
ZHANG, RUI XUE (VICKI)

A. BASIC INFORMATION




Assistant Professor

Affiliated Address Faculty of Medicine-School of Pharmacy, Precision Regenerative Medicine Research Center, Macau University of Science and Technology, Macau, China

Primary Office Room PP-206A, Praia Park Block R Coloane, Macau, China

- Advanced Member in the Chinese Society of Micro-Nano Technology
- Member of Controlled Release Society
- Guest Editor in Special issue of *Pharmaceutics*

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<https://scholar.must.edu.mo/scholar/107550> (Scholars Hub)

B. EDUCATION

- | | |
|---------------------|---|
| 2009. 09 - 2016. 08 | Ph.D. , in <i>Pharmaceutical Sciences</i> , University of Toronto, Toronto, Canada. |
| 2007. 09 - 2009. 08 | M.Sc. , in <i>Medical Sciences</i> , McMaster University, Hamilton, Canada. |
| 2003. 09 - 2007. 06 | Honours B.Sc. , in <i>Molecular Biology</i> , McMaster University, Hamilton, Canada. |

C. RESEARCH PROJECTS

The research centers on the lipid-centering biotechnology for drug delivery in the treatment of inflammation, cancer multidrug-resistance and ocular diseases. (e.g., cataract complication). Specifically, the ongoing projects have designed the following drug delivery systems: (1) local long-acting depot and implant devices, (2) nanomedicine of ratio-metric drug combination, and (3) DNA nanotechnology enabled integral design of combined lipidic nanoparticles and live cells.

D. PATENTS

- (1) 严宏; 张瑞雪; 苏静; 卢唯佳; 国家发明专利《一种眼用抗感染脂质体制剂及其制备方法》, 中国: 专利号 **ZL 2023 1 0214627.6**, 申请日: **2023 年 03 月 08 日**, 授权公告日 **2024 年 06 月 11 日** (Hong Yan, Rui Xue Zhang, Jing Su, Weijia Lu, **2024 Jun.11th**. Ocular anti-infection liposomal formulation and preparation method and thereof (*Granted, Active, Patent NO. 2023 1 0214627.6*), China National Intellectual Property Administration)

- (2) 张瑞雪; 严宏; 郭焯炫; 李欣阳; 国家发明专利《一种基于 PLGA 的局部眼用缓释复合制剂及其制备方法和应用》 专利号 **ZL 2022 1 1413007.7**, 申请日: **2022 年 11 月 11 日**, 授权公告日 **2023 年 07 月 14 日** (**Rui Xue Zhang**, Hong Yan, Yexuan Guo, Xinyang Li, **2023 Jul. 14th**. PLGA- based ophthalmic composite for sustained drug release and preparation method and thereof (*Granted, Active, Patent NO.: ZL 2022 1 1413007.7*), China National Intellectual Property Administration)
- (3) 颜 绪; 张瑞雪; 国家发明专利 《一种可控降解纳米复合凝胶及其制备方法和应用》, 中国: 专利号 **ZL 2022 1 1000324.6**, 申请日: **2022 年 08 月 19 日**, 授权公告日 **2023 年 09 月 01 日** (Xu Yan, **Rui Xue Zhang**, **2023 Sept. 1st**. Nanoparticle-hydrogel for controllable degradation and preparation method and thereof (*Granted, Active, Patent NO. 2022 1 1000324.6*), China National Intellectual Property Administration)
- (4) 严宏; 张瑞雪; 李欣阳; 郭焯炫; 国家发明专利《一种抗细胞增殖、纤维化和上皮-间充质转化的药物组合及其应用》 申请号 **202510641705X**, 申请日: **2025 年 05 月 19 日**, 已受理 (Hong Yan, **Rui Xue Zhang**, Xinyang Li, Yexuan Guo, Application Date **2023 Jul. 14th**. A Drug Combination Against proliferation, fibrosis and Epithelial-Mesenchymal Transition and thereof (*Pending, Application NO.: 202510641705X*), China National Intellectual Property Administration)

E. PUBLICATIONS

#Co-first authors, *Corresponding author(s)

