

Libin Ye, Ph.D, Assistant Professor

Research Interests: Quantitative Conformations, Dynamics, and Signal Transduction of Membrane Proteins (GPCRs and Transporters) related to Neurodegenerative Diseases and Cancers;
Solution-state NMR; Pharmacology;
Pathogenic Biofilm Formation (Biosynthesis of Polysaccharide)

Telephone Number: 1-813-9746007(office); 1-813-293-1738 (cell)

Email Address: libinye@usf.edu; yelibin1234@gmail.com

Lab website: www.libinye.com

EDUCATION AND RESEARCH EXPERIENCES

Member	H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL, USA, 2019—
Assistant Professor	Department of Cell Biology, Microbiology and Molecular Biology, University of South Florida, Tampa, FL, USA, 2018—
Postdoctoral Fellow	Department of Chemistry, Biochemistry, University of Toronto, ON, Canada, 2013—2018
Postdoctoral Fellow	Department of Structural Biology, University of Pittsburgh Medical Center, PA, USA, 2012—2013
Postdoctoral Fellow	Carl R. Woese Institute for Genomic Biology and Energy Biosciences Institute, University of Illinois at Urbana-Champaign (UIUC), IL, USA, 2011—2012
Faculty Member	Department of Food Science and Biological Engineering, Zhejiang Gongshang University, Zhejiang Province, P. R. China, 2009-2011. Co-Investigator/Postdoctoral Fellow , Infectious Disease Department, University Medical Centre, Freiburg University, Germany, 2010-2011
Ph.D. Degree	Department of Microbiology, Nanjing Agricultural University, Nanjing, Jiangsu Province, P. R. China, 2004—2008 In collaboration with Shanghai Institute of Materia Medica, Chinese Academy of Sciences and Shanghai Academy of Agricultural Sciences (graduated half-year ahead of the schedule)
B.S. Degree	Department of Microbiology, Zhejiang A & F University, Hangzhou, Zhejiang Province, P. R. China, 1996—2000

SELECTED PUBLICATIONS (* Corresponding author)

1. Wenjie Zhao, Xudong Wang, **Libin Ye***. Expression and Purification of Yeast-derived GPCR, $G\alpha$ and $G\beta\gamma$ Subunits for Structural and Dynamic Studies, ***Bioprotocol***, 2020, in press.
2. Xudong Wang, Wenjie, Zhao, Sameer Al-Abdul-Wahid, Yiming Lu, Tao Cheng, Jesper Madsen, **Libin Ye***. Tri-fluorinated Keto-Enol Tautomeric Switch in Probing Domain Rotation of a G Protein-Coupled Receptor. ***Bioconjugate Chemistry***, 2020, DOI: 10.1021/acs.bioconjchem.0c00670.
3. Xudong Wang, Aidan McFarland, Jesper J. Madsen, Eric Aalo, **Libin Ye***. The Potential of ^{19}F NMR Application in GPCR Biased Drug Discovery. ***Trends in Pharmacological Sciences***, 2021, 42(1):19-30.
4. Dennis D. Fernandes, Chris Neale, Gregory-Neal W. Gomes, Yuchong Li, Aimen Malik, Adi Pandey, Alex Oraziotti, Xudong Wang, **Libin Ye***, R. Scott Prosser*, and Claudiu C. Gradinaru*. Ligand Modulation of the Conformational Dynamics of the A_{2A} Adenosine Receptor Revealed by Single-Molecule Fluorescence. ***Scientific Report***, 2020, <https://doi.org/10.1101/2020.09.20.305425>
5. Guang-Qiang Yin, Sneha Kandapal, Chung-Hao Liu, Heng Wang, Shu-Ting Jiang, Tan Ji, Yu Yan, Sandra Khalife, **Libin Ye**, Bingqian Xu, Hai-Bo Yang, Mu-Ping Nieh, Xiaopeng Li*. Metallo-Helicoid with Double Rims: Polymerization Followed by Folding via Intramolecular Coordination. ***Angewandte Chemie International Edition***, 2020, 59:2-11.
6. **Libin Ye**, Chris Neale, Adnan Sljoka, Dmitry Pichugin, Nobuyuki Tsuchimura, Sacha T. Larda, Eps van Ned, Regis Pomes, Angel E. Garcia, Roger Sunahara, Oliver P. Ernst, R. Scott Prosser. Bidirectional allosteric modulation of the A_{2A} adenosine G protein-coupled receptor by physiological cations. ***Nature Communications***, 2018, 9(1):1372
7. **Libin Ye**, Alexander P. Oraziotti, Aditya Pandey, Scott Prosser. High-efficiency expression of yeast-derived G protein-coupled receptor and ^{19}F labeling for dynamical studies. ***Methods in Molecular Biology (Book chapter)***, 2018, 1688: 407-421.
8. Taehun Kim, Pedram Mehrabi, Zhong Ren, Adnan Sljoka, Christopher Ing, Alexandr Bezginov, **Libin Ye**, Regis Pomes, R. Scott Prosser, Emil F. Pai. The role of dimer asymmetry and subunit dynamics in enzyme catalysis. ***Science***, 2017, 355(6322): DOI: 10.1126/science.aag2355
9. **Libin Ye**, Ned Van Eps, Marco Zimmer, Oliver P. Ernst, R. Scott Prosser. Activation of A_{2A} adenosine G protein-coupled receptor by conformational selection. ***Nature***, 2016, 533: 265–268. (F1000 recommended)
10. Roberto Brea, Christian Cole, Brent Lyda, **Libin Ye**; Scott Prosser, Roger Sunahara, Neal Devaraj. In situ reconstitution of the adenosine A_{2A} receptor in spontaneously formed synthetic liposomes. ***Journal of the American Chemical Society***, 2017, 139(10):

