural proteomics and biomedical proteomics. The first Kyoto Biomolecular mass spectrometry society symposium. February 7, 2017. Kyoto, Japan. Invited.
19. Ortega, C.A.R.; Kwan, A.; Li, Q.X. Mechanisms of Glycerol Enhanced Catabolism of Dibenzothiophene by *Burkholderia* sp. C3. ASM Microbe 2017 conference. June 1-5, 2017. New Orleans.
20. Cho, I.K.; Lee, S.-N.; Chang, C.L.; Li, Q.X. Dietary vitamin B3 deficiency causes abnormal eye development in Mediterranean fruit fly larvae. 2017 International Symposium and annual Meeting of the Korean Society for Applied Biological Chemistry. June 15-17, 2017. Busan, Korea.
21. Cho, I.K.; Doello, S.; Jang, H.H.; Kim, J.B.; Li, Q.X. Protein profile in response to 24-mCAF in cultured human lung cancer cells A549. 2017 annual meeting of the Korean Society of Environmental Agriculture. July 6-7, 2017. Pyeongchang, Korea.
22. Liang, Z.; Li, Q.X. Computer-aided drug discovery of selective GSK3 $\beta$  inhibitors inspired by natural products for Alzheimer's disease. 2017 American Society of Pharmacognosy Meeting. July 29 – August 2, 2017. Portland, Oregon.
23. Li, Q.X. Applications of proteomics, metabolomics, and immunoassays in agricultural and environmental chemistry. The 254th ACS National Meeting. August 20-24, 2017. Washington, DC. Invited.
24. Li, Q.X. and Chu, S. Determination of Adduct Formation between Human Serum Albumin and Organophosphates Using MALDI-TOF/TOF and LC-Q/TOF. The 254th ACS National Meeting. August 20-24, 2017. Washington, DC. Invited.
25. Liang, Z.; Li, Q.X. Selective GSK3 $\beta$  inhibitors reduce tau and amyloid burdens: promising drug candidates help fight Alzheimer's. 18th International Conference on Alzheimer's Drug Discovery. September 11 – 12, 2017. Jersey City, NJ.
26. Li, Q.X. Recent advances of pesticide research: discovery and biotransformation. International Symposium on the Korean Society of Pesticide Science. November 2-3, 2017. Buan, Korea. Invited.

27. Liang, Z.; Hwang, S.H.; Morisseau, C.; Hammock, B.D.; Li, Q.X. A dual-inhibitor of soluble epoxide hydrolase and p38 kinase alleviating tau hyperphosphorylation and amyloid neurotoxicity for potential treatment of neuroinflammation in Alzheimer's disease. The American Society for Pharmacology and Experimental Therapeutics (ASPET) Annual Meeting at Experimental Biology in April 21-15, 2018, San Diego, California, USA.
28. Liang, Z.; Li, Q.X. Harnessing the  $\pi$ -cation interaction in rational drug design: Discovery of potent and isoform-specific GSK-3 $\beta$  inhibitors for Alzheimer's disease. Alzheimer's Association International Conference, July 22-26, 2018, Chicago, USA
29. Li, Q.X. c-Glycosylflavonoids as glycogen synthase kinase-3 $\beta$  inhibitors alleviate tau hyperphosphorylation and amyloid neurotoxicity. 2018 Harvard-Shanghai Conference on Brain Health - a special meeting for understanding and intervention of Alzheimer's disease. October 12-13, 2018 at the Harvard Center in Shanghai, China. Invited.
30. Li, Q.X. From nutraceutical to pharmaceutical: Alzheimer's prevention and treatment relevance. International Conference on Quality and Safety of Agricultural Products & the 2nd Innovation Symposium on China -Australia Food and Agricultural Science and Technology. October 20- 23, 2018 in Nanjing, China. Invited.
31. Li, Q.X. Abiotic and biotic transformation. 2019 International workshop on the recycled use of food waste. January 11-13, 2019, Suzhou, China. Invited.
32. Li, A.S.; Iijima, A.; Chen, Y.; Li, Q.X. Applications of monoterpenes for tephritid fruit fly control and putative mode of action relevant to ligand-gated ion channels. The 14th International IUPAC Conference of Crop Protection, Ghent, Belgium on May 19 - 24, 2019.
33. Li, Q.X. Target identification of bioactive molecules. 2019 International Symposium and Annual Meeting of the Korean Society of Applied Biological Chemistry. Busan, Korea. June 20-22, 2019. Invited.
34. Li, Q.X. Target identification and mechanisms of insecticide action. The 2nd International Insect Pest Management Conference. Guiyang, China. July 27, 2019. Invited.