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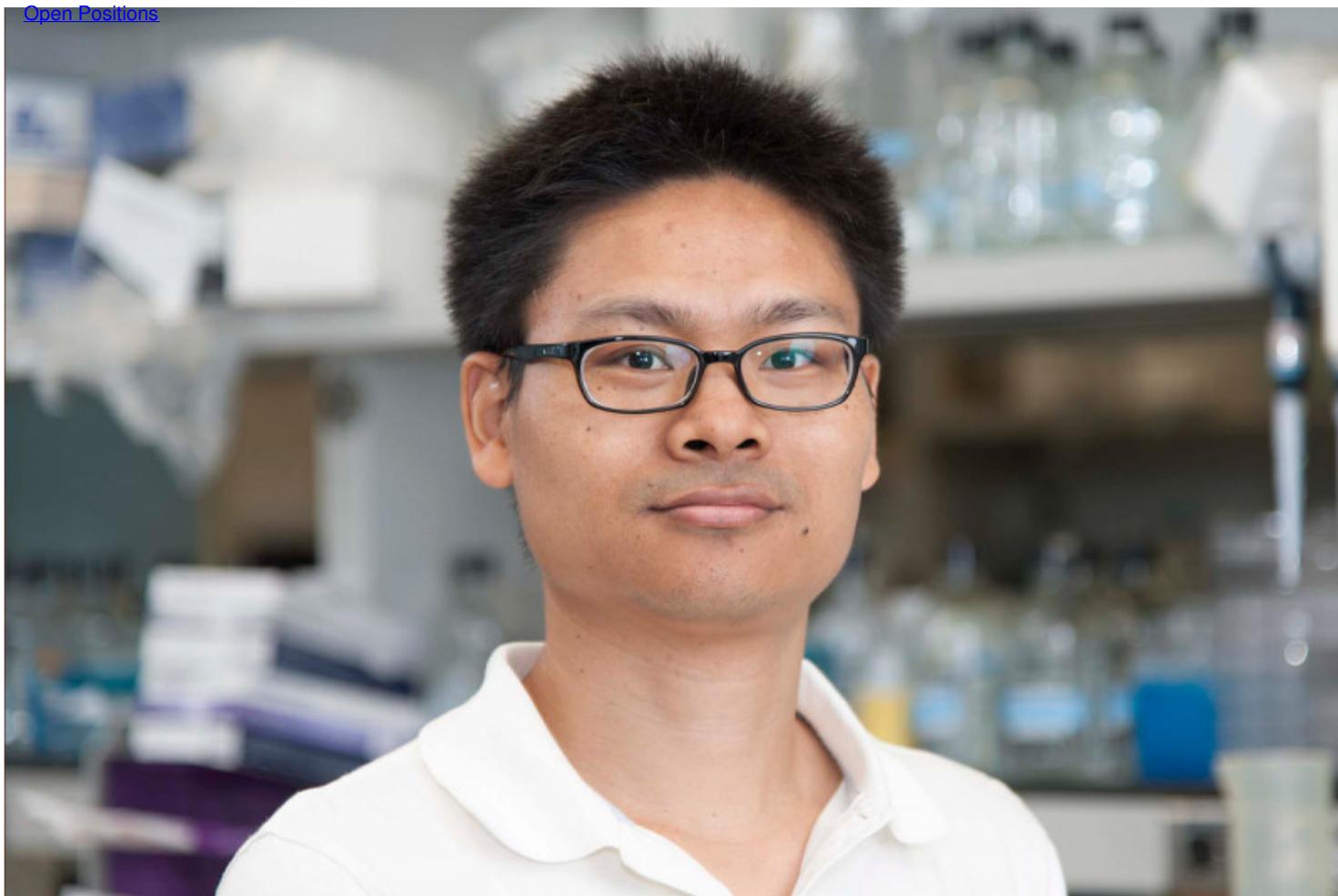
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## [Education & Training](#) Zhong-Dong Shi, PhD

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### Start Year

2010

## End Year

2016

Zhong-Dong Shi received his bachelor's and master's degrees in biochemical engineering from Tianjin University in China. He received his PhD in 2010 in biomedical engineering from City College of New York, where he studied with John M. Tarbell, PhD in the Wallace Coulter Laboratory for Cardiovascular Dynamics and Biomolecular Transport. Zhong-Dong has joined Dr. Huangfu's lab as a Research Fellow focusing on cell pluripotency and lineage reprogramming.

