

Jun Wang, Ph.D.

Associate Professor

Department of Medicinal Chemistry
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Education

07/2006 - 12/2010

University of Pennsylvania (Philadelphia, United States) Ph.D. in Chemistry
Thesis: Structure-based design of inhibitors targeting influenza A virus M2 proton channel (A/M2)
Advisor: William F. DeGrado

06/2004 - 06/2006

National University of Singapore (Singapore) M.S. in Chemistry
Thesis: Chemical biology of matrix metalloproteases (MMPs)
Advisor: Shaoqin Yao

09/1999 - 07/2003

Wuhan University (Wuhan, China) B.S. in Chemistry and Bachelor of Economics

Research and Professional Experience

01/2022 –

Rutgers, the State University of New Jersey (Piscataway, NJ)
Associate Professor with tenure
Department of Medicinal Chemistry, Ernest Mario School of Pharmacy

07/2020 – 12/2021

University of Arizona (Tucson, AZ)
Associate Professor with tenure
Department of Pharmacology and Toxicology, College of Pharmacy

03/2014 – 06/2020

University of Arizona (Tucson, AZ)
Assistant Professor
Department of Pharmacology and Toxicology, College of Pharmacy
Faculty Member, BIO5 Institute

10/2011-02/2014

University of California, San Francisco (San Francisco, CA)
Post-doctoral associate (Advisor: William F. DeGrado)

01/2011-10/2011

University of Pennsylvania (Philadelphia, PA)
Post-doctoral associate (Advisor: William F. DeGrado)

07/2003-06/2004

Scinopharm (kunshan) Biomedical Co., Ltd. (Kunshan, Jiangsu, China)
Scientist

Honors and Certifications

2019 University of Arizona College of Pharmacy A. Jay Gandolfi New Investigator Award
Research highlight by Nature (<https://www.nature.com/articles/d41586-019-02753-8>) and Scientific American (<https://www.scientificamerican.com/custom-media/influenza-outlook/the-push-for-better-flu-therapies/>): The push for better flu therapeutics
Arizona Biomedical Research Centre Young Investigator Award Grant (2018-2021)
30th ICAR travel award (2017)
29th ICAR travel award (2016)

PhRMA foundation research starter grant in pharmacology and toxicology (2014)

Top reviewer in the pharmaceutical sciences section by Elsevier (2011)

NIH Chemistry Biology Interface Training Program Scholar (2007-2010)

Golden prize of the national middle school math contest; Awarded by the China Math Society (1998)

Teaching Experience

Medicinal Chemistry I, Rutgers University (2022-current) *coordinator*

PCOL530 Introduction to Molecular Therapeutics and Drug Discovery, University of Arizona (2016-2022) *coordinator*

PCOL826A and B Medicinal Chemistry, University of Arizona (2015-current)

PCOL201 Introduction to Pharmacology, Drug Discovery, and Pharmaceutics, University of Arizona (2020-current)

PHSC670 Principles in Drug Discovery, Design, and Development, University of Arizona (2015-current)

PHPR860D Pharmacotherapeutics, University of Arizona (2015-current)

PHSC596a Drug Discovery and Development Seminar, University of Arizona (2017-2019) *coordinator*

CM54 General Chemistry Lab, University of Pennsylvania (2007)

CM53 General Chemistry Lab, University of Pennsylvania (2006)

CM3291 Advanced Organic and Inorganic Lab, National University of Singapore (2004-2006)

PhD Students Mentored

Shahed-AI-Mahmud, Pharmaceutical Sciences, 09/2022 – current.

Ryan Royce, Medicinal Chemistry, 01/2022 – current.

Kan Li, Medicinal Chemistry, 01/2022 – current.

Bin Tan, Medicinal Chemistry, 08/2021 – current.

Haozhou Tan, Pharmaceutical Sciences, 05/2021 – current.

Yanmei Hu, Drug Discovery and Development, 08/2017 – 08/2021.

NIH training Grant Research Fellowship 08/12/2019 – 08/2021

2021 College of Pharmacy research excellence award

2021 Joseph B. Ryan Memorial Award

2020 Caldwell Health Science Research Fellowship

Rami Musharrafieh, Department of Chemistry, 08/2015 – 06/30/2020

NIH training Grant Research Fellowship 08/2015 – 08/2017

1st Prize winner of the 2019 Yammamura Pharmacology Data Blitz Award

2019 ASV meeting travel award

Postdoctoral Researchers Mentored

Chunlong Ma, 04/2014 – 12/2021.

Zilei Xia, 07/2020 – 08/2021.

Ang Gao, 07/2019 – 08/2020.

Jiantao Zhang, 07/2015 – 07/2019.

Current position: Postdoc at the University of Maryland

Fang Li, 03/2014 – 06/2016.

Current position: Owner of a biotech company

Yuanxiang Wang, 07/2017 – 07/2018.

Current position: Associate Professor at the Sun Yat-sen University

Research Technicians Mentored

Juliana Choza 04/2021 – 03/3022

Tommy Szeto 05/2020 – 08/2021

Naoya Kitamura 01/2019 – 05/2021

Raymond Kin Hau 07/2017 – 07/2018

Undergraduate Students Mentored

Yuyin Wang. undergraduate thesis project Spring 2021 – Fall 2021 (*Co-authored two papers*)

Tommy Szeto, undergraduate thesis project Summer 2019 – Spring 2020

(2020 Spring CBC Excellence in Research in Biochemistry Award)

Arian Torabi, undergraduate research Summer 2019 – now

Naoya Kitamura. undergraduate research Fall 2018 – Spring 2019 (*Co-authored one paper*)

Joanna Joe. undergraduate thesis project Fall 2018 – Spring 2019

Alexandra Romano. undergraduate thesis project Fall 2018 – Spring 2019

Peter Tuohy. undergraduate thesis project Fall 2018 – Spring 2019

(Spring 2019 CBC Excellence in Research Biochemistry Award) (*Co-authored two papers*)

Madison Uli. undergraduate thesis project Fall 2018 – Spring 2019

Nan Wu. undergraduate thesis project Fall 2018 – Spring 2019

Kyle Bonner, undergraduate thesis project Fall 2019 – Winter 2019

Joseph Cerami. undergraduate thesis project Fall 2017 – Spring 2018

Raymond Hau. undergraduate thesis project Fall 2017 – Spring 2018 (*Co-authored two papers*)

Justin Rouintan. undergraduate thesis project Spring 2017 – Fall 2017

Yongtao Zhang, undergraduate research Summer 2017 – Winter 2017 (*Co-authored three papers*)

Shuting Xu, undergraduate research Spring 2016 – Winter 2017 (*Co-authored three papers*)

Yuan-Chung Wang, undergraduate research Spring 2015 – Fall 2016

PhD thesis committee

Jeffrey Yang, Rutgers 2022

Ashima Chopra, Rutgers 2022

Christopher John Zerio 2017 – 2021

Yanmei Hu 2017 – 2021

Jared Sivinski 2017 – 2021

Yue Dong 2021 – now

Fangchen Song 2020 – 2021

Ji Peng 2020 – now

Xiang Meng 2020 – 2021

Yueteng Zhang 2018 – 2020

Angela L. Davis 2014 – 2015

Andrew Ambrose 2015 – 2020

Chris Foley 2016 – 2018

Rami Ghassan Musharrafieh 2015 – 2020

Kevin Lee 2015 – 2019

Xu Zhou 2015 – 2019

PharmD Students Mentored

Class of 2018: Alexis Garcia, Casey Hilde, John Sellers, Joe Summa, Jamie Vraney.

