

CURRICULUM VITAE

Kang Wang

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EDUCATION

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| Oct, 2020-Present | Ph.D student | Department of Oncology-Pathology, Karolinska Institutet |
| June, 2016-June, 2019 | Surgical Oncology Residency | The First Affiliated hospital of Chongqing Medical University |
| June, 2011-June, 2019 | MD, MSc | School of Medicine, Chongqing Medical University (Combined Bachelor's/Master's Degree Program) |

AWARDS and HONORS

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| 2017 | Excellent M.M. student, Chongqing Medical University |
| 2017 | National Scholarship for postgraduate student |
| 2018 | National Scholarship for postgraduate student |
| 2018 | Excellent M.M. student, Chongqing Medical University |
| 2023 | AACR scholar-in-training award, San Antonio, USA |
| 2024 | Arti Hurria travel award, San Antonio, USA |

Invited Talks

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| 10/17/2022 | Cancer Core Europe (CCE) Summer School in Translational Cancer Research, Algarve, Portugal. |
| 10/29/2024 | The 3rd International School on Advanced Immunology, Awaji, Japan. |
| 11/14/2024 | Breast Cancer Theme Center (BRECT), KI Solna, Sweden. |

RESEARCH EXPERIENCE

Department of Oncology-Pathology, Karolinska Institutet

Oct. 2020-Present (Main Supervisor: Theodoros Foukakis).

- Next-generation sequencing, multi-omics
- Wet-lab approaches for single-cell multi-omics
- Bioinformatic pipelines, machine learning, deep learning
- Tumor immunology
- Epidemiology

The First Affiliated hospital of Chongqing Medical University, Chongqing Medical University:

June. 2019-Oct. 2020 (Research Advisor: Prof. Guo-Sheng Ren).

- Prevention/Survivorship Studies in Breast Cancer
- Epigenetics in TNBC

- Predictive Biomarkers for Endocrine Therapies in Breast Cancer
The First Affiliated hospital of Chongqing Medical University, Chongqing Medical University:
June. 2016- June. 2019 (Research Advisor: Prof. Hong-Yuan Li).
- Breast Conservation
- Evidence-based Studies
- Predictive Biomarkers for Endocrine Therapies in Breast Cancer

FELLOWSHIP

- 2021-2024 KID funding (block grant for partial financing of doctoral education at KI)
- 2021-2024 MedBioInfo, the National Graduate School in Medical Bioinformatics
(<https://www.medbioinfo.se/>)

PEER REVIEWER

*Journal of Cellular and Molecular
Clinical Breast Cancer
Cancer Medicine
European Journal of Surgery
Nature Communications*

CONFERENCES

- 1 2018 SABCS (San Antonio, USA)**
Metastatic pattern discriminates survival benefit of primary surgery for de novo stage IV breast cancer patients: a longitudinal cohort study
- 2 16th St.Gallen International Breast Cancer Conference 2019**
Development and validation of nomograms integrating immune-related genomic signatures with clinicopathologic features to improve prognosis and predictive prediction of triple negative breast cancer: a gene-expression-based retrospective study
- 3 2021 SABCS (San Antonio, USA)**
Long-term outcomes for breast conservation plus radiotherapy versus mastectomy in early breast cancer after neoadjuvant systemic therapy: Results from the Swedish national breast cancer register (NKBC)
- 4 2022 ESMO BC (Berlin, Germany)**
Longitudinal proteogenomic profiling reveals therapeutic vulnerabilities of immunometabolism in breast cancer
- 5 2022 SABCS (San Antonio, USA)**
Correlative and longitudinal transcriptomic profiling predicts patient outcomes and the efficacy of neoadjuvant HER2-targeted treatments in the randomized PREDIX HER2 trial.
- 6 2023 SABCS (AACR scholar-in-training award) (San Antonio, USA)**
Multimodal learning predictor of HER2-positive breast cancer therapy response in the randomized PREDIX HER2 trial.
- 7 2024 SABCS (AACR scholar-in-training award) (San Antonio, USA)**
Multimodal learning predictor of HER2-positive breast cancer therapy response in the randomized PREDIX HER2 trial

SELECTED PUBLICATIONS (Sort by time) (H-index:19)

