

**Yi Jin BSc, MSc, PhD, MRSC, CChem**  
**Wellcome Trust Sir Henry Dale Fellow**

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**Nationality:** Chinese

**Languages:** Mandarin (native), English (fluent)

🏠 <https://yjijin-lab.org>

🏠 <https://www.research.manchester.ac.uk/portal/yi.jin.html>



## EDUCATION

2008 – 2012 Ph.D. in Molecular Biology and Biotechnology – University of Sheffield, UK  
2005 – 2008 M.Sc. in Organic Chemistry (1<sup>st</sup> Hons) – Xiamen University, China  
2001 – 2005 B.Sc. in Chemistry (1<sup>st</sup> Hons) – Xiamen University, China

## QUALIFICATION

2021 – present Chartered Chemist of the Royal Society of Chemistry (RSC)  
2007 – present Member of Biochemical Society  
2009 – present Member of the Royal Society of Chemistry (RSC)  
2018 – present Member of the American Chemical Society (ACS)

## APPOINTMENTS

Aug 2021 – Present Wellcome Trust Sir Henry Dale Fellow – University of Manchester, UK  
May 2017 – July 2021 University Research Fellow in Chemical Biology – Cardiff University, UK  
Jul 2014 – May 2017 Postdoctoral Research Associate in Structural Biology – University of York, UK  
Mar 2012 – Jul 2014 Postdoctoral Research Associate in Enzymology – University of Sheffield, UK

## VISITING APPOINTMENTS

2019 – present Visiting Associate Professor – Northwest University, Xi'an, China

## B: RESEARCH CONTRIBUTIONS (12 as first author, 4 as the corresponding author)

### PUBLICATIONS – Peer reviewed

32. Z. Zhang\*, M. Dong\*, R. Zallot\*, G.M. Blackburn, N. Wang, C. Wang, L. Chen, P. Baumann, Z. Wu, Z. Wang, H. Fan, C. Roth, **Y. Jin**<sup>†</sup>, Yuan He<sup>†</sup>. Mechanistic and structural insights into the specificity and biological function of bacterial sulfoglycosidases. **ACS Catal.** 2022, accepted (IF=13.7)
31. A. Lander, **Y. Jin**<sup>†</sup>, L.Y.P. Luk<sup>†</sup>. D-Peptide and D-protein technology: recent advances, challenges, and opportunities. **ChembioChem**, 2022, e202200537 (IF=3.461)
30. A.R. Nödling\*, N. Santi, R. Castillo, M. Lipka-Lloyd, **Yi Jin**, L.C. Morrill, K. Świderek, V. Moliner<sup>†</sup>, L.Y.P. Luk<sup>†</sup>. The role of streptavidin and its variants in catalysis by biotinylated secondary amines. **Org. Biomol. Chem.**, 2021, 19, 10424-10431 (IF=3.876)
29. S.P. Schröder\*, W.A. Offen\*, A. Males, **Y. Jin**, C. Boer, J. Enotarpí, L. Marino, G.A. van der Marel, B.I. Florea, J.D.C. Codée, H.S. Overkleeft<sup>†</sup>, G.J. Davies<sup>†</sup>. The development of non-hydrolysable oligosaccharide activity-based inactivators for endoglycanases: A case study on beta-1,6 mannanases. **Chem. Eur. J.** 2021, 21, 9515-9523 (IF=5.02)
28. M. Sharma\*, P. Abayakoon, R. Epa, **Y. Jin**, J. Lingford, T. Shimada, M. Nakano, A. Ishihama, J. Mui, E. Goddard-Borger<sup>†</sup>, G. Davies<sup>†</sup>, S. Williams<sup>†</sup>. Molecular basis of sulfosugar selectivity in sulfoglycolysis. **ACS Cent. Sci.** 2021, 7, 476-487 (IF=18.728)
27. M. Ge\*, R.W. Molt Jr, H.T. Jenkins, G.M. Blackburn, **Y. Jin**<sup>†</sup>, A.A. Antson<sup>†</sup>. Octahedral trifluoromagnesate, an anomalous metal fluoride species, stabilizes the transition state in a biological motor. **ACS Catal.** 2020, 11, 2769–2773 (IF=13.7)
26. M. Sharma\*, P. Abayakoon\*, J. Lingford, R. Epa, A. John, **Y. Jin**, E. Goddard-Borger<sup>†</sup>, G. Davies<sup>†</sup>, S. Williams<sup>†</sup>. Dynamic structural changes accompany the production of dihydroxypropanesulfonate by sulfolactaldehyde reductase. **ACS Catal.** 2020, 10, 2826-2836 (IF=13.7)
25. J. Cresser-Brown\*, P. Rizkallah, **Y. Jin**, C. Roth, D.J. Miller, & R.K. Allemann<sup>†</sup>. An unexpected co-crystal structure of the calpain PEF(S) domain with Hfq reveals a potential chaperone function of Hfq. **Acta Cryst. F** 2020, 76, DOI:10.1107/S2053230X20001181 (IF=1.056)
24. W. Zhu\*, A. Radadiya, C. Bisson, S. Wenzel, B. E. Nordin, F. Martínez-Márquez, T. Imasaki, S. E. Sedelnikova, A. Coricello, P. Baumann, A. H. Berry, T. K. Nomanbhoy, J. W. Kozarich, **Y. Jin**, D. W. Rice, Y. Takagi, N. G. J. Richards<sup>†</sup>. High-resolution crystal structure of human asparagine synthetase enables

