

# Tiancheng Fang

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## Education

### University of California, Los Angeles

PH.D. IN MOLECULAR AND MEDICAL PHARMACOLOGY

Los Angeles, CA, USA

Sept. 2014 - Sept. 2020 (expected)

### Nankai University

B.S. IN BIOLOGICAL SCIENCE

Tianjin, China

Sept. 2010 - June. 2014

## Research Experience

### UCLA Broad Stem Cell Research Center

MENTOR: JOHN CHUTE, M.D.

- Determine mechanism of EGFR signaling-mediated hematopoietic stem cell regeneration.

Los Angeles, CA, USA

Mar. 2015 - Present

### UCLA Molecular Biology Institute

MENTOR: STEVEN BENSINGER, V.M.D., PH.D.

- Assess transcription profile of type I interferon signaling in macrophage after perturbation of cholesterol synthesis.

Los Angeles, CA, USA

Jan. 2015 - Mar. 2015

### UCLA Ahmanson Translational Imaging Division

MENTOR: DAVID NATHANSON, PH.D.

- Examine efficacy of combination therapy by targeting EGFR signaling and glucose metabolism in glioblastoma.

Los Angeles, CA, USA

Sept. 2014 - Dec. 2015

### Nankai University Department of Genetics and Cell Biology

MENTOR: JUNJIE HU, PH.D.

- Determine function of membrane protein LGG-1 and LGG-2 in autophagosome formation.

Tianjin, China

June 2012 - June 2014

### UCLA Department of Bioengineering

MENTOR: DINO DI CARLO, PH.D.

- Identify inhibitors of Streptococcus caused biofilm formation with microfluidics.

Los Angeles, CA, USA

June 2013 - Aug. 2013

### State Key Laboratory of Medicinal Chemical Biology (Nankai University)

MENTOR: ZIHE RAO, PH.D.

- Determine 3D-structure of RNA-binding proteins in Mycobacterium tuberculosis by X ray crystallography.

Tianjin, China

Nov. 2010 - May 2012

## Publications

### Epidermal Growth Factor Receptor-dependent DNA Repair Regulates Hematopoietic Stem Cell Regeneration

Tiancheng Fang, Yurun Zhang, Vivian Chang, Martina Roos, Christina M Termini, Lia Signaevskaia, Mamle Quarmyne, Paulina Lin, Amara Pang, Jenny Kan, Xiao Yan, Anna Javier, Katherine Pohl, Liman Zhao, Peter Scott, Heather A Himburg, John P Chute  
*Blood (In Press)*, (2020). American Society of Hematology

### Semaphorin 3A Signaling Controls Vascular and Hematopoietic Regeneration Following Myelosuppression

Heather A Himburg, Tiancheng Fang, Martina Roos, Amara Pang, Yurun Zhang, Lia Signaevskaia, Orel Tabibi, Paulina K Lin, Joshua Sasine, Christina M Termini, John P Chute  
*Cell Stem Cell (In revision)*, (2020). Elsevier

### Chronic Myelogenous Leukemia Stem Cells Require Cell-autonomous Pleiotrophin Signaling

Heather A Himburg, Martina Roos, Tiancheng Fang, Yurun Zhang, Christina M Termini, Lauren Schluskel, Mindy M Kim, Amara Pang, Jenny Kan, Liman Zhao, Hyung Suh, Joshua P Sasine, Schiller Gary, John P Chute  
*The Journal of Clinical Investigation*. 130, pp. 315–328, (2020). The American Society for Clinical Investigation

### PTP $\sigma$ Inhibitors Promote Hematopoietic Stem Cell Regeneration

Yurun Zhang, Martina Roos, Heather Himburg, Christina M. Termini, Mamle Quarmyne, Michelle Li, Liman Zhao, Jenny Kan, Tiancheng Fang, Xiao Yan, Katherine Pohl, Emelyne Diers, Hyo Jin Gim, Robert Damoiseaux, Julian Whitelegge, William McBride, Michael E. Jung, John P. Chute  
*Nature Communications*. 10, p. 3667, (2019). Nature Publishing Group UK

### Grb10 Is a Tumor Suppressor in Human Acute Myeloid Leukemia

Wanxing Chai-Ho, Martina M Roos, Michelle Li, Pang Amara, Yurun Zhang, Tiancheng Fang, Christina Termini, John P Chute  
*Blood*. 132, pp. 1344–1344, (2018). American Society of Hematology

### Epidermal Growth Factor Rejuvenates Aging Hematopoietic Stem Cells

Vivian Y. Chang, Tiancheng Fang, Katherine A. Pohl, Evelyn Tran, Heather A Himburg, John P Chute  
*Blood*. 132, pp. 1284–1284, (2018). American Society of Hematology

### Distinct Bone Marrow Sources of Pleiotrophin Control Hematopoietic Stem Cell Maintenance and Regeneration

Heather A Himburg, Christina M Termini, Lauren Schluskel, Jenny Kan, Michelle Li, Liman Zhao, **Tiancheng Fang**, Joshua P Sasine, Vivian Y Chang, John P Chute  
*Cell Stem Cell*. 23, pp. 370–381, (2018). Elsevier

#### **Deletion of the Imprinted Gene Grb10 Promotes Hematopoietic Stem Cell Self-renewal and Regeneration**

Xiao Yan, Heather A Himburg, Katherine Pohl, Mamle Quarmyne, Evelyn Tran, Yurun Zhang, **Tiancheng Fang**, Jenny Kan, Nelson J Chao, Liman Zhao  
*Cell Reports*. 17, pp. 1584–1594, (2016). Elsevier