Class of 2019: Randall Flores, Hannah Throckmorton, Taylor Wright.

Class of 2020: Ariane Guthrie, Scott O'Shaughnessy.

Class of 2021: Britt Myslinski.

Class of 2022: Andriana Hilaneh, Sammantha Meyer, Lauren Rimsza, Christopher Zermeno.

Class of 2023: Albert Fang, Ketty Lee.

Class of 2024: Amy Gregg, Christina Carrillo, Ryan Hernandez, Jarrod Hise.

Service/Outreach

2022	Rutgers, Medicinal Chemistry graduate program director
2022	Co-chair, Antiviral drug discovery session, 18 th Society of Chinese Bioscientists in America International Symposium. Boston 2022
2022	Guest editors: Plos Pathogens, PNAS, International Journal of Molecular Sciences
2021	Co-editor with Shuofeng Yuan, Xing-Yi Ge, and Xin Yin <i>Frontiers in Microbiology – Virology</i> Research Topic: Emerging and re-emerging diseases

2021	Co-editor with Wenshe Ray Liu, Matthew Bogyo, and Andrzej Joachimiak, <i>Frontiers in Chemistry</i> Section Medicinal and Pharmaceutical Chemistry COVID-19: Targeting Essential SARS-CoV-2 Proteins for Drug Discovery
2021	Co-editor with Hongmin Li, <i>Acta Pharmaceutica Sinica B</i> Topic: Antiviral drugs
2021	Co-editor with Richard Zhao, <i>Pathogens</i> Topic: Novel Strategies on Antiviral Drug Discovery against Human Diseases
2021-2021	President elect, University of Arizona Faculty of Chinese Heritage Association
2021-2021	Track director, Drug discovery and development graduate track, UA
2020-2021	Core member, Arizona Center for Drug Discovery
2021-current	Editorial board member of <i>Medicinal Research Reviews</i>
2020-current	Editorial board member of <i>Acta Pharmaceutica Sinica B</i>
2020-current	Editorial board member of <i>European Journal of Pharmaceutical Sciences</i>
06/19/2020	39 th Annual Meeting of the American Society for Virology (ASV 2020) Antiviral Therapeutics Virtual Workshop Session Chair
2019-current	Review Editor, <i>Frontiers in Microbiology – Virology section</i>
2019-current	Editorial board of <i>Scientific Reports</i>
2017-current	Review Editor, <i>Frontiers in Chemistry – Modern Synthetic Organic Chemistry</i>
2012-current	Regional Editor (North America), <i>Current Chemical Biology</i>
2019	Member, Drug Discovery and Development Faculty Search Committee
2019	Member, University of Arizona University Fellow Award Review Committee
2018-current	Member, College of Pharmacy PharmD Admissions Committee
2014-current	Member, College of Pharmacy Research Affairs Committee
2014-current	Member, College of Pharmacy Teaching, Technology, and Learning Committee
2016	Chairperson of the Structural and Chemical Biology Section of the Cancer Chemistry, Subcommittee of the 2016 AACR Program Committee
2016	Organizing committee member, 2 nd International Conference on Flu
2017	University of Arizona BCP program fellowship committee
2017	Judge and Organizer, University of Arizona Data Blitz

Grant Review Committee

1. Reviewer, Arizona Biomedical Research Council (ABRC) grant proposals. 08/2022.
2. Reviewer, NIH ZRG1 F07C-M (20) L, Fellowships: Infectious Diseases and Immunology. 07/13/2022-07/14/2022
3. Reviewer, NIH ZRG1 AIDC (82), Special Emphasis Panel “Antiviral Drug Discovery and Mechanisms of Resistance”. 03/07/2022-03/08/2022.
4. Reviewer, NIH ZRG1 F07A-H 20, Fellowship: Infectious Diseases and Immunology Panel A. 11/9/2021-11/10/2021.
5. Reviewer, National Research Foundation Competitive Research Programme 26th Grant Call Research Proposal. Singapore Prime Minister’s Office. 09/2021.
6. Reviewer, NIH Special Emphasis Panel “Exploration of Antimicrobial Therapeutics and Resistance” ZRG1 AIDC-B (82) 07/15/2021-07/16/2021.
7. Reviewer, Swiss National Science Foundation (SNSF) Research Proposal. 07/2021.
8. Reviewer, Dutch Research Council (NOW) Veni Research Proposal. 07/2021.
9. Reviewer, Arizona Biomedical Research Council (ABRC) grant proposals. 04/2021.
10. Reviewer, United Kingdom Research and Innovation Biotechnology and Biological Sciences Research Council (BBSRC) grant proposal. 04/2021.
11. Reviewer, NIH Small Business: Non-HIV Anti-viral Therapeutics ZRG1 AIDC-C (12) B 03/29/2021-03/30/2021
12. Advisory board, Center for Aging and Neurodegenerative Experimental Therapeutics (CANDET) pilot projects 03/25/2021
13. Reviewer, Innovation and Technology Fund Guangdong-Hong Kong Technology Cooperation Funding Scheme (TCFS) Research Proposal. 02/2021.
14. Reviewer, NIH-NIAID Emergency Awards: Rapid Investigation of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) and Coronavirus Disease 2019 (COVID-19) ZAI1 AMC-W

