CURRICULUM VITAE

LU Xiaofan
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15/04/1994, 31 years old
Chinese, single

Current professional situation

Jan 2023 - Present
Postdoctoral Fellow,
Supervisor : Pr. Gabriel Malouf
Department of Cancer and Functional Genomics, IGBMC, 67400 Illkirch, France
Team: Molecular and Translational Oncology

Professional experience

Nov 2021 – Oct 2022
Visiting scholar, *Pr. Gabriel Malouf*
Department of Cancer and Functional Genomics, IGBMC, 67400 Illkirch, France
Comprehensive characterization of rare urothelial and renal carcinomas

Sep 2019 – Dec 2022
PhD in Bioinformatics, *Pr. Fangrong Yan*
Research Center of Biostatistics, China Pharmaceutical University, Nanjing, China
Multi-omics integrative profiling in urothelial carcinoma characterization

Feb 2018 – Jun 2018
Visiting scholar, *Pr. Xiaoping Su*
Department of Bioinformatics, MD Anderson Cancer Center, 77030 Texas, USA
Advanced multi-omics data analysis techniques in oncogenomics

Sep 2016 – Jun 2019
Master in Biostatistics, *Pr. Fangrong Yan*
Research Center of Biostatistics, China Pharmaceutical University, Nanjing, China
Joint modeling of longitudinal and survival data for ovarian cancer

Sep 2012 – Jul 2016
Bachelor in Management
Faculty of science, China Pharmaceutical University, Nanjing, China
Computing skills in medical information management and system

Diplomas

12/2022 PhD (Bioinformatics), China Pharmaceutical University
06/2019 MSc (Biostatistics), China Pharmaceutical University
07/2016 BSc (Medical Information Management and System), China Pharmaceutical University

Language

Mandarin, Chinese (native)
English (professional fluency)
Français (elementary; A1)

Skills and competencies

Proficient in R and Python for statistical analysis, multi-omics integration, and workflow development; experienced with Adobe Illustrator and MS Office for scientific visualization and reporting. Demonstrated strengths in rigorous data analysis, scientific writing, multidisciplinary collaboration, project coordination, and leading complex multi-omics studies.

ACHIEVEMENTS

I. Contributions to science

Total PubMed Publications	54
h-index	21
i10-Index	36
Citations (as of 01/01/2026 from Google Scholar)	2284
Total first-author / co-first-author papers	39
Total co-corresponding author papers	6
Patent	3
High-Impact Publications (IF > 10, including roles as first and co-first author)	14
Featured in Journals (IF > 10): *Cell Reports Medicine*, *Nature Communications*, *Clinical Cancer Research*, *Genome Biology*, *Journal for ImmunoTherapy of Cancer*, *EbioMedicine*, *Clinical and Translational Medicine*, *American Journal of Respiratory and Critical Care Medicine*, *Critical Care*	
ORCID: 0000-0003-2417-6548	
Personal URL: https://xlucpu.github.io/lux.github.io/	

II. Thesis

Molecular Classification of Urothelial Carcinomas
- **Supervisor:** Pr. YAN Fangrong (co-directed by Pr. SU Xiaoping)
- **Defend date:** 29/09/2022

III. Scientific contribution to the research community

Since my PhD training, I have led the development of ***FigureYa***, a standardized visualization and analysis framework for biomedical research, published in *iMetaMed* and selected for the cover of the first issue of the journal in September 2025. I am the first author and principal contributor, having developed and curated **more than 300 reproducible tutorials** covering biostatistics, bioinformatics, and data visualization across bulk, single-cell, and spatial omics analyses. Each tutorial is designed to reproduce a specific analysis or figure from peer-reviewed studies using annotated code and demonstration datasets, enabling direct reuse by researchers with heterogeneous computational backgrounds. This sustained effort reflects a long-term commitment to reproducible research practices, methodological standardization, and capacity building in translational and medical research. Interactive browser available at: https://ying-ge.github.io/FigureYa/.

IV. Publications

- **Ten representative original articles**

A) Computational Oncology: Unraveling Cancer Heterogeneity and Immunotherapy Insights

1. **Lu X***, Vano YA*, Su X*, Verkarre V, Sun CM, Cheng W, Xu L, Yan F, Kotti S, Fridman WH, Sautes-Fridman C, Oudard S, Malouf GG. Stratification system with dual human endogenous retroviruses for predicting immunotherapy efficacy in metastatic clear-cell renal cell carcinoma. **J Immunother Cancer**. 2025;13(1):e010386. ***1st co-authors* (IF: 10.3)**

2. **Lu X***, Vano YA*, Su X*, Verkarre V, Sun CM, Cheng W, Xu L, Yan F, Kotti S, Fridman WH, Sautes-Fridman C, Oudard S, Malouf GG. Enhanced efficacy of ipilimumab plus nivolumab in angiogenic subtypes of metastatic clear-cell renal cell carcinoma. **NPJ Precis Oncol**. 2025;9(1):134. ***1st co-authors* (IF: 7.9)**