- analysis of inhibitor binding and selectivity. *Comm. Biol.* 2019, DOI: 10.1038/s42003-019-0587-z (IF=6.268)
23. R. W. Molt Jr.\* , E. Pellegrini\* , Y. Jin† . A GAP-GTPase-GDP-Pi intermediate crystal structure analyzed by DFT shows GTP hydrolysis involves serial proton transfers. *Chem. Eur. J.* 2019, 25, 8484-8488 (IF=5.02)
  22. S. J. Cresser-Brown, T. Williams, P. Rizkallah, Y. Jin, L. Y. P. Luk, R. K. Allemann† . Crystal structure and biophysical analysis of furfural detoxifying aldehyde reductase from *Clostridium beijerinckii*. *Appl. Environ. Microbiol.* 2019, 85, e00978–e00919 (IF=5.005)
  21. Y. Zhang\* , J. E. Lei† , Y. He† , J. H. Yang, W. J. Wang, A. Wasey, J. R. Xu, Y. Lin, H. M. Fan, G. Y. Jing, C. Zhang, Y. Jin. Label-free visualization of carbapenemase activity in living bacteria. *Angew. Chem. Int. Ed.* 2018, 57, 17120-17124 (IF=16.82)
  20. A. Palika\* , Y. Jin\* , J. Lingford, M. Petricevic, A. John, E. Ryan, J. Mui, D. Pires, D. Ascher, G. J. Davies† , E. Goddard-Borger† , S. Williams† . Structural and biochemical insights into the function and evolution of sulfoquinovosidases. *ACS Cent. Sci.* 2018, 4, 1266-1273 (IF=18.728)
  19. A. R. Nodling\* , K. Swiderek\* , R. Castillo, J. W. Hall, A. Angelastro, L. C. Morrill, Y. Jin, Y-H Tsai, V. Moliner† , L. Y. P. Luk† . Reactivity and selectivity of iminium organocatalysis improved by a protein host. *Angew. Chem. Int. Ed.* 2018, 57, 17120-17124 (IF=16.82)
  18. L. A. Johnson\* , A. Robertson\* , N. J. Baxter, C. Trevitt, C. Bisson, Y. Jin, H. Wood, A. M. Hounslow, M. J. Cliff, G. M. Blackburn, M. W. Bowler, J. P. Waltho† . Van der Waals contact between nucleophile and transferring phosphorus is insufficient to achieve enzyme transition state architecture. *ACS Catal.* 2018, 8, 8140-8153 (IF=13.7)
  17. P. Abayakoon, J. P. Lingford, Y. Jin, C. Bengt, G. J. Davies, S. G. Yao, E. D. Goddard-Borger, S. J. Williams† , Discovery and characterization of a sulfoquinovose mutarotase using kinetic analysis at equilibrium by exchange spectroscopy. *Biochem. J.* 2018, 475, 1371–1383 (IF=4.079)
  16. Q. Wang\* , Y. He† , R. Lu, W. M. Wang, K. W. Yang, H. M. Fan, Y. Jin, G. M. Blackburn. Thermokinetic profile of NDM-1 and its inhibition by small carboxylic acids. *Biosci. Rep.* 2018, DOI: 10.1042/BSR20180244 (IF=3.51)
  15. Y. Jin\* , R. W. Molt Jr.\* , E. Pellegrini\* , M. J. Cliff, M. W. Bowler, N. G. J. Richards† , G. M. Blackburn† , J. P. Waltho† . Assessing the influence of mutation on GTPase transition states using X-ray, <sup>19</sup>F NMR, and DFT approaches. *Angew. Chem. Int. Ed.* 2017, 56, 1-5 (IF=13.7)
  14. Y. Jin\* , R. W. Molt, Jr.\* , G. M. Blackburn. Metal Fluorides: Tools for structural and computational analysis of phosphoryl transfer enzymes. *Topics Curr. Chem.* 2017, 375, 36 (IF=9.06)
