Dr. Tianyu Zhao
Email: tyzhao@uw.edu

DEPARTMENT OF BIOENGINEERING
UNIVERSITY of WASHINGTON

Curriculum Vitae of Dr. Tianyu Zhao, *B.Sc.*, *M.Sc.*, *Ph.D.*

CURRENT POSITION:

Senior Fellow in Department of Bioengineering at University of Washington School of Medicine

RESEARCH AREAS:

- Controlled/living polymerization techniques (ATRP, NMP, RAFT, SET)
- Polymer structure control and self-assembly
- Multi-functional dendritic polymer as non-viral gene vector, bio-sensor or drug delivery system.
- PEG-based dendritic polymers as bio-responsive wound healing dressing and adhesive.

EDUCATION AND TRAINING:

05/2011-05/2015:
Ph.D. in in Medicine and Medical Science, University College Dublin (UCD), Ireland Dissertation Title: Controlled/living Radical Polymerization of Multi-Vinyl Monomer towards Hyperbranched Polymers for Biomedical Applications

09/2008-03/2011:
M.Sc. in Chemistry, Shanghai Jiao Tong University (SJTU), China Dissertation Title: Synthesis and property study of bismuth based macro/nanomaterials

09/2003-07/2007:
B.Sc. in Material Science and Engineering, Tianjin University (TJU), China Dissertation Title: Electrical Performance of Conducting Polymer Doped with Carbon Nanotube

PUBLICATIONS:

1. ‘‘Significance of branching for transfection: synthesis of highly branched degradable functional poly(dimethylaminoethyl methacrylate) by vinyl oligomer combination’’

   Zhao, T., Zhang, H., Newland, B., Aied, A., Zhou, D., **Wang, W.** *ANGEWANDTE CHEMIE INTERNATIONAL EDITION*, 2014, 53(24), 6095-6100**. (IF=11.336)**

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2. ‘‘Controlled multi-vinyl monomer homopolymerization through vinyl oligomer combination as a universal approach to hyperbranched architectures’’

   Zhao, T., Zheng, Y., Poly, J., **Wang, W.** *NATURE COMMUNICATIONS*, 2013, 4, article number: 1874. **(IF=10.742)**

3. ‘‘Controlled homopolymerization of multi-vinyl monomers: dendritic polymers synthesized via an optimized ATRA reaction’’

   Zheng, Y., **Zhao, T.**, Newland, B., Poly, J., **Wang, W.** *CHEMCAL COMMUNICATIONS*, 2013, 49, 10124-10126. **(Joint first author) (IF=6.718)**

4. ‘‘Water soluble hyperbranched polymers from controlled radical homopolymerization of PEG diacrylate’’

   Zhao, T., Zhang, H., Zhou, D., Gao, Y., Dong, Y., Greiser, U., Tai, H., **Wang, W.** *RSC ADVANCES*, 2015, 5, 33823-33830. **(IF=3.708)**

5. ‘‘Hierarchical $Bi_2O_2CO_3$ microspheres with improved visible-light-driven photocatalytic activity’’

   Zhao, T., Zai, J., Xu, M., Zou, Q., Su, Y., Wang, K., **Qian, X.** *CRYSTENGCOMM* 2011, 13 (12), 4010-4017. **(IF=3.858)**

6. ‘‘Bioapplications of hyperbranched polymers’’

   Wang, D., **Zhao, T.**, Zhu, X., Yan, D., **Wang, W.** *CHEMICAL SOCIETY REVIEWS*, 2015, 44, 4023-4071. **(IF=30.425)**

7. ‘‘Untying a nanoscale knotted polymer structure to linear chains for efficient gene delivery in vitro and to the brain’’

   Newland, B., Aied, A., Pinoncely, A. V., Zheng, Y., **Zhao, T.**, Zhang, H., Niemeier, R., Dowd, E., Pandit, A., **Wang, W.** *NANOSCALE*, 2014, 6, 7526-7533. **(IF=6.739)**

8. ‘‘In situ formed hybrid hydrogels from PEG based multifunctional hyperbranched copolymers: a RAFT approach’’

   Kennedy, R., Hassan, W., Tochwin, A., **Zhao, T.**, Dong, Y., Wang, Q., Tai, H., **Wang, W.** *POLYMER CHEMISTRY*, 2014, 5 (6), 1838-1842. **(IF=5.368)**

9. ‘‘Mussel-inspired hyperbranched poly (amino ester) polymer as strong wet tissue adhesive’’

   Zhang, H., Bré, L., **Zhao, T.**, Zheng, Y, **Wang, W.** *BIOMATERIALS*, 2014, 35, 711-719. **(IF=8.312)**

10. ‘‘A biomimetic hyperbranched poly (amino ester)-based nanocomposite as a tunable bone adhesive for sternal closure’’

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Zhang, H., Bre, L., **Zhao, T.**, Newland, B., Da Costa, M., **Wang, W.** *JOURNAL OF MATERIALS CHEMISTRY B*, 2014, 2, 4067-4071. **(IF not available)**

11. ''Acetal-linked branched poly(dimethyl-aminoethyl methacrylate) as an acid cleavable gene vector with reduced cytotoxicity''

    Cao, H., Dong, Y., Aied, A., **Zhao, T.**, Chen, X., Wang, W., Pandit, A., *CHEMICAL COMMUNICATIONS*, 2014, 50, 15565-15568. **(IF=6.718)**

CONFERENCES:

(Presenter labelled with underline.)

1. 'Knotted Polymer Structures: Efficient Nucleic Acid Delivery Agents'. Aied, A., **Zhao, T.,** Mauerer, E., South, A., Carroll, O., Greiser, U., Pandit, A., Wang, W., *Podium presentation* at the 25th European Conference on Biomaterials, Madrid, Spain, Sep. 8th–13th 2013

ACTIVITIES:

- Young researcher organizing committee member for the 24th European Conference on Biomaterials, Dublin, 2011;
- Teaching assistant for the polymer lab of undergraduate during 2011-2012;
- Teaching assistant for the tissue engineering course of undergraduate during 2012-2013;
- International Summer Exchange Program to New Jersey Centre for Biomaterials (NJCBM, Prof. Joachim Kohn's lab) for three months in 2012.
