

Dr. Xin Zhao (orcid: 0000-0002-9521-7768)

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Address: Department of Biomedical Engineering, The Hong Kong Polytechnic University, Hung Hom, Hong Kong



Profile: an enthusiastic and highly motivated biomaterial scientist with multi-disciplinary research experience, skilled laboratory techniques and teaching and editorial experience

Research Interests: biomaterials, tissue engineering, drug delivery, cell micro-environment, microfluidics

Strengths

- Broad knowledge and specialized techniques in biomaterials, tissue engineering, drug delivery, cell micro-environment and microfluidics
- Excellent communication and organization skills developed via writing papers and grant proposals, presenting at international conferences, demonstrating experiments, lecturing and editing scientific publications
- Fluent English, Cantonese and Mandarin
- International study and work experience in China, UK and USA

Higher Education

- 2006-2010 **PhD** in Biomaterials and Tissue Engineering, **University College London (UCL, ranked 22nd in the world by US News 2016), UK**
- 2005-2006 **MSc with Distinction** in Engineering and Physical Science in Medicine (**top 5%**, GPA 72.5/100), **Imperial College London (ranked 18th in the world by US News 2016), UK**
- 2001-2005 **B. Eng First Class (Hons)** in Bioengineering (**top 1%**, GPA 3.821/5.0), South China Normal University (SCNU, ranked 57th from 1056 universities in China in 2015), China
- Additional
2007-2008 **MBA (certificate), London Business School (ranked 2nd Business School in the world by the Financial Times in 2015), UK**
Understanding Entrepreneurial Opportunities and New Venture Development

Work Experience

- 2016 - **Assistant professor**, Department of Biomedical Engineering, The Hong Kong Polytechnic University, Hong Kong, China
- 2015-2016 **Associate professor**, School of Life Science and Technology, Xi'an Jiaotong University, China (ranked 17th among 1056 universities in China)
- 2014-2015 **Postdoctoral research fellow, Harvard John A. Paulson School of Engineering and Applied Sciences (ranked 1st in the world by US News 2016), USA**
- 2012-2014 **Postdoctoral research fellow, Harvard-MIT Health Sciences and Technology, Harvard Medical School (ranked 1st in the world by US News 2016), USA**
- 2011-2012 **Research associate**, Guangzhou iGenomics Co., Ltd., China

Honors and Awards:

1. **Dorothy Hodgkins Postgraduate Award**, £ 90,000, EPSRC, UK, 2006
2. **Central Research Fund**, £ 2,000, University of London, UK, 2009
3. **Outstanding Young Scholars**, ¥ 1,500,000, Xi'an Jiaotong University, China, 2015

4. **International Federation of Medical and Biological Engineering (IFMBE) Asia Pacific Research Networking (APRN) Fellowship**, HK representative, 2018
5. General Participant of Max Planck Croucher Symposium 2019 (theme 'Matter to Life'), (only two are selected from one university in Hong Kong), Okinawa, 2019
6. Supervised undergraduate student Miss Panyang Tanyaporn to receive the Top 40 projects FYP+ Funding Scheme 2019;
7. Supervised undergraduate student Miss Panyang Tanyaporn to attract the Proof-of-Concept Funding from PolyU;
8. Supervised PhD student Mr Zhang Qiang to win the NanoMed 2019 Best Poster Award in the 3rd International Symposium on Translational Nanomedicine
9. Supervised student Miss Panyang Tanyaporn, Mr Lam Chun Hei, Mr Ho Pan Bei and Mr Hung Chi Hin won the third prize of the 2019 Hong Kong University Student Innovation and Entrepreneurship Competition.
10. Nomination of "**Nature Research Awards for Inspiring Science**" 2019 (Shortlisted 10 from >150 applications globally).
11. Merit awards (Individual Award, only 3 from 155 faculty members) of Faculty Awards for Outstanding Performance/Achievement 2018/19.
12. Supervised student Mr Ho Pan Bei attract the Travel Grants for Winter School on Tissue Engineering and Regenerative Medicine 2020
13. Supervised student Mr Qiang Zhang win the Top Prize of Hong Kong Medical and Healthcare Device Industries Association Student Research Award (HKMHDIA, HK\$2,500, only two in PolyU) 2019
14. PolyU UG Summer Research Abroad Sponsorship (USRA-2016, HK\$36,750), 2020
15. Supervised student Mr Ho Pan Bei won the Best Teaching Assistant Award, 2020
16. Supervised student Mr Ho Pan Bei, Mr Yuhe Yang and Mr Qiang Zhang won PolyU Micro Fund (HK\$ 120,000), 2020