3. **Lu X***, Vano YA*, Su X*, Helleux A, Lindner V, Mouawad R, Spano JP, Rouprêt M, Compérat E, Verkarre V, Sun CM, Bennamoun M, Lang H, Barthelemy P, Cheng W, Xu L, Davidson I, Yan F, Fridman WH, Sautes-Fridman C, Oudard S, Malouf GG. Silencing of genes by promoter hypermethylation shapes tumor microenvironment and resistance to immunotherapy in clear-cell renal cell carcinomas. **Cell Rep Med**. 2023;4(11):101287. ***1st co-authors* (IF: 14.3)**

4. **Lu X***, Vano Y*, Helleux A*, Su X, Lindner V, Davidson G, Mouawad R, Spano JP, Rouprêt M, Elaidi R, Compérat E, Verkarre V, Sun C, Chevreau C, Bennamoun M, Lang H, Tricard T, Cheng W, Xu L, Davidson I, Yan F, Fridman WH, Sautes-Fridman C, Oudard S, Malouf GG. An Enhancer Demethylator Phenotype Converged to Immune Dysfunction and Resistance to Immune Checkpoint Inhibitors in Clear-Cell Renal Cell Carcinomas. **Clin Cancer Res**. 2023;29(7):1279-1291. ***1st co-authors* (IF: 11.5)**

- **Editorial:** Zhou M, Kim WY. Viewing RCC with a DNA Methylation Lens ENHANCES Understanding of ICI Resistance. **Clin Cancer Res**. 2023;29(7):1170-1172.

5. Su X*, **Lu X***, Bazai SK*, Dainese L*, Verschuur A, Dumont B, Mouawad R, Xu L, Cheng W, Yan F, Irtan S, Lindner V, Paillard C, Le Bouc Y, Coulomb A, Malouf GG. Delineating the interplay between oncogenic pathways and immunity in anaplastic Wilms tumors. **Nat Commun**. 2023;14(1):7884. ***1st co-authors*** **(IF: 16.6)**

6. Su X*, **Lu X***, Bazai SK*, Compérat E, Mouawad R, Yao H, Rouprêt M, Spano JP, Khayat D, Davidson I, Tannir NN, Yan F, Malouf GG. Comprehensive integrative profiling of upper tract urothelial carcinomas. **Genome Biol**. 2021;22(1):7. ***1st co-authors*** **(thesis-relevant, IF: 12.3)**

B) Computational Methodology and Innovation: Advancing Cancer Subtype Classification

7. **Lu X**, Meng J, Zhou Y, Jiang L, Yan F. MOVICS: an R package for multi-omics integration and visualization in cancer subtyping. **Bioinformatics**. 2021;36:5539-5541. **(thesis-relevant, IF: 5.8)**
   - **Availability and implementation**: https://github.com/xlucpu/MOVICS
   - **Citation:** 197
   - **GitHub:** 144 stars and 45 forks

8. Zhu J, Zhu Y, Wang X, Cheng W, Wang S, Yang J, Wang W, Wang Y, Meng J*, **Lu X***, Yan F*. MOVICShiny: An interactive website for multi-omics integration and visualisation in cancer subtyping. **Clin Transl Med**. 2024;14(3):e1606. ***co-correspondence*** **(IF: 10.6)**

C) Quantitative Oncology: Statistical and Epidemiological Insights into Cancer Outcomes

9. **Lu X**, Bernhard JC, Margue G, et al. Racial differences in kidney cancer histology and outcome: A nationwide study from the UroCCR Cohort. **Cancer**. 2025;131(20):e70120. **(IF: 5.0)**
   - **Conference:** ASCO Genitourinary Cancers Symposium 2025, San Francisco, USA (oral presentation).
   - **Editorial:** Infield J and George D.J. What we can learn from a national tumor pathology registry. **Cancer.** 2025**:**131: e70221.

10. **Lu X**, Tawanaie Pour Sedehi N, Su X, Yan F, Alhalabi O, Tannir NM, Malouf GG. Racial Disparities in MiT Family Translocation Renal Cell Carcinoma. **Oncologist**. 2023:28(11):1009-1013. **(IF: 5.8)**
    - **Editorial:** Campbell P, Gebrael G, Agarwal N. Racial Disparities and Molecular Insights in Translocation Renal Cell Carcinoma: Advancing Understanding and Treatment Approaches. **Oncologist**. 2023:28(11):925-927.