1. Tsiknakis N, Manikis G, Tzoras E, Salgkamis D, Vidal JM, **Wang K**, Zaridis D, Sifakis E, Zerdes I, Bergh J, Hartman J, Acs B, Marias K, Foukakis T. Unveiling the Power of Model-Agnostic Multiscale Analysis for Enhancing Artificial Intelligence Models in Breast Cancer Histopathology Images. *IEEE J Biomed Health Inform.* 2024 Sep;28(9):5312-5322. doi: 10.1109/JBHI.2024.3413533. Epub 2024 Sep 5. PMID: 38865229.
2. **Wang K**, Zerdes I, Johansson HJ, Sarhan D, Sun Y, Kanellis DC, Sifakis EG, Mezheyeuski A, Liu X, Loman N, Hedenfalk I, Bergh J, Bartek J, Hatschek T, Lehtiö J, Matikas A, Foukakis T. Longitudinal molecular profiling elucidates immunometabolism dynamics in breast cancer. *Nat Commun.* 2024 May 7;15(1):3837. doi: 10.1038/s41467-024-47932-y. PMID: 38714665; PMCID: PMC11076527.
3. Zhu Y, Zerdes I, Matikas A, Cruz IR, Bergqvist M, Elinder E, Bosch A, Lindman H, Einbeigi Z, Andersson A, Carlsson L, Dreifaldt AC, Isaksson-Friman E, Hellstrom M, Johansson H, **Wang K**, Bergh JCS, Hatschek T, Foukakis T. The role of serum thymidine kinase 1 activity in neoadjuvant-treated HER2-positive breast cancer: biomarker analysis from the Swedish phase II randomized PREDIX HER2 trial. *Breast Cancer Res Treat.* 2024 Jan 4. doi: 10.1007/s10549-023-07200-x. Epub ahead of print. PMID: 38175448.
4. Braune EB, Geist F, Tang X, Kalari K, Boughey J, Wang L, Leon-Ferre RA, D'Assoro AB, Ingle JN, Goetz MP, Kreis J, **Wang K**, Foukakis T, Seshire A, Wienke D, Lendahl U. Identification of a Notch transcriptomic signature for breast cancer. *Breast Cancer Res.* 2024 Jan 3;26(1):4. doi: 10.1186/s13058-023-01757-7. PMID: 38172915; PMCID: PMC10765899.
5. Li M, Nishimura T, Takeuchi Y, Hongu T, Wang Y, Shiokawa D, **Wang K**, Hirose H, Sasahara A, Yano M, Ishikawa S, Inokuchi M, Ota T, Tanabe M, Tada KI, Akiyama T, Cheng X, Liu CC, Yamashita T, Sugano S, Uchida Y, Chiba T, Asahara H, Nakagawa M, Sato S, Miyagi Y, Shimamura T, Nagai LAE, Kanai A, Katoh M, Nomura S, Nakato R, Suzuki Y, Tojo A, Voon DC, Ogawa S, Okamoto K, Foukakis T, Gotoh N. FXYD3 functionally demarcates an ancestral breast cancer stem cell subpopulation with features of drug-tolerant persisters. *J Clin Invest.* 2023 Nov 15;133(22):e166666. doi: 10.1172/JCI166666. PMID: 37966117; PMCID: PMC10645391.
6. Ren JH, Wang Y, Zhang X, Cheng Q, **Wang K**, Liu Q, Tang R, Yang L, Gong J, Xu J, Li H. A Clinical Analysis of Prognosis and Patient-Reported Outcomes of Oncoplastic Breast-Conserving Surgery for Early Breast Cancer: A Retrospective Cohort Study. *Aesthetic Plast Surg.* 2023 Oct 11. doi: 10.1007/s00266-023-03631-5. Epub ahead of print. PMID: 37821554.
7. Li Z, **Wang K**, Shivappa N, Hébert JR, Chen H, Liu H, Jiang X. Inflammatory potential of diet and colorectal carcinogenesis: a prospective longitudinal cohort. *Br J Cancer.* 2022 Feb 8. doi: 10.1038/s41416-022-01731-8. Epub ahead of print. PMID: 35136208.
8. **Wang K**, Li L, Franch-Expósito S, Le X, Tang J, Li Q, Wu Q, Bassaganyas L, Camps J, Zhang X, Li H, Foukakis T, Xiang T, Wu J, Ren G. Integrated multi-omics profiling of high-grade estrogen receptor-positive, HER2-negative breast cancer. *Mol Oncol.* 2022 Jun;16(12):2413-2431. doi: 10.1002/1878-0261.13043. Epub 2021 Jul 29. PMID: 34146382; PMCID: PMC9208078.
9. Tang J, Peng W, Feng Y, Le X, **Wang K**, Xiang Q, Li L, Wang Y, Xu C, Mu J, Xu K, Ji P, Tao Q, Huang A, Deng CX, Lin Y, Xiang T. Cancer cells escape p53's tumor suppression through ablation of ZDHHC1-mediated p53 palmitoylation. *Oncogene.* 2021 Sep;40(35):5416-5426. doi: 10.1038/s41388-021-01949-5. Epub 2021 Jul 19. PMID: 34282274; PMCID: PMC8413129.
10. **Wang K**, Li Z, Chen X, Zhang J, Xiong Y, Zhong G, Shi Y, Li Q, Zhang X, Li H, Xiang T, Foukakis T, Radivoyevitch T, Ren G. Risk of hematologic malignancies after breast ductal carcinoma in situ treatment with ionizing radiation. *NPJ Breast Cancer.* 2021 Mar 2;7(1):21. doi: 10.1038/s41523-021-00228-6. PMID: 33654083; PMCID: PMC7925676.

