

## 西奈山醫療中心

**Hongyan Zou 鄒紅雁**

ASSISTANT PROFESSOR Neurosurgery

神經外科 助理教授

ASSISTANT PROFESSOR Neuroscience

神經科學 助理教授

**Specialty 專業**

- Neurological Surgery 神經外科

**Clinical Focus 臨床專長**

- [Arnold-Chiari Syndrome](#) 阿諾德-基亞里綜合症
- [Astrocytoma](#) 星形細胞腦腫瘤
- [Brain Tumor And Brain Cancer](#) 腦腫瘤和腦癌
- [Carpal Tunnel Release](#) 腕管綜合症
- [Cervical Myelopathy](#) 脊髓型頸椎病
- [Chiari malformation](#) 基亞里畸形
- [Craniopharyngioma](#) 顱咽管瘤
- [Herniated Disc](#) 椎間盤突出
- [Laminectomy](#) 腰椎病椎板切除術
- [Meningioma](#) 腦膜瘤
- [Pituitary Adenoma](#) 垂體腺瘤
- [Sciatica](#) 坐骨神經痛
- [Spinal Stenosis](#) 椎管狹窄
- [Spondylolisthesis](#) 脊椎滑脫
- [Trigeminal Neuralgia](#) 三叉神經痛

## Education 教育經歷

- MD, Stanford University School of Medicine  
斯坦福大學醫學院，醫學博士
- PhD, Cornell University and Memorial Sloan-Kettering Institute Neurobiology  
康奈爾大學和斯隆 - 凱特林研究所，生物學博士
- Residency, Neurosurgery, Stanford University Hospital  
斯坦福大學醫院神經外科，住院醫師
- Internship, General Surgery, Stanford University Hospital  
斯坦福大學醫院普通外科，實習醫師

## Awards 獲獎

- 2011 年  
Craig H. Neilsen Foundation Award  
克雷格 H·尼爾森基金會獎
- 2010 - 2013 年  
Transcriptional regulation of the intrinsic axon growth capacity during development  
Whitehall Foundation  
生長過程中神經細胞的內在生長能力的轉錄調控  
白廳基金會
- 2010 年  
Dr. Harold and Golden Lamport Research Award  
哈羅德博士和戈登·藍珀特研究獎
- 2010 年  
Young Clinician Investigator Award for Young Faculty  
NREF (Neurosurgery Research and Education Foundation) of the AANS (American Association of Neurological Surgeons)  
青年醫師臨床研究者獎  
美國神經外科醫師協會 ( AANS ) 神經外科研究和教育基金會 ( NREF )
- 2007 年  
Congress of Neurological Surgeons Resident Award  
神經外科醫學會住院醫師獎
- 2006 年  
NRSA/NINDS Postdoctoral Fellowship  
NRSA/ NINDS 博士後獎學金

- 2000 年  
Baxter Foundation Grant  
巴克斯特基金會研究基金

- 1996 年  
Julian R. Rachele Prize  
朱利安·瑞秋獎

- 1996 年  
Frank Lappin Horsfall Jr. Fellowship  
小弗蘭克·拉平·豪斯法爾獎學金

## Biography 簡介

Dr. Zou focuses her clinical practice in minimally-invasive and complex spine, brain and spine tumors and general neurosurgery. Her laboratory studies the molecular mechanisms of axonal growth and neurogenesis. Her research will support the development of molecular treatments for neuronal and axonal regeneration.

鄒醫師專長神經細胞微創以及複雜的脊柱、大腦、脊柱腫瘤和普通神經外科的臨床實踐。她的實驗室研究神經細胞生長和神經修復的分子機制。她的研究將支持神經元和軸突再生分子療法的發展。

Please visit Dr. Hongyan Zou's [Laboratory of Axon Growth and Neuronal Regeneration](#) for more information.

請瀏覽鄒紅雁醫師的 [神經生長和再生實驗室](#) 網站，以了解更多的資訊。

## Research 研究

Specific Research Interests: 具體的研究方向：

-Molecular mechanisms of axonal growth; 神經細胞軸突生長的分子機制;

-Transcription factors regulating axonal regeneration; 調節神經元再生的轉錄因子;

-Neural stem cell proliferation, differentiation and implication in CNS tumorigenesis. 中樞神經系統神經幹細胞增殖、分化及其在腦腫瘤病變的含義。

Our lab is interested in understanding how neurons are born, how they extend axons, and how they regenerate or fail to regenerate after injury. Brain and spinal cord injuries account for billions of dollars each year in medical costs. Understanding classic and identifying novel signaling pathways that promote neurogenesis and axonogenesis will provide new molecular targets towards effective CNS regeneration. Similar mechanisms that regulate the neural stem cell (NSC) niche also regulate tumor stem cells (TSCs). Developing strategies to shrink the TSC pool by inhibiting proliferation, inducing apoptosis or promoting differentiation will have great impact on treating primary brain tumor, which is one of the leading causes of death in children and young adults.