- **Additional original articles**

11. **Lu X***, Li K*, Li Z*, Lin A*, Zhao L*, Shen R*, Xu Z*, Gao J*, Lv D, Zhang Y, Ye T, Shen J, Chen Y, Huang H, Hao Z, Zeng D, Wang H, Guo S, Wang W, Xiong Y, Li Y, Li H, Gao J, Liu Q, Wei B, Shi J, Cheng S, Li G, Tang Y, Lin E, Xu H, Feng G, He Y, Sun Y, Liu X, Wang Y, Song W, Song J, Tian S, Zhang Y, Zhang J, Xu Z, Song C, Zhang Y, Wu H, Gao C, Hu E, Yang C, Lou J, Wang D, Wang X, Luo P, Yu G and Ge Y. FigureYa: A Standardized Visualization Framework for Enhancing Biomedical Data Interpretation and Research Efficiency. **iMetaMed**. 2025;1:e70005. ***1st co-authors***

12. **Lu X***, Vano YA*, Su X*, Verkarre V, Sun CM, Cheng W, Xu L, Yan F, Kotti S, Fridman WH, Sautes-Fridman C, Oudard S, Malouf GG. Enhanced efficacy of ipilimumab plus nivolumab in angiogenic subtypes of metastatic clear-cell renal cell carcinoma. **NPJ Precis Oncol**. 2025;9(1):134. ***1st co-authors*** **(IF: 7.9)**

13. **Lu X***, Meng J*, Wang H*, Zhou Y, Zhou J, Ruan X, Chen Y, Ye Y, Su L, Fan X, Yan H, Jiang L, Yan F. DNA replication stress stratifies prognosis and enables exploitable therapeutic vulnerabilities of HBV-associated hepatocellular carcinoma: An *in-silico* precision oncology strategy. **The Innovation Medicine**. 2023;1(1), 100014. ***1st co-authors***

14. **Lu X***, Meng J*, Su L*, Jiang L, Wang H, Zhu J, Huang M, Cheng W, Xu L, Ruan X, Yeh S, Liang C, Yan F. Multi-omics consensus ensemble refines the classification of muscle-invasive bladder cancer with stratified prognosis, tumour microenvironment and distinct sensitivity to frontline therapies. **Clin Transl Med**. 2021;11(12):e601. ***1st co-authors*** **(research letter, thesis-relevant, IF: 10.6)**

15. **Lu X***, Meng J*, Zhu J*, Zhou Y, Jiang L, Wang Y, Wen W, Liang C, Yan F. Prognosis stratification and personalized treatment in bladder cancer through a robust immune gene pair-based signature. **Clin**