- (1) Yexuan Guo[#], Tianze Xiong[#], Hong Yan^{*}, **Rui Xue Zhang**^{*} (2025). Correlation of precisely fabricated geometric characteristics of DNA-Origami nanostructures with their cellular entry in human lens epithelial cells. In special issue: Design and application of polymeric nanoparticles for treatment of aging and age-related diseases. Discover Nano (formerly Nanoscale Research Letters) 20 (1):13. DOI: 10.1186/s11671-025-04188-9. (IF: **5.5**, JCR Nanoscience & Nanotechnology **Q2**)
- (2) Chen Liang, Yexuan Guo, **Rui Xue Zhang**^{*}, Hong Yan^{*} (2024). Microtubular and high porosity design of electrospun PEGylated poly (lactic-co-glycolic acid) fibrous implant for ocular multi-route administration and medication. International Journal of Pharmaceutics 665: 124751. DOI: 10.1016/j.ijpharm.2024.124751. (IF: **5.6**, JCR Pharmacology & Pharmacy **Q1**)
- (3) Jing Su[#], Weijia Lu[#], Yexuan Guo, Zhuoyi Liu, Xu Wang, Hong Yan^{*}, **Rui Xue Zhang**^{*} (2023). Depot unilamellar liposomes to sustain transscleral drug Co-delivery for ophthalmic infection therapy. Journal of Drug Delivery Science and Technology 86. DOI: 10.1016/j.jddst.2023.104629. (IF: **4.7**, JCR Pharmacology & Pharmacy **Q1**)
- (4) Yexuan Guo, Xinyang Li, Robert. B. Macgregor, Jr., Hong Yan^{*}, **Rui Xue Zhang**^{*} (2023). Microfluidics-based PLGA nanoparticles of ratiometric multidrug: From encapsulation and release rates to cytotoxicity in

- human lens epithelial cells. Heliyon (Cell Press) 9(7): e18318. DOI: 10.1016/j.heliyon.2023.e18318. (IF: **3.9**, JCR Multidisciplinary Sciences **Q1**)
- (5) Xinyang Li, Chen Liang, Yexuan Guo, Jing Su, Xin Chen, Robert. B. Macgregor, Jr., **Rui Xue Zhang**^{*}, Hong Yan^{*} (2023). Clinical translation of long-acting drug delivery systems for posterior capsule opacification prophylaxis. Pharmaceutics 15(4). DOI: 10.3390/pharmaceutics15041235. (IF: **5.5**, JCR Pharmacology & Pharmacy **Q1**)
- (6) Zhigao Wang^{*}, Yao Chen, Nan Zhang, **Rui Xue Zhang**, Rong He, Xingrong Ju, Nilufar Z. Mamadalieva (2023). Plant protein nanogel-based patchy Janus particles with tunable anisotropy for perishable food preservation. Food Frontiers 4(2):795. DOI: <https://doi.org/10.1002/fft2.219>. (IF: **9.4**, JCR Food Science & Technology **Q1**)
- (7) Zaoxia Guo, Xiaopan Ma, **Rui Xue Zhang**, Hong Yan^{*} (2023). Oxidative stress, epigenetic regulation and pathological processes of lens epithelial cells underlying diabetic cataract. Advances in Ophthalmology Practice and Research 3(4): 180. DOI: 10.1016/j.aopr.2023.10.001. (**Cite score 1.7**)
- (8) Chenshuang Li C, Xi Chen, Siqi Zhang, Chen Liang, Xiaopan Ma, **Rui Xue Zhang**, Hong Yan^{*} (2023). Glutaredoxin 1 protects lens epithelial cells from epithelial-mesenchymal transition by preventing casein kinase 1 α S-glutathionylation during posterior capsular opacification. Redox Biology 62: 102676. DOI: <https://doi.org/10.1016/j.redox.2023.102676>. (IF: **11.7**, JCR Biochemistry & Molecular Biology **Q1**)
- (9) Zaxia Guo, Xiaopan Ma, Xi Chen, **Rui Xue Zhang**, Hong Yan^{*} (2023). Oxidative stress-induced temporal activation of ERK1/2 phosphorylates coreceptor of Wnt/ β -catenin for myofibroblast formation in human lens epithelial cells. Molecular Vision 29: 206. (IF: **2**, JCR Ophthalmology **Q3**)
- (10) Ruimin Miao[#], Fanqi Jin[#], Zhigao Wang, Weijia Lu, Junhong Liu, Xinyang Li, **Rui Xue Zhang**^{*} (2022). Oral delivery of decanoic acid conjugated plant protein shell incorporating hybrid nanosystem leverage intestinal absorption of polyphenols. Biomaterials 281: 121373. DOI: 10.1016/j.biomaterials.2022.121373. (IF: **13.1**, JCR Engineering, Biomedical **Q1**)
- (11) **Rui Xue Zhang**, Franky Fuh-Ching Liu, Hoyin Lip, Junhong Liu, Qianrong Zhang, Xiao Yu Wu^{*} (2022). Pharmaceutical nano-formulation strategies to spatiotemporally manipulate oxidative stress for improving cancer therapies-exemplified by polyunsaturated fatty acids and other ROS-modulating agents. Drug Delivery and Translational Research 12(10): 2303. DOI: 10.1007/s13346-021-01104-3. (IF: **5.5**, JCR Pharmacology & Pharmacy **Q1**)
- (12) Ye Tian[#], Yipu Zhao[#], Chong Yin[#], Shenxing Tan, Xue Wang, Chaofer Yang, Tuo-Di Zhang, Xi Zhang, Fei Ye, Jing Xu, Xianglong Wu, Li Ding, Jie Zhang, Jiawei Pei, Xue-Ting Wang, **Rui Xue Zhang**, Jiangrong Xu, Weisi Wang, Carlos D.M. Filipe, Todd Hoare, Da-Chuan Yin^{*}, Airong Qian^{*}, Xudong Deng^{*} (2022). Polyvinylamine with moderate binding affinity as a highly effective vehicle for RNA delivery. Journal of

