Lei Li
Lead Bioinformatics Research Scientist
Center for Applied Bioinformatics, St. Jude Children's Research Hospital

A. PERSONAL DATA

Current title	Lead Bioinformatics Research Scientist
Affiliation	St. Jude Children's Research Hospital
Office address:	262 Danny Thomas Place, Memphis, TN, 38105, USA
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Email address - Work:	lei.li@stjude.org
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B. RESEARCH INTERESTS

- Computational methods of single-cell sequencing data
- Single-cell sequencing data interpretation and visualization
- Genetics and Evolution methods and their application
- Biological/medical data interpretation and visualization

C. EDUCATION

Ph.D., System Engineering	**Xiamen University** Xiamen, China	09/2011-07/2015	2015
M.S., Control Engineering	**Xi'an Jiaotong University** Xi'an, China	09/2009-06/2011	2011
B.S., Automation	**Xi'an Jiaotong University** Xi'an, China	09/2005-06/2009	2009

D. POSTDOCTORAL TRAINING

Postdoctoral Scholar Bioinformatics and System biology	**University of Chicago** Chicago, IL, USA	03/2019 – 08/2021
Postdoctoral Scholar Bioinformatics and System biology	**Mississippi State University** Starkville, MS, USA	08/2015 – 08/2018

E. PROFESSIONAL POSITIONS & EMPLOYMENT

Lead Bioinformatics Research Scientist	**St. Jude Children's Research Hospital**, Memphis, TN, USA	02/2023 – Present
Senior Bioinformatics Research Scientist	**St. Jude Children's Research Hospital**, Memphis, TN, USA	12/2022 – 02/2023
Assistant Professor of Bioinformatics Research in Pediatrics	**Weill Cornell Medicine** New York, NY, USA	10/2022 – 12/2022
Senior Bioinformatics Analyst	**Weill Cornell Medicine** New York, NY, USA	08/2021 – 10/2022
Visiting Scholar	**Miami University** Oxford, OH, USA	04/2013 - 06/2014

F. BIBLIOGRAPHY

co-first author

Selected Publications:

1. **Lei Li#**, Jiayi Sun#, Yanbin Fu#, Siriruk Changrob, Joshua J.C. McGrath, Nai-Ying Zheng, Patrick C. Wilson. “A hybrid demultiplexing strategy for single-cell populations that increases both recovery rate and accuracy”. ***Briefings in Bioinformatics*** 25, no. 4 (2024): bbae254, DOI: 10.1093/bib/bbae254
2. **Lei Li**, Yu-Ling Lan, Lei Huang, Congting Ye, Jorge Andrade, and Patrick C Wilson. “Selecting representative samples from complex biological datasets using k-medoids clustering”. ***Frontiers in Genetics***, (2022) p. 1787. DOI: 10.3389/fgene.2022.954024
3. **Li, Lei#**, Siriruk Changrob#, Yanbin Fu#, Olivia Stovicek, Jenna J. Guthmiller, Joshua JC McGrath, Haley L. Dugan, Christopher T. Stamper, Nai-Ying Zheng, Min Huang, and Patrick C. Wilson. " Librator: a platform for the optimized analysis, design, and expression of mutable influenza viral antigens." ***Briefings in Bioinformatics***, (2022) bbac028, DOI: 10.1093/bib/bbac028
4. **Li, Lei#**, Haley L Dugan#, Christopher Stamper#, Linda Yu-Ling Lan, Nicholas Asby, Matthew Knight, Olivia Stovicek, Nai-Ying Zheng, Maria Lucia Madariaga, Kumaran Shanmugarajah, Maud O Jansen, Siriruk Changrob, Henry A Utset, Carole Henry, Christopher Nelson, Robert Jedrzejczak, Daved Fremont, Andrzej Joachimiak, Florian Krammer, Jun Huang, Aly Khan, Patrick C Wilson. "Improved integration of single-cell transcriptome and surface protein expression by LinQ-View." ***Cell Reports Methods*** 1, no. 4 (2021): 100056. DOI: 10.1016/j.crmeth.2021.100056
5. Dugan, Haley#, Christopher T Stamper#, **Lei Li#**, Siriruk Changrob, Nicholas W Asby, Peter J Halfmann, Nai-Ying Zheng, Min Huang, Dustin G Shaw, Mari S Cobb, Steven A Erickson, Jenna J Guthmiller, Olivia Stovicek, Jiaolong Wang, Emma S Winkler, Maria Lucia Madariaga, Kumaran Shanmugarajah, Maud O Jansen, Fatima Amanat, Isabelle Stewart, Henry A Utset, Jun Huang, Christopher A Nelson, Ya-Nan Dai, Paige D Hall,