Teaching Experience

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| 2016- | Subject 1: Biomaterials Science and Engineering; Subject 2: Bionanotechnology; Subject 3: Wearable Healthcare and Fitness Devices for Everyone, Subject 4: Skin-care Technologies, The Hong Kong Polytechnic University, Hong Kong SAR, China |
| 2012-2015 | Laboratory demonstration for undergraduate, MSc and PhD students in Biomaterials and Tissue Engineering, Harvard University, USA |
| 2006-2009 | Laboratory demonstration for undergraduate and MSc students in Biomaterials and Tissue Engineering, UCL, UK |

Editorships

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| 2020 | Editor of a book by Wiley titled "Biofabrication for Orthopedics" |
| 2020 | Editorial board of "Journal of the Mechanical Behavior of Biomedical Materials" |
| 2020 | Guest editor of special issue "Biomaterials for Engineering Cellular Environments in Tissue Engineering" of <i>Frontiers in Bioengineering and Biotechnology</i> |
| 2019 | Founding Editor-in-chief of "Engineered Regeneration" by KeAi Communications Co |
| 2019 | Associate editor of "Biointerface Research in Applied Chemistry" |
| 2019 | Guest editor of "Procedia CIRP of BioManufacturing Conference 2019" |
| 2019 | Editorial board of "Advances in Mechanical Engineering" |
| 2018 | Guest editor of special issue "Graphene Nanocomposites" of <i>Molecules</i> |
| 2017 | Guest editor of special issue "Polymer Scaffolds for Biomedical Applications" of <i>Polymers</i> |

- 2017 Editorial board of "Frontiers in Molecular Biosciences, Bioengineering and Biotechnology and Materials"
- 2017 Editor of a book by Elsevier titled "Theranostic Bionanomaterials"
- 2016 Guest editor of special issue "Therapeutic Nanomaterials" of *Drug Discovery Today*
- 2015 Guest editor of special issue "Biomaterials for Plastic and Aesthetic Surgery" of *Plastic and Aesthetic Research*

