

# CURRICULUM VITAE

Qunwei Zhang, MD, MPH, PhD

Address: Department of Epidemiology & Population Health  
School of Public Health and Information Sciences  
University of Louisville  
Office: 511 S. Floyd Street, Room 108 F  
Lab: 511 S. Floyd Street, Room 205-206  
Louisville, Kentucky 40202  
Telephone: (502) 852-7200 / fax (502) 852-7246  
E-mail: [Qunwei.Zhang@louisville.edu](mailto:Qunwei.Zhang@louisville.edu)  
Position: Tenured Professor

## EDUCATION

1984-1989 MD Degree, Fujian Medical University, P.R. of China  
1989-1992 Master of Public Health, School of Public Health, Zhejiang University, P.R. of China  
1995-1996 Research Student, School of Medicine, University of Fukui, Japan  
1996-2000 PhD of Medical Science, Department of Environmental Health, School of Medicine, University of Fukui, Japan

## ACADEMIC APPOINTMENTS

1992-1995 Research Assistant Scientist, Institute of Occupational Health, Zhejiang Academy of Medical Science, P.R. of China  
1998-2000 Research Assistant, Department of Environmental Health, School of Medicine, University of Fukui, Japan  
2000-2002 Research Associate Scientist, Department of Environmental Medicine, NYU School of Medicine, New York, NY  
2003-2005 Research Associate, Institute for Environmental Medicine, School of Medicine, University of Pennsylvania, Philadelphia, PA  
2005-2011 Assistant Professor (tenure track), Department of Environmental and Occupational Health Sciences, School of Public Health and Information Sciences, University of Louisville, Louisville, KY  
2011-2016 Associate Professor (July 1, 2011) with tenure (July 1, 2012), Department of Environmental and Occupational Health Sciences, School of Public Health and Information Sciences, University of Louisville, Louisville, KY  
2016-2021 Tenured Professor, Department of Environmental and Occupational Health Sciences, School of Public Health and Information Sciences, University of Louisville, Louisville, KY  
2022-Present Tenured Professor, Department of Epidemiology & Population Health, School of Public Health and Information Sciences, University of Louisville, Louisville, KY  
2005-Present Associate Scientist, James Graham Brown Cancer Center, University of Louisville, Louisville, KY  
2006-Present Member, Center for Genetics and Molecular Medicine, University of Louisville, Louisville, KY  
2008-Present Member, Center for Environmental Genomics and Integrative Biology, UofL  
2009-Present Faculty Mentor, Environmental Health Sciences Training Grant (NIEHS T32-ES011564)  
2019-Present Member, Center for Integrated Environmental Health Sciences (CIEHS), UofL

## TEACHING APPOINTMENTS

- 1998-2000 Teaching Assistant, Dept. of Environmental Health, School of Medicine, University of Fukui, Japan
- 2007-2021 Dept. of Environmental and Occupational Health Sciences, School of Public Health and Information Sciences, University of Louisville, Louisville, KY
- Course director/instructor: PHEH 750, 752, 754 Seminars in Environmental Health
  - Instructor: PHEH 753 Independent Study in Environmental Health
  - Mentor: PHEH 679 MPH Practicum (EOHS)
- 2014-2016 Dept. of Environmental and Occupational Health Sciences, School of Public Health and Information Sciences, University of Louisville, Louisville, KY
- Instructor: PHEH-651 Advanced Topics in Environmental Health
- 2016-2017 Dept. of Toxicology and Pharmacology, School of Medicine, University of Louisville, Louisville, KY
- Mentor: PHTX 644

## SERVICE

- 2007-2009 Faculty Search Committee, Departments of Environmental and Occupational Health Sciences, Epidemiology, and Population Health and Behavioral Sciences
- 2007-2012 Internal Advisory Board, Center for Environmental Genomics and Integrative Biology, UofL
- 2009-2021 Chair, Research Collaboration and Strategic Plans, Department of Environmental and Occupational Health Sciences, UofL
- 2009-2010 External Assessor, Professor level promotion at Zhejiang University, P.R of China
- 2010-Present Editor board member, Journal of Chinese Clinical Medicine
- 2009-2012 Judge, Meyzeek Middle School Science Fair, Louisville, KY
- 2016-2019 Judge, Meyzeek Middle School Science Fair, Louisville, KY
- 2011-2012 Head Judge, Louisville Science Fair, Louisville, KY
- 2012-2015 Judge, duPont Manual High School Science Fair, Louisville, KY
- 2011-Present Editor Board member, ISRN Toxicology (until 2014), then the journal was renamed as International Scholarly Research Notices (Toxicology section)
- 2011-2013 Dissertation committee member for Ms. Sadiatu Musah, PhD candidate, Department of Environmental and Occupational Health Sciences, UofL
- 2012-2019 Faculty Forum, School of Public Health and Information Sciences, UofL
- 2019-2023 Faculty Council, School of Public Health and Information Sciences, UofL
- 2016-Present Promotion, Appointment & Tenure Committee, School of Public Health and Information Sciences, UofL
- 2016 External Referee, Tenure and Promotion, Saint Louis University's College for Public Health and Social Justice
- 2017 External Referee, Tenure and Promotion, College of Veterinary Medicine, Western University of Health Sciences
- 2012- Editor Board Member, World Journal of Pharmacology
- 2012- Editor Board Member, World Journal of Translational Medicine
- 2013- Editor Board Member, Science Postprint
- 2015- Editor Board Member, SM Journal of Gastroenterology & Hepatology
- 2017- Editor Board Member, Environmental Diseases
- 2016-Present Dissertation committee member for Ms. Haiyan Lu, PhD candidate, Department of Pharmacology and Toxicology, School of Medicine, UofL
- 2016-2020 Dissertation committee member for Ms. Rachel Speer, PhD candidate, Department of Pharmacology and Toxicology, School of Medicine, UofL
- 2017-2020 Dissertation committee member for Ms. Yihong Li, PhD candidate, Department of Pharmacology and Toxicology, School of Medicine, UofL
- 2017-2021 Dissertation committee member for Ms. Katlyn E McGraw, PhD candidate, Department of Environmental and Occupational Health Sciences, School of Public Health and Information Sciences, UofL

Qunwei Zhang, MD, MPH, PhD

- 2020- Chair of Dissertation committee for Mr. Yuanbao Zhang, PhD candidate, Department of Environmental and Occupational Health Sciences, School of Public Health and Information Sciences, UofL
- 2017- Institutional Biosafety Committee, UofL

## **STUDENT ADVISING & MENTORING**

### **Current**

- 2014- Yiqun Mo, MD, PhD Research Scientist
- 2018- Yuanbao Zhang, MD, MS PhD student
- 2019- Jiali Yuan, MD, PhD Post-Doctoral Fellow

### **Prior**

- 2018-2019 Jie Ren, PhD Visiting Scholar
- 2018-2019 Jing Li, MD Visiting Student
- 2018-2018 Jin Liu, MD, PhD Post-Doctoral Fellow (Visiting Scholar)
- 2016-2017 Sivarchana Mareedu, BS Rotation PhD Student
- 2016-2017 Aihua Gu, MD, PhD Senior Visiting Scholar
- 2016-2016 Yue Ma, BS Visiting Student
- 2015-2015 Youqiong Xu, MD, PhD Visiting Scholar
- 2007-2012 Rong Wan, MD, PhD Research Associate Senior
- 2011-2012 Lingfang Feng, MD, MS Visiting Scholar
- 2005-2011 Yiqun Mo, MD, PhD Research Associate Senior, T32 post-doctoral trainee
- 2010-2010 Mizu Jiang, MD, PhD Senior Visiting Scholar
- 2009-2010 Lijin Zhu, MD, MS Visiting Scholar
- 2009-2009 Kevin Baldrige Summer Student
- 2008-2009 Min Yu, MD Visiting Scholar
- 2006-2007 Qing Yang, PhD Post-Doctoral Fellow
- 2006-2007 Weining Li, BS Research Technician

## **Accomplishments of Post-Doctoral Fellows and Visiting Scientists Under Mentorship**

### **Awards**

- 2021 First Place: Doctoral Student Award in Public Health, Research! Louisville (Awardee: Mr. Yuanbao Zhang)
- 2021 Winner, Post-Doctoral Scholars and Research Associates Award in Public Health Award, Research! Louisville (Awardee: Dr. Yiqun Mo)
- 2019 Basic Research in Public Health Award, Research! Louisville (Awardee: Dr. Yiqun Mo)
- 2018 Basic Research in Public Health Award, Research! Louisville (Awardee: Dr. Yiqun Mo)
- 2017 First Place: Basic Research in Public Health, Research! Louisville (Awardee: Dr. Yiqun Mo)
- 2015 First Place: Basic Research in Public Health, Research! Louisville (Awardee: Dr. Yiqun Mo)
- 2010 The Post-Doc fellow award, Nanotoxicology Specialty Section, 49<sup>th</sup> Annual Meeting of Society of Toxicology at Salt Lake City, UT, March 7-11, 2010 (Awardee: Dr. Rong Wan)
- 2010 NIH/NIEHS T32 UofL Environmental Health Sciences Training Program for post-doctoral fellowship, July 1, 2010 (Awardee: Dr. Yiqun Mo)
- 2009 NIH/NIEHS T32 UofL Environmental Health Sciences Training Program for post-doctoral fellowship, July 1, 2009 (Awardee: Dr. Yiqun Mo)
- 2009 Travel Grant Awards, Wound Biotechnology Foundation, 19<sup>th</sup> Annual Meeting of Wound Healing Society at Dallas, TX (Awardee: Dr. Yiqun Mo)
- 2009 Best Abstract by a Post-Doc, Inhalation and Respiratory Specialty Section, 48<sup>th</sup> Annual Meeting of Society of Toxicology at Baltimore, MD, March 15-19, 2009 (Awardee: Dr. Yiqun Mo)

## **Accomplishments of Middle School and High School Students Under Mentorship**

### **Awards**

Qunwei Zhang, MD, MPH, PhD

- 2010 First Place, Meyzeek Middle School Science Fair, Cellular and Molecular Biology **Division** (Awardee: Yue Zhang)
- 2010 First Place, Ballard High School Science Fair, Team Section (Awardees: Yixin Li & Yihua Li)
- 2010 First Place, Louisville Regional Sciences Fair, Team Section (Awarded four-year full scholarship at UofL) (Awardees: Yixin Li & Yihua Li)
- 2010 In Vitro Science Certificate, Louisville Regional Science Fair (Awardees: Yixin Li & Yihua Li)
- 2010 First Place Award, Team Projects Intel ISEF 2010 (\$3,000 cash award) (Awardees: Yixin Li & Yihua Li)
- 2014 Fourth Place Award, Intel ISEF 2014 (Awardee: Yue Zhang)

## AWARDS AND HONORS

- 2008 Faculty Award, Scientific Importance, Research! Louisville
- 2007-2010 Walter A. Rosenblith New Investigator Award, Health Effects Institute
- 2006 First Place, Scientific Importance, Research! Louisville
- 2004-2006 Independent Investigator Award, National American Lung Association research grant award
- 2002 Travel Grant, Mechanism of Toxicity Gordon Research Conference, Lewiston, ME
- 2000-2002 Post-doc fellowship for foreign researcher (about \$100,000), Japan Society for the Promotion of Science - returned fellowship due to accepting the research associate scientist position in New York University, USA.
- 1998 Travel Grant, Third British Epidemiology and Public Health Course, Hiroshima, Japan
- 1997 Travel Grant, 9<sup>th</sup> International Conference on Occupational Respiratory Diseases, Kyoto, Japan
- 1995-2000 Scholarship, Japanese Ministry of Education, Sciences and Culture (Japanese Government Scholarship)
- 1995 Travel Grant, 25<sup>th</sup> International Congress on Occupation Health, Stockholm, Sweden
- 1994 Excellent Paper, Third Place, Zhejiang Association of Science and Technology.  
“Determination of the platelet activating factor in silicotic patients and its effects on the fibroblast cells”.
- 1994 Outstanding Scientific Researcher, Zhejiang Academy of Medical Sciences, Zhejiang Province, P.R. of China.
- 1992 First Place, Second Education, Culture and Art Festival of Universities and Colleges, Zhejiang Province, P.R. of China. “The experimental studies on the therapeutic effects of bronchoalveolar lavage on silicotic rats”.