Robert P Jedrzejczak, Andrzej Joachimiak, Florian Krammer, Michael S Diamond, Daved H Fremont, Yoshihiro Kawaoka, Patrick C Wilson “Profiling B cell immunodominance after SARS-CoV-2 infection reveals antibody evolution to non-neutralizing viral targets”. ***Immunity*** 54 (6), 1290-1303. e7 (2021). Doi: 10.1016/j.immuni.2021.05.001

6. **Li, Lei**, Deborah Chang, Lei Han, Xiaojian Zhang, Joseph Zaia, Xiu-Feng Wan. "Multi-task learning sparse group lasso: a method for quantifying antigenicity of influenza A (H1N1) virus using mutations and variations in glycosylation of Hemagglutinin." ***BMC bioinformatics*** 21 (2020): 1-22. Doi: 10.1186/s12859-020-3527-5
7. Zhang, Xiaojian#, Hailiang Sun#, Fred L Cunningham#, **Lei Li#**, Katie Hanson-Dorr, Matthew W Hopken, Jim Cooley, Li-Ping Long, John A Baroch, Tao Li, Brandon S Schmit, Xiaoxu Lin, Alicia K Olivier, Richard G Jarman, Thomas J DeLiberto, Xiu-Feng Wan. "Tissue tropisms opt for transmissible reassortants during avian and swine influenza A virus co-infection in swine." ***PLoS pathogens*** 14, no. 12 (2018): e1007417. Doi: 10.1371/journal.ppat.1007417
8. **Li, Lei**, Andrew S Bowman, Thomas J DeLiberto, Mary L Killian, Scott Krauss, Jacqueline M Nolting, Mia Kim Torchetti, Andrew M Ramey, Andrew B Reeves, David E Stallknecht, Richard J Webby, Xiu-Feng Wan. "Genetic evidence supports sporadic and independent introductions of subtype H5 low-pathogenic avian influenza A viruses from wild birds to domestic poultry in North America." ***Journal of virology*** 92, no. 19 (2018). Doi: 10.1128/JVI.00913-18
9. Kosikova, Martina#, **Lei Li#**, Peter Radvak, Zhiping Ye, Xiu-Feng Wan, and Hang Xie. "Imprinting of repeated influenza A/H3 exposures on antibody quantity and antibody quality: implications for seasonal vaccine strain selection and vaccine performance." ***Clinical infectious diseases*** 67, no. 10 (2018): 1523-1532. Doi: 10.1093/cid/ciy327
10. **Li, Lei**, Thomas J. DeLiberto, Mary L. Killian, Mia K. Torchetti, and Xiu-Feng Wan. "Evolutionary pathway for the 2017 emergence of a novel highly pathogenic avian influenza A (H7N9) virus among domestic poultry in Tennessee, United States." ***Virology*** 525 (2018): 32-39. Doi: 10.1016/j.virol.2018.09.003
11. **Li, Lei**, Guoli Ji, Congting Ye, Changlong Shu, Jie Zhang, and Chun Liang. "PlantOrDB: A genome-wide ortholog database for land plants and green algae." **BMC plant biology** 15, no. 1 (2015): 1-11. Doi: 10.1186/s12870-015-0531-4

Other Peer-reviewed Research Articles:

1. Joshua J.C. McGrath, Juyeon Park, Chloe A. Troxell, Jordan C. Chervin, **Lei Li**, Johnathan R. Kent, Siriruk Changrob, Yanbin Fu, Min Huang, NaiYing Zheng, G. Dewey Wilbanks, Sean A. Nelson, Jiayi Sun, Giorgio Inghirami, Maria Lucia L. Madariaga, George Georgiou, Patrick C. Wilson. “Mutability and hypermutation antagonize immunoglobulin codon optimality” ***Molecular Cell*** 85, no. 2 (2025): 430-444.. DOI: 10.1016/j.molcel.2024.11.033
2. Kim, Youngchang, Natalia Maltseva, Christine Tesar, Robert Jedrzejczak, Michael Endres, Heng Ma, Haley L. Dugan, Christopher T. Stamper, Changsoo Chang, **Lei Li**, Siriruk Changrob, Nai-Ying Zheng, Min Huang, Arvind Ramanathan, Patrick Wilson, Karolina Michalska, Andrzej Joachimiak. "Epitopes recognition of SARS-CoV-2 nucleocapsid RNA binding domain by human monoclonal antibodies." ***Iscience*** 27, no. 2 (2024). DOI: 10.1016/j.isci.2024.108976
3. Meng Hu, Christina Kackos, Balaji Banoth, Chet Raj Ojha, Jeremy C. Jones, Shaohua Lei, **Lei Li**, Lisa Kercher, Richard J. Webby, Charles J. Russel. “Hemagglutinin

destabilizationin H3N2 vaccine reference viruses skews antigenicity and prevents airborne transmission in ferrets." ***Science Advances*** (2023) DOI: 10.1126/sciadv.adf5182

4. Siriruk Changrob, Peter J. Halfmann, Hejun Liu, Jonathan L. Torres, Joshua J.C. McGrath, Gabriel Ozorowski, **Lei Li**, G. Dewey Wilbanks, Makoto Kuroda, Tadashi Maemura, Min Huang, Nai-Ying Zheng, Hannah L. Turner, Steven A. Erickson, Yanbin Fu, Atsuhiro Yasuhara, Gagandeep Singh, Brian Monahan, Jacob Mauldin, Komal Srivastava, Viviana Simon, Florian Krammer, D. Noah Sather, Andrew B Ward, Ian A. Wilson, Yoshihiro Kawaoka, Patrick C. Wilson. "*Site of vulnerability on SARS-CoV-2 spike induces broadly protective antibody to antigenically distinct Omicron subvariants."* ***Journal of Clinical Investigation*** (2023) DOI: 10.1172/JCI166844
5. McGrath, Joshua JC, Lei Li, and Patrick C. Wilson. "Memory B cell diversity: insights for optimized vaccine design." ***Trends in Immunology*** (2022). DOI: 10.1016/j.it.2022.03.005
6. Jenna J Guthmiller, Julianna Han, Henry A Utset, **Lei Li**, Linda Yu-Ling Lan, Carole Henry, Christopher T Stamper, Olivia Stovicek, Lauren Gentles, Haley L Dugan, Nai-Ying Zheng, Sara T Richey, Micah E Tepora, Dalia J Bitar, Siriruk Changrob, Shirin Strohmeier, Min Huang, Adolfo García-Sastre, Raffael Nachbagauer, Peter Palese, Jesse D Bloom, Florian Krammer, Lynda Coughlan, Andrew B Ward, Patrick C Wilso. " Broadly neutralizing antibodies target a hemagglutinin anchor epitope." ***Nature*** (2021). DOI: 10.1038/s41586-021-04356-8
7. Siriruk Changrob#, Yanbin Fu#, Jenna J Guthmiller#, Peter J Halfmann, **Lei Li**, Christopher T Stamper, Haley L Dugan, Molly Accola, William Rehrauer, Nai-Ying Zheng, Min Huang, Jiaolong Wang, Steven A Erickson, Henry A Utset, Hortencia M Graves, Fatima Amanat, D Noah Sather, Florian Krammer, Yoshihiro Kawaoka, Patrick C Wilson. "Cross-Neutralization of Emerging SARS-CoV-2 Variants of Concern by Antibodies Targeting Distinct Epitopes on Spike". ***Mbio*** 12, no. 6 (2021): e02975-21. DOI: 10.1128/mBio.02975-21
8. Guthmiller, Jenna J.#, Julianna Han#, **Lei Li**, Alec W. Freyn, Sean TH Liu, Olivia Stovicek, Christopher Stamper et al. "First exposure to the pandemic H1N1 virus induced broadly neutralizing antibodies targeting hemagglutinin head epitopes". ***Science Translational Medicine*** (2021) Vol. 13, Issue 596, eabg4535. DOI: 10.1126/scitranslmed.abg4535
9. Rahul Vijay, Jenna J Guthmiller, Alexandria J Sturtz, Sequoia Crooks, Jordan T Johnson, **Lei Li**, Linda Yu-Ling Lan, Rosemary L Pope, Yani Chen, Kai J Rogers, Nirmal Dutta, Jason E Toombs, Mary E Wilson, Patrick C Wilson, Wendy Maury, Rolf A Brekken, Noah S Butler. "Hemolysis-associated phosphatidylserine exposure promotes polyclonal plasmablast differentiation". ***Journal of Experimental Medicine*** 218, no. 6 (2021): e20202359. Doi: 10.1084/jem.20202359
10. Dong-Hun Lee, Mary Lea Killian, Thomas J Deliberto, Xiu-Feng Wan, **Li Lei**, David E Swayne, Mia Kim Torchetti. "H7N1 Low Pathogenicity Avian Influenza Viruses in Poultry in the United States During 2018." ***Avian Diseases*** 65, no. 1 (2021): 59-62. Doi: 10.1637/aviandiseases-D-20-00088
11. Fionna A Surette, Jenna J Guthmiller, **Lei Li**, Alexandria J Sturtz, Rahul Vijay, Rosemary L Pope, Brandon L McClellan, Angela D Pack, Ryan A Zander, Peng Shao, Linda Yu-Ling Lan, Daniel Fernandez-Ruiz, William R Heath, Patrick C Wilson, Noah S Butler. "Extrafollicular CD4 T cell-derived IL-10 functions rapidly and transiently to support anti-Plasmodium humoral immunity." ***PLoS Pathogens*** 17, no. 2 (2021): e1009288. Doi: 10.1371/journal.ppat.1009288