Grants

1. **Innovation and Technology Fund**, (PI, Grant no. ITS/065/19, HK\$ 1,369,650), Spatiotemporal dual delivery of therapeutic gas and biomolecule for prevention of stent thrombosis and restenosis, 01/05/2020- 31/10/2022.
2. **General Research Fund, Research Grants Council** (PI, Grant no. 15202119, HK\$ 495,000), Dual-targeting, bioresponsive and programmed site-specific drug delivery for pancreatic cancer treatment, 01/2020-09/2022
3. **Health and Medical Research Fund** (PI, Grant no. 06173186, HK\$ 947,400), Development of bioresponsive nano-peptide-gel fibrous membranes for an on-demand siRNA delivery for prevention of tendon adhesions: a preclinical study, 24/09/2019-23/09/2021
4. **Early Career Scheme, Research Grants Council**, (PI, Grant no. 25208218, HK\$ 750,000), Long-term drug release from electrospun fibrous scaffolds for prevention of hypertrophic scar, 01/01/2019-31/12/2021
5. **Germany/Hong Kong Joint Research Scheme (Ref. No. G-PolyU508/18), Research Grants Council**, (PI, HK\$ 89,600). Development of soft and elastic hydrogel nanofibrous scaffolds for rapid vascularized skin regeneration. 01/01/2019-31/12/2020
6. **Inter-Departmental Open Project of State Key Laboratory of Ultra-precision Machining Technology (SKL-UPMT)**, (PI, Grant no. P0033576, HK\$ 380,000), Study of neural stem cellular behaviors on high throughput precision etching facilitated microcurvatures, 13/10/2020-12/04/2022.
7. **Teaching Development Grant (TDG) 2019-22 (Ref: SS-BME1)**, (PI, HK\$ 199,800), Towards a new age of course-based undergraduate research training: apprenticeship via e-platform for lab equipment management and teaching, 01/07/2020- 31/12/2021.
8. **Greata Group Co. Ltd., China**, (PI, ¥ 1,500,000): Complementary and synergistic signal molecules loaded electrospun fibers for tendon healing, 01/09/2018-31/08/2021.
9. **Youth Projects of National Science Foundation of China** (PI, Grant no. 11702233, ¥ 250,000), Development of soft and elastic hydrogel-based 3D microenvironment for neuronal differentiation of neural stem cells, 01/01/2018-31/12/2020.
10. **Intra-Faculty Interdisciplinary Projects, Research Funding Scheme**, (PI, HK \$400,000), Bioresponsive Nanoparticle Drug Delivery Systems for Pancreatic Cancer Treatment, 15/5/2019-14/5/2020
11. **Visiting Scholarship Scheme of the K.C. Wong Education Foundation** (PI, HK\$ 20,000), 01/01/2020-31/12/2020
12. PolyU, (PI, Grant No. 1-ZE7S, HK\$ 500,000), Long-term drug release from electrospun fibrous scaffolds for prevention of hypertrophic scar, 2017-2020.
13. PolyU, (PI, Grant No. G-YBWS, HK\$ 105,000), Treatment of hypertrophic scars using electrospun fibrous scaffolds with long-term drug release properties, 2017-2019.
14. PolyU, (PI, HK\$ 150,000), International Capstone Project of Development of a Novel Hairy Hydroxyapatite Strengthened Hydrogel Membrane as Artificial Periosteum, 9/2018-3/2019.
15. State Key Laboratory of Molecular Engineering of Polymers (Fudan University), (PI, Grant No.

- K2019-20, HK\$ 35,000), Adhesion microenvironment triggered drug release from electrospun fibers for tendon adhesion prevention, 1/1/2019-1/11/2020
16. Guangdong provincial key laboratory of functional soft condensed matter, (PI, Grant No. HK\$ 23,000), Construction of microfluidic-3D bioprinter platform based on photocrosslinkable hydrogel material, 1/10/2018-1/9/2020
 17. **Central Research Fund (CRF)**, PI, £ 2,000, University of London, UK, 2009.
 18. **Innovation and Technology Fund**, (Co-I, HK\$ 1,577,851), Development of cooling mask, 18/03/2019-17/03/2021
 19. **General Research Fund, Research Grants Council**, (Co-I, HK\$ 632,421), A hybrid nanosystem for photo-treatment of Alzheimer's disease in a blood-brain barrier on-a-chip, 01/01/2019-31/12/2021
 20. PolyU, (Co-I, Grant No. 1-YW3E, HK\$ 754,936), A hybrid two-dimensional nanomaterials based nanosystem for near-infrared light phototherapy, 2018-2020.
 21. Shenzhen Science and Technology Innovation Committee (Co-I, Grant no. 20170248, ¥ 2,000,000), Study on the mechanism of mechanical factors affecting the tumor development and metastasis of hepatoma stem cells, 01/09/2017-31/08/2020.
 22. Science and Technology Department of Sichuan Province, Photothermal nanocrystals for tumor antigens capturing and tumor immunotherapy (Co-I, Grant no. 20GJHZ0244, ¥ 200,000), 01/01/2020-31/12/2022

Total grant support as PI (~HK\$ 6,969,650) and as co-I (~HK\$ 5,677,000).