## MAJOR SCIENTIFIC INTERESTS

- Nanotoxicology
- Pulmonary toxicology
- Metal toxicology, genotoxicology, and carcinogenesis
- Lung ischemia and ion channels
- Free radicals and pulmonary diseases
- Gene expression and function
- Ambient ultrafine particles and NADPH oxidase
- Signal transduction involved in tumor promotion, prevention, and cellular function

## PROFESSIONAL SOCIETY MEMBERSHIPS

- 1995-2000 Japanese Association of Occupational Health
- 1995-2000 Japanese Association of Hygiene
- 2001-2004 American Association for the Advancement of Science
- 2003-present Society of Toxicology
- 2006-2016 American Thoracic Society

Qunwei Zhang, MD, MPH, PhD

2006-2011 Kentucky Public Health Association

### REVIEWER FOR JOURNALS

2021 Environmental Pollution, Molecular Therapy - Nucleic Acids, Molecular Carcinogenesis, Environmental Science: Processes & Impacts, Nanoscale  
2020 Journal of Applied Toxicology, Environmental Pollution  
2019 Journal of Hazard Material, Environmental International, Environmental Pollution, Molecular Brian  
2017 Environmental Pollution, Proceeding of Royal Society's B  
2016 Toxicology Sciences, Toxicology, Oncotarget, Journal of Nanoscience and Nanotechnology, International Journal of Nanomedicine, Life Sciences  
2015 Toxicology Sciences; Toxicology, Journal of Nanoscience and Nanotechnology, International Journal of Nanomedicine, Life Sciences  
2014 ISRN Toxicology; Toxicology, Particle and Fibre Toxicology  
2013 Environmental Health Perspectives, Environmental Science & Technology  
Journal of Molecular Signaling, Particle and Fibre Toxicology, ISRN Toxicology  
2012 Materials, The Journal of Pediatric, Journal of Functional Foods in Health and Diseases, Toxicology Sciences, BBA - General Subjects, Current Nanoscience, ISRN Toxicology  
Journal of Biomedical Nanotechnology, Toxicology Letter, Toxicology, Chemical Research in Toxicology  
2011 Toxicology Research, Toxicology Letter, The Journal of Toxicological Sciences, Toxicology Sciences, Nutrition and Metabolism, Life Sciences, Toxicology, PLoS ONE, Molecules  
2010 Toxicology and Applied Pharmacology, Toxicology Letters, Chemical Engineer Journal, Nanotoxicology  
2009 Toxicology and Applied Pharmacology, Journal of Nanobiotechnology, Chemical Research in Toxicology, Nanotoxicology  
2006-2007 Environmental Health Perspectives  
2004 Antioxidant Redox Signal  
2003-2006 American Journal of Physiology, Lung Cellular and Molecular Physiology  
1999 Environmental Health Perspectives, Journal of National Institute of Environmental Health  
1998 Journal of Occupational Health

### REVIEWER FOR PROPOSAL REGARDING THE POTENTIAL FOR PUBLICATION

2011 Elsevier, Inc, the potential publication of the 4<sup>th</sup> edition of *Handbook on the Toxicology of Metals*  
2012 EPA External Peer Review of EPA's "Toxicological Review of Vanadium Pentoxide"  
2019 Elsevier, Inc, the potential publication of the 5<sup>th</sup> edition of *Handbook on the Toxicology of Metals*  
2021 Elsevier, Inc, the potential publication of the first edition of *Hazardous Solid and Liquids: Risk Assessment on the Environment and Human Health Hazards*  
2021 SpringerNature, the peer review for a book proposal: *Neurotoxicity of Aluminum*

### REVIEWER FOR ABSTRACT FOR CONFERENCE

2010 Society for Biomaterial 2011 Annual Meeting, April 13-16, 2011 in Orland, FL

### REVIEWER FOR GRANTS AND STUDY SECTIONS

2021 2021/10 ZES1 VSM-D (K9) 1 NIH Pathway to Independence Award (K99/R00)

Qunwei Zhang, MD, MPH, PhD

- 2021 NHLBI Special Emphasis Panel, 2021/10 ZHL1 CSR-G (O1) 1, Small Grant Program Grants for NHLBI K Recipients (R03)
- 2021 CDMRP FY21 Peer Reviewed Medical Research Program (PRMRP) Pre-Application Peer Review –Metals Toxicology, DoD
- 2020 2020 Peer Reviewed Medical Research Program (Metals Toxicology), Congressionally Directed Medical Research Programs, DoD
- 2020 NHLBI Special Emphasis Panel, ZHL1 CSR-C (O1), Small Grant Program Grants for NHLBI K Recipients (R03)
- 2019 Special Emphasis Panel on Tobacco Regulatory Science, NIH ZRG1 IFCN-L (56)
- 2016 Members of the NIEHS P42 Superfund Research Program Review Committee
- 2015- Beijing Natural Science Foundation
- 2013 ad honor reviewer for NIH NANO study section
- 2013-current KSTC/KSEF SBIR/STTR Phase Zero grant proposal
- 2012 Special Emphasis Panel, NIH for Conference Grant Applications (R13), NIH
- 2011-2016 Environmental Exposure & Toxicology Study Section, California Tobacco-Related Disease Research Program (TRDRP)
- 2011-current Extramural Grant Review Panel, Medical Research Council (MRC), United Kingdom
- 2009-current National Natural Science Foundation of China
- 2008-current Medical Research Council (MRC), United Kingdom
- 2006 Jeffress Memorial Trust
- 2003 NIESH/NIH

## PUBLICATIONS

### Book

1. **Qunwei Zhang** (Editor). *Nanotoxicity: Methods and Protocols*. In the series: *Methods in Molecular Biology*, Springer Protocol. ([www.SpringerProtocols.com](http://www.SpringerProtocols.com)). Humana Press (2019). **DOI:** 10.1007/978-1-4939-8916-4; **Hardcover ISBN:** 978-1-4939-8915-7; **eBook ISBN:** 978-1-4939-8916-4. <https://www.springer.com/us/book/9781493989157>

### Book Chapters

1. Mo Y, Zhang Y, **Zhang Q**. Evaluation of pulmonary toxicity of nanoparticles by bronchoalveolar lavage method. *Nanotoxicity: Methods and Protocols*. In the series: *Methods in Molecular Biology*. Editor: Qunwei Zhang. Springer Protocol. ([www.SpringerProtocols.com](http://www.SpringerProtocols.com)). Humana Press (2019). *Methods Mol Biol.* 2019; 1894: 313-322. doi: 10.1007/978-1-4939-8916-4\_18. **PMID:**30547469
2. Zhang Y, Wan R, **Zhang Q**, Mo Y. Application of gelatin zymography in nanotoxicity research. *Nanotoxicity: Methods and Protocols*. In the series: *Methods in Molecular Biology*. Editor: Qunwei Zhang. Springer Protocol. ([www.SpringerProtocols.com](http://www.SpringerProtocols.com)). Humana Press (2019). *Methods Mol Biol.* 2019; 1894: 133-143. doi: 10.1007/978-1-4939-8916-4\_8. **PMID:**30547459
3. Wan R, Mo Y, Tong R, Gao M, **Zhang Q**. Determination of phosphorylated histone H2AX in nanoparticle-induced genotoxic studies. *Nanotoxicity: Methods and Protocols*. In the series: *Methods in Molecular Biology*. Editor: Qunwei Zhang. Springer Protocol. ([www.SpringerProtocols.com](http://www.SpringerProtocols.com)). Humana Press (2019). *Methods Mol Biol.* 2019; 1894: 145-159. doi: 10.1007/978-1-4939-8916-4\_9. **PMID:**30547460
4. Long G, Mo Y, **Zhang Q**, Jiang M. Analysis of nanomaterial toxicity by Western blot. *Nanotoxicity: Methods and Protocols*. In the series: *Methods in Molecular Biology*. Editor: Qunwei Zhang. Springer Protocol. ([www.SpringerProtocols.com](http://www.SpringerProtocols.com)). Humana Press (2019). *Methods Mol Biol.* 2019; 1894: 161-169. doi: 10.1007/978-1-4939-8916-4\_10. **PMID:**30547461
5. Mo Y, Gu A, Tollerud DJ, **Zhang Q**. Nanoparticle toxicity and environmental impact. *Oxidative stress and biomaterial*. Editors: Thomas Dziubla and D. Allan Butterfield. Elsevier Ltd. (2016). ISBN: 978-0-12-803269-5, page 117-143.
6. Mo Y, Wan R, Tollerud DJ, **Zhang Q**. Nanomaterials. *Cancer and Inflammation Mechanisms: Chemical, Biological, and Clinical Aspect*. Editors: Yusuke Hiraku, Shosuke Kawanishi, Hiroshi Ohshima. John Wiley & Sons, Inc. (2014). ISBN: 978-1-118-16030-5, page 235-249.

7. Mo Y, Wan R, **Zhang Q**. Application of reverse transcription-PCR and real-time PCR in nanotoxicity research. *Nanotoxicity: Method and Protocols*. In the series: Methods in Molecular Biology (Vol. 926). Editor: Reineke, Joshua. Springer Protocols (www.SpringerProtocols.com). Humana Press (2012) Methods Mol. Biol. 2012; 926: 99-112. **PMID: 22975959**
8. Fisher AB, **Zhang Q**. NADPH and NADPH oxidase. *Encyclopedia of Respiratory Medicine*. Editors: Geoffrey J. Laurent and Steven D. Shapiro. C2006 Elsevier Ltd, ISBN: 0-12 438360-2, 2006; Vol 3: 77-83.
9. **Zhang Q**, Kusaka Y, Sato K, Donaldson K. Differences in the inflammogenicity of standard and ultrafine metals: the role of nitric oxide. *Advances in the Prevention of Occupational Respiratory Diseases*. Editors: Chiyotani K, Hosoda Y, Aizawa Y. Elsevier Sciences B.V. 1998: 866-872.
10. Zhang Z, **Zhang Q**, Yang D, Ding X, Luo J, He L, Zhong H, Chen F, Luo J, Hong C. The therapeutic effect of whole lung lavage with polyvinylpyridine-N-Oxide solution in pneumoconiosis patients. *Advances in the Prevention of Occupational Respiratory Diseases*. Editors: Chiyotani K, Hosoda Y, Aizawa Y. Elsevier Sciences B.V. 1998: 838-844.
11. Kusaka Y, **Zhang Q**, Sato K, Kyono H, Kohyama N. Which is more immunotoxic to the respiratory system, ionic or metallic cobalt? *Metal Ions in Biology Medicine*. Editors: Collery PH, Corbella J, Domingo JL, Etienne JC, Liobet JM. John Libbey Eurotext, Paris, 1996, Vol 4: 661-613.
12. Sato K, Kusaka Y, **Zhang Q**, Okada K, Nakakuki K, Muraoka R. Effect of cadmium on citrate uptake by isolated rats renal brush border membrane vesicles. *Metal Ions in Biology Medicine*. Editors: Collery PH, Corbella J, Domingo JL, Etienne JC, Liobet JM. John Libbey Eurotext, Paris, 1996, Vol 4: 238-240.