Transl Med. 2021;11(6):e453. ***1st co-authors*** **(IF: 10.6)**

16. **Lu X***, Ji C*, Jiang L*, Zhu Y, Zhou Y, Meng J, Gao J, Lu T, Ye J, Yan F. Tumour microenvironment-based molecular profiling reveals ideal candidates for high-grade serous ovarian cancer immunotherapy. **Cell Prolif**. 2021;54(3):e12979. ***1st co-authors*** **(IF: 8.5)**
17. **Lu X***, Zhou Y*, Meng J*, Jiang L, Gao J, Fan X, Chen Y, Cheng Y, Wang Y, Zhang B, Yan H, Yan F. Epigenetic age acceleration of cervical squamous cell carcinoma converged to human papillomavirus 16/18 expression, immunoactivation, and favourable prognosis. **Clin Epigenetics**. 2020;12(1):23. ***1st co-authors*** **(IF: 6.7)**
18. **Lu X***, Zhou Y*, Meng J*, Jiang L, Gao J, Cheng Y, Yan H, Wang Y, Zhang B, Li X, Yan F. RNA processing genes characterize RNA splicing and further stratify colorectal cancer. **Cell Prolif**. 2020;53(8):e12861. ***1st co-authors*** **(IF: 8.5)**
19. **Lu X***, Chen T*, Wang Y*, Wang J*, Yan F. Adjuvant corticosteroid therapy for critically ill patients with COVID-19. **Crit Care**. 2020;24(1):241. ***1st co-authors*** (research letter, **IF: 15.1**)
20. **Lu X***, Wang Y*, Chen T*, Wang J*, Yan F. Classification of COVID-19 in intensive care patients. **Crit Care**. 2020;24(1):399. ***1st co-authors*** (research letter, **IF: 15.1**)
21. **Lu X***, Jiang L*, Chen T*, Wang Y*, Zhang B, Hong Y, Wang J, Yan F. Continuously available ratio of SpO_2/FiO_2 serves as a noninvasive prognostic marker for intensive care patients with COVID-19. **Respir Res**. 2020;21(1):194. ***1st co-authors*** **(IF: 5.9)**
22. **Lu X**, Jiang L, Zhang L, Zhu Y, Hu W, Wang J, Ruan X, Xu Z, Meng X, Gao J, Su X, Yan F. Immune Signature-Based Subtypes of Cervical Squamous Cell Carcinoma Tightly Associated with Human Papillomavirus Type 16 Expression, Molecular Features, and Clinical Outcome. **Neoplasia**. 2019;21(6):591-601. **(IF: 4.8)**
23. **Lu X***, Wang Y*, Jiang L, Gao J, Zhu Y, Hu W, Wang J, Ruan X, Xu Z, Meng X, Zhang B, Yan F. A Pre-operative Nomogram for Prediction of Lymph Node Metastasis in Bladder Urothelial Carcinoma. **Front Oncol**. 2019;9:488. ***1st co-authors*** **(IF: 4.7)**
24. **Lu X**, Zhang L, Zhao H, Chen C, Wang Y, Liu S, Lin X, Wang Y, Zhang Q, Lu T, Yan F. Molecular classification and subtype-specific drug sensitivity research of uterine carcinosarcoma under multi-omics framework. **Cancer Biol Ther**. 2019;20(2):227-235. **(IF: 4.2)**
25. **Lu X***, Zhang Q*, Wang Y*, Zhang L, Zhao H, Chen C, Wang Y, Liu S, Lu T, Wang F, Yan F. Molecular classification and subtype-specific characterization of skin cutaneous melanoma by aggregating multiple genomic platform data. **J Cancer Res Clin Oncol**. 2018;144(9):1635-1647. ***1st co-authors*** **(IF: 3.8)**
26. Meng J*, Jiang A*, **Lu X***, Gu D, Ge Q, Bai S, Zhou Y Zhou Jm Hao Z, Yan F, Wang L, Wang H, Du J, Liang C. Multiomics Characterization and Verification of Clear Cell Renal Cell Carcinoma Molecular Subtypes to Guide Precise Chemotherapy and Immunotherapy. **iMeta**. 2023 e147. ***1st co-authors***
27. Zhou Y*, **Lu X***, Chen H*, Wang X, Cheng W, Zhang Q, Chen J, Wang X, Jin J, Yan F, Chen H, Li X. Single-cell Transcriptomics Reveals Early Molecular and Immune Alterations Underlying the Serrated Neoplasia Pathway Toward Colorectal Cancer. **Cell Mol Gastroenterol Hepatol**. 2023;15(2):393-424. ***1st co-authors*** **(IF: 8.8)**
28. Malouf GG*, **Lu X***, Mouawad R, Spano JP, Grange P, Yan F, Aractingi S, Su X, Dupin N. Genetic landscape of indolent and aggressive Kaposi sarcomas. J **Eur Acad Dermatol Venereol**. 2022;36(12):2343-2351. ***1st co-authors*** **(IF: 9.2)**
29. Meng J*, Chen Y*, **Lu X***, Ge Q, Yang F, Bai S, Liang C, Du J. Macrophages and monocytes mediated activation of oxidative phosphorylation implicated the prognosis and clinical therapeutic strategy of Wilms tumour. **Comput Struct Biotechnol J**. 2022;20:3399-3408. ***1st co-authors*** **(IF: 6.0)**
30. Meng J*, **Lu X***, Jin C*, Zhou Y, Ge Q, Zhou J, Hao Z, Yan F, Zhang M, Liang C. Integrated multi-omics data reveals the molecular subtypes and guides the androgen receptor signalling inhibitor treatment of prostate cancer. **Clin Transl Med**. 2021;11(12):e655. ***1st co-authors*** **(IF: 10.6)**
31. Meng J*, **Lu X***, Zhou Y*, Zhang M, Ge Q, Zhou J, Hao Z, Gao S, Yan F, Liang C. Tumor immune microenvironment-based classifications of bladder cancer for enhancing the response rate of immunotherapy. **Mol Ther Oncolytics**. 2021;20:410-421. ***1st co-authors*** **(thesis-relevant, IF: 5.7)**
32. Zhou Y*, **Lu X***, Meng J*, Wang Q, Chen J, Zhang Q, Zheng K, Rocha C, Martins C, Yan F, Li X.

Specific epigenetic age acceleration patterns among four molecular subtypes of gastric cancer and their prognostic value. **Epigenomics**. 2021;13(10):767-778. ***1st co-authors* (IF: 2.5)**