Conference Presentations and Invited Talks

1. 15th International Conference on Plasma Based Ion Implantation & Deposition (session chair), Shenzhen, Dec 2019
2. 4th CIRP Conference on BioManufacturing, (Organizing Committee), Guangzhou, Dec 2019.
3. 2019 Annual Conference for Society of Chinese Mechanical Engineering Biomanufacturing Division and the International Symposium on Bio-Manufacturing (ACBD-ISBM2019), (invited talk), Beijing, 2019
4. Max Planck Croucher Symposium 2019, (only 2 are selected from one institute in Hong Kong) Okinawa, Nov 2019
5. 3D Bioprinting Submit (keynote speech), Beijing, China, 2019
6. Suzhou Sports Medicine Annual Conference (keynote speech), Suzhou, China, 2019
7. The 5th Youth Forum on Additive Manufacturing (keynote speech), Nanjing, China, 2019
8. Third International Symposium on Translational Nanomedicine (invited talk), Guangzhou, China, 2019
9. The 12th IEEE International Conference on Nano/Molecular Medicine and Engineering (session chair), Hawaii, USA, 2018
10. The 3rd Asian University Symposium on Biomedical Engineering (keynote speech), Seoul, Korea, 2018
11. The 4th Youth Forum on Additive Manufacturing (keynote speech), 2018
12. World Congress on Medial Physics and Biomedical Engineering (invited talk), Prague, Czech Republic, 2018
13. The 2nd Karolinska Institutet Symposium "*Reparative Medicine and Beyond*" (invited talk), 2018
14. The 6th International Symposium on Surface and Interface of Biomaterials (keynote speech, session chair), 2017
15. *Biomaterials for regenerative medicine* (invited talk by Prof Liming Bian). Chinese University of Hong Kong, Hong Kong, 2017.

16. *Photocrosslinkable gelatin for tissue engineering*, International Soft Matter Symposium & the 6th “China Soft Matter Day” (invited talk), Shen Zhen, China, 2017
17. The 8th WACBE World Congress on Bioengineering (session chair, organizing committee), HK, China), HK, China
18. *Photocrosslinkable gelatin for tissue engineering*, Karolinska Institutet Symposium “Reparative Medicine and Beyond (invited talk), Hong Kong, China, 2017
19. *Biomaterials for regenerative medicine* (invited talk by Anderson Shum). University of Hong Kong, Hong Kong, 2017.
20. *Biomaterials for translational medicine*. 3D bioprinting and biomaterials (keynote speech), Hong Kong, China, 2016.
21. *Stem cell-laden photo-crosslinkable microspheres for bone regeneration*, Tissue Engineering and Regenerative Medicine International Society- Asia Pacific Meeting (invited talk), Taiwan, China, 2016
22. *Stem cell-laden photo-crosslinkable microspheres for bone regeneration*, 6th International Conference on Optofluidics (invited talk), Beijing, China, 2016
23. *Stem cell-laden photo-crosslinkable microspheres for bone regeneration*, 10th World Biomaterials Congress (oral presentation), Montreal, Canada, 2016
24. *Micro- and nanofabrication of biomaterials and their biomedical applications*, the 2nd National Young Scholar’s Forum on Additive Manufacturing (invited talk), Xi’an, China, 2016
25. *Biomaterials for translational medicine* (invited talk). City University of Hong Kong, Hong Kong, 2016.
26. *Tumor triggered cancer therapy* (invited talk). International Young Scholars Forum, Shanghai Jiaotong University, China, 2015.
27. *Biomaterials for translational medicine* (invited talk). Xi’an Jiaotong University, China, 2015.
28. *Cell behavior on injectable and biodegradable polymers*, the 22nd European Biomaterials Conference, Switzerland, 2009.
29. *Injectable degradable reactive calcium phosphate contained composites for bone repair and drug delivery*, the 22nd European Biomaterials Conference, Switzerland, 2009.
30. *Injectable degradable polymeric adhesives containing reactive calcium phosphate filler particles*, the Pan European Federation of the International Association for Dental Research, UK, 2008.
31. *Injectable biodegradable reactive calcium phosphate loaded composites for combined bone repair and drug delivery*, the 8th World Biomaterials Congress, the Netherlands, 2008.
32. *Injectable biodegradable poly (ester-co-ether) methacrylate monomers for bone tissue engineering and drug delivery applications*, the 17th Interdisciplinary Research Conference on Biomaterials, UK, 2007.