- 3607-3610.
11. **Libin Ye**, Suvrajit Maji, Piraveen Gopalasingam, Evgeniy Gorbunov, Sergey Tarasov, Oleg Epstein and Judith Klein-Seetharaman. Structure and dynamics of insulin receptor: implication for receptor activation and drug discovery. *Drug Discovery Today*, 2017, 22(7): 1092-1102.
 12. **Libin Ye**, Ned van Eps, Oliver P. Ernst, and Scott Prosser. Utilizing tagged paramagnetic shift reagents to monitor protein dynamics by NMR. *BBA-Proteins and Proteomics*, 2017, 1865 (11): 1555-1563.
 13. Scott Prosser, **Libin Ye**, Aditya Pandey, Alexander Oraietti. Activation processes in ligand-activated G protein-coupled receptors: A case study of the adenosine A_{2A} receptor. *Bioessays*, 2017, DOI: 10.1002/bies.201700072.
 14. **Libin Ye**, Sacha T. Larda, Yi Feng Frank Li, Aashish Manglik, R. Scott Prosser. A comparison of chemistry shift sensitivity of trifluoromethyl tags: optimizing resolution in ¹⁹F NMR studies of proteins. *Journal of Biomolecular NMR*, 2015, 62(1): 97-103.
 15. **Libin Ye***, Xiaolin Zheng, Hongjian Zheng. Effect of *sypQ* gene on poly-N-acetylglucose-amine biosynthesis in *Vibrio parahaemolyticus* and its role in infection process. *Glycobiology*, 2014, 24(4): 351-358. (*corresponding author)
 16. **Libin Ye**, Xiaoyun Su, George Schmitz, Young Hwan Moon, Roderick I. Mackie, Isaac K. O. Cann. Molecular and biochemical analyses of the GH44 module from CbMan5B/Cel44A, a bifunctional enzyme from the hyperthermophilic bacterium *Caldicellulosiruptor bescii*. *Applied and Environmental Microbiology*, 2012: 7048-7059
 17. **Libin Ye***, Lu Xu, Jianrong Li. Preparation and anticoagulant activity of a fucosylated polysaccharide sulfate from a sea cucumber *Acaudina molpadioidea*. *Carbohydrate Polymers*, 2012, 87(3): 2052-2057. (*corresponding author)
 18. **Libin Ye***, Xiaolin Zheng, Jingsong Zhang*, Yingjie Pan. Immuno-regulatory activity and biochemical characterization of a proteoglycan complex, LZ-D-7, from *Ganoderma lucidum* fruiting bodies. *Food Research International*, 2011, 44(1): 367-372.
 19. **Libin Ye**, Jingsong Zhang, Shuan Zhou, Sheng Wang, Di Wu, Yinjie Pan. Preparation of a sulfated protein-heteroglycan and inhibiting L1210 cell property. *Carbohydrate Polymers*, 2009, 77(2): 276-279.
 20. **Libin Ye**, Jingsong Zhang, Yan Yang, Shuan Zhou, Yanfang Liu, Hui Chen, Yinjie Pan. Structural characterization of a heteropolysaccharide by NMR spectra. *Food Chemistry*, 2009, 112: 962-966.
 21. **Libin Ye**, Jingsong Zhang, Kan Zhou, Yan Yang, Shuan Zhou, Wei Jia, Ruixia Hao, Yingjie Pan. Purification, NMR study and immuno-stimulating property of a galactofucan from the fruiting bodies of *Ganoderma lucidum*. *Planta Medica*, 2008, 74: 1-5.
 22. **Libin Ye**, Jingsong Zhang, XiJun Ye, Qinjiu Tang, Yanfang Liu, Chunyu Gong, Xiuju Du,