- Controlled Release 345:20. DOI: 10.1016/j.jconrel.2022.03.003. (IF: **10.6**, JCR Pharmacology & Pharmacy **Q1**)
- (13) **Rui Xue Zhang**, Ken Dong, Zhigao Wang, Ruimin Miao, Weijia Lu, Xiao Yu Wu* (2021). Nanoparticulate drug delivery strategies to address intestinal cytochrome P450 CYP3A4 metabolism towards personalized medicine. Pharmaceutics 13(8): 1261. DOI: 10.3390/pharmaceutics13081261. (IF: **5.5**, JCR Pharmacology & Pharmacy **Q1**)
- (14) Weijia Lu[#], Ruimin Miao[#], Sijun Hu, Junhong Liu, Fanqi Jin, **Rui Xue Zhang*** (2021). Microsurgical skills of establishing permanent jugular vein cannulation in rats for serial blood sampling of orally administered drug (**Total Views 7.0K** updated in 2024 November). In *Methods Collection of Medicine, Journal of Visualized Experiments* 178: e63167. DOI: 10.3791/63167. (IF: **1.4**, JCR Multidisciplinary Sciences **Q3**)
- (15) Mohammad Ali Amini, Taskim Ahmed, Franky Fuh-Ching Liu, Azhar Z. Abbasi, Chesarahmia Dojo Soeandy, **Rui Xue Zhang**, Preethy Prashad, Carolyn L. Cummins, Andrew M. Rauth, Xiao Yu Wu* (2021). Exploring the transformability of polymer-lipid hybrid nanoparticles and nanomaterial-biology interplay to facilitate tumor penetration, cellular uptake and intracellular targeting of anticancer drugs. Expert Opinion on Drug Delivery 18: 991. DOI: 10.1080/17425247.2021.1902984. (IF: **7.2**, JCR Pharmacology & Pharmacy **Q1**)
- (16) Chong Chen, Cheng Zhang, **Rui Xue Zhang**, Xingrong Ju, Rong He, Zhigao Wang* (2020). Enzyme-catalyzed acylation improves Gel Properties of Rapeseed Protein Isolates. Journal of the Science of Food and Agriculture. 100: 4182. DOI: 10.1002/jsfa.10457. (IF: **4**, JCR Food science & Technology **Q2**)
- (17) Yaguang Li, Junhong Liu, Gaixia Liu, Zhenhong Pan, Mingxia Zhang, Yao Ma, Qingxia Wei, Hongping Xia, **Rui Xue Zhang***, Junjun She* (2019). Murine appendectomy model of chronic colitis associated colorectal cancer by precise localization of caecal patch (**Total Views 9.7K** updated in 2024 November). In *Methods Collection of Medicine, Journal of Visualized Experiments* 150: e59921. DOI: 10.3791/59921. (IF: **1.4**, JCR Multidisciplinary Sciences **Q3**)
- (18) Jinlu Hu, Yaguang Li, Sepideh Pakpour, Sufang Wang, Zhenhong Pan, Junhong Liu, Qingxia Wei, Junjun She, Huaixing Cang*, **Rui Xue Zhang*** (2019). Dose effects of orally administering spirulina suspension on colonic microbiota in healthy mice. Frontiers in Cellular and Infection Microbiology 9: 243. DOI: 10.3389/fcimb.2019.00243. (IF: **5.1**, JCR Microbiology **Q1**)
- (19) Zhigao Wang, **Rui Xue Zhang**, Cheng Zhang, Caixia Dai, Xingrong Ju*, Rong He* (2019). Fabrication of stable and self-assembling rapeseed protein nanogel for hydrophobic curcumin delivery. Journal of Agricultural and Food Chemistry 67: 887. DOI: 10.1021/acs.jafc.8b05572. (IF: **6**, JCR Food Science & Technology **Q1**)