List of Publications

A. Published journal papers

2020

1. Yang YH, Zhang Q, Xu TP, Zhang HY, Zhang M, Lu L, Hao YF#, Fuh JYH#, **Zhao X#** Photocrosslinkable nanocomposite ink for printing strong, biodegradable and bioactive bone graft. *Biomaterials* (IF 10.317). 2020 (accepted)
2. Chen ZY, Zhang Q, Li HM, Wei Q, **Zhao X#**, Chen FL#, Elastin-like polypeptide modified silk fibroin porous scaffold promotes osteochondral repair. *Bioactive Materials* (IF 9.8). 2020 (accepted)
3. **Zhao X#**, Zhu DH#. Editorial. *Engineered Regeneration*. 2020,1,34.
4. Yang ZL#, **Zhao X#**, Hao R, Tu Q, Tian X, Xiao Y, Xiong K, Wang M, Feng Y, Huang N, Pan G. Bio-clickable and mussel adhesive peptide mimics for engineering vascular stent surfaces. *P*

- Natl Acad Sci USA* (IF 9.412). 2020 (accepted). Doi: 10.1073/pnas.200373117
5. Mao M, Bei HP, Lam CH, Chen P, Wang S, Chen Y, He J, **Zhao X***, Human-on-leaf-chip: A biomimetic vascular system integrated with chamber-specific organs, *Small* (IF 11.459, **journal cover**). 2020. Doi: 2020 Apr 24:2000546.
 6. Tu QF, **Zhao X#**, Liu S, Li XY, Zhang Q, Yu H, Xiong KX, Huang N, Yang ZL, Spatiotemporal dual-delivery of therapeutic gas and growth factor for prevention of vascular stent thrombosis and restenosis, *Appl. Mater. Today* (IF 8.352). 2020. Doi: 10.1016/j.apmt.2019.100546
 7. Pan BH, Zhang Q, Lam CH, Yuen HY, Kuang S, **Zhao X***. Petite miracles: insight into the nano-management of scarless wound healing. *Drug Discov Today* (IF 7.321). 2020. Doi: 10.1016/j.drudis.2020.03.013
 8. Rao J, Pan Bei H, Yang Y, Liu Y, Lin H, **Zhao X***. Nitric oxide producing cardiovascular stent coatings for prevention of thrombosis and restenosis. *Front Bioeng Biotech* (IF 3.644), 2020; 8,578.
 9. Chen H, Sun T, Yan Y, Ji X, Sun Y, **Zhao X**, Qi J, Cui WG, Deng, Zhang HY, Cartilage matrix-inspired biomimetic superlubricated nanospheres for treatment of osteoarthritis, *Biomaterials* (IF 10.317), 2020,242,119931.DOI: 10.1016/j.biomaterials.2020.119931
 10. He W, Wang Z, Hou C, Huang X, Yi B, Yang Y, Zheng W, **Zhao X**, Yao X, Mucus-inspired supramolecular adhesives with oil-regulated molecular configurations and long-lasting antibacterial properties. *ACS Appl Mater Interfaces* (IF 8.758),2020,12(14),16877-86.
 11. Zhang YC, Hu JL, Xie RQ, Yang YH, Cao J, Tu YH, Zhang Y, Qin T, **Zhao X.**, A programmable, fast-fixing, osteo-regenerative, biomechanically robust bone screw, *Acta Biomaterialia* (IF 7.242), 2020,103,293-305.
 12. Gao H, Kam C, Chou TY, Wu MY, **Zhao X**, Chen S. A simple yet effective AIE-based fluorescent nano-thermometer for temperature mapping in living cells using fluorescence lifetime imaging microscopy. *Nanoscale Horiz* (IF 9.927, **journal cover**), 2020, 5, 488-494.
 13. Yang Y, Gao P, Wang J, Tu Q, Bai L, Xiong K, Qiu H, **Zhao X**, Maitz MF, Wang H, Li X, Zhao Q, Xiao Y, Huang N, Yang Z, Endothelium-mimicking multifunctional coating modified cardiovascular stents via a stepwise metal-catechol-(amine) surface engineering strategy, *Research*, 2020 ,9203906. Doi:10.34133/2020/9203906
 14. Yang T, Du Z, Qiu H, Gao P, **Zhao X**, Wang H, Tu Q, Xiong K, Huang N, Yang Z, From surface to bulk modification: Plasma polymerization of amine-bearing coating by synergic strategy of biomolecule grafting and nitric oxide loading, *Bioact Mater* (IF 8.724), 2020, 5(1),17-25.