33. Ruan X*, **Lu X***, Gao J, Jiang L, Zhu Y, Zhou Y, Meng J, Yan H, Yan F, Wang F. Multiomics data reveals the influences of myasthenia gravis on thymoma and its precision treatment. **J Cell Physiol**. 2021;236(2):1214-1227. ***1st co-authors* (IF: 5.6)**
34. Wu X*, Jiang D*, Liu H*, **Lu X***, Lv D, Liang L. CD8+ T Cell-Based Molecular Classification With Heterogeneous Immunogenomic Landscapes and Clinical Significance of Clear Cell Renal Cell Carcinoma. **Front Immunol**. 2021;12:745945. ***1st co-authors* (IF: 7.3)**
35. Zhou Y*, **Lu X***, Meng J*, Wang X*, Zhang Q, Chen J, Wang Q, Yan F, Li X. Neo-adjuvant radiation therapy provides a survival advantage in T3-T4 nodal positive gastric and gastroesophageal junction adenocarcinoma: a SEER database analysis. **BMC Cancer**. 2021;21(1):771. ***1st co-authors* (IF: 4.3)**
36. Wang Y*, **Lu X***, Li Y*, Chen H*, Chen T*, Su N, Huang F, Zhou J, Zhang B, Yan F, Wang J. Clinical Course and Outcomes of 344 Intensive Care Patients with COVID-19. Am J Respir Crit Care Med. 2020;201(11):1430-1434. ***1st co-authors*** (research letter, **IF: 24.7**)
37. Wang Y*, **Lu X***, Zhang Y*, Zhang X, Wang K, Liu J, Li X, Hu R, Meng X, Dou S, Hao H, Zhao X, Hu W, Li C, Gao Y, Wang Z, Lu G, Yan F, Zhang B. Precise pulmonary scanning and reducing medical radiation exposure by developing a clinically applicable intelligent CT system: Toward improving patient care. **EBioMedicine**. 2020;54:102724. ***1st co-authors* (IF: 11.1)**
38. Zhou Y*, **Lu X***, Meng L*, Wang X*, Ruan X, Yang C, Wang Q, Chen H, Gao Y, Yan F, Li X. Qualitative Transcriptional Signature for the Pathological Diagnosis of Pancreatic Cancer. **Front Mol Biosci**. 2020;7:569842. ***1st co-authors* (IF: 5.0)**
39. Meng J*, **Lu X***, Zhou Y*, Zhang M, Gao L, Gao S, Yan F, Liang C. Characterization of the prognostic values and response to immunotherapy/chemotherapy of Krüppel-like factors in prostate cancer. **J Cell Mol Med**. 2020;24(10):5797-5810. ***1st co-authors* (IF: 5.3)**
40. Zhou Y*, Zhu G*, **Lu X***, Zheng K, Wang Q, Chen J, Zhang Q, Yan F, Li X. Identification and validation of tumour microenvironment-based immune molecular subgroups for gastric cancer: immunotherapeutic implications. **Cancer Immunol Immunother**. 2020;69(6):1057-1069. ***1st co-authors* (IF: 6.1)**
41. Wang Y*, Yan F*, **Lu X***, Zheng G, Zhang X, Wang C, Zhou K, Zhang Y, Li H, Zhao Q, Zhu H, Chen F, Gao C, Qing Z, Ye J, Li A, Xin X, Li D, Wang H, Yu H, Cao L, Zhao C, Deng R, Tan L, Chen Y, Yuan L, Zhou Z, Yang W, Shao M, Dou X, Zhou N, Zhou F, Zhu Y, Lu G, Zhang B. IILS: Intelligent imaging layout system for automatic imaging report standardization and intra-interdisciplinary clinical workflow optimization. **EBioMedicine**. 2019;44:162-181. ***1st co-authors* (IF: 11.1)**
42. Ye Y, Yang W, Ruan X, Xu L, Cheng W, Zhao M, Wang X, Chen X, Cai D, Li G, Wang Y, Yan F*, **Lu X***, Jiang L*. Metabolism-associated molecular classification of gastric adenocarcinoma. **Front Oncol**. 2022;12:1024985. ***co-corresponding authors* (IF: 4.7)**
43. Ruan X, Ye Y, Cheng W, Xu L, Huang M, Chen Y, Zhu J, **Lu X***, Yan F*. Multi-Omics Integrative Analysis of Lung Adenocarcinoma: An in silico Profiling for Precise Medicine. **Front Med**. 2022;9:894338. ***co-corresponding authors* (IF: 3.9)**
44. Wang Y, Zhu J, Zhao J, Li W, Zhang X, Meng X, Chen T, Li M, Ye M, Hu R, Dou S, Hao H, Zhao X, Wu X, Hu W, Li C, Fan X, Jiang L, **Lu X***, Yan F*. Deep Learning-Enabled Clinically Applicable CT Planbox for Stroke With High Accuracy and Repeatability. **Front Neurol**. 2022;13:755492. ***co-corresponding authors* (IF: 3.4)**
45. Chen Y, Huang M, Zhu J, Xu L, Cheng W, **Lu X***, Yan F*. Identification of a DNA Damage Response and Repair-Related Gene-Pair Signature for Prognosis Stratification Analysis in Hepatocellular Carcinoma. **Front Pharmacol**. 2022;13:857060. ***co-corresponding authors* (IF: 5.6)**
46. Huang M, Liu L, Zhu J, Jin T, Chen Y, Xu L, Cheng W, Ruan X, Su L, Meng J*, **Lu X***, Yan F*. Identification of Immune-Related Subtypes and Characterization of Tumor Microenvironment Infiltration in Bladder Cancer. **Front Cell Dev Biol**. 2021;9:723817. ***co-corresponding authors* (IF: 5.5)**
47. Cheng Y, Ruan X, **Lu X**, Yang Y, Wang Y, Yan S, Sun Y, Yan F, Jiang L, Liu T. Accounting for the impact of rare variants on causal inference with RARE: a novel multivariable Mendelian randomization method. **Brief Bioinform**. 2025;26(3):bbaf214. (**IF: 7.7**)