我們的實驗室意圖研究有關神經元是如何產生的，它們如何延長軸突，以及它們如何在損傷後再生或未能再生。大腦和脊髓損傷每年花費數十億美元的醫療費用。因此了解其機理，並確定促進

神經元再生和軸突生長的新的信號通路，將為實現有效的中樞神經系統再生提供新的分子目標。類似的神經幹細胞 ( NSC ) 的機制也能調節腫瘤幹細胞 ( TSCS ) 。原發性腦腫瘤是造成兒童和青年人死亡的主要原因之一，透過抑制增殖發展使腫瘤幹細胞池收縮的醫療手段、誘導細胞凋亡或促進分化將對治療原發性腦腫瘤有很大的影響。

### **Publications 出版物**

Zou H, Ho C, Wong K, Tessier-Lavigne M. Axotomy-induced Smad1 Activation Promotes Axonal Growth in Adult Sensory Neurons. *Journal of Neuroscience* 2009; 29(22): 7116-7123.

Varley JE, McPherson CE, Zou H, Niswander L, Maxwell GD. Expression of a constitutively active type I BMP receptor using a retroviral vector promotes the development of adrenergic cells in neural crest cultures. *Developmental Biology* 1998 Apr 1; 196(1): 107-118.

Zou H, Wieser R, Massague J, Niswander L. Distinct roles of type I bone morphogenetic protein receptors in the formation and differentiation of cartilage. *Genes & Development* 1997 Sep 1; 11(17): 2191-2203.

Zou H, Choe KM, Lu Y, Massague J, Niswander L. BMP signaling and vertebrate limb development. *Cold Spring Harbor Symposia on Quantitative Biology* 1997; 62: 269-272.

Zou H, Niswander L. Requirement for BMP signaling in interdigital apoptosis and scale formation. *Science* 1996 May 3; 272: 738-741.

Parikh P, Hao Y, Hosseinkhani M, Patil SB, Huntley GW, Tessier-Lavigne M, Zou H. PNAS Plus: Regeneration of axons in injured spinal cord by activation of bone morphogenetic protein/Smad1 signaling pathway in adult neurons. *Proceedings of the National Academy of Sciences of the United States of America* 2011 Apr;.

### **Industry Relationships 行業關係**

Physicians and scientists on the faculty of Mount Sinai School of Medicine often interact with pharmaceutical, device and biotechnology companies to improve patient care, develop new therapies and achieve scientific breakthroughs. In order to promote an ethical and transparent environment for conducting research, providing clinical care and teaching, Mount Sinai requires that salaried faculty inform the School of their relationships with such companies.

西奈山醫學院的醫師和科學家經常與製藥、設備和生物技術公司進行交流以改善病患護理，開發新的療法並實現科學上的突破。為了在遵守職業道德和透明的環境下進行研究、提供臨床護理和教學，西奈山醫學院要求受薪教師通知學校其與此類公司之間的關係。

Dr. Zou did not report having any of the following types of financial relationships with industry during 2010 and/or 2011: consulting, scientific advisory board, industry-sponsored lectures, service on Board of Directors, participation on industry-sponsored committees, equity ownership valued at greater than 5% of a publicly traded company or any value in a privately held company. Please note that this information may differ from information posted on corporate sites due to timing or classification differences.

於 2010 年和/或 2011 年期間，鄒醫師未報告與下列任何類型的行業有財務關係：諮詢、科技諮詢委員會、行業贊助的講座、服務於董事會，參與行業贊助委員會，擁有多於 5% 的上市公司股權價值、或在一家私人控股公司持有任何股權價值。請注意，由於時間或分級方面的差異，此資訊可能不同於企業網站所公佈的資訊。

Mount Sinai's faculty policies relating to faculty collaboration with industry are posted on our website at <http://www.mssm.edu/about-us/services-and-resources/faculty-resources/handbooks-and-policies/faculty-handbook>. Patients may wish to ask their physician about the activities they perform for companies.

有關西奈山醫院職員與產業界合作的政策發佈在我們的網站上：<http://www.mssm.edu/about-us/services-and-resources/faculty-resources/handbooks-and-policies/faculty-handbook>。病患可向自己的醫師詢問其為公司從事的活動。

#### **Faculty Practice Associates 西奈山醫科大學附屬診所**

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- Monday 1:30pm - 5:00pm 星期一下午 1 點半至下午 5 點

#### **Languages 語言:**

- English 英語
- Chinese (Mandarin) 中文 ( 普通話 )

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- Saturday 9:00am - 1:00pm 星期六上午 9 點至下午 1 點

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