2019

15. Zhu, Z., Liu, J, Liu, C., Wu, X., Li, Q., Chen, S., **Zhao X***, Weitz, D. A., Microfluidics-assisted assembly of injectable photonic hydrogels toward reflective cooling. *Small* (IF 11.459) 2019, 1903939. Doi:10.1002/smll.201903939
16. Zhang F, Zhang Q, Li XY, Huang N, **Zhao X***, Yang ZL. Mussel-inspired dopamine-Cu^{II} coatings for sustained in situ generation of nitric oxide for prevention of stent thrombosis and restenosis. *Biomaterials* (IF 10.317), 2019, 194,117-129.
17. Wu, D., Yu, Y., Zhao, C., Shou, X., Piao, Y., **Zhao X***, Wang, S. (2019). NK Cell-encapsulated porous microspheres via microfluidic electrospray for tumor immunotherapy. *ACS Appl Mater Interfaces* (IF 8.758), 2019, 37,33716-33724.
18. Yildirimer L, Zhang Q, Kuang S, Cheung CW, Chu, K, He Y, Yang M, **Zhao X***, Engineering three-dimensional microenvironments towards in vitro disease models of the central nervous system. *Biofabrication* (IF 8.213), 2019, 11(3),032003.
19. Ji X, Yan Y, Sun T, Zhang Q, Wang Y, Zhang M, Zhang H, **Zhao X***, Glucosamine sulphate-

- loaded distearoyl phosphocholine liposomes for osteoarthritis treatment: combination of sustained drug release and improved lubrication. *Biomater Sci* (IF 6.183), 2019,7,2716-2728.
20. Bei HP, Yang YH, Zhang Qiang, Tian Y, Luo XM, Yang M*, **Zhao X***, Graphene-based nanocomposites for neural tissue engineering, *Molecules* (IF 3.267), 2019, 24(4),658.
 21. **Zhao X***, Yang M. Graphene Nanocomposites, *Molecules* (IF 3.267), 2019, 24,2440.
 22. Lv, S, Nie, J; Gao, Q; Xie, C; Zhou L; Qiu, J, Fu, J; **Zhao X**; He, Yong, Micro/nanofabrication of brittle hydrogels using 3D printed soft ultrafine fiber molds for damage-free demolding. *Biofabrication* (IF 8.213), 2019,12(2),025015.
 23. Chen ZK, Luo XH, **Zhao X**, Yang M, Wen CY, Label-free cell sorting strategies via biophysical and biochemical gradients, *J Orthop Translat* (IF 3.986), 2019,17,55-63.
 24. Zhang YC, Hu JL, **Zhao X**, Xie Q, Qin T, Ji FL. Mechanically robust shape memory polyurethane nanocomposites for minimally invasive bone repair. *ACS Applied Bio Materials*, 2019, 2(3),1056-1065.
 25. Wang J, Fan Y, Tan Y, **Zhao X**, Zhang Y, Cheng C, Yang M. Porphyrinic Metal-Organic Framework PCN-224 Nanoparticles for Near-Infrared-Induced Attenuation of Aggregation and Neurotoxicity of Alzheimer's Amyloid- β Peptide. *ACS Appl Mater Interfaces* (IF 8.758), 2018,10(43),36615-36621.

