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## BIOGRAPHICAL SKETCH

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NAME Tao Sun	POSITION TITLE Assistant Professor		
eRA COMMONS USER NAME TAOSUN			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Xiamen University, Xiamen, P.R. China	B.S.	1991	Zoology
Chinese Academy of Sciences, Beijing, China	M.S.	1994	Zoology
University College London, London, UK	Ph.D.	1999	Neurobiology
Dana-Farber Cancer Institute, Boston	Postdoc	2000-2002	Neurobiology
BIDMC, Harvard Medical School, Boston	Postdoc	2002-2005	Genetics

### A. Positions and Honors.

#### Positions and Employment

1994 -1995	Research Assistant, Chinese Academy of Medical Sciences, Beijing, P.R.China
1995 –1999	Full time graduate student, University College London, London, UK
2000 – 2002	Postdoctoral Fellow, Dana-Farber Cancer Institute, Harvard Medical School, Boston, USA
2002 - 2005	Postdoctoral Fellow, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston USA
09/05-present	Assistant Professor, Dept. of Cell and Developmental Biology, Cornell University Weill Medical College, New York USA

#### Other Experience and Professional Memberships

1994-1995	Member of the Chinese Transgenic Animal Association, Beijing, China
1996-1999	Member of the Center for Human Genetics at the University College London, London UK
1997-2001	Member of the British Society for Cell Biology, London UK
1999-2001	Member of the Society for Developmental Biology, USA
2003-present	Member of Society for Neuroscience, USA

#### Honors

09/1987—07/1991	“The Awards for Excellent Academic Performance” throughout four years of undergraduate study in Xiamen University, Xiamen, P.R.China
07/1991	“The Best Graduate Awards” from Xiamen University, Xiamen, P.R.China
07/1992	“The Graduate School Academic Awards” from the Institute of Zoology, Chinese Academy of Sciences, Beijing, P.R.China
04/1995—04/1996	“Research Grant for Excellent Young Scientist” from the Chinese Academy of Medical Sciences, Beijing, P.R.China
07/2001—07/2004	“Advanced Postdoctoral Fellowship Award” from the National Multiple Sclerosis Society, USA
07/2004—07/2005	NIH Training Grant T32, at Children’s Hospital, Harvard Medical School, Boston, MA.

## B. Selected peer-reviewed publications (in chronological order)

### Original research reports:

1. Tao Sun (1995). Methods of the preparation of the chromosome from land snails. *Chinese Journal of Zoology* 30(6), 27-30 (in Chinese with English abstract).
2. Shui-gen Hong, Tao Sun, Zi-mian Ni and Ru Xue (1995). Studies on the spermatogenesis in *Tachypleus tridentatus*: I. The stages of spermatogenesis. *Acta Zoologica Sinica* 41(4), 393-402 (in Chinese with English abstract).
3. Tao Sun, Nigel P. Pringle, Adrain P. Hardy, William D. Richardson and Hazel K. Smith (1998). Pax6 influences the time and site of origin of glial precursors in the ventral spinal cord. *Molecular and Cellular Neuroscience* 12, 228-239.
4. Tao Sun, Damith Jayatilake, Gijs Afink, Paris Ataliotis, Monica Nister, William D. Richardson and Hazel K. Smith (2000). A human YAC transgene rescues craniofacial and neural tube development in *PDGFR $\alpha$*  knockout mice and uncovers a role for *PDGFR $\alpha$*  in prenatal lung growth. *Development* 127, 4519-4529.
5. Jose L. Mullor, Nadia Dahmane, Tao Sun and Ariel Ruiz i Altaba (2001). Wnt signals are targets and mediators of Gli function. *Current Biology* 11:769-73
6. Nadia Dahmane, Pilar Sánchez, Yorick Gitton, Verónica Palma, Tao Sun, Mercedes Beyna, Howard Weiner and Ariel Ruiz i Altaba (2001). The Sonic Hedgehog-Gli pathway regulates dorsal brain growth and tumorigenesis. *Development* 128, 5201-5212.
7. Tao Sun, Yann Echelard, Richard Lu, Dong-in Yuk, Sovann Kaing, Charles D. Stiles and David H. Rowitch (2001). Olig bHLH proteins interact with homeodomain proteins to regulate cell fate acquisition in progenitors of the ventral neural tube. *Current Biology* 11:1413–1420.
8. Q. Richard Lu, Tao Sun, Zhimin Zhu, Nan Ma, Meritxell Garcia, Charles D. Stiles and David H. Rowitch (2002). Common developmental requirement for Olig function indicates a motor neuron/oligodendrocyte connection. *Cell* 109, 75–86.
9. Lizi Wu, Tao Sun, Karla Kobayashi, Ping Gao, and James D. Griffin (2002). Identification of a family of mastermind-like transcriptional coactivators for mammalian Notch receptors. *Molecular and Cellular Biology*, 22(21):7688–7700.
10. Tao Sun, Hualing Dong, Lizi Wu, Micheal Kane, David H. Rowitch and Charles D. Stiles (2003). Cross-repressive interaction of the Olig2 and Nkx2.2 transcription factors in developing neural tube associated with formation of a specific physical complex. *Journal of Neuroscience*. 23(29):9547-56.
11. Lizi Wu, Karla Kobayashi, Tao Sun, Ping Gao, Jingxuan Liu, Makoto Nakamura, Ellen Weisberg, Nishit Mukhopadhyay and James D. Griffin (2004). Cloning and functional characterization of the murine mastermind-like 1 (*maml1*) gene. *Gene*, 328:153-65.
12. Tao Sun, Christina Patoine, Jane Visvader, Eleanor Sum, Timothy J. Cherry, Stuart H. Orkin, Daniel H. Geschwind and Christopher A. Walsh (2005). Early asymmetry of gene transcription in embryonic human left and right cerebral cortex. *Science*, 308(5729):1794-8. (Published online 12 May 2005).
13. Tao Sun, Brain Hafler, Sovann Kaing, Masaaki Kitada, Keith Ligon, Hans Widlund, Dong-in Yuk, Charles D. Stiles and David H. Rowitch (2006). Evidence for motoneuron lineage-specific regulation of *Olig2* in the vertebrate neural tube. *Developmental Biology*, 292(1):152-164.
14. Tao Sun, Randall V. Collura, Katherine Miller, Maryellen Ruvolo and Christopher A. Walsh (2006). Genomic and evolutionary analyses of asymmetrically expressed genes in human fetal left and right cerebral cortex. *Cerebral Cortex*, 16 Suppl 1:i18-25.