  13. T. Belz\* , Y. Jin\* , J. Coines, C. Rovira† , G. J. Davies† , S. J. Williams† . An atypical interaction explains the high-affinity of a non-hydrolyzable S-linked 1,6- $\alpha$ -mannanase inhibitor. *Chem. Comm.* 2017, 53, 9238-9241 (IF=6.065)
  12. L. Wu\* , J. Jiang\* , Y. Jin\* , W. W. Kallemeijn, C. Kuo, W. Dai, C. van Elk, M. C. van Eijk, G. A. van der Marel, J. D. C. Codée, B. I. Florea, J. M. F. G. Aerts, H. S. Overkleef† , G. J. Davies† . Activity-based probes for functional interrogation and discovery of *exo*- and *endo*- retaining  $\beta$ -glucuronidases. *Nat. Chem. Biol.* 2017, 13, 867-873 (IF=16.29)
  11. Y. Jin\* , J. P. Waltho, N. G. J. Richards, G. M. Blackburn. Metal Fluorides as analogs for studies on phosphoryl transfer enzymes. *Angew. Chem. Int. Ed.* 2017, 56, 4110-4128 (IF=13.7)
  10. Y. Jin\* , M. Petricevic, A. John, L. Raich, H. Jenkins, L. P. De Souza, F. Cuskin, H. J. Gilbert, C. Rovira† , E. D. Goddard-Borger† , S. J. Williams† , G. J. Davies† . A  $\beta$ -Mannanase with a lysozyme-like fold and a novel molecular catalytic mechanism. *ACS Cent. Sci.* 2016, 2, 896-903 (IF=18.728)
  9. Y. Jin\* , R. W. Molt, Jr.\* , J. P. Waltho† , N. G. J. Richards† , and G. M. Blackburn† . <sup>19</sup>F NMR and DFT Analysis reveal structural and electronic transition state features for RhoA-catalyzed GTP hydrolysis. *Angew. Chem. Int. Ed.* 2016, 55, 3318-3322 (IF=13.7)
  8. D. H. Kwan\* , Y. Jin\* , J. Jiang, H. Chen, M. P. Kötzler, H. S. Overkleef† , G. Davies, S. G. Withers† . Chemoenzymatic synthesis of 6-phospho-cyclophellitol as a novel probe of 6-phospho- $\beta$ -glucosidases. *FEBS Lett.* 2016, 590, 461-468 (IF=4.124)
  7. G. Speciale\* , Y. Jin\* , G. J. Davies† , S. J. Williams† , E. D. Goddard-Borger† . YihQ is a sulfoquinovosidase that cleaves sulfoquinovosyl diacylglyceride sulfolipids. *Nat. Chem. Biol.* 2016 , 12, 215-217 (IF=16.29)
  6. Y. Jin\* , D. Bhattasali\* , E. Pellegrini\* , S. M. Forget, N. J. Baxter, M. J. Cliff, M. W. Bowler† , D. L. Jakeman† , G. M. Blackburn† , J. P. Waltho† .  $\alpha$ -Fluorophosphonates reveal how a phosphomutase conserves transition state conformation over hexose recognition in its two-step reaction. *Proc. Natl. Acad. Sci. USA* 2014, 111, 12384-12389 (IF=12.78)
  5. Y. Jin\* , M. J. Cliff, N. J. Baxter, H. R. W. Dannatt, A. M. Hounslow, M. W. Bowler, G. M. Blackburn, J. P. Waltho† . Charge-balanced metal fluoride complexes for protein kinase A with adenosine diphosphate and substrate peptide SP20. *Angew. Chem. Int. Ed.* 2012, 51, 12242-12245. Highlighted by Faculty of 1000 Prime (IF=13.7)
  4. G. M. Blackburn, M. W. Bowler, Y. Jin, J. P. Waltho. Reflections on biocatalysis involving phosphorus. *Biochem. (Moscow)*, 2012, 77, 1083-1096 (IF=2.487)