- (20) Ting Huyan, Y. Du, D. Dong, Q. Li, Rui Xue Zhang, J. Yang, Z. Yang, J. Li, Peng Shang* (2019). Osteoclast-derived exosomes inhibit osteogenic differentiation through *WNT/β*-catenin signaling pathway in simulated microgravity model. Acta Astronautica 154: 140. DOI: <https://doi.org/10.1016/j.actaastro.2018.08.044>. (IF: 3.1, JCR Engineering, aerospace Q1)
- (21) Zhigao Wang[#], Rui Xue Zhang[#], Tian Zhang, Chunsheng He, Rong He, Xingrong Ju*, Xiao Yu Wu* (2018). *In Situ* pro-apoptotic peptide-generating rapeseed protein-based nanocomplexes synergize chemotherapy for cathepsin-B overexpressing breast cancer. ACS Applied Materials & Interfaces 10 (48): 41056. DOI: 10.1021/acsami.8b14001. (IF: 8.8, JCR Nanoscience & Nanotechnology Q1)
- (22) Rui Xue Zhang, Jason Li, Tian Zhang, Mohammad A. Amini, Chunsheng He, Brian Lu, Taksim Ahmed, Hoying Lip, Andrew M. Rauth, Xiao Yu Wu* (2018). Importance of Integrating nanotechnology with pharmacology and physiology for innovative drug delivery and therapy - An illustration with firsthand examples (Outstanding Paper Award 2020). Acta Pharmacologica Sinica 39: 825. DOI: 10.1038/aps.2018.33. (IF: 7.6, JCR Pharmacology & Pharmacy Q1)
- (23) Rui Xue Zhang[#], Lily Yi Li[#], Jason Li, Zhensong Xu, Azhar Z. Abbasi, Lucy Lin, Mohammad A. Amini, Wei Yu Weng, Yu Sun, Andrew M. Rauth, Xiao Yu Wu* (2017). Coordinating bio-interaction and bio-reaction of a nanocarrier material and an anticancer drug to overcome membrane rigidity and target mitochondria in multidrug-resistant cancer cells. Advanced Functional Materials 27(39): 1700804. DOI: 10.1002/adfm.201700804. (IF: 19.6, JCR Nanoscience & Nanotechnology Q1)
- (24) Rui Xue Zhang, Tian Zhang, King Chen, Ji Cheng, Paris Lai, Andrew M. Rauth, Xiao Yu Wu* (2017). Sample extraction and simultaneous chromatographic quantitation of doxorubicin and mitomycin C following drug combination delivery in nanoparticles to tumor-bearing mice (Total Views 10.7 updated in 2024 November). In *Methods Collection of Cancer Research*, Journal of Visualized Experiments 128: e56159. DOI:10.3791/56159. (IF: 1.4, JCR Multidisciplinary Sciences Q3)
- (25) Rui Xue Zhang, Taksim Ahmed, Lily Yi Li, Jason Li, Azhar Z. Abbasi, Xiao Yu Wu* (2017). Design of nanocarriers for nanoscale drug delivery to enhance cancer treatment using hybrid polymer and lipid building blocks. Nanoscale 9(4): 1334. DOI: 10.1039/c6nr08486a. (IF: 6.1, JCR Material Science, Multidisciplinary Q1)
- (26) Rui Xue Zhang, Ping Cai, Tian Zhang, King Chen, Jason Li, Ji Cheng, K. Sandy Pang, Hibret A. Adissu, Andrew M. Rauth, Xiao Yu Wu* (2016). Polymer-lipid hybrid nanoparticles synchronize pharmacokinetics of co-encapsulated doxorubicin-mitomycin C and enable their spatiotemporal co-delivery and local bioavailability in breast tumor. Nanomedicine-Nanotechnology, Biology, and Medicine. 12: 1279. DOI: 10.1016/j.nano.2015.12.383. (IF: 5, JCR Medicine, Research & Experimental Q2)