12. Jenna J Guthmiller, Henry A Utset, Carole Henry, **Lei Li**, Nai-Ying Zheng, Weina Sun, Marcos C Vieira, Seth Zost, Min Huang, Scott E Hensley, Sarah Cobey, Peter Palese, Patrick C Wilson. "An egg-derived sulfated N-Acetyllactosamine glycan is an antigenic decoy of influenza virus vaccines." ***mBio*** (2021). Doi: 10.1101/2021.03.16.435673
13. Jenna J Guthmiller, Olivia Stovicek, Jiaolong Wang, Siriruk Changrob, **Lei Li**, Peter Halfmann, Nai-Ying Zheng, Henry Utset, Christopher T Stamper, Haley L Dugan, William D Miller, Min Huang, Ya-Nan Dai, Christopher A Nelson, Paige D Hall, Maud Jansen, Kumaran Shanmugarajah, Jessica S Donington, Florian Krammer, Daved H Fremont, Andrzej Joachimiak, Yoshihiro Kawaoka, Vera Tesic, Maria Lucia Madariaga, Patrick C Wilson. "SARS-CoV-2 infection severity is linked to superior humoral immunity against the spike." ***MBio*** 12, no. 1 (2021). Doi: 10.1128/mBio.02940-20
14. Jenna J Guthmiller, Linda Yu-Ling Lan, Monica L Fernández-Quintero, Julianna Han, Henry A Utset, Dalia J Bitar, Natalie J Hamel, Olivia Stovicek, **Lei Li**, Micah Tepora, Carole Henry, Karlynn E Neu, Haley L Dugan, Marta T Borowska, Yao-Qing Chen, Sean TH Liu, Christopher T Stamper, Nai-Ying Zheng, Min Huang, Anna-Karin E Palm, Adolfo García-Sastre, Raffael Nachbagauer, Peter Palese, Lynda Coughlan, Florian Krammer, Andrew B Ward, Klaus R Liedl, Patrick C Wilson. "Polyreactive Broadly Neutralizing B Cells Are Selected to Provide Defense against Pandemic Threat Influenza Viruses." ***Immunity*** 53, no. 6 (2020): 1230-1244. Doi: 10.1016/j.immuni.2020.10.005
15. Knight, Matthew, Siriruk Changrob, **Lei Li**, and Patrick C. Wilson. "Imprinting, immunodominance, and other impediments to generating broad influenza immunity." ***Immunological Reviews*** 296, no. 1 (2020): 191-204. Doi: 10.1111/imr.12900
16. Meng Hu, Guohua Yang, Jennifer DeBeauchamp, Jeri Carol Crumpton, Hyunsuh Kim, **Lei Li**, Xiu-Feng Wan, Lisa Kercher, Andrew S Bowman, Robert G Webster, Richard J Webby, Charles J Russell. "HA stabilization promotes replication and transmission of swine H1N1 gamma influenza viruses in ferrets." ***Elife*** 9 (2020): e56236. Doi: 10.7554/eLife.56236
17. Xiaojian Zhang, Frederick Cummingham, **Lei Li**, Katie Hanson-Dorr, Liyuan Liu, Kaitlyn Waters, Minhui Guan, Alicia Olivier, Brandon Schmit, Jacqueline Nolting, Andrew Bowman, Mia Torchetti, Thomas DeLiberto, Xiu-Feng Wan. "Tissue tropisms of avian influenza A viruses affect their spillovers from wild birds to pigs." ***Journal of Virology*** 23;94(24):e00847-20. (2020) Doi: 10.1128/JVI.00847-20.
18. Krammer, Florian, **Lei Li**, and Patrick C. Wilson. "Emerging from the shadow of hemagglutinin: neuraminidase is an important target for influenza vaccination." ***Cell host & microbe*** 26, no. 6 (2019): 712-713. Doi: 10.1016/j.chom.2019.11.006
19. Minhui Guan, Jeffrey S Hall, Xiaojian Zhang, Robert J Dusek, Alicia K Olivier, Liyuan Liu, **Lei Li**, Scott Krauss, Angela Danner, Tao Li, Wiriya Rutvisuttinunt, Xiaoxu Lin, Gunnar T Hallgrimsson, Sunna B Ragnarsdottir, Solvi R Vignisson, Josh TeSlaa, Sean W Nashold, Richard Jarman, Xiu-Feng Wan. "Aerosol transmission of Gull-Origin Iceland subtype H10N7 influenza A virus in ferrets." ***Journal of virology*** 93, no. 13 (2019). Doi: 10.1128/JVI.00282-19
20. Han, Lei, **Lei Li**, Feng Wen, Lei Zhong, Tong Zhang, and Xiu-Feng Wan. "Graph-guided multi-task sparse learning model: a method for identifying antigenic variants of influenza A (H3N2) virus." ***Bioinformatics*** 35, no. 1 (2019): 77-87. Doi: 10.1093/bioinformatics/bty457
21. Hang Xie, **Lei Li**, Zhiping Ye, Xing Li, Ewan P Plant, Olga Zoueva, Yangqing Zhao, Xianghong Jing, Zhengshi Lin, Toshiaki Kawano, Meng-Jung Chiang, Courtney L Finch, Martina Kosikova, Anding Zhang, Yanhong Zhu, Xiu-Feng Wan. "Differential effects of