(M1) 1/14/2021-1/15/2020

15. Reviewer, NIH-NIAID Emergency Awards: Rapid Investigation of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) and Coronavirus Disease 2019 (COVID-19) ZAI1 SB-X (J1) 1 12/11/2020-12/14/2020
16. Reviewer, NIH Small Business: Non-HIV Anti-viral Therapeutics ZRG1 IDM-A (10) B 11/17/2020-11/18/2020
17. Reviewer, NIH Emergency Awards: Rapid Investigation of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) and Coronavirus Disease 2019 (COVID-19) ZAI1 LG-W (M1) 1 11/16/2020
18. Reviewer, NIH-NIAID Emergency Awards: Rapid Investigation of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) and Coronavirus Disease 2019 (COVID-19) ZAI1-BLG-W-S1 10/27/2020
19. Reviewer, NIH-NIAID Emergency Awards: Rapid Investigation of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) and Coronavirus Disease 2019 (COVID-19) ZAI1 JP-W (S3) 09/2020
20. Reviewer, NIH DDR study section. 07/15/2020-07/16/2020
21. Reviewer, Swiss National Research Program "COVID-19" Research Grants
22. Reviewer, NIH-NIAID Special Emphasis Panel Emerging SARS-CoV-2 and COVID-19 grants 06/2020
23. Reviewer, University of Sharjah Research Grant 05/2020
24. Reviewer, Swiss National Science Foundation grant 04/2020
25. Reviewer, NIH-NIAID Investigator Initiated Program Project Applications (P01), ZAI1 LG-M (S1), 08/07/2019
26. Reviewer, NIH RFA-AI-18-054 U.S.-Brazil Collaborative Biomedical Research Program (R01), 07/16/2019
27. Reviewer, Swiss National Science Foundation grant 05/2019
28. Reviewer, ISF (Israel Science Foundation) grant 05/2019
29. Reviewer, BSCA (British Society for Antimicrobial Chemotherapy) grant 01/20/2019
30. Reviewer, NSERC (Natural Sciences and Engineering Research Council of Canada) grant 01/05/2019
31. Reviewer, NIH-NIGMS SCORE Neuroscience and Physiology ZGM1 RCB-5 (SC) study section 10/15/2018.
32. Reviewer, NIH-NIAID RFP-NIAID-DMID-NIHAI 2017091 entitled "In Vitro Assessments of Antimicrobial Activity" Task Area A. 05/8/2018.
33. Reviewer, NIH-NIAID RFP-NIAID-DMID-NIHAI 2017091 entitled "In Vitro Assessments of Antimicrobial Activity" Task Area E. 05/9/2018.
34. Reviewer, Joint NSFC-ISF Research Grant, the Israel Science Foundation. 06/04/2018.
35. Reviewer, NIH DDR study section. 02/26/2018–02/27/2018 San Diego.
36. Reviewer, MRC (Medical Research Council, UK) grant, 03/2017.
37. Reviewer, NIH-NIGMS Special Emphasis Panel ZGM1 RCB-5 (SC). NIGMS SCORE Neuroscience 11/8/2017, teleconference.
38. Reviewer, NIH-NIAID RFP-NIAID-DMID-NIHAI2017090 "Nonclinical Services for Development of Interventional Agents for Infectious Diseases (N01)" 09/18/2017–09/19/2017, Bethesda North Marriott, Rockville MD.
39. Reviewer, NIH-NIGMS for the Support of Competitive Research (SCORE) awards. NIGMS 06/29/2017, Bethesda, MD.
40. Reviewer, NIH-PAR-16-106: Rapid Assessment of Zika Virus (ZIKV) Complications (R21). NIAID 5/3-5/4 2017, teleconference.
41. Reviewer, University of Arizona RDI – Faculty Seed Grants 04/2017
42. Reviewer, NIH-Partnerships for Countermeasures against Select Pathogens (R01): Therapeutics, Immunotherapeutics, and Vaccines Review Panel. NIAID 2/28-3/2 2017, teleconference.
43. Reviewer, NIH-NIGMS for the Support of Competitive Research (SCORE) awards. NIGMS 11/4/2016, San Antonio, Texas.

Publications (Citations: 5398, H-index 39 as of 09/13/2022 according to Google Scholar)

(* corresponding author #equal contribution, undergraduate coauthors are underscored)

Independent work

1. Tzitzoglaki C, Hoffmann A, Turcu A, Schmerer P, Ma C, Laros G, Liolios C, Jose B, **Wang J**, Vazquez S, Schmidtke M,* Kolocouris A.* Amantadine variant – Aryl conjugates that inhibit multiple M2 mutant – amantadine resistant influenza A viruses. *Eur J Med Chem.* 2022. <https://doi.org/10.1016/j.ejmc.2022.100083>.
2. Joyce R, Hu Y, **Wang J**.* The history, mechanism, and perspective of nirmatrelvir (PF-07321332): an orally bioavailable main protease inhibitor used in combination with ritonavir to reduce COVID-19-related hospitalizations. *Med Chem Res.* 2022, <https://doi.org/10.1007/s00044-022-02951-6> (special issue in honor of Prof. Edmond J. LaVoie)
3. Potter C, Hu Y, Xiong Z, **Wang J**, McLeod E.* Point-of-care SARS-CoV-2 sensing using lens-free imaging and a deep learning-assisted quantitative agglutination assay. *Lab Chip.* 2022. DOI: 10.1039/d2lc00289b
4. Sacco MD, Wang S, Adapa SR, Zhang X, Lewandowski EM, Gongora MV, Keramisanou D, Atlas ZD, Townsend JA, Gatdula JR, Morgan RT, Hammond LR, Marty MT, **Wang J**, Eswara PJ, Gelis I, Jiang RHY, Sun X,* Chen Y.* A unique class of Zn²⁺-binding serine-based PBPs underlies cephalosporin resistance and sporogenesis in *Clostridioides difficile*. *Nat. Commun.* 2022, 13, 4370.
5. Gomez K, Tang C, Tan B, Perez-Miller S, Ran D, Loya S, Calderon-Rivera A, Stratton H, Duran P, Masterson K, Gabrielsen A, Alsbie O, Dorame A, Serafini M, Moutal A, **Wang J**,* Khanna R.* Stereospecific effects of benzimidazolonepiperidine compounds on T-type Ca²⁺ channels and pain. *ACS Chem. Neurosci.* 2022, 13, 2035-2047.
6. Tan H, Hu Y, Jadhav P, Tan B, **Wang J**.* Progress and challenges in targeting the SARS-CoV-2 papain-like protease. *J. Med. Chem.* (perspective) 2022, 65, 7561-7580.
7. Zhou X, Zhu L, Bondy C, **Wang J**, Luo Q, Chen Y.* AG1478 elicits a novel anti-influenza function via an EGFR-independent, GBF1-dependent pathway. *Int. J. Mol. Sci.* 2022, 23, 5557.
8. Tan H, Ma C, **Wang J**.* Invalidation of dieckol and 1,2,3,4,6-pentagalloylglucose (PGG) as SARS-CoV-2 main protease inhibitors and the discovery of PGG as a papain-like protease inhibitor. *Med. Chem. Res.* 2022, 31, 1147-1153. (Special issue in honor of Prof. Laurence Hurley).
9. **Wang J**,* Li, H.* Editorial of Special Column on Antiviral Drug Discovery and Pharmacology. *Acta Pharm. Sin. B* 2022, 12, 1540-1541
10. Ma C,# Hu Y,# Wang Y, Choza, J, **Wang J**.* Drug repurposing screening identified tropifexor as a SARS-CoV-2 papain-like protease inhibitor. *ACS Infect Dis* 2022, 8, 1022-1030.
11. Sacco M, Hu Y, Gongora M, Meilleur F, Kemp M, Zhang X, **Wang J**,* Chen Y.* The P132H mutation in the main protease of Omicron SARS-CoV-2 decreases thermal stability without compromising catalysis or small molecule drug inhibition. *Cell Res.* 2022, 32, 498-500.
12. Hu Y, Ma C, **Wang J**.* Cytopathic effect assay and plaque assay to evaluate in vitro activity of antiviral compounds against human coronaviruses 229E, OC43 and NL63. *Bio-protocol* 2022 doi: 10.21769/BioProtoc.4314.
13. Hu Y, Jo H, DeGrado WF, **Wang J**.* Brilacidin, a COVID-19 Drug Candidate, demonstrates broad-spectrum antiviral activity against human coronaviruses OC43, 229E and NL63 through targeting both the virus and the host cell. *J. Med. Virol.* 2022 Jan 25. doi: 10.1002/jmv.27616. Epub ahead of print. PMID: 35080027.
14. Ma C, **Wang J**.* Validation and invalidation of SARS-CoV-2 papain-like protease inhibitors. *ACS Pharmacol. Transl. Sci* 2022, 5, 102-109.
15. Ma C, Xia Z, Sacco MD, Hu Y, Townsend JA, Meng X, Choza J, Tan H, Jang J, Gongora MV, Zhang X, Zhang F, Xiang Y, Marty MT, Chen Y,* **Wang J**.* Discovery of Di- and Trihaloacetamides as Covalent SARS-CoV-2 Main Protease Inhibitors with High Target Specificity. *J. Am. Chem. Soc.* 2021, 143, 20697-20709.
16. Townsend JA, Sanders HM, Rolland AD, Park CK, Horton NC, Prell JS, **Wang J**, Marty MT.* Influenza AM2 Channel Oligomerization Is Sensitive to Its Chemical Environment. *Anal. Chem.* 2021, 93, 16273-16281.