- (27) **Rui Xue Zhang**[#], Ho Lun Wong[#], Hui Yi Xue, June Young Eoh, Xiao Yu Wu^{*} (2016). Nanomedicine of synergistic drug combinations for cancer therapy - Strategies and perspectives (**ESI Highly Cited Paper 2021 & 2023& 2024, Citations 284**). Journal of Controlled Release, 240: 489. DOI: 10.1016/j.jconrel.2016.06.012. (IF: **10.6**, JCR Pharmacology & Pharmacy **Q1**)
- (28) Adam J. Shuhendler[#], Preethy Prasad[#], **Rui Xue Zhang**[#], Mohammad Ali Amini, Mei Sun, Peter P. Liu, Robert G. Bristow, Andrew M. Rauth, Xiao Yu Wu^{*} (2014). Synergistic nanoparticulate drug combination overcomes multidrug resistance, increases efficacy, and reduced cardiotoxicity in a non-immunocompromised breast tumor model. Molecular Pharmaceutics 11: 2659. DOI: 10.1021/mp500093c. (IF: **4.6**, JCR Pharmacology & Pharmacy **Q1**)
- (29) Jan D. Huizinga^{*}, Ji-Hong Chen, Yong Fang Zhu, Andrew Pawelka, Ryan J McGinn, Berj L. Bardakjian, Sean P. Parsons, Wolfgang A. Kunze, Richard You Wu, Premysl Bercik, Amir Khoshdel, Sifeng Chen, Sheng Yin, Qian Zhang, Yuanjie Yu, Qingmin Gao, Kongling Li, Xinghai Hu, Natalia Zarate, Phillip Collins, Marc Pistilli, Junling Ma, **Rui Xue Zhang**, David Chen (2014). The Origin of segmentation motor activity in the intestine. Nature Communication 5: 3326. DOI: 10.1038/ncomms4326. (IF: **16.1**, JCR Multidisciplinary Sciences **Q1**)
- (30) **Rui Xue Zhang**, Xuan Yu Wang, David Chen, Jan D. Huizinga^{*} (2011). Role of interstitial cells of *Cajal* in the generation and modulation of motor activity induced by cholinergic neurotransmission in the stomach. Neurogastroenterology & Motility, 23: e356. DOI: 10.1111/j.1365-2982.2011.01753. x. (IF: **3.4**, JCR Gastroenterology & Hepatology **Q2**)

F. HONORED AWARDS & CERTIFICATES

- **2024 Outstanding Undergraduate Dissertation Award**, *for the dissertation entitled* “Effect of DNA Folding Nanoscale Shapes on Intracellular Uptake and Distribution in Human Lens Epithelial Cells”, Recipients to **Rui Xue Zhang** (Advisor) and Tianze Xiong (Student), NPU China.
- **2023 Outstanding Graduate Dissertation Award**, *for the dissertation entitled* “Mechanisms of Polymer-Lipid Hybrid Nanoparticles for Enhanced Oral Bioavailability of Polyphenol”, Recipients to **Rui Xue Zhang** (Advisor) and Ruimin Miao (Student), NPU China.
- **2023 Honorary Credential for Undergraduate Academic Guidance**, NPU China.
- **2020 APS (Acta Pharmacologica Sinica) Outstanding Paper Award**, *for the paper* “Importance of Integrating nanotechnology with pharmacology and physiology for innovative drug delivery and therapy - An illustration with firsthand examples” DOI: 10.1038/aps.2018.33.

- **2016 Gattefossé Canada/CSPS Award in Lipid-Based Drug Delivery**, *for the research project entitled “Polymer-Lipid Based Nanomedicine of Synergistic Drug Combination for Improving Chemotherapy of Multidrug Resistant Breast Cancer”*.
- **2016 Chinese Government Award for Outstanding Self-financed Students Abroad**, China Scholarship Council.
- **2014-2015 the Certificate of Appreciation of Outstanding Performance** for American Association Pharmaceutical Sciences (AAPS) Student Chapter Vice Chair at University of Toronto.
- **2014 Hoffmann-La Roche Rosemarie Hager Graduate Fellowship**, *in recognition of Outstanding Achievement* at Leslie Dan Faculty of Pharmacy, University of Toronto.
- **2012 Advanced University Teaching Preparation Certificate**, the Centre for Teaching Support & Innovation, University of Toronto Canada.