#### Peer-Reviewed Journals

1. Yuan J, Mo Y, Zhang YB, Zhang Y, **Zhang Q**. Metal nanoparticles induce epithelial-mesenchymal transition in human bronchial epithelial cells via the HIF-1 $\alpha$ /HDAC3 pathway. 2022, submitting.
2. Yuan J, Mo L, Mo Y, Zhang YB, Zhang Y, **Zhang Q**. A protective role of autophagy in fine airborne particulate matter-induced apoptosis in LN-229 cells. *Toxicology Letters* 2022, under review.
3. Zhang YB, Mo Y, Yuan J, Zhang Y, Mo L, **Zhang Q**. MMP-3 activation is involved in copper oxide nanoparticle-induced epithelial-mesenchymal transition in human lung epithelial cells. *Nanotoxicology* 2022; under revision.
4. Nie J, Zhang Y, Ning L, Yan Z, Duan L, Xi H, Niu Q, **Zhang Q**. Phosphorylation of p53 by Cdk5 contributes to benzo[a]pyrene-induced neuronal apoptosis. *Environmental Toxicology* 2022 Jan; 37(1): 17-27. doi: 10.1002/tox.23374. **PMID: 34529316**
5. Mo Y, Zhang Y, Zhang YB, Yuan J, Mo L, **Zhang Q**. Nickel nanoparticle-induced cell transformation: involvement of DNA damage and DNA repair defect through HIF-1 $\alpha$ /miR-210/Rad52 pathway. *Journal of Nanobiotechnology* 2021 Nov 17; 19(1): 370. <https://doi.org/10.1186/s12951-021-01117-7>. **PMID: 34789290**
6. Yuan J, Li P, Pan H, Xu Q, Xu T, Li Y, Wei D, Mo Y, **Zhang Q**, Chen J, Ni C. miR-770-5p inhibits the activation of pulmonary fibroblasts and silica-induced pulmonary fibrosis through targeting TGFBR1. *Ecotoxicology and Environmental Safety* 2021; 20: 112375. <https://doi.org/10.1016/j.ecoenv.2021.112372>. **PMID: 34082245**
7. Sarojini H, Bajorek A, Wan R, Wang J, **Zhang Q**, Billeter AT, Chien S. Enhanced skin incisional wound healing with intracellular ATP delivery via macrophage proliferation and direct collagen production. *Frontiers in Pharmacology* 2021; 12: 594586. <https://doi.org/10.3389/fphar.2021.594586>. **PMID: 34220491**
8. Yuan J, Zhang Y, Zhang Y, Mo Y, **Zhang Q**. Effects of metal nanoparticles on tight junction-associated proteins via HIF-1 $\alpha$ /miR-29b/MMPs pathway in human epidermal keratinocytes. *Particle and Fibre Toxicology* 2021 Mar 19; 18(1): 13. <https://doi.org/10.1186/s12989-021-00405-2>. **PMID: 33740985**
9. Mo Y, Zhang Y, Wan R, Jiang M, Xu Y, **Zhang Q**. miR-21 mediates nickel nanoparticle-induced pulmonary injury and fibrosis. *Nanotoxicology* 2020; 14(9): 1175-1197. <https://doi.org/10.1080/17435390.2020.1808727>. **PMID: 32924694**
10. Mo Y, Zhang Y, Mo L, Wan R, Jiang M, **Zhang Q**. The role of miR-21 in nickel nanoparticle-induced MMP-2 and MMP-9 production in mouse primary monocytes: *in vitro* and *in vivo* studies. *Environmental Pollution* 2020 Dec; 267: 115597. <https://doi.org/10.1016/j.envpol.2020.115597>. **PMID: 33254626**

11. Zhang Feng S, Zhang Z, Mo Y, Tong R, Zhang Z, Chen Z, He D, Wan R, Gao M, Mo Y. **Zhang Q**, Huang Y. Activation of NLRP3 inflammasome in hepatocytes after exposure to cobalt nanoparticles: the role of oxidative stress. *Toxicology in Vitro* 2020; 69: 10496769. <https://doi.org/10.1016/j.tiv.2020.104967>. **PMID: 32805375**
12. Zhang X, He Y, Lin Q, Hung L, **Zhang Q**, Xu Y. Adverse effects of sub-chronic exposure to cooking oil fumes on the gonads and the GPR30-mediated signaling pathway in female rats. *Molecular and Cellular Toxicology* 2020; 16(1): 13-24.
13. Mo Y, Sarojini H, Wan R, **Zhang Q**, Wang J, Eichenberger SE, Kotwal G, Chien S. Intracellular ATP delivery causes rapid tissue regeneration via upregulation of cytokines, chemokines, and stem cells. *Frontiers in Pharmacology* 2020 Jan 16; 10: 1502. doi: 10.3389/fphar.2019.01502. eCollection 2019. **PMID: 32009945**
14. Huang Y, Zhu J, Li H, Wang W, Li Y, Yang X, Zheng N, Liu Q, **Zhang Q**, Zhang W, Liu J. Cadmium exposure during prenatal development causes testosterone disruption in multigeneration via SF-1 signaling in rats. *Food and Chemical Toxicology* 2020; 135:110897. <https://doi.org/10.1016/j.fct.2019.110897>. **PMID: 31654709**
15. Cai Z, Zheng F, Ding Y, Zhan Y, Gong R, Li J, Aschner M, **Zhang Q**, Wu S, Li H. Nrf2-regulated miR-380-3p blocks the translation of Sp3 protein and its mediation of paraquat-induced toxicity in mouse neuroblastoma N2a cells. *Toxicology Sciences* 2019; 171(2): 515–529. **PMID: 31368498**
16. Zheng F, Luo Z, Zheng C, Li J, Zeng J, Yang H, Chen J, Jin Y, Aschnere M, Wu S, **Zhang Q**, Li H. Comparison of the neurotoxicity associated with cobalt nanoparticles and cobalt chloride in Wistar rats. *Toxicology and Applied Pharmacology* 2019; 369: 90-99. **PMID: 30849457**
17. Mo Y, Jiang M, Zhang Y, Wan R, Li J, Zhong CJ, Li H, Tang S, **Zhang Q**. Comparative mouse lung injury by nickel nanoparticles with differential surface modification. *Journal of Nanobiotechnology* 2019; 17: 2. <https://doi.org/10.1186/s12951-018-0436-0>. **PMID:30616599**
18. Wang L, Yang H, Wang Q, Zhang Q, Wang Z, **Zhang Q**, Wu S, Li H. Paraquat and MPTP induce alteration in the expression profile of long noncoding RNAs in the substantia nigra of mice: Role of the transcription factor Nrf2. *Toxicology Letter* 2018; 291: 11-28. **PMID: 29627306**
19. Wang Q, Zhan Y, Ren N, Wang Z, **Zhang Q**, Wu S, Li H. Paraquat and MPTP alter microRNA expression profiles, and down-regulated expression of miR-17-5p contributes to PQ-induced dopaminergic neurodegeneration. *Journal Applied Toxicology* 2018; 38(5): 665-667. **PMID: 29250806**
20. Guo Z, Zhang Z, Wang Q, Wang L, Zhang J, **Zhang Q**, Li H, Wu S. Manganese chloride induces histone acetylation changes in neuronal cells: its role in manganese-induced damage. *Neurotoxicology* 2018; 65: 255–263. **PMID: 29155171**
21. Wang Q, Ren N, Cai Z, Lin Q, Wang Z, **Zhang Q**, Wu S, Li H. Paraquat and MPTP induce neurodegeneration and alteration in the expression profile of microRNAs: the role of transcription factor Nrf2. *NPJ Parkinson's Dis* 2017 Oct 20; 3: 31. doi: 10.1038/s41531-017-0033-1. eCollection 2017. **PMID: 29071302**
22. Wan R\*, Mo Y\*, Zhang Z\*, Jiang M, Tang S, **Zhang Q**. Cobalt nanoparticles induce lung injury, DNA damage and mutations in mice. *Particle and Fibre Toxicology* 2017 Sep 18; 14(1): 38. <https://doi.org/10.1186/s12989-017-0219-z> (\*co-first author). **PMID: 28923112**
23. Liu Q, Xu C, Ji G, Liu H, Mo Y, Tollerud DJ, Gu A, **Zhang Q**. Sublethal effects of zinc oxide nanoparticles on male reproductive cells. *Toxicology in Vitro* 2016; 35: 131-138. **PMID: 27247145**
24. Zhang Y, Mo Y, Gu A, Wan R, **Zhang Q**, Tollerud DJ. Effects of urban particulate matter with high glucose on human monocytes U937. *Journal of Applied Toxicology* 2016; 36: 586–595. **PMID: 26179980**
25. Xu Y, Zhang X, Chen Y, Ren N, Lin W, **Zhang Q**. Health effects of electromagnetic fields on reproductive-age female operators of plastic welding machines in Fuzhou, China. *Journal of Occupational and Environmental Medicine* 2016; 58(2): 148-153. **PMID: 26849258**
26. Zou H, **Zhang Q**, Xing M, Gao X, Zhou Li, Tollerud DJ, Tang S, Zhang M. Evaluation of appropriate exposure metrics for nanoparticles in workplaces. *Environmental Science: Processes & Impacts* 2015; 17(8): 1470-1481. **PMID: 26166442**
27. Xu C, Liu Q, Liu H, **Zhang Q**, Héroux P, Jiang ZY, Gu A. Low serum testosterone levels are associated with elevated urinary mandelic acid, tungsten, and strontium levels in adult men according to the US 2011-2012 National Health and Nutrition Examination Survey. *PLoS One* 2015 May 21; 10(5): e0127451. **PMID: 25996772**



28. Xu C, Liu Q, **Zhang Q**, Jiang Z, Gu A. Urinary enterolactone associated with liver enzyme levels in U.S. adults: NHANES survey. *British Journal of Nutrition* 2015; 114: 91-97. **PMID: 25990984**
29. Yang X, Shao H, Liu W, Gu W, Shu X, Mo Y, Chen X, **Zhang Q**, Jiang M. Endoplasmic reticulum stress and oxidative stress are involved in ZnO nanoparticle-induced hepatotoxicity. *Toxicology Letters* 2015; 234: 40-49. **PMID: 25680694**
30. Xu C, Liu Q, **Zhang Q**, Jiang Z, Gu A. Urinary enterolactone is associated with obesity and metabolic alteration in men in the US National Health and Nutrition Examination Survey 2001-2010. *British Journal of Nutrition* 2015; 113: 683-690. **PMID: 25634494**
31. Feng L, Zhang Y, Jiang M, Mo Y, Wan R, Jia Z, Tollerud DJ, Zhang X, **Zhang Q**. Up-regulation of Gadd45 $\alpha$  after exposure to metal nanoparticles: the role of hypoxia inducible factor 1 $\alpha$ . *Environmental Toxicology* 2015; 30 (4): 490-499. **PMID: 24277352**
32. Skeete Z, Cheng H, Crew E, Shan S, Zhao W, Cronk H, Luo J, **Zhang Q**, Zhong CJ. Design of functional nanoparticles and assemblies for theranostic applications. *ACS Applied Materials & Interfaces* 2014; 6 (24): 21752-21768. **PMID: 25111087**
33. Wan R, Mo Y, Feng L, Chien S, Tollerud DJ, **Zhang Q**. DNA damage caused by metal nanoparticles: the involvement of oxidative stress and activation of ATM. *Chemical Research in Toxicology* 2012; 25: 1402-1411. (**Highlighting in this issue; 2012; 25(7):1283**). **PMID:22559321**
34. Mo Y, Wan R, Feng L, Chien S, Tollerud DJ, **Zhang Q**. Combination effects of Cigarette smoke extract and ambient ultrafine particles on endothelial cells. *Toxicology in Vitro* 2012; 26: 295-303. **PMID: 22178768**
35. Wan R, Mo Y, Chien S, Li Y, Li Y, Tollerud DJ, and **Zhang Q**. The role of hypoxia inducible factor-1 $\alpha$  in MMP-2 and MMP-9 production by human monocytes exposed to nickel nanoparticles. *Nanotoxicology* 2011; 5(4): 568-582. **PMID: 21401309**
36. Pushpakumar SB, Perez-Abadia G, Soni C, Wan R, Todnem N, Patibandla P, Fenster T, **Zhang Q**, Barker JH, Maldonado C. Enhancing complement control on endothelial barrier reduced renal post-ischemia dysfunction. *Journal of Surgery Research* 2011, 170: e263-e270. **PMID: 21816416**
37. Wang J, Wan R, Mo Y, **Zhang Q**, Sherwood L, Chien S. Creating a long-term diabetic rabbit model. *Experimental Diabetes Research* 2010, Article ID 289614, 10 pages, doi: 10.1155/2010/289614. **PMID: 21234414**
38. Wang L, Zhang J, Zheng Y, Yang J, **Zhang Q**, Zhu X. Bioeffects of CdTe quantum dots on human umbilical vein endothelial cells. *Journal of Nanoscience Nanotechnology* 2010; 10: 8591-8596. **PMID: 21121370**
39. Yu M, Mo Y, Wan R, Chien S, Zhang X, and **Zhang Q**. Regulation of plasminogen activator inhibitor-1 expression in endothelial cells with exposure to metal nanoparticles. *Toxicology Letters* 2010; 195: 82-89. **PMID: 20171267**
40. Wang J, Wan R, Mo Y, Li M, **Zhang Q**, Chien S. Intracellular delivery of ATP enhanced healing process in full thickness skin wounds in diabetic animals. *The American Journal of Surgery* 2010; 199: 823-832. **PMID: 20609726**
41. Wattamwar PP, Mo Y, Wan R, Palli R, **Zhang Q**, Dziubla TD. Antioxidant activity of degradable polymer poly(trolox) to suppress oxidative stress injury in cells. *Advanced Functional Materials* 2010; 20: 147-154.
42. Mo Y, Wan R, Wang J, Chien S, Tollerud DJ, **Zhang Q**. Diabetes is associated with increased sensitivity of alveolar macrophages to urban particulate matter exposure. *Toxicology* 2009; 262: 130-137. **PMID: 19505525**
43. Mo Y, Wan R, Chien S, Tollerud, DJ, **Zhang Q**. Activation of endothelial cells after exposure to ambient ultrafine particles: the role of NADPH oxidase. *Toxicology and Applied Pharmacology* 2009; 236: 183-193. **PMID: 19371610**
44. Wang J, **Zhang Q**, Wan R, Mo Y, Li M, Tseng M, Chien S. Intracellular ATP enhanced skin wound healing in rabbits. *Annals of Plastic Surgery* 2009; 64(2): 180-186. **PMID: 19158531**
45. Wan R, Mo Y, Zhang X, Chien S, Tollerud DJ, **Zhang Q**. Matrix metalloproteinase-2 and -9 are induced differently by metal nanoparticles in human monocytes: the role of oxidative stress and protein tyrosine kinase activation. *Toxicology and Applied Pharmacology* 2008; 233: 276-285. **PMID: 18835569**
46. Mo Y, Zhu X, Hu X, Tollerud DJ, **Zhang Q**. Cytokine and NO release from peripheral blood neutrophils after exposure to metal nanoparticles: *in vitro* and *ex vivo* studies. *Nanotoxicology* 2008; 2(2): 79-87.

