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教育经历:

2003年9月- 2007年6月: 武汉大学, 化学学院, 本科

2007年9月- 2012年6月: 武汉大学, 化学学院, 博士

工作经历:

2012年7月- 2017年3月: 加州大学圣地亚哥分校, 博士后

2017年3月至今: 中山大学, 教授

讲授课程:

化学生物学导论, 大学化学III, 今日化学

研究方向:

核酸化学生物学, 围绕核酸修饰和动态核酸技术展开, 主要研究内容包括:



- (1) 动态核酸结构与核酸化学;
- (2) 动态核酸技术与合成生物学;
- (3) 修饰核酸的分子工具与细胞功能调控。

长期招收对核酸化学生物学感兴趣的硕士和博士研究生，以及博士后。

科研项目及奖励:

科技部重点研发计划青年项目 (2020)

国家自然科学基金委面上项目 (2019)

国家自然科学基金委青年项目 (2017)

中山大学 “百人计划”急需人才

论著一览

徐亮教授长期致力于核酸化学生物学方面的研究，特别关注发展新型的化学生物学工具以调控和监测核酸修饰和结构的转化及功能，并利用利用化学官能化核酸发展基因调控的化学工具，以实现针对特定细胞癌变基因的靶向干预，从而促进生物新技术的发展。徐亮教授作为通讯作者或第一作者已发表数十篇论文，其中包含Nature, Proc. Natl. Acad. Sci., Nat. Commun., J. Am. Chem. Soc., Angew. Chem. Int. Ed., Nucleic Acids Res.和Chem. Sci.等。

代表论文

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2. Liang-Liang Wang, Qiu-Long Zhang, Yang Wang, Yan Liu, Jiao Lin, Fan Xie and **Liang Xu***. Controllable DNA strand displacement by independent metal–ligand complexation. **Chemical Science**, 2021, 12, 8698.
3. Yan Liu, Yang Wang, Jiao Lin and **Liang Xu***. Theophylline-induced synergic activation of guide RNA to control CRISPR/Cas9 function. **Chem. Commun.**, 2021, 57, 5418.
4. Jiao Lin, Yan Liu, Peidong Lai, Huixia Ye and **Liang Xu***. Conditional guide RNA through two intermediate hairpins for programmable CRISPR/Cas9 function: building regulatory connections between endogenous RNA expressions. **Nucleic Acids Research**, 2020, 48, 11773.
5. Yang Wang, Yan Liu, Fan Xie, Jiao Lin and **Liang Xu***. Photocontrol of CRISPR/Cas9 function by site-specific chemical modification of guide RNA. **Chemical Science**, 2020, 11, 11478.
6. Yan Liu, Peidong Lai, Jingru Wang, Xiwen Xing and **Liang Xu***. A superior G-quadruplex DNAzyme through functionalized modification of the hemin cofactor. **Chem. Commun.**, 2020, 56, 2427.
7. **Liang Xu**, Wei Wang, Jiabin Wu, Ji Hyun Shin, Pengcheng Wang, Ilona Christy Unarta, Jenny Chong, Yinsheng Wang*, and Dong Wang*. Mechanism of DNA alkylation-induced transcriptional stalling, lesion bypass, and mutagenesis. **Proc. Natl. Acad. Sci.**, 2017, 114, E7082–E7091.
8. Wei Wang[#], **Liang Xu**[#], Lulu Hu, Jenny Chong, Chuan He, and Dong Wang* Epigenetic DNA Modification N6-Methyladenine Causes Site-Specific RNA Polymerase II Transcriptional Pausing. **J. Am. Chem. Soc.** 2017, 139, 14436-14442. ([#]Co-first authors)
9. **Liang Xu**[#], Wei Wang[#], Deanna Gotte, Fei Yang, Alissa A. Hare, Timothy R. Welch, Benjamin C. Li, Ji Hyun Shin, Jenny Chong, Jeffrey N. Strathern*, Peter B. Dervan*, and Dong Wang*.



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 13. Lanfeng Wang[#], Yu Zhou[#], **Liang Xu**[#], Rui Xiao[#], Xingyu Lu, Liang Chen, Jenny Chong, Hairi Li, Chuan He, Xiang-Dong Fu*, and Dong Wang*. Molecular Basis for 5-Carboxycytosine Recognition by RNA Polymerase II Elongation Complex. **Nature**, 2015, 523, 621-625.
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19. **Liang Xu**, Ying-Chu Chen, Satoshi Nakajima, Jenny Chong, Lanfeng Wang, Li Lan, Chao Zhang*, and Dong Wang*. A chemical probe targets DNA 5-formylcytosine sites and inhibits TDG excision, polymerases bypass, and gene expression. **Chem. Sci.** 2014, 5, 567-574.
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