G. CLASSROOM TEACHING

Teaching Courses at NPU, China

- Undergraduate course: Biopharmaceutics and Pharmacokinetics (English/Chinese)
- Graduate Courses: Nanomedicine in Oncology (Chinese), Modern Pharmaceutical Instruments in Medical Practice (Chinese, Lab course).
- Co-teaching courses: Nucleic Acids as Therapeutic Targets and Materials* (English, co-teach with Dr. Robert B. Macgregor, University of Toronto), Applied Pharmaceutics Lab* (English, Lab course, co-teach with Dr. David Dubins, University of Toronto). *courses designed for both fourth-year undergraduates and graduates. Experiments in Molecular Biology (English, co-teach with Dr. Xinhua Qin, Lab course).

Teaching Assistant at University of Toronto, Canada

2010 - 2014, Leslie Dan Faculty of Pharmacy

- Pharmaceutical Analysis Laboratory (Lab course, Dr. Christine Allen & Dr. David Dubins): supervised undergraduate pharmacy students in a supportive manner to complete generic drug analysis in a pharmaceutical laboratory setting based on GMP guidelines.
- Personalized Medicine (Dr. Piquette Miller): providing the guidance for undergraduate pharmacy students to select various topics in pharmacogenetics and marking their presentations and research reports.

H. FACULTY SERVICE

2014-2015, American Association Pharmaceutical Sciences Student Chapter Vice-chair, U of T Canada

- Coordinating student career events to increase students' employment opportunities

2018-2023, Institute of Medical Research, NPU China

- Participating decision-making process of large instruments purchase (> 1 million RMB) for the public laboratory platform
- Assisting the application of the first-level discipline of master's degree in pharmaceutical sciences.
- Academic committee of student entrance interview and thesis defense
- Coordinating the outreach summer program relating to social practice of pharmaceutics between U of T and NPU
- Shaping curriculum of overseas students enrolled in the pharmaceutical sciences program
- Representing the department interests to recruit the faculty and students across the provinces (e.g., Guangdong, Jiangsu) and to advocate for the institutional mission and enrollment policies.

2022-2023, Head-teacher, International College, NPU China

- Organizing academic activities and seminars for international undergraduate and graduate students.
- Providing guidance on writing high-quality thesis.

I. CONFERENCE PRESENTATIONS

- 27th Annual Conference of the Chinese Society of Micro-Nano Technology & 15th International Conference of the Chinese Society of Micro-Nano Technology. **(2025)** 11.21 - 11.24 Changsha **China**. “Liposomal glucocorticoids prophylaxis in hepatobiliary fibrosis of bile duct ligation murine model.” *[poster]*.
- 26th Annual Conference of the Chinese Society of Micro-Nano Technology & 15th International Conference of the Chinese Society of Micro-Nano Technology. **(2024)** 09.20 - 09.23 Taiyuan **China**. (1) “Preclinical Evaluation of Nanoparticle-Hydrogel Depot for Intraocular Delivery of Anti-Infective Drug Combination” *[oral report]* & (2) “DNA-Origami Based Nanoscale Design of Distinctive Geometric structures and Their Application in Cell-Therapy” *[oral report]*.
- 12th Chinese Congress of Research in Vision and Ophthalmology. **(2024)** 06.13 - 06.16 Guangzhou **China**. (1) “Design and Characterization of Cytocompatible and Lens Epithelial Cells Trapping Nanofiber Scaffold for Preventing Posterior Capsular Opacification” *[oral report]* & (2) “Differential Cellular Uptake of PLGA Nanoparticles Encapsulating Ratiometric Multidrug in Human Lens Epithelial Cells” *[poster]*.
- The Congress of the Chinese Society of Micro-Nano Technology & Medical Therapeutics Innovation. **(2024)** 05.25 - 05.27 Wuhan **China**. (1) “Drug Metabolism Guided Drug Delivery Design Toward Precision Medicine” *[oral report]* & (2) “Design and Characterization of Nanofibrous Scaffold to Capture Human Lens Epithelial Cells for Prevention of Posterior Capsule Opacification” *[poster]*.
- Sixth Symposium on Innovative Polymers for Controlled Delivery. **(2024)** 09.20 - 09.23 Suzhou **China**.
- 17th Pharmaceutical Preparation Conference. **(2024)** 09.27 - 09.29 Hangzhou **China**.