47. **Zhang Q**, Chatterjee S, Wei Z, Liu W, Fisher AB. Rac and PI3 kinase mediate endothelial cell reactive oxygen species generation during normoxic lung ischemia. *Antioxidants & Redox Signaling* 2008; 10(4): 679-690 (**Journal cover**). **PMID: 18162054**
48. **Zhang Q**, Matsuzaki I, Chatterjee S, Fisher AB. Activation of endothelial NADPH oxidase during normoxic lung ischemia is K<sub>ATP</sub> channel dependent. *American Journal Physiology Lung Cellular Molecular Physiology* 2005; 289: L954-L961. **PMID: 16280460**
49. Matsuzaki I, Chatterjee S, Manevich Y, DeBolt K, **Zhang Q**, Fisher AB. Membrane depolarization and NADPH oxidase activation in aortic endothelium during ischemia reflect altered mechanotransduction. *American Journal Physiology Heart Circulatory Physiology* 2005; 288: H336-343. **PMID: 15331375**
50. Zhao J, Chen H, Davison T, Kluz T, **Zhang Q**, Costa M. Nickel-induced 1,4-alpha-glucan branching enzyme 1 upregulation via the hypoxic signaling pathway. *Toxicology and Applied Pharmacology* 2004; 196: 404-409. **PMID: 15094311**
51. Davidson T, Kluz T, Burns F, Rossman T, **Zhang Q**, Uddin A, Nadas A, Costa M. Exposure to chromium (VI) in the drinking water increased susceptibility to UV-induced skin tumors in hairless mice. *Toxicology and Applied Pharmacology* 2004; 196: 431-437. **PMID: 15094314**
52. Mo Y, Feinstein SI, Manevich Y, **Zhang Q**, Lu L, Ho YS, Fisher AB. Mouse 1-Cys peroxiredoxin highly related intronless gene is an expressed pseudogene. *FEBS Letter* 2003; 555(2): 192-198. **PMID: 14644414**
53. **Zhang Q**, Salnikow K, Kluz T, Chen L, Su W, Costa M. Inhibition and reversal of nickel-induced transformation by histone deacetylase inhibitor trichostatin A. *Toxicology and Applied Pharmacology* 2003; 192: 201-211. **PMID: 14575637**
54. Salnikow K, Davision T, **Zhang Q**, Chen L, Su W, Costa M. The involvement of hypoxia-inducible transcription factor-1-dependent pathway in nickel carcinogenesis. *Cancer Research* 2003; 63: 3524-3530. **PMID: 12839937**
55. **Zhang Q**, Kusaka Y, Zhu X, Sato K, Mo Y, Kluz T, Donaldson K. Comparative toxicity of standard nickel and ultrafine nickel in lung after intratracheal instillation. *Journal of Occupational Health* 2003, 45: 20-32. **PMID: 14605425**
56. Costa M, Salnikow K, Sutherland JE, Broday L, Peng W, **Zhang Q**, Kluz T. The role of oxidative stress in nickel and chromate genotoxicity. *Molecular Cellular Biochemistry* 2002, 234/235: 265-275. **PMID: 12162442**
57. Cangul H, Broday L, Salnikow K, Sutherland J, Peng W, **Zhang Q**, Poltaratsky V, Zoroddu MA. Molecular mechanism of nickel carcinogenesis. *Toxicology Letter* 2002, 127: 69-75. **PMID: 12052643**
58. **Zhang Q**, Kluz T, Salnikow K, Costa M. Comparison of the cytotoxicity, cellular uptake and DNA-protein crosslinks induced by potassium chromate in lymphoblast cell line derived from three different individuals. *Biological Trace Element Research* 2002, 86: 11-22. **PMID: 12002656**
59. Sutherland JE, Peng W, **Zhang Q**, Costa M. The histone acetylase inhibitor trichostatin A reduce nickel-induced gene silencing in yeast and mammalian cells. *Mutation Research (Fundamental and Molecular mechanisms of Mutagenesis)*, 2001; 497: 225-233. **PMID: 11470494**
60. Huang C, **Zhang Q**, Li J, Ding M, Shi X, Castranova V, Ji G, Costa M, Dong Z. Involvement of Erks activation in cadmium-induced AP-1 transactivation *in vivo* and *in vitro*. *Molecular Cellular Biochemistry* 2001, 222: 141-147. **PMID: 11678596**
61. **Zhang Q**, Mo Y, Lou J, Zhu X, He L, Zhong H. Determination the platelet activating factor in silicotic patients and its effect on the fibroblast cells. *Environmental Health and Preventive Medicine* 2001, 5(4): 134-137. **PMID: 21432401**
62. Sato K, Kusaka Y, **Zhang Q**, Zhu X, Okada K. Effect of platinum complex (PtCx) on citrate uptake by rat renal brush border membrane vesicles (BBMV): direct effects of cisplatin. *Industrial Health* 2000; 38(3): 327-329. **PMID: 10943082**
63. **Zhang Q**, Kusaka Y, Donaldson K. Comparative rat pulmonary responses caused by exposure to standard cobalt and ultrafine cobalt. *Journal Occupational Health* 2000; 42: 179-184.
64. **Zhang Q**, Kusaka Y, Donaldson K. Comparative injurious and pro-inflammatory effects of three ultrafine metals in macrophages from young and old rats. *Inhalation Toxicology* 2000; 12 (Suppl 3): 267-273. **PMID: 26368625**.
65. Wang D, Kato N, Inaba Y, Tango T, Yoshida Y, Kusaka Y, Deguchi Y, Tomita F and **Zhang Q**. Physical and personality traits of preschool children in Fuzhou, China: only child vs. sibling. *Child: Care, Health and Development* 2000; 26(1): 49-60. **PMID: 10696518**

66. Zhu X, Sato K, Kusaka Y, **Zhang Q**. The endocrine disruptive effects of mercury. *Environmental Health and Preventive Medicine* 2000; 4: 174-183. **PMID: 21432482**
67. **Zhang Q**, Kusaka Y, Sato K, Wang D, Donaldson K. Tumor necrosis factor-alpha release from rat pulmonary leukocytes exposed to ultrafine cobalt: in vivo and in vitro studies. *Environmental Health and Preventive Medicine* 1999; 4: 87-91. **PMID: 21432178**
68. **Zhang Q**, Kusaka Y, Sato K, Mo Y, Fukuda M, Donaldson K. Toxicity of ultrafine nickel particle in lung after intratracheal instillation. *Journal of Occupational Health* 1998; 40: 171-176.
69. **Zhang Q**, Kusaka Y, Sato K, Nakakuki K, Koyama N, Donaldson K. Differences in the extent of inflammation caused by intratracheal exposure to three ultrafine metals: role of free radical. *Journal of Toxicology and Environmental Health* 1998; 53: 423-438. **PMID: 9537280**
70. Sato K, Kusaka Y, **Zhang Q**, Deguchi Y, Li B, Okada K, Nakakuki K, Muraoka R. Direct effect of inorganic mercury on citrate uptake by isolated rat renal brush border membrane vesicles. *Industrial Health* 1997; 35: 456-460. **PMID: 9348716**
71. Sato K, Kusaka Y, **Zhang Q**, Yanagihara M, Ueda K. An epidemiological study on mercury sensitization. *Allergy International* 1997; 46: 201-206.
72. Sato K, Kusaka Y, **Zhang Q**, Deguchi Y, Li B, Okada K, Nakakuki K, Muraoka R. Citrate uptake by isolated rat renal brush border membrane vesicles in cadmium-intoxicated rats. *Industrial Health* 1997; 35: 388-393. **PMID: 9104787**
73. Kusaka Y, Sato K, **Zhang Q**, Morita A, Kasahara T, Yanagihara Y. Association of natural killer cell activity with serum Ig E. *International Arch Allergy and Immunology* 1997; 112: 331-335. **PMID: 9104787**
74. **Zhang Q**, Kusaka Y, Zhang QF, He L, Zhang Z, Sato K. Dynamic changes of constituents in bronchoalveolar fluid in experimental silicotic rats. *Industrial Health* 1996; 34: 379-388. (Correspondence author). **PMID: 8908848**
75. Sato K, Kusaka Y, **Zhang Q**, Yanagihara M, Ueda K, Morihiro H and Ishii Y. Investigation of the association between mercury sensitization and HLA-DR6. *Contact Dermatitis (Environmental and Occupational Dermatitis)* 1996; 34: 295. **PMID: 8730172**