48. Chen Y, Meng J, **Lu X**, Li X, Wang C. Clustering analysis revealed the autophagy classification and potential autophagy regulators' sensitivity of pancreatic cancer based on multi-omics data. **Cancer Med**. 2023;12(1):733-746. **(IF: 4.0)**

49. Meng J, Gao J, Li X, Gao R, **Lu X**, Zhou J, Yan F, Wang H, Liu Y, Hao Z, Zhang X, Liang C. TIMEAS, a promising method for the stratification of testicular germ cell tumor patients with distinct immune microenvironment, clinical outcome and sensitivity to frontline therapies. **Cell Oncol**. 2023;46(3):745-759. **(IF: 6.1)**

50. Meng J, Ge Q, Li J, **Lu X**, Chen Y, Wang H, Zhang M, Du J, Zhang L, Hao Z, Liang C. Protective trend of anti-androgen therapy during the COVID-19 pandemic: A meta-analysis. **J Infect**. 2022;84(6):834-872. **(IF: 28.2)**

51. Meng J, Zhou Y, **Lu X**, Bian Z, Chen Y, Zhou J, Zhang L, Hao Z, Zhang M, Liang C. Immune response drives outcomes in prostate cancer: implications for immunotherapy. **Mol Oncol**. 2021;15(5):1358-1375. **(IF: 6.6)**

52. Zhu Y, Meng X, Ruan X, **Lu X**, Yan F, Wang F. Characterization of Neoantigen Load Subgroups in Gynecologic and Breast Cancers. **Front Bioeng Biotechnol**. 2020;8:702. **(IF: 5.7)**

53. Zhang L, Jiang Y, **Lu X**, Zhao H, Chen C, Wang Y, Hu W, Zhu Y, Yan H, Yan F. Genomic characterization of cervical cancer based on human papillomavirus status. **Gynecol Oncol**. 2019;152(3):629-637. **(IF: 4.7)**

54. Yang K, **Lu X**, Luo P, Zhang J. Identification of Six Potentially Long Noncoding RNAs as Biomarkers Involved Competitive Endogenous RNA in Clear Cell Renal Cell Carcinoma. **Biomed Res Int**. 2018;2018:9303486.

V. Economical and clinical transfer

- **Economic evaluation**

I have contributed to the development of three Chinese patent applications related to molecular classification systems for genitourinary tumors, reflecting my involvement in translational bioinformatics and clinically oriented algorithm development. These include:

2023 **China Patent Application**, # CN116246709A - A molecular classification model for renal clear cell carcinoma based on multi-omics data and its establishment method (co-inventor)

2023 **China Patent Application**, # CN112530581A - A system of immune molecular classification for patients with prostate cancer and its applications (co-inventor)

2021 **China Patent Application**, # CN112735521A - An immune classification system for guiding the selection of patients suitable for anti-PD-1/PD-L1 immunotherapy in bladder cancer (co-inventor)

- **Clinical evaluation**

My involvement in the BIONIKK trial (NCT02960906), the first prospective trial stratifying metastatic ccRCC patients by transcriptomic subgroups for immunotherapy versus targeted therapy, reflects my commitment to advancing precision oncology. I contributed to study design, multi-omics analyses, and the interpretation of biomarkers of treatment response, with a particular focus on epigenetic determinants. This work led to the identification of the tumor enhancer demethylation (TED) phenotype, the development of the epigenetic silencing index (iMES) predictive of primary resistance to first-line immunotherapy, and the implementation of simplified molecular stratification frameworks, including a dual genomic feature–based model and angiogenic tumor phenotypes, to predict immune checkpoint inhibitor efficacy. These findings, published in *Clinical Cancer Research*, *Cell Reports Medicine*, *Journal for ImmunoTherapy of Cancer*, and *NPJ Precision Oncology*, have been recognized in a dedicated editorial, underscoring their translational relevance and their contribution to biomarker development in immuno-oncology. In parallel, I have actively disseminated clinically oriented research through presentations at major international oncology meetings, including ASCO and AACR, notably on population-based outcomes analyses using the UroCCR database and on the molecular characterization of rare kidney cancers such as collecting duct carcinoma.

FUNDING OF RESEARCH PROJECTS

My research program is driven by a commitment to elucidating the molecular mechanisms that underlie therapeutic resistance and to improving outcomes for patients with rare and aggressive cancers. Over the years, I have built complementary research directions that bridge fundamental biology and translational impact, which has naturally prompted me to pursue competitive funding aligned with these priorities. My interest in pediatric rare tumors led to a successful Rally Foundation award supporting an in-depth genomic investigation of translocation renal cell carcinomas. In parallel, my work on immune escape mechanisms in metastatic ccRCC resulted in funding from the Fondation de France to advance a multi-omics project centered on tumor-specific MHC class II (tsMHC-II+), microenvironment dynamics, and immunotherapy resistance. These **PI grants** include:

01/01/2026-01/01/2029 €250,000 for three years	**Fondation de France** – Cancer Resistance of Treatments *Unraveling tsMHC-II+ Tumor-Immune Interactions and B Cell–Neutrophil Dynamics in Immunotherapy Resistance of Metastatic Clear Cell Renal Cell Carcinoma* [Identifier: WB-2025-56907]
01/07/2025-01/07/2027 $100,000 for two years	**Rally Foundation** – A Collaborative Pediatric Cancer Research Awards Program *Molecular Underpinnings of Translocation Renal Cell Carcinomas* [Identifier: 25FN19]

SCIENTIFIC MANAGEMENT

- **Academic involvement**

My scientific involvement within the *Molecular and Translational Oncology* team combines methodological expertise with a growing leadership role. I actively contribute to the design, execution, and interpretation of multi-omics and clinical research projects, working closely with oncologists, pathologists, molecular biologists, and computational scientists. This multidisciplinary environment has enabled me to structure analytical strategies, coordinate workflows, and guide key scientific decisions throughout each project. Beyond technical contributions, I play a central role in scientific communication (preparing figures, drafting manuscripts, and supporting submissions to high-impact journals) and I also ensure the dissemination of our work by presenting studies at national and international conferences through invited talks and poster presentations. These activities have strengthened both the visibility and influence of our research. I further support the cohesion of the team by organizing discussions, harmonizing analytical approaches, and ensuring methodological rigor across ongoing studies. Through this combination of scientific expertise, communication, and organizational responsibility, I contribute to the team's overall efficiency, innovation, and productivity while progressively developing my own independent research direction.

- **Mentoring**

I am responsible for mentoring Master's students and co-mentoring PhD students, in collaboration with Pr. Malouf, especially those who have limited backgrounds in statistics or bioinformatics. My role includes teaching basic R programming skills, assisting in the interpretation of statistical results, and aiding in their understanding of multi-omics bioinformatics analyses. These mentoring activities are conducted within a multidisciplinary environment, where we jointly contribute to research projects. The students I have mentored or am co-mentoring include:

Nov 2024 – Oct 2025	Nissrine BERRY, 2nd year of Master, surgeon, Strasbourg
Nov 2024 – Aug 2025	Marie WIESER, 2nd year of Master, pathologist, Strasbourg
Since May 2023	Antonin FATTORI, 3rd year of PhD, pathologist, Strasbourg
Feb 2023 – Nov 2024	Justine GANTZER, oncologist, PhD, Strasbourg
Jan 2023 – Nov 2024	Nassim TAWANAIE POUR SEDEHI, urologist, PhD, Strasbourg
Since Jan 2024	Li XU, 3rd year of PhD, bioinformatician, Strasbourg
Since Jun 2024	Wenxuan CHENG, 3rd year of PhD, bioinformatician, Strasbourg

My experience contributing to community-wide tutorial resources for reproducible biomedical analysis, including the *FigureYa* framework, informs my mentoring practice and facilitates efficient skill transfer to clinicians, pathologists, and junior researchers.

- **Organization of the research group or team**

  - **Director of the IGBMC: Frédéric Dardel**
  - **Department of Molecular and Translational Oncology** (PI: *Pr. Gabriel Malouf*)
    - Gabriel MALOUF (PU-PH) (oncologist)
    - Jean-Emmanuel KURTZ (PU-PH) (oncologist)
    - Bernard GOICHOT (PU-PH) (internal medicine)
    - Philippe BALTZINGER (PHU) (endocrinologist)
    - Xiaofan Lu (post-doc)
    - Fatima ALHOURANI (post-doc)
    - Antonin FATTORI (PhD 3rd year) (pathologist)
    - Wenxuan CHENG (PhD 3rd year) (bioinformatician)
    - Li XU (PhD 3rd year) (bioinformatician)
    - Farah AL ZOOR (PhD 1st year)
    - Laetitia BOUCAULT (engineer)

TEACHING

During my PhD training (2019–2021) at the Research Center of Biostatistics and Computational Pharmacy, I served as a teaching assistant for intensive statistical modeling courses delivered each summer to undergraduate and graduate students from China Pharmaceutical University preparing for the National College Student Statistical Modeling Competition. I led three two-hour sessions per week, covering advanced statistical modeling methods and their practical applications. In addition to formal teaching, I supervised multiple student teams during the three-day national competition and provided methodological guidance throughout their project preparation. Beyond these activities, I assisted Professor Yan in mentoring junior master's students on research projects involving large-scale genomic data analysis and joint modeling of longitudinal and survival outcomes. My role included defining project objectives, organizing regular progress meetings, and guiding students through analytical strategies and interpretation of results.