- CRS 2023 Annual Meeting and Exposition. **(2023)** 2023.7.23-7.29. Las Vegas **U.S.** (1) “Fabrication and Characterization of Hydrogel Crosslinked by Borate Ester Bonds to Deliver Nanoparticles in Gastrointestinal Tract” [*poster # 608*] & (2) “Development of Liposomes Co-Encapsulating Dexamethasone and Moxifloxacin for Ocular Anti-Infection” [*poster # 578*].
- The Chinese Society of Micro-Nano Technology & 6th Congress on Innovative and Applied Micro-Nano Technology. **(2023)** 04.22 - 04.24 Shanghai **China**. (1) “Oral Drug Delivery Strategy for Precision Medicine” [*oral report*] & (2) “Synthesis and Characterization of Boronate Ester Cross-Linking Hydrogel for Gastrointestinal Tract Drug Delivery” [*poster*] & (3) “Optimization and Characterization of Ocular Liposomes Co-Encapsulating Moxifloxacin and Dexamethasone” [*poster*] & (4) “Preparation and Characterization of Synergistic Nanomedicine to Inhibit the Growth of Human Lens Epithelial Cells” [*poster*].
- CRS 2022 Annual Meeting and Exposition. **(2022)** 07.11-07.15. Montreal **Canada**. Mechanistic Investigation of Intestinal Uptake of Decanoic Acid Conjugated Plant Protein Shell Incorporating Hybrid Nanosystem for Enhanced Oral Absorption of Polyphenols [*virtual oral report*].
- Northwestern Polytechnical University 2nd “Zhilian Forum” on Academic Research. **(2022)** 06.18. Xi'an **China**. (1) “Preparation and Characterization of Liposomes Co-Encapsulating Moxifloxacin and Dexamethasone” [*poster*] & (2) “Nanomedicine of Drug Combination Synergistically Inhibit the Growth of Human Lens Epithelial Cells” [*poster*] & (3) “Decanoic Acid Conjugated Plant Protein Shell Incorporating Hybrid Nanosystem Enhances Intestinal Absorption and Antioxidant Effect of Polyphenols” [*poster*].
- The Chinese Society of Micro-Nano Technology & 5th Congress on Innovative and Applied Micro-Nano Technology. **(2021)** 05.28 - 05.31 Shanghai **China**. (1) “Exploiting Nanotechnology to Manipulate ROS for Improved Chemotherapy” [*oral report*] & (2) “Oral Delivery of Polyphenols Using Polymer-Lipid Hybrid Nanoparticles for Prevention of Inflammatory Bowel Disease in Murine Models” [*poster*].
- CRS 2021 **Virtual** Annual Meeting and Exposition. **(2021)** 07.25-07.29. (1) Evaluation of Core-Shell Structured Nanoparticles for Oral Delivery of Potent Antioxidant Herbal Drug in Prevention of Inflammatory Disease in Mice [*oral report*, abstract # 2605] & (2) Preparation and Characterization of Moxifloxacin and Dexamethasone Co-loaded Liposome for Preventing Endophthalmitis [*e-poster*, abstract # 2222] & (3) Development of Intraocular Nanomedicine of Synergistic Drug Combination Therapy in Prevention of Cataract Surgery Complication [*e-poster*, abstract # 2422].
- 14th Join Meeting of Japan-China-Korea Ophthalmologists. **(2021)** 11.27. **Virtual Meeting**. (1) “Synergistic Drug Combination Against Posterior Capsular Opacification Associated Human Lens Epithelial Cells Proliferation” [*e-poster*, abstract # 90172] & (2) “Role of ERK1/2 in Regulation of Mild Oxidative Stress Induced Epithelial-to-Mesenchymal Transition in Human Lens Epithelial Cells” [*e-poster*, abstract # 80099].