#### **Structural Basis of the Differential Function of the Two *C. elegans* Atg8 Homologs, LGG-1 and LGG-2, in Autophagy**

Fan Wu, Yasunori Watanabe, Xiang-Yang Guo, Xin Qi, Peng Wang, Hong-Yu Zhao, Zheng Wang, Yuko Fujioka, Hui Zhang, Jin-Qi Ren, **Tiancheng Fang**, Yu-Xian Shen, Wei Feng, Jun-Jie Hu, Nobuo N Noda, Hong Zhang  
*Molecular Cell*. 60, pp. 914–929, (2015). Elsevier

## **Presentations**

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### **Centers for Medical Countermeasures Against Radiation Consortium (CMCRC) Annual Update Meeting**

Rockville, MD, USA

ORAL PRESENTATION

Dec. 4, 2019

- Protein Tyrosine Phosphatase- $\sigma$ , Novel Target for Mitigation of Acute Radiation Injury

### **60th American Society of Hematology Annual Meeting**

San Diego, CA, USA

ORAL PRESENTATION

Dec. 3, 2018

- Epidermal Growth Factor Receptor-Mediated DNA Repair Regulates Hematopoietic Stem Cell Regeneration

### **2018 University of California, Los Angeles Center for Medical Countermeasures against Radiation (CMCR) Retreat**

Los Angeles, CA, USA

ORAL PRESENTATION

Oct. 4, 2018

- Epidermal Growth Factor Receptor Signaling Regulates DNA Damage Response in Irradiated Hematopoietic Stem Cells

### **2018 UCLA Molecular and Medical Pharmacology Retreat**

Huntington Beach, CA, USA

ORAL PRESENTATION

Nov. 16, 2018

- Epidermal Growth Factor Receptor-Mediated DNA Repair Regulates Hematopoietic Stem Cell Regeneration

### **2017 International Society for Stem Cell Research Annual Meeting**

Boston, MA, USA

POSTER PRESENTATION

June 15, 2017

- Epidermal Growth Factor Receptor (EGFR) Signaling Promotes DNA repair in Hematopoietic Stem Cells

### **2017 Annual UCLA Department of Medicine Research Day**

Los Angeles, CA, USA

POSTER PRESENTATION

Oct. 7, 2017

- Epidermal Growth Factor Receptor (EGFR) Signaling Promotes Hematopoietic Stem Cell Regeneration via Increased DNA Repair

### **2017 UCLA Molecular and Medical Pharmacology Retreat**

Huntington Beach, CA, USA

POSTER PRESENTATION

Nov. 18, 2017

- Epidermal Growth Factor Receptor Signaling Promotes Hematopoietic Stem Cell Regeneration via Increased DNA Repair

### **13th Annual Stem Cell Symposium**

Los Angeles, CA, USA

POSTER PRESENTATION

Feb. 3, 2017

- Epidermal Growth Factor Receptor (EGFR) Deficiency Impairs Hematopoietic Stem Cell Self-renewal and Regeneration via Decreased DNA Repair

## **Skills**

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<b>Animal Care</b>	Handling and restraint, Breeding, Medication Administration, Tumor implantation, Blood collection
<b>Immunology</b>	Fluorescence activated cell sorting (FACS), immunohistochemistry
<b>Cell Biology</b>	Stem cell culture, Transfection, Human hematopoietic stem cell isolation
<b>Molecular Biology</b>	PCR, Genomic DNA extraction, RNA extraction, site-directed mutagenesis, Gel Electrophoresis, western blot
<b>Microscopy</b>	Fluorescence microscopy, Light microscopy, Confocal microscopy
<b>Biochemistry</b>	Protein purification, ELISA, High Performance Liquid Chromatography (HPLC)
<b>Microbiology</b>	Inoculation, Plasmid amplification, Virus production
<b>Radiation biology</b>	Gamma-ray irradiation, Radioactive isotope handling
<b>Software</b>	FlowJo, FACSDiva, ImageJ, Graphpad, Adobe Illustrator, Adobe Photoshop, Microsoft Office
<b>Bioinformatics</b>	Single Cell RNA Sequencing, Whole Genome Sequencing

## **Honors & Awards**

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2019-2020	<b>Dissertation Year Fellowship</b> , UCLA Graduate Division	<i>Los Angeles, CA</i>
2018	<b>American Society of Hematology Abstract Achievement Award</b> , American Society of Hematology	<i>San Diego, CA</i>
2016	<b>Winner of 6th annual BSC Venture Team Competition</b> , UCLA Business of Science Center	<i>Los Angeles, CA</i>
2013	<b>Award for Excellence in Scientific Research and Presentation</b> , UCLA Cross-disciplinary Scholars in Science and Technology Program	<i>Los Angeles, CA</i>
2012-2013	<b>National Scholarship</b> , Chinese Ministry of Education	<i>China</i>
2011-2012	<b>National Scholarship</b> , Chinese Ministry of Education	<i>China</i>
2010-2011	<b>Scholarship for Excellent students in Basic Science</b> , Nankai University	<i>China</i>

## Professional Services & Memberships

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### American Society of Hematology

MEMBER

*USA*

*2018 - PRESENT*

### International Society for Stem Cell Research

MEMBER

*USA*

*2017 - PRESENT*

### UCLA Biological Science Council

STUDENT REPRESENTATIVE

*Los Angeles, CA, USA*

*2017 - 2018*

### UCLA Molecular and Medical Pharmacology Department

STUDENT REPRESENTATIVE

*Los Angeles, CA, USA*

*2017 - 2018*

### UCLA MCD BIO M140 Cancer Cell Biology

TEACHING ASSISTANT

*Los Angeles, CA, USA*

*Jan. 2017 - Mar. 2017*