prior influenza exposures on H3N2 cross-reactivity of human postvaccination sera." ***Clinical Infectious Diseases*** 65, no. 2 (2017): 259-267. Doi: 10.1093/cid/cix269

22. Martin, Brigitte E., Andrew S. Bowman, **Lei Li**, Jacqueline M. Nolting, David R. Smith, Larry A. Hanson, and Xiu-Feng Wan. "Detection of antigenic variants of subtype H3 swine influenza A viruses from clinical samples." ***Journal of clinical microbiology*** 55, no. 4 (2017): 1037. Doi: 10.1128/JCM.02049-16
23. Huang, Guangzao, Mingshun Yuan, Moliang Chen, **Lei Li**, Wenjie You, Hanjie Li, James J. Cai, and Guoli Ji. "Integrating multiple fitting regression and Bayes decision for cancer diagnosis with transcriptomic data from tumor-educated blood platelets." ***Analyst*** 142, no. 19 (2017): 3588-3597. Doi: 10.1039/C7AN00944E
24. Shi, Jieming, Min Dong, **Lei Li**, Lin Liu, Agustin Luz-Madrigal, Panagiotis A. Tsonis, Katia Del Rio-Tsonis, and Chun Liang. "mirPRo–a novel standalone program for differential expression and variation analysis of miRNAs." ***Scientific reports*** 5, no. 1 (2015): 1-12. Doi: 10.1038/srep14617
25. Ji, Guoli, **Lei Li**, Qingshun Q. Li, Xiangdong Wu, Jingyi Fu, Gong Chen, and Xiaohui Wu. "PASPA: a web server for mRNA poly (A) site predictions in plants and algae." ***Bioinformatics*** 31, no. 10 (2015): 1671-1673. Doi: 10.1093/bioinformatics/btv004
26. Ye, Congting, Guoli Ji, **Lei Li**, and Chun Liang. "detectIR: a novel program for detecting perfect and imperfect inverted repeats using complex numbers and vector calculation." ***PloS one*** 9, no. 11 (2014): e113349. Doi: 10.1371/journal.pone.0113349