#### Publication in Chinese

76. Ying X, Zhen YF, Zhu HJ, Jin J, Zeng QL, **Zhang Q**, Zhu XQ. Study of toxicity to rats induced by nanosized SiO<sub>2</sub> and Standard SiO<sub>2</sub>. *Zhonghua Lao Dong Wei Sheng Zhi Ye Bing Za Zhi* 2007; 25(1): 26-29.
77. Zhu X, Zheng Y, **Zhang Q**, Jiang H, Huang X. Effects of endosulfan on the spermatogenesis and oxidative damage in rats. *Chinese Journal of Pharmacology and Toxicology* 2002; 16(5): 391-395.
78. Chen Z, Shao J, **Zhang Q**, Du Z. Effect of perforin-knockout on mouse influenza infection and related immunological functions. *Chinese Journal of Microbiology and Immunology* 2002; 22(1): 49-52. (in Chinese with English abstract)
79. Zhu X, Zhang HP, **Zhang Q**. Effects of mercuric chloride on the production of TNF- $\alpha$  and nitric oxide by leukocytes from different strains of rats. *Journal of Zhejiang University (Medical Sciences)* 2001; 30(5): 207-210.
80. Zhang QF, Zhang Z, Mao G, **Zhang Q**, Du Y. Data analysis and experimental study on pathogenic therapy of lung lavage for dust removal. *China Occupational Medicine* 2000; 27(1): 4-6. (in Chinese with English abstract)
81. Zhu X, Zheng Y, Chang Y, **Zhang Q**. The effects of mercuric chloride on the production of TNF-alpha and nitric oxide of the alveolar macrophage originated from different strains of rats. *Journal of Toxicology* 2000; 14(4). (in Chinese with English abstract)
82. He L, **Zhang Q**, Lou J, and Zhong H. The study on the effect of platelet activating factor on fibroblast growth. *Occupational Health and Emergency Rescue* 1997; 159(2): 69-70.
83. He L, **Zhang Q**, Luo J, Zhong H. Effect of gynostemma Pentaphyllum Makino on silicotic fibrosis. *Acta Academiae Medical. Zhejiang* 1996; 7(2): 10-12. (in Chinese with English abstract)
84. He L, **Zhang Q**, Luo J, Zhong H. Determination of plasma level of platelet activating factor in silicosis patients. *Journal of Occupational Health and Damage* 1996; 11(4): 198-199. (in Chinese with English abstract)

85. Zhang QF, **Zhang Q**. Experimental study on effect of silicosis to BAL recoveries. *Industrial Health and Occupational Diseases* 1995; 21(5): 266-267.
86. Luo J, **Zhang Q**, Zhong H, He L. Determination the histamine in silicotic patients and its clinic significance. *Acta Academiae Med Zhejiang* 1995; 6(1): 27-28.
87. **Zhang Q**, Zhang QF. Experimental studies on the therapeutic effects of bronchoalveolar lavage on silicotic rats. *Journal of Industrial Hygiene and Occupational Disease* 1994; 12(2): 216-219. (in Chinese with English abstract)
88. Yan D, Chen F, **Zhang Q**. Electrocardiograph changes during the whole lung lavage. *Chinese Journal of Industrial Medicine* 1994; 7(5): 307-308.
89. **Zhang Q**, Zhang Z. The application of whole lung lavage in treatment of pneumoconiosis patients. *Acta Academiae Medical Zhejiang*, 1994; 5(1): 45-47.
90. **Zhang Q**, Zhang QF. Dynamic changes of lipid peroxidation levels in bronchoalveolar fluid (BALF) and serum in experimental silicosis. *Modern Preventive Medicine* 1993; 20(1): 8-9. (in Chinese with English abstract)
91. **Zhang Q**, Zhang QF, Li Z. Determination of quartz in bronchoalveolar lavage fluid by infrared spectrophotometry. *Occupational Hygiene and Diseases* 1993; 8(11): 40-42.
92. **Zhang Q**, Zhang Z, Zhang QF. Experimental study on the therapeutic effects of bronchoalveolar lavage by excluding lung harmful substance on silicotic rats. *Occupational Hygiene and Diseases* 1993; 8(2): 75-77.
93. Zhong H, He L, **Zhang Q**. The normal value of ceruloplasmin in serum by microdetermination. *Acta Academiae Medical Zhejiang* 1993; 4(2): 41.
94. **Zhang Q**, Zhang QF. Research status on bronchoalveolar lavage. *Railway Occupational Safety and Environmental Protection* 1993; 18(3): 223-225. (in Chinese with English abstract)
95. **Zhang Q**, Zhang QF. Dynamic changes in cell numbers, LDH activity, and protein concentration in bronchoalveolar lavage fluid of silicotic rats. *Journal of Zhejiang Medical University* 1992; 21(5): 205-207.
96. **Zhang Q**, Li Z, and Zhang QF. Constituent changes in the bronchoalveolar lavage fluid of rats with aging. *Journal of Gerontol* 1992; 12(4): 241-242.
97. **Zhang Q**, Zhang QF. Dynamic changes of effluvia in bronchoalveolar lavage fluid of silicotic rats and its significance in therapy. *Occupational Medicine* 1992; 19(3): 141-143. (in Chinese with English abstract)
98. **Zhang Q**, Zhang QF. Quartz and anti-oxidant defense system. *Occupational Hygiene and Diseases*, 1992; 7(4): 239-243.
99. **Zhang Q**. A talk on the treatment of pneumoconiosis. *Occupational Health* 1992; (2): 5-6.
100. **Zhang Q**, Zhang QF. The change of medical model and the development of occupational health. *Medicine and Philosophy* 1991; 12(12): 43-44.
101. **Zhang Q**. A possible measurement on the preventment of pneumoconiosis. *Medicine and Philosophy* 1991; 12(2): 10.

### Presentations and Abstracts

1. Mo Y, Zhang Y, Yuan J, **Zhang Q**. Nickel nanoparticle-induced cell transformation: involvement of DNA damage and DNA repair defect through HIF-1 $\alpha$ /miR-210/Rad52 pathway. 2021 Research!Louisville; Oct. 25-28, 2021; Louisville, KY.
2. Zhang Y, Mo Y, Yuan J, **Zhang Q**. MMP-3 activation is involved in copper oxide nanoparticle-induced epithelial-mesenchymal transition in human lung epithelial cells. 2021 Research!Louisville; Oct. 25-28, 2021; Louisville, KY.
3. Yuan J, Mo Y, Zhang Y, **Zhang Q**. A protective role of autophagy in fine airborne particulate matter-induced apoptosis in LN-229 cells. 2021 Research!Louisville; Oct. 25-28, 2021; Louisville, KY.
4. Mo Y, Zhang Y, **Zhang Q**. DNA Damage Caused by Nickel Nanoparticle Exposure in Lung Epithelial Cells. 58<sup>th</sup> Annual Meeting of the Society of Toxicology; March 15-19, 2020; Anaheim, CA.
5. Mo Y, Zhang Y, **Zhang Q**. Comparative Mouse Lung Injury by Nickel Nanoparticles with Differential Surface Modification. 15<sup>th</sup> International Congress of Toxicology (ICTXV); July 15-19, 2019; Honolulu, HI.

6. Zheng F, Luo Z, Zheng C, Li J, Zeng J, Yang H, Aschner M, Wu S, **Zhang Q**, Li H. Comparison of the Neurotoxicity Associated with Cobalt Nanoparticles and Cobalt Chloride in Wistar Rats. 15<sup>th</sup> International Congress of Toxicology (ICTXV); July 15-19, 2019; Honolulu, HI.
7. Mo Y, **Zhang Q**. Nickel nanoparticles-induced lung injury and fibrosis: the role of miR-21. 58<sup>th</sup> Annual Meeting of the Society of Toxicology; March 10-14, 2019; Baltimore, MD.
8. Yang H, Lin Q, Chen N, Luo Z, Li J, Zheng F, **Zhang Q**, Wu S, Li. H. Function of LncRNA NR\_030777 in affecting cell proliferation and apoptosis by regulating Zfp326/Cpne5 in nerve cell damage induced by paraquat. 58<sup>th</sup> Annual Meeting of the Society of Toxicology; March 10-14, 2019; Baltimore, MD.
9. Mo Y, **Zhang Q**. Comparative mouse pulmonary toxicity of nickel nanoparticles with different surface modification. 57<sup>th</sup> Annual Meeting of the Society of Toxicology; March 11-15, 2018; San Antonio, TX.
10. **Zhang Q**, Mo Y, Wan R. Genotoxic effects of metal nanoparticles: in vitro and in vivo studies. 1<sup>st</sup> International Occupational Health Forum & 3<sup>rd</sup> China-US Occupational Health Symposium; August 22-23, 2017; Beijing, China.
11. Mo Y, Wan R, Tollerud DJ, **Zhang Q**. The effects of nickel nanoparticles on MMPs production in primary monocytes: the role of miR-21. Research!Louisville; September 11-15, 2017; Louisville, KY.
12. Mo Y, Wan R, Tollerud DJ, **Zhang Q**. The effect of nickel nanoparticles on MMPs productions in primary monocytes: the role of miR-21. 56<sup>th</sup> Annual Meeting of the Society of Toxicology; March 12-16, 2017; Baltimore, MD.
13. Mo Y, Wan R, Zhang Y, Gu A, Tollerud DJ, **Zhang Q**. Genotoxic effects of cobalt nanoparticles in vivo. 8<sup>th</sup> International Nanotoxicology Congress; June 1-4, 2016; Boston, MA.
14. Mo Y, Wan R, Zhang Y, Gu A, Tollerud DJ, **Zhang Q**. Genotoxic effects of cobalt nanoparticles in vivo. 55<sup>th</sup> Annual Meeting of the Society of Toxicology; March 13-17, 2016; New Orleans, LA.
15. Chien S, Sarojini H, Wan R, **Zhang Q**. Mechanisms of a single phase tissue regeneration. Podium Presentations-Concurrent presentation at the 23<sup>rd</sup> Wound healing Society Annual Meeting; May 1-5, 2013; Denver, CO.
16. Wan R, Sarojini H, Howard J, Mo Y, **Zhang Q**, Chisn S. A new form of tissue regeneration. 2012 Research!Louisville; Sep. 18-21, 2012; Louisville, KY.
17. **Zhang Q**, Wan R, Mo Y, Chien S, Tollerud DJ. DNA damage caused by metal nanoparticles: involvement of oxidative stress and activation of ATM. 2012 Research!Louisville; Sep. 18-21, 2012; Louisville, KY.
18. Feng L, Mo Y, Wan R, Jia Z, Zhang X, Tollerud DJ, **Zhang Q**. Up-regulation of Gadd45a in mouse embryo fibroblasts with exposure to metal nanoparticles: the role of hypoxia inducible factor-1 $\alpha$ . The 10<sup>th</sup> China-Japan International Symposium on Health Sciences; June 6-7, 2012; Hangzhou, China.
19. Wan R, Sarojini H, **Zhang Q**, Chien S. Tissue regeneration by intracellular energy delivery. 17<sup>th</sup> Annual Kentucky EPSCoP Conference, Lexington Convention Center, Lexington, KY; May 17, 2012; Page 48.
20. **Zhang Q**, Mo Y, Wan R, Tollerud DJ. Activation of endothelial cells after exposure to ambient ultrafine particles. 2012 HEI Annual Conference, The Drake Hotel, Chicago, IL; April 15 - 17, 2012; Annual conference 2012, program and Abstract, page 64
21. Wan R, Sarojini H, **Zhang Q**, Chien S. A new form of tissue regeneration. The 22<sup>nd</sup> Annual Meeting of the Wound Healing Society; April 19-22, 2012; Georgia World Congress Center, Atlanta, GA. *Wound Rep Reg* 2012; 20: A44.
22. Mo Y, Wan R, Chien S, Tollerud DJ, **Zhang Q**. MMP-2 induction in endothelial cells with exposure to urban particulate matter. American Thoracic Society (ATS) International Conference; May 16-20, 2011; Denver, CO.
23. Mo Y, Wan R, Chien S, Tollerud DJ, **Zhang Q**. Cigarette smoke extract enhances the effect of ambient ultrafine particles on endothelial cells. *Platform presentation*, 50<sup>th</sup> Annual Meeting of the Society of Toxicology; March 6-10, 2011; Washington, DC.
24. Wan R, Mo Y, Chien S, Tollerud DJ, **Zhang Q**. Combined effects of diesel exhaust particles and high glucose on MMP-2 expression in human monocytes. 50<sup>th</sup> Annual Meeting of the Society of Toxicology; March 6-10, 2011; Washington, DC.
25. **Zhang Q**. The role of hypoxia inducible factor 1 $\alpha$  in MMP-2 and MMP-9 production by human monocytes exposed to nickel nanoparticles. Particles 2010, Regal Sun Resort, Lake Buena Vista; May 22-25, 2010; Orlando, FL.
26. Mo Y, Wan R, Tollerud DJ, **Zhang Q**. Cigarette smoke extract enhances the effect of ambient ultrafine particles on endothelial cells. 6<sup>th</sup> Kentucky Innovation and Entrepreneurship Conference; April 6, 2010; Lexington, KY, P42.