17. Ma C, Tan H, Choza J, Wang Y, **Wang J.*** (2022) Validation and invalidation of SARS-CoV-2 main protease inhibitors using the FlipGFP and Protease-Glo luciferase assays. *Acta Pharm. Sin. B* 12, 1636-1651.
18. Boras B, Jones RM,* Anson BJ, Arenson D, Aschenbrenner L, Bakowski MA, Beutler N, Binder J, Chen E, Eng H, Hammond H, Hammond J, Haupt RE, Hoffman R, Kadar EP, Kania R, Kimoto E, Kirkpatrick MG, Lanyon L, Lendy EK, Lillis JR, Logue J, Luthra SA, Ma C, Mason SW, McGrath ME, Noell S, Obach RS, O'Brien MN, O'Connor R, Ogilvie K, Owen D, Pettersson M, Reese MR, Rogers TF, Rosales R, Rossulek MI, Sathish JG, Shirai N, Stepan C, Ticehurst M, Updyke LW, Weston S, Zhu Y, White KM, García-Sastre A, **Wang J**, Chatterjee AK, Mesecar AD, Frieman MB, Anderson AS, Allerton C. (2021) Preclinical characterization of an intravenous coronavirus 3CL protease inhibitor for the potential treatment of COVID19. *Nat. Commun.* 12, 6055.
19. Cáceres, C. J.; Hu, Y.; Cárdenas-García, S.; Tan, H.; Wu, X.; Carnaccini, S.; Gay, L. C.; Geiger, G.; Ma, C.; Zhang, Q.-Y.; Rajao, D.; Perez, D. R.;* **Wang, J.>*** (2021) Rational design of a deuterium-containing M2-S31N channel blocker UAWJ280 with in vivo antiviral efficacy against both oseltamivir sensitive and -resistant influenza A viruses. *Emerg. Microbes & Infect.* 10, 1832-1848.
20. **Wang J,*** Hu Y, Zheng, M. (2021) Enterovirus 71 antivirals: past, present, and future. *Acta Pharm. Sin. B.* doi.org/10.1016/j.apsb.2021.08.017
21. Thomaston JL, Samways ML, Konstantinidi A, Ma C, Hu Y, Bruce Macdonald HE, **Wang J**, Essex JW, DeGrado WF,* Kolocouris A.* Rimantadine Binds to and Inhibits the Influenza A M2 Proton Channel without Enantiomeric Specificity. *Biochemistry.* 2021 Aug 3. doi: 10.1021/acs.biochem.1c00437. Epub ahead of print. PMID: 34342217.
22. Ma, C., Sacco, M., Xia, Z., Lambrinidis, G., Townsend, J., Hu, Y., Meng, X., Szeto, T., Ba, M., Zhang, X., Gongora, M., Zhang, F., Marty, M., Xiang, Y., Kolocouris, A., Chen, Y.,* **Wang, J.*** (2021) Discovery of SARS-CoV-2 Papain-like Protease Inhibitors through a Combination of High Throughput Screening and a FlipGFP-Based Reporter Assay. *ACS Cent. Sci.* 7, 1245-1260.
23. Xia, Z., Sacco, M., Hu, Y., Ma, C., Hu, Y., Meng, X., Zhang, F., Szeto, T., Xiang, Y., Chen, Y.,* **Wang, J.*** (2021) Rational Design of Hybrid SARS-CoV-2 Main Protease Inhibitors Guided by the Superimposed Cocrystal Structures with the Peptidomimetic Inhibitors GC-376, Telaprevir, and Boceprevir. *ACS Pharmacol. Transl. Sci.* 4, 1408-1421.
24. Hu Y, Kitamura N, Musharrafieh R, **Wang J.*** (2021) Discovery of Potent and Broad-Spectrum Pyrazolopyridine-Containing Antivirals against Enteroviruses D68, A71, and Coxsackievirus B3 by Targeting the Viral 2C Protein. *J. Med. Chem.* 64, 8755-8774.
25. Zhao H, Jiang S, Ye Z, Zhu H, Hu B, Meng P, Hu Y, Zhang H, Wang K,* **Wang J,*** Tian Y.* (2021) Discovery of hydrazide-containing oseltamivir analogues as potent inhibitors of influenza A neuraminidase. *Eur. J. Med. Chem.* 221, 113567.
26. Cáceres CJ, Cardenas-Garcia S, Carnaccini S, Seibert B, Rajao DS, **Wang J,*** Perez DR.* (2021) Efficacy of GC-376 against SARS-CoV-2 virus infection in the K18 hACE2 transgenic mouse model. *Sci. Rep.* 11, 9609.
27. Kitamura N, Sacco MD, Ma C, Hu Y, Townsend JA, Meng X, Zhang F, Zhang X, Ba M, Szeto T, Kukuljac A, Marty MT, Schultz D, Cherry S, Xiang Y, Chen Y,* **Wang J.*** (2021) Expedited Approach toward the Rational Design of Noncovalent SARS-CoV-2 Main Protease Inhibitors. *J. Med. Chem.* doi: 10.1021/acs.jmedchem.1c00509.
28. Hu, Y.; Ma, C.; Szeto, T.; Hurst, B.; Tarbet, B.; **Wang, J.*** (2021) Boceprevir, calpain inhibitors II and XII, and GC-376 have broad-spectrum antiviral activity against coronaviruses in cell culture. *ACS Infect. Dis.* 7, 586-597.
29. Hu, Y.; Meng, X.; Zhang, F.; Xiang, Y.; **Wang, J.*** (2021) The in vitro antiviral activity of lactoferrin against common human coronaviruses and SARS-CoV-2 is mediated by targeting the heparan sulfate co-receptor. *Emerg. Microbes & Infect.* 10, 317-330.
30. Ma, C.; **Wang, J.*** (2021) Dipyridamole, chloroquine, montelukast sodium, candesartan, oxytetracycline, and azanavir are not SARS-CoV-2 main protease inhibitors. *Proc. Natl. Acad. Sci. U. S. A.* 118, e2024420118.