### Non-experimental articles, e.g., review papers.

1. Tao Sun, Ming Zhao and Lian-feng Zhang (1996). Homeobox genes and the development. *Overseas Medicine, Genetics Section* 19(1), 38-40 (minireview in Chinese).
2. Tao Sun and Xue-feng Liu (1996). Isolation of specifically expressed genes by differential display. *Progress in Biochemistry and Biophysics* 23(4), 316-318 (review in Chinese with English abstract).
3. William D. Richardson, Hazel K. Smith, Tao Sun, Nigel P. Pringle, Anita Hall and Rachel Woodruff (2000). Oligodendrocyte lineage and the motor neuron connection. *Glia* 29, 136-142.
4. Tao Sun, and Christopher A. Walsh (2006). Molecular approaches to brain asymmetry and handedness. *Nature Review Neuroscience*, 7(8):655-662.

## **C. Research Support.**

### **Ongoing Research Support**

Start-up package from Weill Medical College of Cornell University

9/1/05--9/1/08

Cortical patterning and neural stem cell development.

The major goals of this project are to determine functions of *Lmo4* in regulating the formation of functional cortical regions and to identify candidate genes that control neural stem cell development and as well govern structural formation in the cerebral cortex.

Role: PI

Research Grant from the Whitehall Foundation

08/2007—08/2010

Molecular control of the motor cortex size and motor coordination.

Role: PI

### **Completed Research Support**

T32 NIH Training Grant at Children's Hospital, Harvard Medical School

7/1/04—7/1/05

Identify differentially expressed genes in the human fetal cerebral cortex.

The major goal of this project is to identify genes differentially expressed between the left and right hemispheres, and the frontal and occipital cortical regions in the human fetal brains. The approach we took is to create libraries using Serial Analysis of Gene Expression (SAGE). We have identified and verified 27 genes asymmetrically expressed in human fetal 12 and 14 week cortices.

Role: PI.

Advanced Postdoctoral Fellowship Award, National Multiple Sclerosis Society

7/1/01--7/1/04

Molecular regulation of cell fate determination in the neural tube.

The major goal of this project is to examine function and expression regulation of *Olig* genes in neuronal and glial cell fate determination in the neural tube. We found that *Olig1* suppresses V1 interneuron fate when it is mis-expressed in the transgenic neural tube. We also identified a motor neuron lineage specific enhancer element for *Olig2* by generating transgenic mice using Bacterial Artificial Chromosome (BAC) DNA.

Role: PI.