2018

26. Yang ZL, Yang Y, Zhang L, Xiong KQ, Li XY, Zhang F, Wang J, **Zhao X***, Huang N. Mussel-inspired catalytic selenocystamine-dopamine coatings for long-term generation of therapeutic gas on cardiovascular stents. *Biomaterials* (IF 10.317) ,2018, 178,1-10.
27. Chen H, Cheng R, **Zhao X#**, Zhang Y, Allison T, Yan Y, Shen HK, Zhang Y, Qi J, Feng Y, Liu L, Pan G, Cui W, Deng L. An injectable self-healing coordinative hydrogel with antibacterial and angiogenic properties for diabetic skin wound repair. *NPG Asia Mater* (IF 8.131, **journal cover**), 2019, 11(1), 3.
28. Zhang L, Bei PH, Piao Y, Wang YF, Yang M, **Zhao X***. Polymer brush-grafted mesoporous silica nanoparticles for triggered drug delivery, *ChemPhysChem* (IF 3.144), 2018,19(16),1956-1964.
29. Zhang Q, Sito L, Mao M, He J, Zhang YS, **Zhao X***. Current advances in skin-on-a-chip models for drug testing. *Microphysiol Syst*,2018, 2,4.
30. Zhang J, **Zhao X**, Liang L, Li J, U Demirci U, Wang SQ. A decade of progress in liver regenerative medicine. *Biomaterials* (IF 10.317), 2018,157,161-176
31. Yan Y, Sun T, Zhang H, Ji X, Sun Y, **Zhao X**, Deng L, Qi J, Cui W, Santos HA, Zhang H. Euryale ferox seed-inspired superlubricated nanoparticles for treatment of osteoarthritis. *Adv Func Mater* (IF 16.836), 2018,29(4),1807559.
32. Liu L, Tian XH, Ma Y, Duan YQ, **Zhao X**, Pan GQ. A versatile mussel-inspired dynamic biointerface: from specific cell behavior modulation to selective cell isolation. *Angewandte Chemie* (IF 12.959) ,2018, 57(26),7878-7882.
33. Wang Y, Cui, WG, **Zhao X**, Wen SZ, Sun YL, Han JM, Zhang HY. Bone remodeling-inspired dual delivery electrospun nanofibers for promoting bone regeneration. *Nanoscale* (IF 6.895) ,2018,11(1),60-71.
34. Lu S, Cuzzucoli F, Jiang J, Liang LG, Wang Y, Kong MQ, **Zhao X**, Cui W, Li J, Wang S. Development of a biomimetic liver tumor-on-a-chip model based on decellularized liver matrix for toxicity testing. *Lab on a Chip* (IF 6.774), 2018, 18(22),3379-3392.
35. Yang Z, Tu Q, Shen X, Liu Y, Zhang Q, **Zhao X**, Maitz M, Liu T, Qiu H, Wang J, Huang N, A facile metal-phenolic-amine strategy for dual-functionalization of blood-contacting devices with

- antibacterial and anticoagulant properties, *Mater Chem Front* (IF 6.788), 2019,3(2),265-275. (Hot article in December 2018)
36. Wang J, Fan Y, Lee HW, Yi C, Cheng C, **Zhao X**, Yang M. Ultrasmall metal-organic framework Zn-MOF-74 nanodots: Size-controlled synthesis and application for highly selective colorimetric sensing of Iron (III) in aqueous solution. *ACS Appl Nano Mater*, 2018,1(7),3747-3753.
 37. Chang J, He JK, Mao M, Zhou WX, Lei Q, Li X, Li DC, Chua CK, **Zhao X**. Advanced material strategies for next-generation additive manufacturing. *Materials* (IF 3.057), 2018,11(1),166.
 38. Gao H, **Zhao X**, Chen S. AIEgen-based fluorescent nanomaterials: Fabrication and biological applications. *Molecules* (IF 3.267), 2018,23(2),419.