31. Sacco, M., Ma, C., Lagarias, P., Gao, A., Townsend, J., Meng, X., Dube, P., Zhang, X., Hu, Y., Kitamura, N., Hurst, B., Tarbet, B., Marty, M., Kolocouris, A., Chen, Y.,* **Wang, J.*** (2020) Structure and inhibition of the SARS-CoV-2 main protease reveals strategy for developing dual inhibitors against M^{pro} and cathepsin L. *Sci. Adv.* **6**, eabe0751.
32. Ma, C., Hu, Y., Townsend, J., Lagarias, P., Marty, M., Kolocouris, A., **Wang, J.*** (2020) Ebselen, disulfiram, carmofur, PX-12, tideglusib, and shikonin are non-specific promiscuous SARS-CoV-2 main protease inhibitors. *ACS Pharmacol. Transl. Sci.* **3**, 1265-1277.
33. Tzitzoglaki, C., McGuire, K., Lagarias, P., Konstantinidi, A., Hoffmann, A., Fokina, N., Ma, C., Papanastasiou, I., Schreiner, P., Vazques, S., Schmidtke, M., **Wang, J.**, Busath, D., Kolocouris, A.* (2020) Chemical probes for blocking of the influenza A M2 WT and S31N channels. *ACS Chem. Biol.* **15**, 2331-2337.
34. Ma, C., Sacco, M., Hurst, B., Townsend, J., Hu, Y., Szeto, T., Zhang, X., Tarbet, B., Marty, M., Chen, Y.,* **Wang, J.*** (2020) Boceprevir, GC-376, and calpain inhibitors II, XII inhibit SARS-CoV-2 viral replication by targeting the viral main protease. *Cell. Res.* **30**, 678-692.
35. Ma, C., Hu, Y., Zhang, J., **Wang, J.*** (2020) Pharmacological characterization of the mechanism of action of R523062, a promising antiviral for enterovirus D68. *ACS Infect. Dis.* **6**, 2260-2270.
36. Cai, S., Tuohy, P., Ma, C., Kitamura, N., Gomez, K., Zhou, Y., Ran, D., Bellampalli, S., Yu, J., Luo, S., Dorame, A., Ngan, P., Nancy, Y., Molnar, G., Streicher, J., Patek, M., Perez-Miller, S., Moutal, A., **Wang, J.*** Khanna, R.* (2020) A modulator of low-voltage activated T-type calcium channel that reverses HIV glycoprotein 120-, paclitaxel-, and spinal nerve ligation-induced peripheral neuropathies. *Pain* **161**, 2551-2570.
37. Musharrafieh, R., Kitamura, N., Hu, Y., **Wang, J.*** (2020) Development of broad-spectrum enterovirus antivirals based on quinoline scaffold. *Bioorg. Chem.* **101**, 103981.
38. Hu, Y., Musharrafieh, R., Zheng, M., **Wang, J.*** (2020) Enterovirus D68 antivirals: past, present, and future. *ACS Infect. Dis.* **6**, 1572-1586.
39. Musharrafieh, R., Lagarias, P., Ma, C., Hau, R., Romano, A., Lambrinidis, G., Kolocouris, A.,* **Wang, J.*** (2020) Investigation of the drug resistance mechanism of M2-S31N channel blockers through biomolecular simulations and viral passage experiments. *ACS Pharmacol. Transl. Sci.* **3**, 666-675. (inside cover)
40. Jalily, P.H., Duncan, M.C., Fedida, D., **Wang, J.**, Tietjen, I.* (2020). Put a cork in it: plugging the M2 viral ion channel to sink influenza. *Antiviral Res.* **178**, 104780.
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Patents

- Wang, J.** Novel main protease inhibitors as SARS-CoV-2 antivirals. Provisional patent filed through Tech Launch Arizona. UA21-195.
- Wang, J.**, Kitamura, N. Discovery of pyrazolopyridine analogs as broad-spectrum antivirals against non-polio enteroviruses including EV-D68, EV-A71 and CVB3. Provisional patent filed through Tech Launch Arizona. UA21-158.
- Wang, J.**, Ma, C.L., Kitamura, N., Hu, Y. Papain-like protease inhibitors against SARS-CoV-2. Provisional patent filed through Tech Launch Arizona. UA21-133.
- Wang, J.**, Ma, C.L., Kitamura, N. Discovery of non-covalent inhibitors targeting the SARS-CoV-2 main protease. Provisional patent filed through Tech Launch Arizona. UA21-099.
- Wang, J.**, Ma, C.L. Bioactive compounds for use in inhibiting SARS-CoV-2 viral replication. Provisional patent filed through Tech Launch Arizona. UA20-172.
- Wang, J.**, Rajesh Khanna. Small molecule inhibitors of Cav3.2 activity and uses thereof. Provisional patent filed through Tech Launch Arizona. UA18-028.
- Wang, J.**, Musharrafieh, R., Ma, C.L., Zhang, J.T., Hu, Y.M. Broad-spectrum antivirals against enterovirus D68, A71, and coxsackievirus B3. Provisional patent filed through Tech Launch Arizona. UA19-186.
- DeGrado, W. F., Wang, J, **Wang, J.**, Jo, H., Canturk, B. Inhibitors targeting drug-resistant influenza A. US14363116
- DeGrado, W. F., **Wang, J.** Inhibitors of the influenza A virus M2 proton channel. US8569284
- DeGrado, W. F., **Wang, J.** Inhibitors of the influenza A virus M2 proton channel. US9403777
- DeGrado, W. F., **Wang, J.** Influenza A virus inhibition. US9464075
- DeGrado, W. F., **Wang, J.** Adamantane analogs. US9301950

DeGrado, W. F., **Wang, J.** Spiro-piperidine inhibitors. US8557836

DeGrado, W. F., **Wang, J.** Inhibition of influenza A virus M2 proton channel. US9453005

Service Contributions to the Professional Community: Reviewer of Publications

Acta Pharmaceutica Sinica B – Editorial Board 2020 – present

European Journal of Pharmaceutical Sciences – Editorial Board 2020 – present

Scientific Reports – Editorial Board 2019 – present

Frontiers in Chemistry – Modern Synthetic Organic Chemistry (Review Editor) 2016-present