SCIENTIFIC ANIMATION AND PROFESSIONAL ACTIVITIES

- **Invited presentations at conferences**

26/06/2025	Epigenetic Determinants of Response to Immune Checkpoint Inhibitors in Clear-Cell Renal Cell Carcinoma: Insights from BIONIKK Clinical Trial 12th FMTS Scientific Meeting, Strasbourg, France ***invited for oral presentation***
27/04/2025	Comprehensive molecular characterization reveals hallmarks of collecting duct carcinoma AACR Annual Meeting 2025 in Chicago, Illinois ***invited for poster presentation***
14/03/2025	Epigenetic Determinants of Response to Immune Checkpoint Inhibitors in Clear-Cell RCC 1ères Journées de recherche en Immuno-Oncologie, Strasbourg, France ***invited for oral presentation***
15/02/2025	Racial Disparities in Renal Cell Carcinoma (RCC) Histology and Outcomes: Insights from the French Kidney Cancer Research Network (UroCCR-191) ASCO Genitourinary Cancers Symposium 2025, San Francisco, USA ***invited for oral presentation***
27/11/2024	Unveiling tumor heterogeneity in renal cell carcinoma with spatial transcriptomics on tissue microarrays Séminaire de transcriptomique spatiale in situ XENIUM, Illkirch, France ***invited for oral presentation***
28/04/2023	An enhancer demethylator phenotype converged to immune dysfunction and resistance to immune checkpoint inhibitors in clear-cell renal cell carcinomas

Signatures in cancer immunotherapy, ARC Symposium, Paris, France
invited for poster presentation

10/07/2021 Development of an R package for multi-omics integration: Application in urothelial carcinoma
7th International Statistical Genetics and Genomics Forum, Chongqing, China
invited for oral presentation

- **Scientific outreach and media recognition**

■ Invited interview by the American Association for Cancer Research (AACR) during the AACR Annual Meeting 2025, highlighting research on rare renal cancers and translational genomics; featured in *AACR News* (June 18, 2025; https://www.aacr.org/blog/2025/06/18/researchers-showcase-how-aacr-project-genie-is-powering-new-insights-into-cancer-care/).

- **Membership in scientific societies**

■ AACR, Associate Membership (05/11/2024-31/12/2025)
■ ASCO, Membership (12/02/2025-31/01/2026)

- **Professional services**

■ Editorial roles:
- Early Career Editorial Board Member, Med Research (Since 2025)
- Early Career Editorial Board Member, Medicine Advances (Since 2025)
- Guest editor, Frontiers in Genetics (2023-Present)
- Guest editor, Frontiers in Cell and Developmental Biology (2023-Present)

■ Reviewer roles:
- Reviewer for several renowned journals including *Nature Communications (IF: 14.7), MedComm (IF: 10.7), Briefings in Bioinformatics (IF: 9.5), NPJ Precision Oncology (IF: 8.0), Bioinformatics (IF: 5.8), Journal of Translational Medicine (IF: 7.4), Molecular Oncology (IF: 6.6), Cancer Immunology, Immunotherapy (IF: 5.1), Gene & Immunity (IF: 5.0), The Innovation Medicine, Scientific Reports, Journal of Cancer Research and Clinical Oncology, Discovery Oncology, Translational Oncology, Frontiers in Oncology, Frontiers in Immunology, Life Sciences,* and *International Immunopharmacology* (2020-Present)

- **Preprints**

Authored six preprints on bioRxiv, all subsequently peer-reviewed and published in reputable journals (https://www.biorxiv.org/search/author1%3AXiaofan%2BLu%2B).

- **Collaborations**

■ **Principle scientific collaborations**
- Pr. Gabriel Malouf – IGBMC, Illkirch, France
- Pr. Wolf Herman Fridman – Equipe labellisée Ligue contre le Cancer, Paris, France
- Dr. Yann-Alexandre – Vano Institut du Cancer Paris CARPEM, Paris, France
- Pr. Xiaoping Su – MD Anderson Cancer Center, Texas, USA

- **Participation in the collective life of the lab**

- I am in charge of guiding new team members in basic statistical skills and the interpretation of bioinformatics results.
- I am responsible for ensuring the accuracy of the statistical methods used in the research of all laboratory members.
- I have been responsible for organizing the team's weekly academic seminars for one year.

SCIENTIFIC PRIZES AND AWARDS

- **Major international and national distinctions**

30/06/2025 Young Researcher Oncology Prize – 12th FMTS Scientific Meeting, Strasbourg, France
14/03/2025 AACR-Kidney Cancer Association Scholar-in-Training Award, Chicago, Illinois, USA

- **Selected competitive awards**

2020 National Scholarship of the People's Republic of China
2019 Excellence Award, 6th National College Students Statistical Modeling Contest – Biomedical Category
2018 Second Prize, "HW Cup" – 15th China Post-Graduate Mathematical Contest in Modeling
2015 Excellence Award, "Cisco Cup" Information Technology Competition, China Pharmaceutical University

- **Academic excellence during training**

2019 – 2021 Multiple doctoral scholarships, including first-class and excellence awards, China Pharmaceutical University
2013 – 2014 Undergraduate excellence scholarships, China Pharmaceutical University