- CRS 2020 Annual Meeting and Exposition. **(2020)** 06.27-07.01. Las Vegas **U.S.** Development of Nanocomposites with Biopolymeric Shell and Nanostructured Lipid Core for Oral Delivery of Biopharmaceutics Classification System-IV Ellagic Acid. in Drug Delivery Formulation (Technical Section 2) [*virtual oral report*, abstract # 388].
- CRS 2019 Annual Meeting and Exposition. **(2019)** 07.21-07.24. Valencia **Spain**. *In Situ* Proapoptotic Peptide-Generating Rapeseed Protein-Based Nanocomplexes Synergize Chemotherapy for Cathepsin-B Overexpressing Breast Cancer [*poster # 722*].
- 8th International Conference on Nanoscience and Technology ChinaNano2019. **(2019)** 08.17-08.19 Beijing **China**. Lipid-based Nanoassemblies Improve Solubility and Absorption of Nutraceutical Ellagic Acid for Chemoprevention of Inflammation Associated Colorectal Cancer [*poster #S13-0462*].
- 4th Chinese American Society of Nanomedicine and Nanobiotechnology (CASNN). **(2019)** 08.20-08.22 Hangzhou **China**.
- 3rd International Conference on Nanomedicine: Nanomedicine Innovation and Transition. **(2018)** 10.15-10.17. **Shanghai** China. Design of Synergistic Drug Combination Nanomedicine for Treatment of Multidrug Resistance in Cancer [*oral report*] & (2) Rapeseed Protein-Based Nanocomplexes Generate Pro-apoptotic Peptide in situ and Synergize Chemotherapy for Aggressive Breast Cancer Overexpressing Cathepsin B [*poster # P102*].
- 3th Sino-American Nanomedicine Symposium Chinese American Society of Nanomedicine and Nanobiotechnology, CASNN. **(2018)** 07.27-07.30 Nanjing **China**. Pro-apoptotic Peptide-Generating Rapeseed Protein-Based Nanocomplex Provides Synergistic Chemotherapy for Metastatic Breast Cancer [*poster # PO025*].
- Xi'an Jiaotong University 3rd Silk Road International Symposium for Distinguished Young Scholars. **2017**. 11.15-11.20 Xi'an **China**. Application of Synergistic Nanomedicine in Treatment of Multidrug Resistant Cancer [*oral report*].
- *Annual CSPA and CC-CRS Symposium*. **(2016)** 05.31-06.03 Vancouver **Canada**. (1) Polymer-Lipid Based Nanomedicine of Synergistic Drug Combination for Improving Chemotherapy of Multidrug Resistant Breast Cancer [*Award oral report for Gattefossé Canada/CSPA Award in Lipid-Based Drug Delivery*] & (2) Encapsulation of Docosahexaenoic Acid in Polymer-Lipid Hybrid Nanoparticles Enhance Efficacy of Co-delivered Synergistic Drug Combination in Multidrug Resistant Breast Cancer Cells [*post # 84*].
- Society of Chinese Bio-scientists in America Conference. **(2016)** 02.13 Toronto **Canada**. Polymer-Lipid Hybrid Nanoparticles Synchronize Pharmacokinetics of Co-encapsulated Doxorubicin-Mitomycin C and Enable Their Spatiotemporal Co-delivery and Local Bioavailability [*poster*].

- AAPS Annual Meeting & Exposition. **(2015)** 10.25 - 10.29 Orlando **U.S.** Harnessing the Synergistic Effect of Unsaturated Fatty Acid, Anticancer Drug and Polymer-Lipid Nanoparticles to Overcome Membrane Lipid Associated Multidrug Resistance [*poster # M1145*].
- AAPS Annual Meeting & Exposition **(2014)** 11.02-11.06 San Diego **U.S.** Polymer-Lipid Hybrid Nanoparticulate Drug Combination Exhibits Anticancer Synergy, Outperforms Liposomal Doxorubicin Formulation in Overcoming Multidrug Resistance in Cancer Cells and Attenuates Doxorubicin and its Metabolite Associated Cardiotoxicity [*poster # W5126*].
- Joint Conference of CSPA – Canadian Society for Pharmacology & Therapeutics & Canadian Physiological Society **(2012)** 06.12 -06.15 Toronto **Canada**. Reduction of Cardiotoxic Metabolite of Doxorubicin in Blood and Heart of Breast-Tumor Bearing Mice by Encapsulation Doxorubicin in Polymer-Lipid Hybrid Nanoparticles [*poster # CSPA-222*].
- AAPS Annual Meeting & Exposition. **(2011)** 10.14 -10.18 Washington D.C. **U.S.** Applications to Preclinical Study: Quantification of Two Anticancer Drugs, Doxorubicin and Mitomycin C, in Mouse Plasma and Whole Blood by HPLC [*poster # W4248*].
- International Neuro-gastroenterology and Motility Meeting. **(2009)** 08.27 - 08.30. Chicago **U.S.** Motor Patterns and Cholinergic Neurotransmission in the Absence of Interstitial Cells of *Cajal* in the Stomach and Intestine [*poster # A42*].
- Research Topics in GI Disease VIII. **(2008)** 10.24 -10.26. Toronto **Canada**. (1) The Role of Interstitial Cells of Cajal (ICC) in Cholinergic Neurotransmission to the Gastric Musculature [*oral report*] & (2) Motor Patterns and Cholinergic Neurotransmission in the Absence of Interstitial Cells of *Cajal* in the Stomach and Intestine [*poster # A42*].

REFERENCES UPON REQUEST

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