In submission:

1. Jenna J. Guthmiller#, Linda Yu-Ling Lan#, **Lei Li#**, Carole Henry, Christopher T. Stamper, Henry A. Utset, Alec Freyn, Julianna Han, Olivia Stovicek, Jiaolong Wang, Nai-Ying Zheng, Min Huang, Haley L. Dugan, Micah E. Tepora, Xueyong Zhu, Yaoqing Chen, Anna-Karin Palm, Dustin Shaw, Ian Wilson, Adolfo García-Sastre, Raffael Nachbagauer, Peter Palese, Andrew B. Ward, Lynda Coughlan, Florian Krammer, Patrick C. Wilson. “B cell convergence to distinct broadly reactive epitopes revealed by chimeric hemagglutinin vaccination”. ***Under review***.

In preparation:

1. **Lei Li**, Jiayi Sun, Jenna J. Guthmiller, Yanbin Fu, Christopher T. Stamper, Siriruk Changrob, Nai-Ying Zheng, Min Huang, and Patrick C. Wilson. “Comprehensive and multimodal analyses of B cell and T cell receptor repertoire using VGenes”. Manuscript in preparation.

Reviews and Editorials:

Review research articles for the following journals: ***Nucleic Acids Research, Briefings in Bioinformatics, Journal of Medical Virology, Giga Science, Frontiers in Immunology, Frontiers in Public Health, Frontiers in Bioengineering and Biotechnology, Frontiers in Molecular Biosciences, Frontiers in Genetics, Frontiers in Veterinary Science, NAR genomics and bioinformatics, BMC bioinformatics*** and ***PloS One***