Frontiers in Microbiology – Virology section (Review Editor) 2019-present

Nature Biotechnology *Nature Communications* *PNAS* *ACS Central Sciences*

Cell Research *Journal of Clinical Investigation* *Clinical Microbiology Reviews*

Plos Pathogens *JCI Insights* *Plos Biology* *Communications Biology*

Acta Pharmaceutica Sinica B *iScience* *Medicinal Research Review* *Drug Discovery Today*

ACS Nano *Organic letters* *ACS Infectious Diseases* *Biochemistry* *ACS Omega*

Journal of Medicinal Chemistry *ACS Medicinal Chemistry Letters* *ACS Chemical Biology*

Chemical Communications *Antiviral Research* *Cell Discovery* *Journal of Molecular Biology*

Pharmacology and Therapeutics *Molecular Pharmaceutics* *European Journal of Medicinal Chemistry*

Biophysical Journal *Scientific Reports* *Antimicrobial Agents and Chemotherapy* *Vaccines*

European Journal of Pharmaceutical Sciences *Organic & Biomolecular Chemistry*

Virology *Molecular Biosystems* *Medicinal Chemistry* *Medicinal Chemistry Research*

Bioorganic & Medicinal Chemistry Letters *RSC Advances* *Int. J. of Peptide Research and Therapeutics*

International Journal of Pharmaceutics *Journal of Biomolecular Screening* *Plos One*

Molecular Diversity *MedChemComm* *Current Medicinal Chemistry* *ChemMedChem* *Analyst*

Journal of Medical Virology *Antiviral Therapy* *International Journal of Molecular Sciences*

Bioconjugate Chemistry *ChemSelect* *Vaccines* *Molecule* *Bioorganic Chemistry*

Affiliations

American Chemical Society (2008 – current)

The Protein Society (2012 – current)

Biophysical Society (2013 – current)

International Society for Antiviral Research (2015 – current)

Current Extramural Grants (listed values are direct cost to Wang lab) (total amount > 10.5 million)

1. NIH-R01AI158775 \$2,983,472 08/01/2021-08/31/2026
“Development of dual inhibitors targeting the viral main protease and the host cathepsin L as SARS-CoV-2 antivirals”
Role: PI
2. NIH-R01AI157046 \$3,491,946 09/01/2020-08/31/2025
“Drug Target Validation of the Enterovirus D68 2A Protease”
Role: PI
3. NIH-R01AI147325 \$1,687,554 06/07/2019-05/31/2023
“High-throughput Screening of Inhibitors Targeting the Enterovirus A71 and D68 2A proteases”
Role: PI

Finished Extramural and Intramural Grants

1. Arizona Biomedical Research Centre (ABRC) Young Investigator Grant
\$225,000 (direct) 04/01/2018-03/31/2021
“Discovery of Broad-Spectrum Influenza Antivirals to Combat Influenza Epidemics and Pandemics”
Role: PI
2. NIH-R21AI144887 \$414,947 03/01/2019-02/28/2022
“Discovery of Broad-Spectrum Influenza Antivirals with a High Genetic Barrier to Drug Resistance by Targeting the Viral Polymerase”

Role: PI

3. NIH-R33AI119187 \$1,157,935 07/01/2017-06/30/2021
“Drug Discovery Targeting the Influenza A virus M2-S31N Proton Channel”
Role: PI
4. NIH/NIAID SBIR R43AI149822 \$200,000 12/01/2019-11/30/2021
“Discovery of Enterovirus D68 2A Protease Inhibitors for Antiviral Therapy”
Role: Co-PI
5. Pfizer collaborative grant \$16,000 04/01/2020-05/30/2020
“Discovery of inhibitors targeting the SARS-CoV-2 main protease”
Role: PI
6. NIH/NINDS STTR R41NS116784 \$137,653 09/30/2018-08/31/2020
“Discovery of T-type Calcium Channel Antagonists from Multicomponent Reactions and Their Application in Paclitaxel-induced Peripheral Neuropathy” (one-year no cost extension)
Role: Co-PI
7. NIH-R21AI119187 \$418,866 07/01/2015-06/30/2017
“Drug Discovery Targeting the Influenza A virus M2-S31N Proton Channel”
Role: PI
8. NIH-R43AI104121 \$90,000 03/01/2015-02/28/2017
“Development of Drugs that Target the M2 Proton Channel from Influenza A Virus”
Role: Co-PI
9. Pharmaceutical Research and Manufactures of America Foundation (PhRMA) 2015 Research Starter Grant in Pharmacology and Toxicology \$50,000 01/01/2015-12/31/2015
“Drug Discovery Targeting the Drug-Resistant Influenza A Virus M2 Proton Channels”
Role: PI
10. Arizona Area Health Education Centers (AHEC) Grant \$10,000 02/01/2016-08/31/2016
“Exploring Multi-component Reactions for the Discovery of Broad-Spectrum Antivirals Targeting Influenza Viruses”
Role: PI
11. University of Arizona Faculty Seed Grant \$10,000 09/01/2015-02/28/2016
“Exploring θ -defensin Mimetics as “Virological Penicillin”
Role: PI

Presentations

1. Rutgers, Ernest Mario School of Pharmacy. Feb 2nd 2022. “Medicinal chemistry and pharmacology of SARS-CoV-2 antivirals”. *Invited talk*.
2. Rutgers, Department of Chemistry and Chemical Biology. Feb 1st 2022. “Medicinal chemistry and pharmacology of SARS-CoV-2 antivirals”. *Invited talk*.
3. The University of Arizona Pre-Pharmacy Club. Sep 13, 2021. *Invited talk*.
4. The University of Arizona’s Collaborative for Global Adaptive Pandemic Solutions (CGAPS) Pandemic drug development workshop. July 30th 2021. “Bioactive compounds for use in inhibiting SARS-CoV-2 viral replication”. *Invited talk*.
5. College of Pharmacy Board of Advisors Meeting Presentation April 15th 2021.