11. **Wang K**, Wu Q, Li Z, Reger MK, Xiong Y, Zhong G, Li Q, Zhang X, Li H, Foukakis T, Xiang T, Zhang J, Ren G. Vitamin K intake and breast cancer incidence and death: results from a prospective cohort study. *Clin Nutr.* 2021 May;40(5):3370-3378. doi: 10.1016/j.clnu.2020.11.009. Epub 2020 Nov 16. PMID: 33277073.
12. Li Q, **Wang K**, Yang L, Wu Q, Zhu W, Li Z, Shi Y, Zhang X, Li H. Long-term Survival Comparison of Repeated Breast-conserving Surgery Versus Mastectomy for Patients with DCIS with Ipsilateral Breast Tumor Recurrence: A Real-world Longitudinal Study. *Clin Breast Cancer.* 2021 Aug;21(4):360-372. doi: 10.1016/j.clbc.2021.02.012. Epub 2021 Mar 5. PMID: 33846099.
13. **Wang K**, Sun JZ, Wu QX, Li ZY, Li DX, Xiong YF, Zhong GC, Shi Y, Li Q, Zheng J, Shivappa N, Hébert JR, Foukakis T, Zhang X, Li HY, Xiang TX, Ren GS. Long-term anti-inflammatory diet in relation to improved breast cancer prognosis: a prospective cohort study. *NPJ Breast Cancer.* 2020 Aug 13;6:36. doi: 10.1038/s41523-020-00179-4. PMID: 32821804; PMCID: PMC7426822.
14. Zhong GC, **Wang K**, Peng Y, Shivappa N, Hébert JR, Wu YQ, Gong JP. Dietary inflammatory index and incidence of and death from primary liver cancer: A prospective study of 103,902 American adults. *Int J Cancer.* 2020 Aug 15;147(4):1050-1058. doi: 10.1002/ijc.32954. Epub 2020 Mar 17. PMID: 32142166.
15. **Wang K**, Wu YT, Zhang X, Chen L, Zhu WM, Zhang AJ, Zheng K, Yin XD, Li F, Kong LQ, Ma BL, Li H, Liu JP, Jiang J, Li ZY, Shi Y, Ren GS, Li HY. Clinicopathologic and Prognostic Significance of Body Mass Index (BMI) among Breast Cancer Patients in Western China: A Retrospective Multicenter Cohort Based on Western China Clinical Cooperation Group (WCCCG). *Biomed Res Int.* 2019 Apr 18; 2019:3692093. PMID: 31119166
16. Li Z, **Wang K**, Shi Y, Zhang X, Wen J. Incidence of second primary malignancy after breast cancer and related risk factors-Is breast-conserving surgery safe? A nested case-control study. *Int J Cancer.* 2019 Mar 12. doi: 10.1002/ijc.32259. [Epub ahead of print] PMID: 30861567
17. **Wang K**, Shi Y, Li ZY, Xiao YL, Li J, Zhang X, Li HY. Metastatic pattern discriminates survival benefit of primary surgery for de novo stage IV breast cancer: A real-world observational study. *Eur J Surg Oncol.* 2019 Aug;45(8):1364-1372. PMID: 30837102
18. **Wang K**, Li HL, Xiong YF, Shi Y, Li ZY, Li J, Zhang X, Li HY. Development and validation of nomograms integrating immune-related genomic signatures with clinicopathologic features to improve prognosis and predictive value of triple-negative breast cancer: A gene expression-based retrospective study. *Cancer Med.* 2019 Feb;8(2):686-700. PMID: 30677255
19. **Wang K**, Zhu GQ, Shi Y, Li ZY, Zhang X, Li HY. Long-Term Survival Differences Between T1-2 Invasive Lobular Breast Cancer and Corresponding Ductal Carcinoma After Breast-Conserving Surgery: A Propensity-Scored Matched Longitudinal Cohort Study. *Clin Breast Cancer.* 2019 Feb;19(1):e101-e115. PMID: 30502219
20. Xiao YL, **Wang K**, Liu Q, Li J, Zhang X, Li HY. Risk Reduction and Survival Benefit of Risk-Reducing Salpingo-oophorectomy in Hereditary Breast Cancer: Meta-analysis and Systematic Review. *Clin Breast Cancer.* 2019 Feb;19(1):e48-e65. Review. PMID: 30470623
21. Xiong Y, Deng Y, **Wang K**, Zhou H, Zheng X, Si L, Fu Z. Profiles of alternative splicing in colorectal cancer and their clinical significance: A study based on large-scale sequencing data. *EBioMedicine.* 2018 Oct;36:183-195. PMID: 30243491
22. Xiong Y, **Wang K**, Zhou H, Peng L, You W, Fu Z. Profiles of immune infiltration in colorectal cancer and their clinical significant: A gene expression-based study. *Cancer Med.* 2018 Sep;7(9):4496-4508. PMID: 30117315
23. **Wang K**, Zhang X, Zheng K, Yin XD, Xing L, Zhang AJ, Shi Y, Kong LQ, Li F, Ma BL, Li H, Liu JP, Jiang J, Ren GS, Li HY. Predictors of internal mammary lymph nodes (IMLN) metastasis and disease-free survival comparison between IMLN-positive and IMLN-negative breast cancer