G. PRESENTATIONS

1. **Lei Li**. “Improving data interpretation for high resolution spatial omics using computational approaches”, Spatial Biology West Coast US 2024, San Diego, CA, December 5, 2024
2. **Lei Li**. “Challenges and solutions in high resolution Spatial omics”, workshop session at the Knowledge In Data Science 2024 (KIDS24) Meeting, hosted by St. Jude Children’s Research Hospital, Memphis, TN, Sep 17, 2024
3. **Lei Li**, Jiayi Sun, Yanbin Fu, Siriruk Changrob, Joshua J.C. McGrath, Patrick C. Wilson. “A hybrid demultiplexing strategy that improves performance and robustness of cell hashing”, Invited by Dr. Yuping Wang, presentation at Tulane University, New Orleans, LA, Online-meeting, Nov 29, 2023
4. **Lei Li**. “Using VGenes for an efficient, comprehensive and multimodal analyses of massive B-cell repertoire sequences”, training session at the Knowledge In Data Science 2023 (KIDS23) Meeting, hosted by St. Jude Children’s Research Hospital, Memphis, May 15, 2023
5. **Lei Li**, Jiayi Sun, Yanbin Fu, Siriruk Changrob, Joshua J.C. McGrath, Patrick C. Wilson. “A hybrid demultiplexing strategy for single-cell populations that increases both recovery rate and accuracy”, presentation at the Knowledge In Data Science 2023 (KIDS23) Meeting, hosted by St. Jude Children’s Research Hospital, Memphis, TN, May 15, 2023
6. **Lei Li**, “Using Single-cell Multi-omics to Improve the Effectiveness, Efficiency and Economy in Immunology Study”, presentation at the Multi-omics Analysis Interest Group Meeting, co-hosted by Biostatistics department and CAB, St. Jude Children’s Research Hospital, Memphis, TN, Jan 26, 2023
7. **Lei Li**, “Understanding B cell dynamics using single-cell sequencing”. Invited by Dr. Yong Cheng, presentation at The Department of Hematology, St. Jude Children’s Research Hospital, Memphis, TN, Sep 15, 2022
8. **Lei Li**, Jiayi Sun, Yanbin Fu, Siriruk Changrob, Joshua J.C. McGrath, Patrick C. Wilson. “A hybrid demultiplexing strategy for single-cell populations that increases both recovery rate and accuracy”. Invited by Dr. Yifei Xu, presentation at Shandong University, Shandong, China, Online-meeting, Sep 6, 2022
9. **Lei Li**, “Understanding B cell dynamics using single-cell sequencing”. Invited by Dr. Yiping Fan, presentation at Center for Applied Bioinformatics, St. Jude Children’s Research Hospital, Memphis, TN, Sep 2, 2022
10. **Lei Li**, Jiayi Sun, Jenna J. Guthmiller, Yanbin Fu, Siriruk Changrob, Joshua JC McGrath, Nai-Ying Zheng, Min Huang, Patrick C. Wilson. Comprehensive and multimodal analyses of B cell and T cell receptor repertoire using VGenes, presentation at Pediatrics Research Day 2022, Weill Cornell Medicine, New York, NY, Jun 2, 2022
11. **Lei Li**, Jiayi Sun, Jenna J. Guthmiller, Yanbin Fu, Siriruk Changrob, Joshua JC McGrath, Nai-Ying Zheng, Min Huang, Patrick C. Wilson. Comprehensive and multimodal analyses of B cell and T cell receptor repertoire using VGenes, Poster presentation at 2nd Intercampus Immunology Symposium of Cornell University, New York, NY, Apr 19, 2022
12. **Lei Li**, “Bioinformatics in vaccine development against viral pathogens”. Invited by Dr. Chun Liang, presentation at Choose Ohio First Seminar, Online-meeting. Feb 10, 2022
13. **Lei Li**, Olivia Stovicek, Jenna J. Guthmiller, Siriruk Changrob, Yanbin Fu, Haley L. Dugan, Christopher T. Stamper, Nai-Ying Zheng, Min Huang, Patrick C. Wilson. “Librator, a platform for optimized sequence editing, design, and expression of influenza virus proteins”. presentation at 2nd Annual CIVICs Network Meeting, New York, NY, Aug 9, 2021

14. **Lei Li**, Olivia Stovicek, Jenna J. Guthmiller, Siriruk Changrob, Yanbin Fu, Haley L. Dugan, Christopher T. Stamper, Nai-Ying Zheng, Min Huang, Patrick C. Wilson. “Librator, a platform for optimized sequence editing, design, and expression of influenza virus proteins”. presentation at Sinai-Emory Multi-Institutional CIVIC (SEM-CIVIC) internal meeting. Online-meeting. March 2021
15. **Lei Li**, Andrew S. Bowman, Thomas J. DeLiberto, Mary L. Killian, Scott Krauss, Jacqueline M. Nolting, Mia Kim Torchetti, Andrew M. Ramey, Andrew B. Reeves, David E. Stallknecht, Richard J. Webby, and Xiu-Feng Wan. “Sporadic and independent introductions of low pathogenic H5 avian influenza A viruses from wild birds to domestic poultry in the United States”. presentation at ASV 37th Annual Meeting, College Park, MD, July 2018
16. Marc Moore, Xiaojian Zhang, Fred Cunningham, **Lei Li**, Katie Hanson-Dorr, Andy Perkins, Qiang He, Larry Hanson, and Xiu-Feng Wan, “Identifying potential agents causing fish disease outbreaks in Mississippi Delta Using Metagenomics”. Poster presentation at MCBIOS 2018 Meeting, Starkville, MS, April 2018
17. **Lei Li**, Lei Han, and Xiufeng Wan, “Identification of glycosylation sites and mutations determining antigenic drift events for influenza A viruses using sparse group lasso regression”. Poster presentation at 2016 SFG Annual Meeting, New Orleans, LA, November 2016.
18. **Lei Li**, Guoli Ji, Congting Ye, and Chun Liang, “PlantOrDB: a genome-wide ortholog database for land plants and green algae.” Poster presentation at GLBIO 2014 Meeting, Cincinnati, OH, May 2014