6. Chinese-American Bio/Pharmaceutical Society Webinar: COVID-19 small molecule drug discovery. Feb 27, 2021. "SARS-CoV-2 antiviral drug discovery targeting the main protease and papain-like protease". *Invited talk*.
7. UCLA Department of Chemistry and Biochemistry Houk-Jung Organic Colloquium Feb 23, 2021. "Medicinal Chemistry and Pharmacology of Antivirals Targeting Influenza Virus, Enterovirus D68, and SARS-CoV-2". *Invited talk*.
8. 18th Hellenic Symposium on Medicinal Chemistry. Feb 27, 2021. "SARS-CoV-2 antiviral drug discovery targeting the main protease and papain-like protease". *Invited talk*.
9. 6th Annual ABRC-Flinn Research Conference. Feb 24, 2021. "SARS-CoV-2 antiviral drug discovery targeting the main protease and papain-like protease". *Invited talk*.
10. Purdue University, Department of Medicinal Chemistry and Molecular Pharmacology, College of Pharmacy. Feb 4th, 2021. "Drug discovery and pharmacology of antivirals targeting influenza virus, enterovirus D68, and SARS-CoV-2". *Invited talk*.
11. The 3rd symposium of Association of Chinese Virologists in America (ACVA) Society of Chinese Bioscientists in America (SCBA) – Virology Division. December 30-31, 2020. "Drug Discovery Targeting SARS-CoV-2 Main Protease and Papain-like Protease". *Invited talk*.
12. What do parents do at work? Tucson Oct 17th, 2020.
13. University of Maryland, Institute of Human Virology. August 27, 2020. "Medicinal chemistry and pharmacology of antivirals" *Invited talk*.
14. Wuhan University SARS-CoV-2 and COVID19 Virtual Seminar Series. June 17, 2020. "SARS-CoV-2 antivirals". *Invited talk*.
15. Labroots virtual conference. Influenza 2019: past, present and future. <https://www.labroots.com/ms/virtual-event/influenza-2019>. *Invited talk*.
16. University of Minnesota, Center for Drug Design. Dec 11th, 2019. "Medicinal chemistry and pharmacology of antivirals" *Invited talk*.
17. Cold Spring Harbor-Asia Conference: Chemical Biology & Drug Discovery. Oct 30th, 2019. "Discovery of antivirals targeting the enterovirus D68". *Oral Presentation*.
18. Arizona State University, School of Molecular Sciences. Oct 11th, 2019. "Medicinal chemistry and pharmacology of antivirals" *Invited talk*.
19. University of Texas, El Paso, Department of Chemistry. Sept 13th, 2019. "Medicinal chemistry and pharmacology of antivirals" *Invited talk*.
20. Stony Brook University, Department of Chemistry. Sept 5th, 2019. "Medicinal chemistry and pharmacology of antivirals" *Invited talk*.
21. Rutgers University, Center for Advanced Biotechnology and Medicine. Sept 4th, 2019. "Medicinal chemistry and pharmacology of antivirals" *Invited talk*.
22. Arizona symposium on virology, immunology, microbiomes and infectious disease. Phoenix Biomedical Campus. June 7th, 2019. "Drug discovery and pharmacology of antivirals targeting influenza and enteroviruses". *Invited talk*.
23. 32nd International Conference on Antiviral Research (ICAR). May 13th, 2019. "Validating Enterovirus D68-2A^{pro} as an Antiviral Drug Target and the Discovery of Telaprevir as a Potent D68-2A^{pro} Inhibitor". *Oral Presentation and Poster*.
24. University of Arizona, Department of Chemistry and Biochemistry, Organic Chemistry seminar. April 22nd, 2019. "The role of organic chemistry in drug discovery". *Invited talk*.
25. New York State Department of Health, Wadsworth Center. April 18th, 2019. "Medicinal chemistry of pharmacology of antivirals against influenza virus and enterovirus". *Invited talk*.
26. University of South Florida Department of Molecular Medicine, April 5th, 2019. "Medicinal chemistry of pharmacology of antivirals against influenza virus and enterovirus". *Invited talk*.
27. Syracuse University Department of Chemistry. Jan 22nd 2019. "Medicinal chemistry and pharmacology of antivirals". *Invited talk*.
28. College of Pharmacy BSPS program new student orientation. April 14th 2018.
29. Oklahoma Center for Respiratory and Infectious Diseases, Oklahoma State University, Oct 31st – Nov 1st, 2017. *Invited talk*.

30. Cell symposium, Emerging and Re-emerging Viruses. Arlington, VA, Oct 1st – 3rd, 2017. “Discovery of broad-spectrum influenza antivirals through chemical genomics approach”. *Poster*.
31. Department of Chemistry, Lanzhou University, China. June 20th, 2017. *Invited talk*.
32. 5th ISIRV-AVG meeting. “Discovery of M2 inhibitors with a high genetic barrier to drug resistance”. Shanghai, China, June 14th-16th, 2017. *Poster*.
33. 30th International Conference on Antiviral Research (ICAR). “Rational Design of M2 Inhibitors with a High In Vitro Genetic Barrier to Drug Resistance”. Atlanta, May 23rd-26th, 2017. *Poster*.
34. Microlunch cross-campus seminar series. "Strategies to combat drug resistance of influenza viruses". University of Arizona Dec 9th, 2016. *Invited talk*.
35. Flu 2016 Conference. "Targeting the influenza A virus M2 proton channel to combat drug resistance". San Francisco, CA, October 31st, 2016. Organizing Committee Member and Speaker
36. 29th International Conference on Antiviral Research (ICAR). “Drug Discovery Targeting the Highly Drug-Resistant Influenza A Virus M2 Proton Channel (A/M2)”. San Diego, April 17th-21st, 2016. *Oral Presentation and Poster*.
37. UC-Davis Center for Comparative Respiratory Biology and Medicine Seminar Series. “Structure, function, mechanism and inhibition of the influenza A virus M2 proton channel”. Aug 21st, 2015. *Invited Seminar*.
38. 4th ISIRV-AVG meeting. “Is M2 a Good Target to Combat Drug Resistance of the Influenza A Viruses?”. Austin, Texas, June, 2015. *Invited talk*.
39. Guangzhou Institutes of Biomedicine and Health, Chinese Academy of Sciences. “Drug Discovery Targeting the Highly Drug-Resistant Influenza A Virus M2 Proton Channel (A/M2)”. April, 2015. *Invited talk*.
40. Pre-pharmacy Club Seminar, University of Arizona. “Overview of Drug Discovery”. February 1st, 2015. *Oral Presentation*.
41. Pharmacology and Toxicology Division Seminar, University of Arizona. “Discovery of Next Generation Anti-Influenza Drugs”. October, 22nd, 2014. *Oral Presentation*.
42. Department of Chemistry Organic Chemistry Seminar, University of Arizona. “Design and Synthesis of Inhibitors Targeting the Influenza A Virus M2 Proton Channel”. September, 22nd, 2014. *Oral Presentation*.
43. College of Pharmacy Graduate Student Council Seminar, University of Arizona. “Career Choices and Advices”. September, 19th, 2014. *Oral Presentation*.
44. Biological Chemistry Program Seminar, University of Arizona. “Drug Discovery Targeting the Influenza A Virus M2 Proton Channel”. September, 11th, 2014. *Oral Presentation*.
45. 248th American Chemical Society National Meeting. “Drug Discovery Targeting the Influenza A Virus M2 Proton Channels”. San Francisco, August 10th-14th, 2014. *Poster*.
46. American Chemical Society 2013 Western Regional Meeting. “Rational Design of Inhibitors Targeting the Drug-Resistant Influenza A Virus M2 Proton Channel”. Santa Clara, CA. October 4th, 2013. *Oral Presentation*.
47. 246th American Chemical Society National Meeting. “Structure, Function, Mechanism, and Inhibition of the Influenza A Virus M2 Proton Channels”. Indianapolis, September, 8th-12th, 2013. *Oral Presentation and Poster*.
48. 26th International Conference on Antiviral Research (ICAR). “Drug Discovery Targeting the Highly Drug-Resistant Influenza A Virus M2 Proton Channel (A/M2)”. San Francisco, May 11th-15th, 2013. *Oral Presentation and Poster*.
49. Research in Progress Seminar, UCSF. “Structure, Mechanism, and Inhibition of Highly Drug Resistant Influenza A Virus M2 Proton Channel”, UCSF, October 5th, 2012. *Oral Presentation*.
50. 1st Annual UCSF Postdoc Symposium, UCSF. “Structure, Mechanism and Inhibition of Highly Drug Resistant Influenza A Virus M2 Proton Channel”, September 20th, 2012. *Oral Presentation*.
51. Gordon Research Conference-High Throughput Chemistry & Chemical Biology. “Structure-Based Design of Inhibitors Targeting Influenza A Virus M2 Proton Channel (A/M2)”. Colby-Sawyer College, New London, NH. June 19th-24th, 2011. *Poster*.

