

Pengjun Xi

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Education

2021 – Present **PhD in Immunology**

Karolinska Institute, Sweden

PhD project: Innate and Adaptive Immunity Synergy in Malaria

2016 – 2017 **MSc in Biochemistry**

The University of Edinburgh, UK

Master project: Effects of TCR signaling pathways on eIF5 α hypusination and T cell function.

2012 – 2016 **BSc in Biotechnology** (GPA: 3.95, equivalent to First Class Honours, Rank:1/93)

Chengdu University of Traditional Chinese Medicine, China

Publications

Carolina S. Silva, Elin Folkesson, Fariba Foroogh, Maia Gower, Linn Kleberg, **Pengjun Xi**, Dhifaf Sahran, Judith Bruchfeld, Margarida Correia-Neves, Gunilla Källenius, Christopher Sundling. Immunophenotyping and functional analysis of NK cell subsets in Mycobacterium tuberculosis-infected individuals. BioRxiv.

<https://www.biorxiv.org/content/10.1101/2024.03.16.585339v1>

Lei Wu, Lin Bai, Wenshu Dai, Yaping Wu, **Pengjun Xi**, Jie Zhang Lily Zheng. Ginsenoside Rg3: A review of its anticancer mechanisms and potential therapeutic applications. Current Topics in Medicinal Chemistry. 2024.

DOI: [10.2174/0115680266283661240226052054](https://doi.org/10.2174/0115680266283661240226052054)

Amit Singh[#], Vimal Veeriah[#], **Pengjun Xi**[#], Rossella Labella, Junyu Chen, Sara G.Romeo, Saravana K Ramasamy, Anjali P Kusumbe. Angiocrine signals regulate quiescence and therapy resistance in bone metastasis. **JCI Insight** [#]Equal contribution. 2019. DOI: [10.1172/jci.insight.125679](https://doi.org/10.1172/jci.insight.125679)

Vimal Veeriah, **Pengjun Xi**. Role of angiocrine signaling in bone metastasis. Thirteenth Fellows Forum on Metabolic bone diseases. 2019. Conference paper.

H. Cai, **Pengjun Xi**, L. Zhong, J. Chen, X. Liang. Efficacy of aromatherapy on dental anxiety: A systematic review of randomised and quasi-randomised controlled trails. Oral Diseases. 2020. DOI: [10.1111/odi.13346](https://doi.org/10.1111/odi.13346)

Scholarships and Awards

- 2025 KI travel grant (17000 SEK)
- 2024 SSI travel grant for ECI conference (1500 Euros)
- 2021-2025 Karolinska Institute Doctoralship
- 2012-2013 & 2014- 2015 Annual National Endeavor Fellowship (1 in 200, awarded with RMB ¥5,000)
- 2013-2014 & 2014-2015 First-class scholarship (top 0.5% in 2300, awarded with RMB ¥1,200)

Research Experiences

07/2021 – Present **Department of Medicine, Solna, Karolinska Institute**

- Project: Investigating the interplay of how innate and adaptive immunity synergise in malaria
 - Investigating the diversity and dynamics of natural killer (NK) cell and $\gamma\delta$ T cell heterogeneity during and after acute malaria
 - Understanding innate-adaptive antibody-mediated interplay and control of acute malaria
 - Investigating if NK cells, $\gamma\delta$ T cells and monocytes can synergize in the killing of infected target cells.

- 07/2019 – 05/2021 MRC Weatherall Institute of Molecular Medicine, University of Oxford**
Research Assistant in Acute Myeloid Leukaemia and Genetics
- Project: Investigation of measurable residual diseases (MRD) in acute myeloid leukaemia (AML) patients enrolled in clinical trials.
 - Evaluating disease progression and treatment efficacy by monitoring leukemia-associated immunophenotypic populations and LSCs in patient samples using clinical biomarkers
 - Examining the correlation of molecular signatures with clinical outcomes using single cell sequencing methods
 - Performing next generation sequencing experiments and computational data analysis
 - Responsible for tissue banking of clinical trial samples from AML and myeloma patients
- 08/2017 – 06/2019 Kennedy Institute of Rheumatology, University of Oxford**
Research Assistant in vasculature and tumor microenvironments
- Project I: Investigating the role of blood vessels in bone metastasis and tumour microenvironment.
 - Characterised different components in the mouse bone marrow (BM) via immunophenotypic markers by flow cytometry and morphology by *in vivo* imaging
 - Investigated transcriptional profiles of BM populations to determine the molecular mechanism of microenvironmental changes during ageing
 - Identified biological sources of angiocrine factors involved in reshaping the BM microenvironment for tumour relapse
 - Evaluated the effect of a novel therapeutic approach on bone metastasis in mouse models
 - Project II: Characterisation of angiogenesis during ageing in multiple tissues in mouse models
 - Conducted comparative analysis of cellular and intracellular markers for stromal cells, endothelial cells, pericytes and extracellular matrix in multiple organs between neonates, adult and aged mice
 - Determined how declined angiogenesis correlates with ageing-associated disorders in different tissues
 - Investigated alterations of the gene expression and protein synthesis in endothelial cells during ageing
 - Laboratory management:
 - Responsible for equipment maintenance and general consumable purchases
 - Maintained several mouse colonies with personal individual license (PIL AB)
 - Provided lab induction and technical training for junior lab members
 - Assisted in the establishment and maintenance of experimental SOPs
- 05/2017 – 08/2017 Institute of Immunology and Infection Research, University of Edinburgh**
- Master project: Effects of TCR signaling pathways on eIF5 α hypusination and T cell function
 - Determined the effect of T cell activation on eIF5 α expression and hypusination
 - Screened for key TCR signaling pathways regulating eIF5 α function via pharmaceutical inhibitions
- 11/2015 – 06/2016 Institute of Methane, Ministry of Agriculture, Chengdu, China**
- Undergraduate project: The role of Lemna minor COMT gene in anti-drought and anti-high salinity
 - Generated genome sequencing data of the COMT gene from Lemna minor
 - Determined conserved sequence of the COMT gene that is responsible for the anti-drought and anti-high salinity characteristics of Lemna minor
- 08/2013 – 12/2015 Laboratory Experiences within BSc Biotechnology Undergraduate Degree**
Research Assistant at Chengdu University of Traditional Chinese Medicine
- Provided technical assistance in multiple projects, including optimising hepatitis B vaccine production, investigating drug-induced proliferation and differentiation of mouse mesenchymal stem cells (MSCs) and studying therapeutic effects of *Atractylodes macrocephala* on low spleen function in rats

Research Skills

- Transcriptional profiling and gene expression analysis by high throughput sequencing, e.g. RNA-seq
- Multiparameter flow cytometry analysis using BD Fortessa/Aria and Cytex Arora instruments
- Genome editing of cell lines/primary cells using CRISPR/Cas9
- Morphological analysis of fixed tissues by confocal microscopy
- Spatial analysis of proteins of interest in tissue sections by immunohistochemistry
- Tissue culture of primary cells (e.g. endothelial cells, MSCs) and mammalian cell lines
- Expression of recombinant proteins in *E.coli* and protein purification by chromatography
- General biochemistry and molecular techniques including ELISA, western blotting, cloning and qPCR

Additional Skills

- Computational data processing and analysis in Unix and Python
- Microsoft office (Word, Excel, PowerPoint)
- Flowjo, Imaris, Adobe Illustrator, Graphpad Prism, Affinity Designer, ImageJ, and Pymol