27. Wan R, Mo Y, Chien S, Tollerud DJ, **Zhang Q**. DAN damage caused by metal nanoparticles: the role of oxidative stress and activation of ATM. American Thoracic Society (ATS) International Conference; May 14-19, 2010; New Orleans, LA.
28. Wan R, Mo Y, Yu Min, Chien S, Tollerud, DJ, **Zhang Q**. Regulation of plasminogen activator inhibitor-1 expression in endothelial cells with exposure to metal nanoparticles. *Platform presentation*, 49<sup>th</sup> Annual Meeting of the Society of Toxicology; March 7-11, 2010; Salt Lake City, UT.
29. Mo Y, Wan R, Tollerud DJ, **Zhang Q**. The role of hypoxia-inducible factor in MMP-2 and MMP-9 production by human monocytes exposed to nickel nanoparticles. 49<sup>th</sup> Annual Meeting of the Society of Toxicology; March 7-11, 2010; Salt Lake City, UT.
30. Mo Y, Wan R, Wang J, Chien S, **Zhang Q**. Hyperglycemia time is a major factor in skin wound healing. 20<sup>th</sup> Annual Meeting of the Wound Healing Society with SAWC; April 17-20, 2010; Orlando, FL.
31. Wattamwar P, Baldrige K, **Zhang Q**, Dziubla T. Therapeutic antioxidant polyers as a potential polymeric material for coating medical devices. 2009 AIChE Annual Meeting; Nov. 8-13, 2009; Nashville, TN.
32. Mo Y, Wan R, Chien S, Wang J, Tollerud DJ, **Zhang Q**. Diabetes is associated with increased sensitivity of macrophages to particulate matter exposure. *American Journal of Respiratory and Critical Care Medicine* 2009; 179: A3165. American Thoracic Society (ATS) International Conference; May 15-20, 2009; San Diego, CA.
33. Wan R, Mo Y, Yu M, Chien S, Tollerud DJ, **Zhang Q**. The role of hypoxia-inducible factors in MMP-2 and MMP-9 production by human monocytes exposed to nickel nanoparticles. *American Journal of Respiratory and Critical Care Medicine* 2009; 179: A5257. American Thoracic Society International Conference; May 15-20, 2009; San Diego, CA.
34. Mo Y, Wan R, Chien S, Tollerud DJ, **Zhang Q**. Activation of endothelial cells after exposure to ambient ultrafine particles: the role of NADPH oxidase. Program and abstract (P57), Health Effects Institute Annual Conference 2009; May 3-5; Portland, OR.
35. Mo Y, Wan R, Wang J, Chien S, **Zhang Q**. Intracellular ATP delivery accelerates skin wound healing through up-regulation cytokines and vascular endothelial growth factors expression. *“Young Investigator Awards”* presentation at 19<sup>th</sup> Annual Meeting of the Wound Healing Society with SAWC 2009; April 26-29, 2009; Dallas, TX.
36. Wang J, Wan R, Mo Y, Li M, **Zhang Q**, Chien S. Long-term diabetic rabbits for wound research. 19<sup>th</sup> Annual Meeting of the Wound Healing Society/SAWC 2009, April 26-29, 2009, Dallas, TX.
37. Wan R, Mo Y, Tollerud DJ, **Zhang Q**. Differential genotoxic effects of transition metal nanoparticles: the role of oxidative stress. *Platform presentation*, 48<sup>th</sup> Annual Meeting of the Society of Toxicology, March 15-19, 2009, Baltimore, MD.
38. Mo Y, Wan R, Tollerud DJ, **Zhang Q**. Activation of endothelial cells after exposure to ambient ultrafine particles: the role of NADPH oxidase. *Platform presentation*, 48<sup>th</sup> Annual Meeting of the Society of Toxicology, March 15-19, 2009, Baltimore, MD.
39. Wan R, Mo Y, Tollerud DJ. **Zhang Q**. Matrix metalloproteinase-2 and- 9 are induced differently by metal nanoparticler in human monocytes: the role of oxidative stress and protein tyrosine kinase activation. *Oral Presentation*, Nanotechnology Symposium 2008, October 3-4, 2008, Sullivan University, Louisville, KY.
40. **Zhang Q**, Mo Y, Wan R, Tollerud DJ. Pulmonary and systemic effects of transition nanoparticles. *Oral Presentation*, Nanotechnology Symposium 2008, October 3-4, 2008, Sullivan University, Louisville, KY.
41. **Zhang Q**, Mo Y, Wan R, Tollerud DJ. Activation of endothelial cells after exposure to ultrafine particles. 2008 ATS International Conference, May 16-21, 2008, Toronto, Canada. *American Journal of Respiratory and Critical Care Medicine* 2008; 177: A47.
42. **Zhang Q**, Wan R, Mo Y, Chien SF. Up-regulation of pro-and anti-inflammatory cytokines expression during intracellular energy delivery for wound care. *Wound Rep Reg* 2008; 16: A57; Wound Healing Society Annual Meeting, April 24-27, 2008, San Diego, CA.
43. **Zhang Q**, Mo Y, Wan Y, Shah N, Tollerud DJ. Activation of endothelial cells after exposure to ultrafine particles. Health Effects Institute Annual Conference 2008, page 63; April 27–29, 2008, Philadelphia, PA.
44. **Zhang Q**, Wan R, Yang Q, Mo Y, Tollerud DJ. Induction of matrix metalloproteinase 2 and 9 by human monocytes in response to different types of metal nanoparticles. *The Toxicologist*, 2008; page 212; 47<sup>th</sup> Annual Meeting of the Society of Toxicology, March 16-20, 2008, Seattle, WA.
45. **Zhang Q**, Wan R, Yang Q, Mo Y, Hu X, Tollerud DJ. Induction of matrix metalloproteinase expression in human macrophages in response to different types of metal nanoparticles. University of Louisville Research!Louisville, Oct. 16-19, 2007, Louisville, KY.

46. Mo Y, Wan R, Shah N, Tollerud DJ, **Zhang Q**. Activation of endothelial cells after exposure to ultrafine particles. University of Louisville Research!Louisville, Oct. 16-19, 2007, Louisville, KY.
47. Wan R, Mo Y, Wang J, Chien S, **Zhang Q**. Intracellular ATP delivery accelerates skin wound healing through up-regulation of pro-and anti-inflammatory cytokine expressions. University of Louisville Research!Louisville, Oct. 16-19, 2007, Louisville, KY.
48. **Zhang Q**, Yang Q, Mo Y, Tollerud DJ. Metalloproteinase and inflammatory cytokines produced by macrophages in response to different type of metal nanoparticles. **Oral Presentation**, 2007 ATS International Conference, May 18-23, 2007, San Francisco, CA. *American Journal of Respiratory and Critical Care Medicine* 2007; 175: A246.
49. **Zhang Q**, Mo Y, Shah N, Tollerud DJ. Activation of pulmonary microvascular endothelial cells in lungs following exposure to ultrafine particles. p77, Health Effects Institute Annual Conference, April 25-27, 2007, Drake Hotel, Chicago, IL.
50. **Zhang Q**, Zhu X, Dziubla T, Yu K, Tollerud DJ, Fisher AB. Oxidative-stress potency of ultrafine particles in mouse pulmonary microvascular endothelial cell. ATS International Conference, May 19-24, 2006, San Diego, CA.
51. **Zhang Q**, Wei Z, Fisher AB. Small G-protein mediates endothelial cell reactive oxygen species generation during normoxic lung ischemia. *The FASEB Journal*, 2005; 19(5): A1275.
52. **Zhang Q**, Zhang X, Kusaka Y, Tollerud DJ. Cytokines and NO release from peripheral blood neutrophils after exposure to metal nanoparticles: *in vitro* and *in vivo* study. 2nd International Symposium on Nanotechnology and occupational Health Oct 3-6, 2005, Radisson Hotel Metrodome, Minneapolis, MN.
53. Chatterjee S, Levitan I, Wei Z, Al-Mehdi AB, Seino S, Milovanova T, Hawkins B, Matsuzaki I, Feinstein S, Manevich Y, Muniswamy M, **Zhang Q**, Fisher AB. K<sub>ATP</sub> channel in the pulmonary microvasculature is an important component of the shear stress sensing mechanism. *The FASEB Journal*, 2004; 18(4): A329.
54. **Zhang Q**, Matsuzaki I, Mo Y, Feinstein S, Chatterjee S, Manevich Y, Fisher AB. Mice with Kir6.2-knockout are resistant to endothelial reactive oxygen species generation during oxygenated lung ischemia. *The FASEB Journal*, 2004; 18(4): A329.
55. Costa M, Kluz T, Davidson T, Rossmann A, Uddin A, Nadas A, **Zhang Q**, Burns F. Chromium (VI) in drink water increases the incidence of UV-induced skin tumors in hairless mice. *The Toxicologist*, 2004, 78, No. S-115.
56. **Zhang Q**, Kluz T, Salnikow K, Costa M. Inhibition and reversal of cell transformation by histone deacetylase inhibitor trichostatin A. *The Toxicologist*, 72, No. S-1, 2003; 212.
57. **Zhang Q**, Kluz T, Salnikow K, Costa M. Chromate induces the HGPRT gene silencing by DNA methylation: a new epigenetic mechanism for chromate carcinogenesis. *The Toxicologist*, 72, No. S-1, 2003; 234.
58. **Zhang Q**, Matsuzaki I, Fisher AB. A mouse model to study ROS generation in isolated lung during non-hypoxia lung ischemia. The 9<sup>th</sup> Annual Respiration Research Retreat at University of Pennsylvania, Jun 20, 2003, Sugarloaf Conference Center, Philadelphia, PA.
59. Mo Y, Feinstein SI, Manevich Y, **Zhang Q**, Fisher AB. Mouse 1-Cys peroxiredoxin highly related intronless gene is an expressed pseudogene. The 9<sup>th</sup> Annual Respiration Research Retreat at University of Pennsylvania, Jun 20, 2003, Sugarloaf Conference Center, Philadelphia, PA.
60. **Zhang Q**, Salnikow K, Kluz T, Costa M. Inhibition and reversal of cellular transformation by the histone deacetylase inhibitor trichostatin A. Mechanism of Toxicity Gordon Research Conference, June 21-26, 2002, Lewiston, Maine.
61. **Zhang Q**, Zhu X, Kusaka Y, Mo Y. Cytokines and NO release from neutrophils from blood exposure to ultrafine metals: *in vivo* and *in vitro* study. The 3<sup>rd</sup> International Conference on Oxygen/Nitrogen Radical: Cell Injury and Disease, June 1-5, 2002, Morgantown, WV.
62. Costa M, Tang M, Salnikow K, Sutherland J, Browy L, Peng W, **Zhang Q**, Kluz T. The role of oxidative stress in nickel and chromate genotoxicity. The 3<sup>rd</sup> International Conference on Oxygen/Nitrogen Radical: Cell Injury and Disease, June 1-5, 2002, Morgantown, WV.
63. Sutherland JE, Peng W, **Zhang Q**, Costa M. Inhibition of nickel-induced gene silencing in yeast and mammalian cells by the histone acetylase inhibitor trichostatin A. The 40<sup>th</sup> Annual Meeting of Society of Toxicology, California, 2001. *The Toxicologist*, 60 (1):317.
64. Cangul H, Broday L, Salnikow K, Sutherland J, Peng W, **Zhang Q**, Poltaratsky V, Zoroddu MA, Costa M. Molecular mechanism of nickel carcinogenesis. *Toxicology Letter*, 2001; Suppl.1:3.
65. Costa M, Broday L, Salnikow K, Sutherland J, Peng W, **Zhang Q**, Poltaratsky V. Epigenetic mechanism of nickel carcinogenesis. *Mutation Research* 483; Suppl 2001; S55.