- Yingjie Pan. Structural elucidation of the polysaccharide moiety of a glycopeptide (GLPCW-II) from *Ganoderma lucidum* fruiting bodies. **Carbohydrate Research**, 2008, 343: 746-752.
23. **Libin Ye**, Jianrong Li, Jingsong Zhang, Yingjie Pan. NMR characterization for polysaccharide moiety of a glycopeptide. **Fitoterapia**. 2010, 81: 93-96.
24. **Libin Ye**, Jingsong Zhang, Yingjie Pan. Application of NMR techniques in structural analysis of polysaccharide from edible fungi. **Acta Edulis Fungi**, 2007, 14(4):68-75.
25. **Libin Ye**, Xiaolin Zheng, Jingsong Zhang, Yan Yang, Yucheng Meng, Jianrong Li, Wei Chen, Yingjie Pan. Composition analysis and immunomodulatory capacity of peptidoglycan from Lingzhi or Reishi medicinal mushroom, *Ganoderma lucidum* (W. Curt.: Fr.) P. Karst. strain 119 (Aphyllphoromycetidae). **International Journal of Medicinal Mushroom**, 2010, 12(2): 157-165.
26. Christian Theilacker, Zhigniew Kaczyski, Andrea Kropec, Irina Sava, Libin Ye, Anna Bychowska, Otto Holst, Johannes Huebner. Serodiversity of opsonic antibodies against *Enterococcus faecalis*-glycans of the cell wall revisited. *PLoS One*, 2011, 6(3): e17839.
27. Yan Yang, **Libin Ye**, Jingsong Zhang, Yanfang Liu, Qinjiu Tang, Wei Jia. Structural analysis of a bioactive polysaccharide, PISP1, from the medicinal mushroom, *Phellinus igniarius*. **Bioscience, Biotechnology, and Biochemistry**, 2009, 73(1): 134-139.
28. Xiuju Du, Jinsong Zhang, Yan Yang, **Libin Ye**, Qinjiu Tang, Wei Jia, Yanfang Liu, Shuan Zhou, Ruixiang Hao, Chunyu Gong, Yingjie Pan. Structural elucidation and immunostimulating activity of an acidic heteropolysaccharide (TAPA1) from *Tremella aurantialba*. **Carbohydrate Research**, 2009, 344(5): 672-678.

PRESENTATIONS

1. **Libin Ye**. Hydrolysis elucidation for a polysaccharide by MS and NMR spectra. Sept 10th, 2012. Van Andel Institute, USA.
2. **Libin Ye**. Molecular and biochemical analyses of the GH44 module from CbMan5B/Cel44A (Cb1946). Oct 10th, 2012. University of Pittsburg, USA.
3. **Libin Ye**. Signal transduction and structural investigations revealing interaction mechanism of a novel antibody with IFN- γ receptor complex. May 13th, 2013. University of Georgia, USA.
4. **Libin Ye**. The model of A_{2A} adenosine G protein-coupled receptor activation. May 12th, 2016. NMR seminar, University of Toronto, Canada.
5. **Libin Ye**. The model of A_{2A} adenosine G protein-coupled receptor activation. June 9th, 2016. Halifax, 99th Canadian chemistry Conference and Exhibition, Halifax, Canada.
6. **Libin Ye**. The mechanisms of A_{2A} adenosine G protein-coupled receptor activation. June 13th, 2016. Medical Science Building, University of Toronto, Canada.
7. **Libin Ye**. Understanding of GPCR dynamics and activation by solution NMR and DEER