- J. Guo\*, B. Zhang, **Y. Jin**, G. Tang, Y. Zhao†. Benzoylmethylpyridine-4-carboxylate. *Acta Cryst. E.* **2008**, E64(6), o1104/1-o1104/8 (IF=0.646)
- Y. Jin\***, J. Guo, K. Lin, T. Ji, G. Tang†. Benzoylmethyl-4-chloro-benzoate. *Acta Cryst. E.* **2008**, E64(2), o507/1-o507/13 (IF=0.646)
- Y. Cai\*, H. Fang, **Y. Jin**, Q. Zeng, Y. Zhao†. (S)-N-(1-Benzyl-2-hydroxyethyl) benzamide. *Acta Cryst. E.* **2005**, E61, o3912-o3913 (IF=0.646)

#### GRANTS AWARDED as PI

- 2023 – 2026 Manchester-Melbourne Dual PhD studentship  
 2022 – 2023 The Manchester-Melbourne-Toronto Research Fund (P122678) – University of Manchester £6,960  
 2021 – present Sir Henry Dale Fellowship (218568/Z/19/Z) – Wellcome Trust £880,000  
 2019 – 2022 PhD Studentship – EPSRC £59,000  
 2018 – 2020 Springboard Award (SBE003\1154) – The Academy of Medical Sciences £99,060  
 2018 – 2020 Research Grant (RG170406) – Royal Society £15,000  
 2017 – 2019 Seed Award (209057/Z/17/Z) – Wellcome Trust £98,772  
 2017 – 2019 Research Fellow Start-up Grant – Cardiff University £25,000  
 2015 Young Observer (UK representative) – Royal Society of Chemistry  
 2008 – 2012 Overseas Research PhD Studentship – British Council

#### PHD STUDENT SUPERVISION

##### As the main supervisor

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|------------------------|-----------------|------------------------------------|
| 1 Oct 2022 – present   | Sana Fairman    | funded by University of Manchester |
| 2. Oct 2020 – present  | Mochen Dong     | funded by CSC                      |
| 3. Apr 2019 – present  | Davide Zappala  | funded by EPSRC                    |
| 4. Oct 2017 – Mar 2022 | Patrick Baumann | funded by Cardiff University       |

##### As co-supervisor

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|-----------------------|----------------|--|
| 1. Oct 2021 – present | Hannah Baird   | funded by EPSRC DTP                              |
| 2. Oct 2019 – present | Alex Lander    | funded by UKRI                                   |
| 3. Oct 2021 – present | Iakovia Ttoffi | funded by Marie-Curie ITN, Icen Glycoscience Ltd |

#### CONFERENCE PRESENTATIONS

- June 2022 Association of British Chinese Professors (ABCP) 2022 Annual Conference, online (invited)  
 May 2022 European Symposium on Biological and Organic Chemistry (ESBOC), Gregynog, UK (invited)  
 Dec 2019 International Symposium on Bioorganic Chemistry (ISBOC), Beijing, China (invited)  
 Nov 2019 Trends in Enzyme Catalysis (TrEnCa), Benicassim, Spain (invited)  
 May 2018 European Symposium on Biological and Organic Chemistry (ESBOC), Gregynog, UK  
 Jan 2017 Cardiff Chemistry Conference, Cardiff, UK (invited)  
 Jul 2016 Silk Road Young Scholar's Forum, Xi'an, China (invited)  
 Jun 2016 International Conference on Phosphorus Chemistry (ICPC), Kazan, Russia (invited)  
 Dec 2014 Krebs Institute Symposium, Sheffield, UK  
 Dec 2010 White Rose Protein Forum Meeting, Sheffield, UK (invited)  
 Jul 2010 Trends in Enzymology-III, Ascona, Switzerland (invited)