## Selected Publications

Qazi H, Shi ZD, Tarbell JM. Fluid shear stress regulates the invasive potential of glioma cells via modulation of migratory activity and matrix metalloproteinase expression. (PLoS ONE, in revision).

Shi ZD, Wang H, Tarbell JM. Heparan sulfate proteoglycans mediate interstitial flow mechanotransduction regulating MMP-13 expression and cell motility via FAK-ERK in 3D collagen. (PLoS ONE, accepted).

[Shi ZD, Abraham G, Tarbell JM. Shear stress modulation of smooth muscle cell marker genes in 2-D and 3-D depends on mechanotransduction by heparan sulfate proteoglycans and ERK1/2. PLoS ONE. 2010, 5\(8\):e12196.](#)

[Li G, Simon MJ, Cancel LM, Shi ZD, Ji X, Tarbell JM, Morrison B III, Fu BM. Permeability of endothelial and astrocyte cocultures: in vitro blood-brain barrier models for drug delivery studies. Ann Biomed Eng. 2010, 238\(8\):2499-2511.](#)

[Shi ZD, Ji XY, Berardi DE, Qazi H, Tarbell JM. Interstitial flow induces MMP-1 expression and vascular SMC migration in collagen I gels via an ERK1/2-dependent and c-Jun-mediated mechanism. Am J Physiol Heart Circ Physiol. 2010, 298: H127-H135.](#)

[Shi ZD, Ji XY, Qazi H, Tarbell JM. Interstitial flow promotes vascular fibroblast, myofibroblast, and smooth muscle cell motility in 3-D collagen I via upregulation of MMP-1. Am J Physiol Heart Circ Physiol. 2009, 297: H1225-H1234. \(see Comment in: AJP 2009, 297:H1196-1197.\)](#)

[Garanich JS, Mathura RA, Shi ZD, Tarbell JM. Effects of fluid shear stress on adventitial fibroblast migration: implications for flow-mediated mechanisms of arterialization and intimal hyperplasia. Am J Physiol Heart Circ Physiol. 2007, 292: H3128 - H3135.](#)

[Ainslie K, Shi ZD, Garanich JS, Tarbell JM. Rat aortic smooth muscle cells contract in response to serum and its components in a calcium independent manner. Annals of Biomedical Engineering. 2004, 32\(12\):1667-1675.](#)

[Shi ZD, Yuan YJ, Wu JC, Shang GM. Biological responses of suspension cultures of \*Taxus chinensis\* var. \*mairei\* to shear stresses in short-term. Applied Biochemistry and Biotechnology. 2003, 110\(2\):61-74.](#)

Han RB, Shi ZD, Yang WL, Yuan YJ. Effect of shear stress on suspension cultures of *Taxus chinensis* var. *mairei*. The Chinese Journal of Process Engineering. 2003, 3 (2): 135-140. (in Chinese)

Shang GM, Shi ZD, Wei ZJ, Yuan YJ. Effects of shear stress on suspension cultures of *Taxus chinensis* var. *mairei* and its CFD simulation. Journal of Chemical Engineering of Chinese Universities. 2002, 16(5): 542-548. (in Chinese)

Shi ZD, Wei ZJ, Yuan YJ. Concentration optimization of elicitors on taxol production in plant cell culture of *Taxus chinensis* var. *mairei*. Natural Product Research and Development. 2000,12(4): 36-40. (in Chinese)