- spectroscopy. Oct. 14, 2016. 17th Annual G Protein-Coupled Receptor (GPCR) Retreat, Chicago, USA.
8. **Libin Ye**. Mechanistic insight into allosteric regulation of the A_{2A} adenosine G-protein-coupled receptor by physiological cations. May 15th-19th, 2017. Cold Spring Harbor Asia (CSHA)—Membrane Protein: Structure and Function, Suzhou, China.
 9. **Libin Ye**. Bidirectional allosteric activation of A_{2A}R by cations. May 28th- June 1st, 2017. 100th Canadian Chemistry Conference and Exhibition, Toronto, Canada.
 10. **Libin Ye**. Molecular underpinnings of GPCR activation and allostery by ¹⁹F NMR spectroscopy. Jan 10th, 2018, North Carolina State University, Raleigh, USA.
 11. **Libin Ye**. How to design a biased drug? --- A conformational transition study of A_{2A} adenosine receptor by ¹⁹F NMR spectroscopy. May 9, 2019, Suzhou University, Jiangshu, China.
 12. **Libin Ye**. How to design a biased drug? --- A conformational transition study of A_{2A} adenosine receptor by ¹⁹F NMR spectroscopy. May 10, 2019, Jiangnan University, Jiangshu, China.
 13. **Libin Ye**. How to design a biased drug? --- A conformational transition study of A_{2A} adenosine receptor by ¹⁹F NMR spectroscopy. May 13, 2019, School of Basic Medical Sciences, Nanjing Medical University, Jiangshu, China.
 14. **Libin Ye**. How to design a biased drug? --- A conformational transition study of A_{2A} adenosine receptor by ¹⁹F NMR spectroscopy. May 14-15, 2019, School of Engineering and School of Life Sciences, Nanjing Agricultural University, Jiangshu, China.
 15. **Libin Ye**. How to design a biased drug? --- A conformational transition study of A_{2A} adenosine receptor by ¹⁹F NMR spectroscopy. May 16, 2019, Chinese Academy of Agricultural Sciences, Beijing, China.
 16. **Libin Ye**. How to design a biased drug?--- A conformational transition study of A_{2A} adenosine receptor by ¹⁹F NMR spectroscopy. May 17, 2019, Institute of Process Engineering, Chinese Academy of Sciences, Beijing, China.
 17. **Libin Ye**. How to design a biased drug? --- A conformational transition study of A_{2A} adenosine receptor by ¹⁹F NMR spectroscopy. May 21, 2019, China Agricultural University, Beijing, China.
 18. **Libin Ye**. A conformational transition study of A_{2A} adenosine receptor by ¹⁹F NMR spectroscopy. May 23, 2019, Peking University, Beijing, China.
 19. **Libin Ye**. How to design a biased drug? --- A conformational transition study of A_{2A} adenosine receptor by ¹⁹F NMR spectroscopy. May 24, 2019, Beijing Institute of Technology, Beijing, China.
 20. **Libin Ye**. How to design a biased drug? --- A conformational transition study of A_{2A} adenosine receptor by ¹⁹F NMR spectroscopy. May 25, 2019, Institute of Biophysics, Chinese Academy of Sciences, Beijing, China.

21. **Libin Ye.** How to design a biased drug? --- A conformational transition study of A_{2A} adenosine receptor by ¹⁹F NMR spectroscopy. May 27, 2019, Shanghai Ocean University, Shanghai China.
22. **Libin Ye.** How to design a biased drug? --- A conformational transition study of A_{2A} adenosine receptor by ¹⁹F NMR spectroscopy. May 28, 2019, Shanghai Academy of Agricultural Sciences, China.
23. **Libin Ye.** How to design a biased drug? --- A conformational transition study of A_{2A} adenosine receptor by ¹⁹F NMR spectroscopy. May 29, 2019, East China University of Science and Technology, Shanghai China.
24. **Libin Ye.** How to design a biased drug? --- A conformational transition study of A_{2A} adenosine receptor by ¹⁹F NMR spectroscopy. May 31, 2019, East China Normal University, Shanghai, China.
25. **Libin Ye.** How to design a biased drug? --- A conformational transition study of A_{2A} adenosine receptor by ¹⁹F NMR spectroscopy. June 3, 2019, Shanghai Jiaotong University, Shanghai, China.
26. **Libin Ye.** How to design a biased drug? --- A conformational transition study of A_{2A} adenosine receptor by ¹⁹F NMR spectroscopy. June 4, 2019, Zhejiang University of Technology, Zhejiang, China.
27. **Libin Ye.** How to design a biased drug? --- A conformational transition study of A_{2A} adenosine receptor by ¹⁹F NMR spectroscopy. June 11, 2019, Zhejiang University, Zhejiang, China.
28. **Libin Ye.** How to rationally design a biased drug for GPCR? --- The application of NMR in biased drug discovery. Nov.21, 2019, Harvard Medical School, USA.
29. **Libin Ye.** How to rationally design a biased drug for GPCR? --- From conformational heterogeneity to functional diversity. Dec.16, 2019, University of Miami, Miami, USA.
30. **Libin Ye.** The Great American Teach Lecture: Biosafety. Nov,19, 2020. Lawton Chiles Elementary, Tampa, FL, USA.