66. **Zhang Q**, Kusaka Y, Zhu X, Sato K. Effects of ultrafine nickel on TNF-alpha and NO release from leukocyte: in vivo and in vitro study. *Japanese Journal of Hygiene* 2000; 55(1): 307 (in Japanese).
67. Sato K, Kusaka Y, **Zhang Q**, Zhu X, Okada K. Effect of cisplatin on citrate uptake by rat renal brush border membrane vesicles. 26<sup>th</sup> International Congress on Occupational Health, Singapore, 2000. 9, 461.
68. **Zhang Q**, Kusaka Y, Donaldson K. Increased inflammation and proliferation in lung of exposed to ultrafine metals compared to standard respirable metal particles. 26<sup>th</sup> International Congress on Occupational Health, Singapore 2000; 9: 461.
69. Zhu X, **Zhang Q**, Sato K, Kusaka Y. Comparative pro-inflammatory effects of mercuric chloride on alveolar macrophages from different strains of rat *in vitro*. 26<sup>th</sup> International Congress on Occupational Health, Singapore 2000; 9: 461.
70. Costa M, Tang M-S, Salnikow K, Sutherland J, Broday L, Peng W, **Zhang Q**, Kluz T. The role of oxidative stress in nickel and chromate genotoxicity. Oxidate processes: stress to remediation. Superfund Basic Research Program, Carolina Inn, Chapel Hill, NC, Dec 12-14, 2000.
71. Sato K, Kusaka Y, **Zhang Q**, Yanagihara M, Ueda K, Morihiro H, Ishii Y, Mori T, Hirai T, Tomiyama T, Iida K. An epidemiological study of mercury sensitization. *International Journal of Immunopathology and Pharmacology*, 1999; 12 (2 Suppl): 25.
72. **Zhang Q**, Kusaka Y, Donaldson K. Comparative pro-inflammatory effects of three ultrafine metals in macrophages from young and old rats in vitro. The 7<sup>th</sup> International Symposium on Particle Toxicology, Oct 12-14, 1999, Netherlands.
73. **Zhang Q**, Kusaka Y, Donaldson K. Increased inflammation and proliferation in lungs of rats exposed to ultrafine metals compared to standard respirable metal particles. The 7<sup>th</sup> International Symposium on Particle Toxicology, Oct 12-14, 1999, Netherlands.
74. Sato K, Kusaka Y, **Zhang Q**, Zhu X, Deguchi Y. Occupational Allergy in Doctors. Proceedings of the 6<sup>th</sup> Annual Meeting of the Japanese Society of Immunotoxicity, Sept 20-23, 1999, Sendai, Japan. P32.
75. Zhu X, **Zhang Q**, Sato K, Kusaka Y. Comparative pro-inflammatory effects of mercuric chloride on alveolar macrophages from different strains of rats in vitro. Proceedings of the 6<sup>th</sup> Annual Meeting of the Japanese Society of Immunotoxicity, Sept 20-23, 1999, Sendai, Japan. P36.
76. Zhu X, Sato K, Kusaka Y, **Zhang Q**. The endocrine disruptive effects of mercury: a review. Proceedings of the 6<sup>th</sup> Annual Meeting of the Japanese Society of Immunotoxicity, Sept 20-23, 1999, Sendai, Japan. P36.
77. **Zhang Q**, Kusaka Y, Sato K. Effects of aging on TNF-alpha release from alveolar macrophages exposed to ultrafine cobalt. *Japanese Journal of Hygiene* 1999; 54(1): 222 (in Japanese).
78. Kusaka Y, **Zhang Q**, Hosoda Y. A study on criteria for coding of asbestos-related pleural thickening imaged on CT. *San Ei Shi* 1999; 41(1):648 (in Japanese).
79. Sato K, Kusaka Y, **Zhang Q**, Seo A, Okada K. Effect of heavy metals on citrate uptake by isolated rat renal brush border membrane vesicles (BBMV). *San Ei Shi* 1999; 41(1): 655 (in Japanese).
80. Mori T, Hirai T, Iida K, Sato K, Deguchi Y, **Zhang Q**, Kusaka Y. The relationship between the concentration of mercury and selenium in urine in mercury sensitive persons. *Japanese Journal of Hygiene* 1999; 54(1): 127 (in Japanese).
81. **Zhang Q**, Kusaka Y, Sato K, Fukuda M, Donaldson K. Immunological alterations in the rat lung exposed to nickel. *International Journal of Immunopathology and Pharmacology*, 1999; 12 (2 Suppl): 51.
82. **Zhang Q**, Kusaka Y, Mo Y, Sato K, Deguchi Y, Noriki S, Fukuda M. Differential pulmonary cellular proliferation in rats following exposure to standard nickel and ultrafine nickel. *San Ei Shi*, 1998; 40: S454.
83. Kusaka Y, **Zhang Q**, Sato K, Hong C. A role of TNF in cobalt lung: a study on mechanism in animal model induced with intracheal instillation of ultrafine particles. *Japanese Journal of Hygiene*, 1998; 53(1): S234.
84. **Zhang Q**, Kusaka Y, Noriki S, Sato K, Deguchi Y, Fukuda M. Expression of Bcl-2 in rat lung after instillation standard TiO<sub>2</sub> and ultrafine TiO<sub>2</sub>. *Japanese Journal of Hygiene* 1998; 53(1): S222.
85. Mo Y, Noriki S, **Zhang Q**, Yamaguchi A, Horita K, Zheng S, Fukuda M. Expression of Bcl-2 and p53 in human colorectal adenomas and carcinomas: an inverse evidence. *Acta Histo ET Cytochemistry* 1998; 31(2): 162.
86. **Zhang Q**, Kusaka Y. Immunological alterations in the rat lung exposed to nickel. *Japanese Journal of Allergology* 1998; 47(9-19): 959 (in Japanese).
87. Sato K, Kusaka Y, **Zhang Q**, Iki M, Okada K. Direct effect of mercury on citrate uptake by rat renal brush border membrane vesicles (BBMV). *San Ei Shi* 1997; 39(1): S506 (in Japanese).



88. **Zhang Q**, Kusaka Y, Sato K, Deguchi Y, Iki M, Morita A. The role of reactive oxygen species in the toxicity of ultrafine nickel on macrophages in culture. *Japanese Journal of Hygiene* 1997; 52(1): 94 (in Japanese).
89. Kusaka Y, **Zhang Q**, Sato K, Morita A. Mechanism for lung toxicity of suspending particulate particles: A study in rat model induced by ultrafine titanium dioxide powder. *Japanese Journal of Hygiene* 1997; 52(1): 418 (in Japanese).
90. Sato K, Kusaka Y, **Zhang Q**, Yanagihara M, Ueda K, Morihiro H, Ishii Y, Mori T, Hirai T. Allergic diseases in doctors with respect to occupational history. *Japanese Journal of Hygiene* 1997; 52(1): 418 (in Japanese).
91. **Zhang Q**, Kusaka Y, Sato K, Donaldson K. Differences in the inflammogenicity of standard and ultrafine metals: the role of nitric oxide. **Oral Presentation**. The 9<sup>th</sup> International Conference on Occupational Respiratory Disease, Kyoto. *Abstracts of Communications*: 73, 1997, 10.
92. Zhang Z, **Zhang Q**, Yang D, Ding X, Luo J, He L, Zhong H, Chen F, Luo J, Hong C. The therapeutic effect of whole lung lavage with polyvinylpyridine-N-Oxide solution in pneumoconiosis patients. The 9<sup>th</sup> International Conference on Occupational Respiratory Disease, Kyoto. *Abstracts of Communications*: 73, 1997, 10.
93. Sato K, Kusaka Y, **Zhang Q**, Deguchi Y, Yanagihara M, Ueda K, Morihiro H, Ishii Y, Mori T, Iida K. An epidemiological study of mercury. International Conference on Human Health Effects of Mercury Exposure, 1997, Faroe Islands. *Book of abstracts*, 40.
94. Sato K, Kusaka Y, **Zhang Q**, Deguchi Y, Li B, Okada K, Nakakuki K, Muraoka R. Citrate uptake by isolated rat renal brush border membrane vesicles in cadmium-intoxicated rats. International Conference on Human Health Effects of Mercury Exposure, 1997, Faroe Islands. *Book of Abstracts*, 131.
95. **Zhang Q**, Kusaka Y, Sato K, Iki M, and Morita A. Hydroxyl radical generation by suspension particle materials using ultrafine TiO<sub>2</sub> as a model. *San Ei Shi*, 1997; 39(1): S488 (in Japanese).
96. **Zhang Q**, Kusaka Y, Sato K, Morita A, Nakakuki K. Lung toxicity of ultrafine particles of cobalt, nickel, and titanium dioxide--the need a new approach to new technology. The 25<sup>th</sup> International Congress on Occupational Health, **Oral Presentation**, Sept. 14-20, 1996, Stockholm. *Book of Abstracts (II)*: 95.
97. Kusaka Y, **Zhang Q**, Sato K, Kyono H, and Kohyama N. Which is more immunotoxic to the respiratory system, ionic or metallic cobalt? The 4<sup>th</sup> International Symposium on Metal Ions in Biology and Medicine, 1996, Spain.
98. Sato K, Kusaka Y, **Zhang Q**, Okada K, Nakakuki K, Muraoka R. Effect of cadmium on citrate uptake by isolated rats renal brush border membrane vesicles. The 4<sup>th</sup> International Symposium on Metal Ions in Biology and Medicine, 1996, Spain.
99. **Zhang Q**, Kusaka Y, Sato K, Iki Y, Deguchi Y. The lung toxicity of ultrafine nickel. *Japanese Journal of Hygiene*, 1996; 51(1): 349 (in Japanese).
100. Kusaka Y, **Zhang Q**, Morita A, Deguchi Y, and Iki M. Comparative study of lung toxicity of cobalt and nickel. *Japanese Journal of Hygiene*, 1996; 51(1): 350 (in Japanese).
101. Sato K, Kusaka Y, **Zhang Q**, Yanagihara M, Ueda K, Morihiro H, Ishii Y, Mori T, Hirai T. An epidemiological study of factors relating to mercury sensitization. *Japanese Journal of Hygiene*, 1996; 51(1): 184 (in Japanese).
102. Kusaka Y, Sato K, Iki M, **Zhang Q**, et al. An epidemiological study on onset and prognosis of pneumoconiosis. *San Ei Shi*, 1996; 38: S446 (in Japanese).
103. Sato K, Kusaka Y, **Zhang Q**, Iki M, Okada K. Citrate uptake by isolated renal brush border membrane vesicles (BBMV) in cadmium intoxicated rats. *San Ei Shi*, 1996; 38: 490 (in Japanese).
104. **Zhang Q**, Zhang QF, He L, Lu A. Experimental studies on the therapeutic effects of bronchoalveolar lavage on silicotic rats. 14<sup>th</sup> Asian Conference on Occupational Health, **Oral Presentation**, October 15-17, 1994, Beijing. *Book of Abstracts*.
105. He L, Hong H, **Zhang Q**, Zhang Z, Lou J, Zhong H. The epidemiological study of occupational hazards of workers exposed to silk dust. 14<sup>th</sup> Asian Conference on Occupational Health, Oral Speaker, October 15-17, 1994, Beijing. *Book of Abstracts*.
106. He L, Zhang Z, Hong C, **Zhang Q**, Lou J, Zhong H. Experimental studies on toxicity and the effect on the rat lung by silk dust. The 14<sup>th</sup> Asian Conference on Occupational Health, Oral Speaker, October 15-17, 1994, Beijing. *Book of Abstracts*.

## INVITED TALKS/PRESENTATIONS

Qunwei Zhang, MD, MPH, PhD

Grand Rounds, UofL Division of Pulmonary, Critical Care and Sleep Disorders Medicine. “Health Effects of Transition Metal Nanoparticles”. June 20, 2008.

Center for Environmental Research and Technology, University of California Riverside. “Activation of endothelial cells after exposure to ambient ultrafine particles: the role of NADPH oxidase”. April 1, 2008.

Zhejiang Academy of Medical Sciences, P.R. of China. “Activation of endothelial cells after exposure to ambient ultrafine particles: the role of NADPH oxidase”. April 20, 2009.