#### ACADEMIC SEMINARS

- Nov 2022 National Defence Medical Centre, Tri-service General Hospital, Taiwan  
 Feb 2022 Department of Chemistry, University of Warwick, UK  
 Nov 2021 Department of Chemistry, University of Bristol, UK  
 Oct 2021 Department of Chemical Biology, Xiamen University Xiamen, China  
 Dec 2020 Manchester Institute of Biotechnology, webinar, UK  
 Oct 2020 MRC Protein Phosphorylation and ubiquitylation Unit, webinar, UK  
 Oct 2020 European Glycoscience Community webinar, RSC  
 Jan 2020 Dalian University of Technology, Dalian, China  
 Jun 2019 College of Chemistry, Beijing Normal University, Beijing, China  
 Jun 2019 Max-Planck Developmental Biology, Tübingen, Germany  
 May 2019 Pharmaceutical Sciences, Cardiff University, UK  
 Nov 2017 College of Chemistry, Nankai University, Tianjin, China  
 Jul 2017 Department of Chemical Biology, Xiamen University, Xiamen, China

#### C: ACADEMIC AND PROFESSIONAL STANDING

##### Committee

July 2022 RSC Carbohydrate Group committee member

### PhD viva Examiner

Jul 2021 External examiner (EMBL, Grenoble)  
Nov 2020 External examiner (Cardiff University)  
Mar 2020 Internal examiner (Cardiff University)

### Reviewing and Editorial

2022 – present Associate Editor – Frontiers of Medical Engineering Materials  
2021 – present Review Editor – Frontiers of Chemistry and Frontiers of Molecular Biosciences  
2017 – present Reviewer – Funding body: UKRI, Wellcome Trust

Peer-reviewed journals: *PLOS One*, *PNAS*, *Chem. Sci.*, *Angew. Chem.*, *Chembiochem*, *Arch. Microbiol.*, *Front. Chem.*, *Front. Mol. Biosci.*, *Curr. Res. Struct. Biol.*, *Chem. Biodivers.*, *ACS Bio. & Med. Chem Au*, *J. Agric. Food chem.*

## D: TEACHING AND LEARNING

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2022 – PhD course CHEM88001 Biocatalysis. University of Manchester.  
2022 – Year 2 course CH20421 The Drug Discovery Process. University of Manchester.  
2021 – Year 2 course CH20412 Structure and Reactivity of Organic Molecules. University of Manchester.  
2019 – 2021 Year 4 course CH4207 Introduction to the Chemistry of Life. Cardiff University.  
2017 – 2021 Year 4 course CH3405 Advanced techniques in Organic and Biological Chemistry. Cardiff University.  
2016 Teaching Assistant for Year 1 Organic Reaction Mechanisms. The University of York.

## E: LEADERSHIP AND MANAGEMENT

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### Contribution within UoM

2022 – present Main organiser of MIB Seminar Series.

### Leadership Training

2021 – present New Academic Programme (towards FHEA), by the University of Manchester  
2021 – 2022 SUSTAIN Program Cohort 5, by Academy of Medical Sciences (AMS)  
2020 – 2021 Aurora Leadership Program for Women, by Advance HE

## F: KNOWLEDGE AND TECHNOLOGY TRANSFER

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### Patents

2. Application of pyridine 2,6-dicarboxylic acid as a potential treatment for antibiotic-resistant bacteria. Y. He, Q. Wang, **Y. Jin**, K.W. Yang, F. L. Zeng. 2018, China Patent Number: CN108272800A.
1. Method for synthesizing small peptides with a pyroglutamide group. Y. F. Zhao, J. N. Guo, **Y. Jin**, G. Tang, P. X. Xu. 2009, China Patent Number: CN101445550.

## G: OUTREACH AND PUBLIC ENGAGEMENT

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### Mentorships

2022 – present Mentor for Windsor Fellows (Yr12)