

BIOGRAPHICAL SKETCH

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NAME Shuyi Nie, Ph.D	POSITION TITLE Assistant Professor
eRA COMMONS USER NAME (credential, e.g., agency login) shuyinie	

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
Peking University, Beijing, China	B.S.	07/02	Biology
University of Alabama at Birmingham, Birmingham, AL	Ph.D.	08/07	Cell Biology
Marine Biological Laboratory, Woods Hole, MA		07/06	Embryology
California Institute of Technology, Pasadena, CA	Postdoctoral	10/07-12/12	Developmental Biology

A. Personal Statement

My research goal has been to analyze the mechanism of cell movement and tissue arrangement during embryogenesis. Particularly, I aim to understand the cellular basis of neural crest migration. With institutional and extramural support, I am investigating the regulation of actin cytoskeleton by various actin-binding proteins specifically used in neural crest cells and their effect on cell morphology and motility. Major projects include (i) actin cytoskeletal control during cranial neural crest cell migration and (ii) cardiac neural crest migration and heart formation.

B. Positions and Honors

Positions and Employment

2001-2002	Research Assistant, National Laboratory of Protein Engineering and Plant Genetic Engineering, Peking University, China
2002-2007 2006	Research Assistant, Department of Cell Biology, University of Alabama at Birmingham Thomas B. Grave and Elizabeth F. Grave Fellow, The Company of Biologists Ltd Fellow, and Society for General Physiology Fellow, Marine Biological Laboratory
2007-2012	Postdoctoral Scholar, Division of Biology, California Institute of Technology
2013-2014	Senior Research Fellow, Division of Biology, California Institute of Technology
2014-	Assistant Professor, School of Biology, Georgia Institute of Technology

Honors

2000-2002	Academic Excellent Prize, Peking University, China
2006	Best Poster Award, Southeast SDB meeting
2006	Thomas B. Grave and Elizabeth F. Grave Fellow, The Company of Biologists Ltd Fellow, and Society for General Physiology Fellow
2012	American Heart Association Postdoctoral Fellowship
2012	NIH Pathway to Independence Award K99

Professional Societies

2006-2007	Association for Women in Science
2009-	International Society for Developmental Biology

C. Selected Peer-reviewed Publications

1. **Nie, S.** and Chang, C. (2006) Regulation of early *Xenopus* development by ErbB signals. *Dev. Dyn.* 235, 301-314.
2. Li, X., **Nie, S.**, Chang, C., Qiu, T. and Cao, X. (2006) Smads oppose Hox transcriptional activities. *Exp. Cell Res.* 312, 854-864.
3. **Nie, S.** and Chang, C. (2007) Regulation of *Xenopus* gastrulation by ErbB signaling. *Dev. Biol.* 303, 93-107.
4. Shi, W., Chang, C., **Nie, S.**, Xie, S., Wan, M. and Cao, X. (2007) Endofin acts as a Smad anchor for receptor activation in BMP signaling. *J. Cell Sci.* 120, 1216-1224.
5. **Nie, S.** and Chang, C. (2007) Phosphatidylinositol-3 kinase and Erk mitogen-activated protein kinase act downstream of ErbB4 to regulate *Xenopus* gastrulation. *Mech. Dev.* 124, 657-667.
6. Joo, H.Y., Zhai, L., Yang, C., **Nie, S.**, Drdjument-Bromage, H., Tempst, P., Chang, C. and Wang H. (2007) Regulation of cell cycle progression and gene expression by H2A deubiquitination. *Nature*, 449, 1068-72.
7. Wan, M., Yang, C., Li, J., Wu, X., Yuan, H., Ma, H., He, X., **Nie, S.**, Chang, C. and Cao, X. (2008) Parathyroid hormone signaling through low-density lipoprotein-related protein 6. *Genes Dev.* 22, 2968-2979.
8. Demyanenko, A.V., Zhao, L., Kee, Y., **Nie, S.**, Fraser, S.E. and Tyszka, J.M. (2009) A uniplanar three-axis gradient set for in vivo magnetic resonance microscopy. *J. Magn. Reson.* 200, 38-48.
9. **Nie, S.**, Kee, Y. and Bronner-Fraser, M. (2009) Myosin-X is critical for migratory ability of *Xenopus* cranial neural crest. *Dev. Biol.* 335, 132-142.
10. **Nie, S.**, Kee, Y., and Bronner-Fraser, M. (2011) Caldesmon regulates actin dynamics to influence cranial neural crest migration in *Xenopus*. *Mol. Biol. Cell.* 22, 3355-3365.
11. Rogers, C.D., Jayasena, C.S., **Nie, S.** and Bronner, M. (2011) Neural crest specification: tissue, signals and transcription factors. *Dev. Biol. WIREs Dev. Biol.* 1, 52-68.
12. Kwon, S.H., Park, O.K., **Nie, S.**, Kwak, J., Hwang, B.J., Bronner, M.E. and Kee, Y. (2014) Comparative genomic analysis and functional relationship of neural crest cell migration genes. *PLoS One.* 9, e103024.
13. Kerosuo, L., **Nie, S.**, Bajbaj, R., and Bronner, M.E. (2014) Production and long-term maintenance of multipotent premigratory neural crest stem cells. *Submitted.*

D. Research Support

National Institute of Health 07/01/14-06/31/17; \$750,000.00

4R00DE022796-03 (Nie) "Role of actin cytoskeleton regulators in craniofacial development and disease"