TEACHING EXPERIENCES AND EVALUATION

2019.01-2019.05	Molecular Biology of the Gene (undergraduate) (evaluation score: 4.25/5.0)
2019.01-2019.05	Molecular Biology of the Gene (graduate) (evaluation score:4.33/5.0)
2019.08-2019.12	Contemporary Biology (graduate) (4.60/5.0)
2020.01-2020.05	Molecular Biology of the Gene (undergraduate) (4.17/5.0)

2020.08-2021.12 Molecular Biology of the Gene (undergraduate)

(evaluation score:4.09/5.0, online teaching)

2020.08-2021.12 Molecular Biology of the Gene (graduate, online teaching)

(evaluation score:4.8/5.0)

AWARDS

1. “Fan Qingsheng” Microbiology Award, 2007, Nanjing Agricultural University
2. “Excellent Graduate” Award, 2008, Nanjing Agricultural University
3. 2nd Poster Award, 2013, Structural Insight into Insulin Receptor Function, MBN symposium, UK
4. “The Best Research Paper” Award, 2016, Department of Chemistry, U of T
5. The Prize of Anati Polar Lipids Inc. Fellowship, 2017, Cold Spring Harbor Asia, China
6. CAS 2019 Spring Travel Award, 2019, CAS, USF

FUNDING

- | | | |
|--|------------------------------------|-----------------------|
| 1) USF Nexus Initiative | Libin Ye (PI) | 01/07/2019-30/06/2020 |
| Title: Deciphering Tamoxifen-Resistant Breast Cancer Signaling | | |
| Amount award: \$9,300 | | |
| 2) USF COVID-19 Initiative | Libin Ye (Co-PI) | 21/04/2020-31/10/2020 |
| Title: Sterilization Mechanism of Corona Discharge for Masks and Environment | | |
| Total awarded: \$25,000 | To Ye Lab: \$9,375 (37.5%) | |
| 3) NSF RAPID:2030033 (COVID). | Libin Ye (Co-PI) | 15/05/2020-30/04/2021 |
| Title: Sterilization Mechanism of Corona Discharge for Masks and Environment | | |
| Total awarded: \$167,568 | To Ye Lab: \$62,845 (37.5%) | |

ACADEMIC MEMBERSHIPS

1. CCSG (H. Lee Moffitt Cancer Center)
2. American Association for The Advancement of Science (AAAS)
3. Biophysical Society

EXTERNAL CHAIRS FOR PHD/MS THESIS DEFENSES

1. **External chair** for **Nawal Khadka** Ph.D Thesis Defense, Department of Physics, University of South Florida, June 25, 2019
2. **External chair** for **Tyler Huff** Ph.D Thesis Defense, Department of Human Genetics, Miami University, Dec.16, 2019
3. **External chair** for **Chinta Aryal** Ph.D Thesis Defense, Department of Physics, University of South Florida, Oct.14, 2020
4. **External chair** for **Darrick Hay** Ph.D Thesis Defense, Department of Physics,

University of South Florida, Oct.23, 2020

5. **External chair** for **Jing Wang** Master Thesis Defense, Department of Chemistry, University of South Florida, Oct.2nd, 2020.

MEMBERS FOR PHD/MS COMMITTEES

1. Sriram Sundar Shankara Narayanan, Department of Physical Engineering, Jan. 2020-Dec. 2024.
2. Aidan McFarland, Ph.D, Department of Cell Biology, Microbiology and Molecular Biology, Sept., 2020-May 2025,
3. Jingwen Wei, Ph.D, Department of Chemistry, Jan.2019-Dec.2023
4. Mengjia Liu, Ph.D, Department of Chemistry, Jan.2019-Dec.2023
5. Wenjie Zhao, MS, Department of Cell Biology, Microbiology and Molecular Biology, Sept.2019-May 2021
6. Xudong Wang, MS, Department of Cell Biology, Microbiology and Molecular Biology, Jan.2020-Dec.2021.

EDITORIAL MEMBER/EDITOR/SCIENTIFIC REVIEWER

1. Editorial Guest editor, *Membranes*, IF=3.094
2. Ad hoc reviewer: Journal of the American Chemical Society, ORB discovery, Carbohydrate Polymers, Enzyme and Microbial Technology, Genes & Diseases, International Journal of Biological Macromolecules, JoVE, etc.
3. Ad hoc grant reviewer: National High Magnetic Field Laboratory Users Program