

# 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 - June. 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

### 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 Schlussel, 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

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

**Tiancheng Fang**, Mamle Quarmyne, Yurun Zhang, Vivian Chang, Martina Roos, Christina M Termini, Jenny Kan, Xiao Yan, Anna Javier, Katherine Pohl, Liman Zhao, Heather A Himburg, John P Chute

*Blood (In revision)*, (2020). American Society of Hematology

### 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

### Inhibition of Semaphorin 3A Signaling Promotes Regeneration of Hematopoietic Stem Cells and Their Bone Marrow Vascular Niche

John P Chute, Christina Termini, Lauren Schlussel, Martina M Roos, Jenny Kan, Joshua Sasine, **Tiancheng Fang**, Heather A Himburg

### **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

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

**Tiancheng Fang**, Heather A Himburg, Martina M Roos, Yurun Zhang, Jenny Kan, Liman Zhao, John P Chute

Blood. 132, pp. 638–638, (2018). American Society of Hematology

### **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**

### **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**

<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

## 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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<b>American Society of Hematology</b>	<i>USA</i>
MEMBER	<i>2018 - PRESENT</i>
<b>International Society for Stem Cell Research</b>	<i>USA</i>
MEMBER	<i>2017 - PRESENT</i>
<b>UCLA Biological Science Council</b>	<i>Los Angeles, CA, USA</i>
STUDENT REPRESENTATIVE	<i>2017 - 2018</i>
<b>UCLA Molecular and Medical Pharmacology Department</b>	<i>Los Angeles, CA, USA</i>
STUDENT REPRESENTATIVE	<i>2017 - 2018</i>
<b>UCLA MCD BIO M140 Cancer Cell Biology</b>	<i>Los Angeles, CA, USA</i>
TEACHING ASSISTANT	<i>Jan. 2017 - Mar. 2017</i>