52. Gordon Research Seminar-High Throughput Chemistry & Chemical Biology. “Structure-Based Design of Inhibitors Targeting Influenza A Virus M2 Proton Channel (A/M2)”. Colby-Sawyer College, New London, NH. June 18th-19th, 2011. *Oral Presentation and poster*.
53. Chemical Biophysics Mini-Symposium, University of Pennsylvania. “Structure-Based Design of Inhibitors Targeting Influenza A Virus M2 Proton Channel (A/M2)”. May 20th, 2011. *Oral Presentation*.
54. Gordon Research Conferences (Peptide, chemistry and biology of). “Resolving the pharmacologically relevant drug binding site of influenza A virus M2 proton channel and development of novel AM2 inhibitors”. Ventura, CA. April, 2010. *Poster*.
55. 4th Annual Frontiers at the Chemistry-Biology Interface Symposium. “Structure-Based Design of Inhibitors Targeting Influenza A Virus M2 Proton Channel (A/M2)”. The University of Delaware, DL. April 30th, 2011. *Oral Presentation*.
56. FASEB Summer Conference on Molecular Biophysics of Cellular Membranes. “Solution NMR characterization of Influenza A virus M2 (A/M2) drug binding”. Saxtons River, VT. August, 2010. *Oral Presentation and Poster*.
57. Chemistry-Biology NIH interface training program retreat, University of Pennsylvania. “Structure-Based Design of Influenza A Virus M2 Proton Channel Inhibitors”, Swarthmore College, PA. July, 2010. *Oral Presentation*.

Research Highlights

WHO Scientific Strategies From Recent Outbreaks To Help Us Prepare For Pathogen X.

China approves first homegrown COVID antiviral

Bad news for Paxlovid? Coronavirus can find multiple ways to evade COVID-19 drug

Coronavirus hasn't developed resistance to Paxlovid. How long can that last?

<https://www.science.org/content/blog-post/paxlovid-update>

COVID-19 antiviral drugs

<https://www.pfizer.com/science/coronavirus/partnerships>

2020 UArizona health science joint study finds dual inhibitor strategy may be key to sustainable COVID-19 treatment

<https://uahs.arizona.edu/news/uahs-health-sciences-joint-study-finds-dual-inhibitor-strategy-may-be-key-sustainable-covid>

2020 Study invalidates ebiselen and other broad-spectrum SARS-CoV-2 M^{pro} inhibitors

<https://www.news-medical.net/news/20200918/Study-invalidates-Ebiselen-and-other-broad-spectrum-SARS-CoV-2-Mpro-inhibitors.aspx>

2020 How two coronavirus drugs for cats might help humans fight COVID-19

<https://www.sciencenews.org/article/coronavirus-covid-19-two-drugs-cats-humans-treatment>

2020 Science Daily: Compounds halt SARS-CoV-2 replication by targeting key viral enzyme

<https://www.sciencedaily.com/releases/2020/07/200706140830.htm>

2020 Compounds halt SARS-CoV-2 replication by targeting key viral enzyme

https://www.eurekalert.org/pub_releases/2020-07/uosf-chs070620.php

2020 Episode 236: Tracking treatment candidates for COVID-19

<https://radio.azpm.org/p/radio-azscience/2020/6/11/174741-tracking-treatment-candidates-for-covid-19/>

2020 UA research team identifies compounds as antiviral agents for SARS-CoV-2

<https://www.wildcat.arizona.edu/article/2020/06/sc-covid-researcher>

2020 UArizona Pharmacy Researcher Identifies Compounds That May Lead to Potential Treatments for COVID-19

<https://www.azbio.org/uahs-pharmacy-researcher-identifies-compounds-that-may-lead-to-potential-treatments-for-covid-19>

2020 UA researcher identifies 4 compounds that can halt coronavirus in cells

https://tucson.com/news/local/ua-researcher-identifies-4-compounds-that-can-halt-coronavirus-in-cells/article_f2a78b66-2abf-5c8d-8e05-7c8a3df4d3cf.html

2020 Pharmacists on the frontlines of COVID-19

<https://uanews.arizona.edu/story/pharmacists-frontlines-covid19>

2019 The push for better flu therapeutics

<https://www.scientificamerican.com/custom-media/influenza-outlook/the-push-for-better-flu-therapies/>

2019 The push for better flu therapeutics

<https://www.nature.com/articles/d41586-019-02753-8>

2019 Influenza

<https://www.labroots.com/virtual-event/influenza-2019/speakers>

2018 Fighting mutant influenza

<https://www.sciencedaily.com/releases/2018/10/181024112213.htm>

2016 Biophysics in Influenza A Drug Design

<https://www.biophysics.org/blog/biophysics-in-influenza-a-drug-design>

2015 Advancing Breakthrough Drugs

https://philanthropy.washingtonmonthly.com/portfolio_page/advancing-breakthrough-drugs/

2015 UA researcher investigates new flu treatments

<https://azbigmedia.com/business/health-care/ua-researcher-investigates-flu-treatments/>

News Media Interviews

COVID-19 research, response, and lessons learned

<https://giving.arizona.edu/wonder-home>

New COVID-19 treatment pill could be available this summer

<https://www.kgun9.com/news/coronavirus/new-covid-19-treatment-pill-could-be-available-this-summer>

2020 Making Science More Accessible

<https://healthsciences.arizona.edu/connect/features/making-science-more-accessible>

A virologist answers questions about COVID-19 and flu

<https://healthsciences.arizona.edu/connect/features/virologist-answers-questions-about-covid-19-and-flu>

2020 The coronavirus vaccine race and its hidden hurdles

<https://kjzz.org/content/1618515/coronavirus-vaccine-race-and-its-hidden-hurdles>

2020 Swine flu could be humanity's next pandemic, study warns

<https://www.sixthtone.com/news/1005861/swine-flu-could-be-humanitys-next-pandemic%2C-study-warns>