- patients: Results from Western China Clinical Cooperation Group (WCCCG) database (CONSORT). *Medicine (Baltimore)*. 2018 Jul;97(28):e11296. PMID: 29995764
24. **Wang K**, Wang QJ, Xiong YF, Shi Y, Yang WJ, Zhang X, Li HY. Survival Comparisons Between Early Male and Female Breast Cancer Patients. *Sci Rep*. 2018 Jun 11;8(1):8900. PMID: 29891971
 25. Li Z, **Wang K**, Zhang X, Wen J. Marital status and survival in patients with rectal cancer: A population-based STROBE cohort study. *Medicine (Baltimore)*. 2018 May;97(18):e0637. Erratum in: *Medicine (Baltimore)*. 2018 May;97(20):e10872. PMID: 29718875
 26. **Wang K**, Li J, Xiong YF, Zeng Z, Zhang X, Li HY. A Potential Prognostic Long Noncoding RNA Signature to Predict Recurrence among ER-positive Breast Cancer Patients Treated with Tamoxifen. *Sci Rep*. 2018 Feb 16;8(1):3179. PMID: 29453409
 27. **Wang K**, Li F, Zhang X, Li Z, Li H. Smoking increases risks of all-cause and breast cancer specific mortality in breast cancer individuals: a dose-response meta-analysis of prospective cohort studies involving 39725 breast cancer cases. *Oncotarget*. 2016 Dec 13;7(50):83134-83147. Review. PMID: 27863414