Zhejiang Academy of Medical Sciences, P.R. of China. “Differential genotoxic effects of transition metal nanoparticles: the role of oxidative stress”. April 23, 2009.

Particles 2010 International conference, Regal Sun Resort, Lake Buena Vista (Orlando), FL. “The role of hypoxia inducible factor 1 $\alpha$  in MMP-2 and MMP-9 production by human monocytes exposed to nickel nanoparticles”. May 22-25, 2010.

Zhejiang Academy of Medical Sciences, P.R. of China. “Genotoxic effects of metal nanoparticles: *in vivo* and *in vitro*”. June 20, 2013.

Zhejiang Academy of Medical Sciences, P.R. of China. “Health effects of metal nanoparticles”. July 30, 2014.

Beijing Key Laboratory of Occupational Safety and Health, Beijing Municipal Institute of Labor Protection. “Toxicity of metal nanoparticles”. July 8, 2015.

Zhejiang Academy of Medical Science, P.R. of China. “The mechanisms involved in Nano-ZnO-induced hepatotoxicity”. July 15, 2015.

Fujian Medical University School of Public Health, P.R. of China. “Effect of particulate matter (PM) with high glucose on macrophages/monocytes”. July 26, 2015.

Beijing Key Laboratory of Occupational Safety and Health, Beijing Municipal Institute of Labor Protection. “PM, high glucose and monocytes”. April 15, 2016.

Fujian Medical University School of Public Health, P.R. of China. “Genotoxic effects of metal nanoparticles”. April 22, 2016.

Zhejiang Academy of Medical Sciences, P.R. of China. “Carbon Coating Alleviates Nickel Nanoparticle-Induced Lung Inflammation and Monocyte Activation in Mouse”. June 19, 2017.

China Pediatric Sleep Medicine Forum, Wenzhou Medical University, P. R. of China. “Nanomaterials and Lung Injury”. April 6-8, 2018.

Fujian Medical University School of Public Health, P.R. of China. “Comparative mouse lung injury by nickel nanoparticles with different surface modification”. April 10, 2018.

Shanxi Medical University School of Public Health, P. R. of China. “Comparative mouse lung injury by nickel nanoparticles with differential surface modification”. July 28, 2019.

Nanjing Medical University School of Public Health, P. R. of China. “Comparative mouse lung injury by nickel nanoparticles with differential surface modification”. July 29, 2019.

Huazhong University of Science and Technology, Tongji Medical College, School of Public Health, P. R. of China. “Comparative mouse lung injury by nickel nanoparticles with differential surface modification”. July 30, 2019.

Zhejiang Academy of Medical Sciences, P.R. of China. “Comparative mouse lung injury by nickel nanoparticles with differential surface modification”. August 2, 2019.

## **RESEARCH GRANTS**

### **Current Grants**

NIEHS P30 Pilot Project  
NIEHS/NIH

Dr. Xiao-An Fu (PI)  
\$50,000 Total cost

04/01/2021-03/31/2022

Qunwei Zhang, MD, MPH, PhD

Analysis of harmful compounds in aerosols of electronic cigarettes to evaluate toxicity.

Role: Co-investigator

NIEHS P30 Pilot Project  
NIEHS/NIH  
Mechanisms underlying the susceptibility of diabetics to air pollution.  
Role: PI

Dr. Qunwei Zhang (PI)  
\$40,000 Total cost 09/01/2020-03/31/2022

1 R01 HL147856-01  
NHLBI/NIH  
Mechanisms underlying metal nanoparticle-induced lung injury and fibrosis.  
Role: PI

Dr. Qunwei Zhang (PI)  
\$1,561,979 Total cost 06/01/2019-05/31/2023

2 R25 CA134283-06A1  
University of Louisville Cancer Education Program  
NIH/NCI  
The long-term object is to recruit, educate and motivate outstanding undergraduate and professional student to pursue further training and future careers in cancer research.  
Role: Faculty Participant and Mentor

Drs. David Hein (contact) and La Creis Kidd, Multi-PIs  
\$1,620,000 Total cost 04/01/2017-03/31/2022

T32- ES011564  
NIEHS/NIH  
UofL Environmental Health Sciences Training Program  
Role: Faculty Participant and Mentor

Drs. David Hein and John Wise (PI)  
\$2,575,255 Total cost 07/01/2021–06/30/2026

T32- ES011564  
NIEHS/NIH  
UofL Environmental Health Sciences Training Program  
Role: Faculty Participant and Mentor

Dr. David Hein (PI)  
\$2,311,776 Total cost 04/01/2016–03/31/2021

### **Completed Grants**

1 R21 ES028911-01  
NIEHS/NIH  
(No-cost extension until 11/30/2021)  
Mechanisms of carcinogenic effects of nickel nanoparticles.  
Role: PI

Dr. Qunwei Zhang (PI)  
\$423,500 Total cost 12/15/2017-11/30/2019

Kentucky Lung Cancer Research Program  
Mechanisms underlying ambient particulate matter-induced lung cancer.

Dr. Qunwei Zhang (PI)  
\$150,000 Total cost 06/01/2017-05/31/2019  
(No-cost extension until 05/31/2020)

ES023693-01  
NIEHS/NIH  
The role of microRNA miR21 in nickel nanoparticles-induced MMPs production.

Dr. Qunwei Zhang (PI)  
\$450,000 Total cost 09/17/2014-08/31/2017  
(No-cost extension until 06/30/2019)

Qunwei Zhang, MD, MPH, PhD

Role: PI

81473009 Dr. Rong Wan (PI)  
National Natural Sciences Foundation of China ¥600,000 Total cost 01/01/2015-12/31/2018  
The role of SENP1, a SUMO-specific protease mediated Sp1-desumoylation in the Nano-Co-induced cell transformation.  
Role: Co-investigator

KSEF-148-502-16-381 Dr. Qunwei Zhang (PI)  
KSEF \$30,000 Total cost 07/01/2016-06/30/2017  
(No-cost extension until 06/30/2018)  
Mechanisms underlying ambient particulate matter-induced DNA damage and cell transformation.  
Role: PI

The EVPRI Internal Research Grant Dr. Qunwei Zhang (PI)  
50992 (UofL Internal Research Grant) \$3,000 Total cost 06/01/2016-05/31/2017  
Activation of inflammasome in monocytes/macrophages exposure to fine particulate matter with high glucose.  
Role: PI

2014J01333 Dr. Rong Wan (PI)  
Natural Sciences Foundation of Fujian Province, China ¥60,000 Total cost 01/01/2014-12/31/2016  
Mechanisms underlying cobalt nanoparticles-induced genotoxic effect and cell malignant transformation in bronchial epithelial cells.  
Role: Co-investigator

NIH/NCI R25-CA134283 Dr. David Hein (PI)  
University of Louisville Cancer Education Program  
NIH/NCI \$1,543,610 Total cost 09/14/2011-08/31/2016  
The long-term object is to recruit, educate and motivate outstanding undergraduate and professional student to pursue further training and future careers in cancer research.  
Role: Faculty Participant and Mentor

T32- ES011564 Dr. David Hein (PI)  
NIH/NIEHS \$2,037,745 Total cost 07/01/2009-6/30/2014  
UofL Environmental Health Sciences Training Program  
Role: Faculty Participant and Mentor

P30-ES014443 Dr. Kenneth Ramos (PI)  
NIEHS/NIH \$4,440,000 Total cost 06/04/2007-03/31/2012  
Center for Environmental Genomics and Integrative Biology  
Role: Internal Advisory Board (IAB) and Center Investigator

UofL Intramural Research Incentive Grant Dr. Qunwei Zhang (PI)  
\$5,000 Direct cost 01/01/2012-12/31/2012  
Mechanisms underlying nickel nanoparticle-induced MMPs production.  
Role: PI

4751-RFA-05-2/06-12 Dr. Qunwei Zhang (PI)  
Health Effects Institute \$300,000 Total cost 03/01/2007-12/31/2011  
Walter A. Rosenblith New Investigator Award  
Activation of endothelial cells and gene expression in lungs following exposure to ultrafine particles.  
Role: PI

CTSP- Basic Dr. Qunwei Zhang (PI)  
University of Louisville \$49,979 Total cost 06/01/2010-05/31/2011

Qunwei Zhang, MD, MPH, PhD

Clinical & Translational Sciences Pilot Grant Program's Basic Award  
Develop and evaluate the degradable polymerpoly (troloxester) nanoparticles for medical application.  
Role: PI

KSEF-1686-RED-11 Dr. Qunwei Zhang (PI)  
Kentucky Sciences and Engineers Foundation \$100,000 Total cost 07/01/2008–6/30/2010  
(No-cost extension until 06/30/11)

Oxidative stress and endothelial cell dysfunction in animal exposure to ultrafine particles and cigarette smoke.  
Role: PI

AHA-0865476D Dr. Qunwei Zhang (PI)  
American Heart Association \$121,000 Total cost 07/01/2008–06/30/2010  
Great Rivers Affiliate (No-cost extension until 06/30/11)

Mechanism underlying the susceptibility of diabetics to ultrafine particles  
Role: PI

2R44AR052984-02 Dr. Sufan Chien (PI)  
NIH SBIR \$1,173,455 Total cost 09/01/2007–08/31/2010  
Matching Fund from Commonwealth of KY \$800,000 Total cost

Partial-thickness wound healing via topical ATP delivery  
Role: Co-Investigator

GB 061077P2 (1P30ES01443-01A1) Dr. Qunwei Zhang (PI)  
\$30,000 Direct cost 04/01/2008–03/31/2009  
UofL NIH/NIEHS Center for Environmental Genomics and Integrative Biology Pilot Project: Carcinogenesis  
of nickel nanoparticles.  
Role: PI

1P30ES01443-01A1 Dr. Qunwei Zhang (PI)  
Career Development Program Award \$20,000 Direct cost 06/04/2007–03/31/2008  
UofL NIH/NIESH Center for Environmental Genomics and Integrative Biology  
Role: PI

UofL Intramural Research Incentive Grant Dr. Qunwei Zhang (PI)  
\$5,000 Direct cost 06/01/2006–05/31/2007  
Genotoxic effects of transition metal nanoparticles.  
Role: PI

RG-872-N Dr. Qunwei Zhang (PI)  
National American Lung Association \$70,000 Direct cost 07/01/2004–12/30/2006  
Endothelial generation of reactive oxygen species in lung exposure to ultrafine particles.  
Role: PI

Japanese Ministry of Education, Sport, and Culture 4/1/98–03/31/00  
Study on the toxicity of ultrafine metals on the lungs and its mechanism.  
Role: Co-investigator

National "Eighty-Five" Key Plan 7/1/92–6/30/97  
Supported by China Committee of Science and Technology  
Evaluation of the therapeutic effects of whole lung lavage in coal worker's pneumoconiosis.  
Role: Co-investigator

Japanese Ministry of Education, Sport, and Culture 4/1/96–3/31/97  
Study on the effects of heavy metals on renal brush border membrane.  
Role: Co-investigator

Qunwei Zhang, MD, MPH, PhD

Japanese Ministry of Education, Sport, and Culture 4/1/95–3/31/97  
Study of immunotoxicity induced by nickel and cobalt.  
Role: Co-investigator

Department of Public Health, Zhejiang Province, P.R. of China 1/1/95–12/31/96  
Effects of some Chinese traditional anti-aging medicine on the SOD mRNA expression in the brain.  
Role: PI

Department of Public Health, Zhejiang Province, P.R. of China 1/1/94–12/30/95  
The study of Gynostemma Pentaphyllum Makino (Chinese tradition medicine) on silicotic fibrosis.  
Role: PI

Department of Public Health, Zhejiang Province, P.R. of China 5/1/94–4/30/96  
The role of platelet activating factors in the pulmonary fibrosis induced by silica.  
Role: PI

Department of Public Health, Zhejiang Province, P.R. of China 8/1/92–7/31/94  
Determination the histamine in silicotic patients and its clinic significance.  
Role: Co-investigator