2017

39. **Zhao X**, Sun XM, Yildirimer L, Lang Q, Zheng WY, Lin ZY, Zhang YG, Cui WG, Annabi N, Khademhosseini A. Cell infiltrative hydrogel fibrous scaffolds for accelerated wound healing. *Acta Biomaterialia* (IF 7.242), 2017, 49,66-77.
40. Sun XM, Lang Q, Zhang HB, Cheng LY, Zhang Y, Guoqing Pan, **Zhao X**, Yang HL, Zhang YG, Santos AH, Cui WG. Electrospun photocrosslinkable hydrogel fibrous scaffolds for rapid in vivo vascularized skin flap regeneration, *Adv Func Mater* (IF 16.836), 2017, 27,1604617. (**journal cover**)
41. Liu YL, Zhi X, Yang M, Zhang JP, Lin LN, **Zhao X**, Hou WX, Zhang CL, Zhang Q, Pan F, Alfranca G, Yang YM, de la Fuente JM, Ni J, Cui DX. Tumor-triggered drug release from calcium carbonate-encapsulated gold nanostars for near-infrared photodynamic/photothermal combination antitumor therapy, *Theranostics* (IF 8.579), 2017, 7,1650-1662.
42. Dong YQ, Jin GR, Ji CC, He RY, Lin M, **Zhao X**, Li A, Lu TJ, Xu F. Non-invasive tracking of hydrogel degradation using upconversion nanoparticles, *Acta Biomaterialia* (IF 7.242), 2017, 55,410-419.
43. Zhao S, Su W, Shah V, Hobson D, Yildirimer L, Yeung KWK, Zhao JZ, Cui W, **Zhao X***. Biomaterials based strategies for rotator cuff repair. *Colloid Surface B* (IF 4.389), 2017,157,407-416.
44. Zhang Q, Li YQ, Lin ZY, Wong KY, Lin M, Yildirimer L, **Zhao X***. Electrospun polymeric micro/nanofibrous scaffolds for long-term drug release and their biomedical applications, *Drug Discov Today* (IF 7.321), 2017, 22,1351-1366. (Top 25% cited of the journal in 2018)
45. Jin GR, **Zhao X**, Feng X. Therapeutic nanomaterials for cancer therapy and tissue regeneration. *Drug Discov Today* (IF 7.321), 2017, 22,1285-1287
46. Huang GY, Li F, **Zhao X**, Ma YF, Li YH, Jin GR, Genin G, Lu TJ, Xu F. Functional and biomimetic materials for engineering of the three-dimensional cell microenvironment. *Chem Rev* (IF 52.758), 2017, 117 (20),12764–12850 (**ESI highly cited paper**).
47. Zhang, J., **Zhao, X.**, Liang, L., Li, J., Demirci, U., & Wang, S. (2018). A decade of progress in liver regenerative medicine. *Biomaterials* (IF 10.317), 2017,157,161-176.
48. Zhao H, Ding RH, **Zhao X**, Li YW, Qu LL, Pei H, Yildirimer L, Wu ZW, Zhang WX. Graphene-based nanomaterials for drug and/or gene delivery, bioimaging, and tissue engineering. *Drug Discov Today* (IF 7.321), 2017, 22(9),1302-1317.
49. Liu XL, Gao P, Du J, **Zhao X**, Wong KKY. Long-term anti-inflammatory efficacy in intestinal anastomosis in mice using silver nanoparticle-coated suture. *J Pediatr Surg*, 2017, 52(12),2083-2087.
50. Hu Y, Hong Y, Shi NY, Huang GY, **Zhao X***. Construction and regulation of three-dimensional microenvironment for neural stem cells based on methylacrylate gelatin. *China Sciencepaper*, 2017,12(24), 2770-2776.

2016

51. **Zhao X**, Liu S, Yildirimer L, Zhao H, Ding RH, Wang HN, Cui WG, Weitz D. Injectable stem cell laden photo-crosslinkable microspheres fabricated using microfluidics for rapid generation of osteogenic tissue constructs. *Adv Func Mater* (IF 16.836), 2016, 26, 2809-2819. **(journal cover)**
52. **Zhao X**, Lang Q, Yildirimer L, Lin ZY, Cui WG, Annabi N, Ng KW, Dokmeci MR, Ghaemmaghami AM, Khademhosseini A. Photocrosslinkable gelatin hydrogel for epidermal tissue engineering. *Adv Healthc Mater* (IF 7.367), 2016, 5,108-118. **(most highly viewed publication of AHM of 2015)**.
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