

Curriculum Vitae

Jed A. Hartings, Ph.D.



Work: Department of Neurosurgery
University of Cincinnati
260 Stetson St. Suite 2200
Cincinnati, OH 45219

Contact: Email: jed.hartings@uc.edu
Office: (513) 558-3567

Education	Ph.D. Neuroscience (Advisor: Daniel J. Simons, PhD) University of Pittsburgh School of Medicine Pittsburgh, PA	April 2000
	B.S. Biological Sciences, <i>Magna cum Laude</i> University of Notre Dame Notre Dame, IN	May 1995
Current Position	Research Assistant Professor Department of Neurosurgery University of Cincinnati, Cincinnati, OH	2008-present
	Director of Clinical Monitoring Mayfield Clinic, Cincinnati, OH	2008-present
Past Positions	Chief, Neurophysiology Laboratory	2004-08
	Principal Investigator (Dept. Chief: Frank C. Tortella, PhD) Division of Psychiatry and Neuroscience Walter Reed Army Institute of Research Silver Spring, MD	2000-08
	Major, Medical Service Corps, U.S. Army	2006-08
	Captain, Medical Service Corps, U.S. Army	2000-06
Professional Societies	Adjunct Assistant Professor Department of Anatomy and Neurobiology University of Maryland, Baltimore	2001-08
	• International Society for Cerebral Blood Flow and Metabolism	2008-present
	• National Neurotrauma Society	2008-present

Jed A. Hartings, Ph.D.

	<ul style="list-style-type: none"> • Neurocritical Care Society • Society for Neuroscience 	1999-2007
<p style="text-align: center;">Peer-Reviewed Journal Publications</p>	<ol style="list-style-type: none"> 1. Drenckhahn C, Winkler M, Major S, Sheel M, Kang E-J, Grozea C, Hartings JA, Woitzik J, Dreier JP. Correlates of spreading depolarization in human scalp electroencephalography. <i>Brain</i>, in press. 2. Hartings JA, Bullock MR, Okonkwo DO, Murray L, Murray GD, Fabricius M, Maas AIR, Woitzik J, Sakowitz O, Mathern B, Roozenbeek B, Lingsma H, Dreier JP, Puccio A, Shutter LA, Pahl C, Strong AJ (2011) Spreading depolarizations and outcome after traumatic brain injury: a prospective, observational study. <i>The Lancet Neurology</i> 10(12):1058-1064. 3. Li C, Wu P-M, Wu Z, Ahn CH, Hartings JA, Narayan RK. Smart catheter flow sensor for continuous regional cerebral blood flow monitoring. <i>Applied Physics Letters</i>, in press. 4. Dreier JP, Major S, Ebner A, Pannek H-W, Woitzik J, Sheel M, Wiesenthal D, Martus P, Winkler M, Hartings JA, Fabricius M, Pape H-C, Speckmann E-J, Gorgi A. Spreading convulsions, spreading depolarization, and epileptogenesis in human cerebral cortex. <i>Brain</i>, 2011 Nov 26 [Epub ahead of print] 5. Li C, Wu P-M, Wu Z, Ahn CH, LeDoux D, Shutter LA, Hartings JA, Narayan RK. Brain temperature measurement: A study of in vitro accuracy and stability of smart catheter temperature sensors. <i>Biomedical Microdevices</i>, 2011 Sept 28 [Epub ahead of print] 6. Fioravanti B, Kasasbeh A, Edelmayr R, Skinner DP Jr, Hartings JA, Burklund RD, De Felice M, French ED, Dussor GO, Dodick DW, Porreca F, Vanderah TW (2011) Evaluation of cutaneous allodynia following induction of cortical spreading depression in freely moving rats. <i>Cephalalgia</i> 31(10):1090-100. 7. Andaluz N, Zuccarello M, Dreier JP, Hartings JA (2011) The role of cortical spreading depolarizations in delayed cerebral ischemia after aneurysmal subarachnoid hemorrhage. <i>Jornal Brasileiro de Neurocirurgia</i> 22(1):45-53. 8. Hartings JA, Watanabe T, Bullock MR, Okonkwo DO, Fabricius M, Woitzik J, Dreier JP, Puccio A, Shutter LA, Pahl C, Strong AJ (2011) Spreading depolarizations have prolonged direct current shifts and are associated with poor outcome in traumatic brain injury. <i>Brain</i> 134:1529-40. 9. Lauritzen M, Dreier JP, Fabricius M, Hartings JA, Graf R, Strong AJ (2011) Clinical relevance of cortical spreading depression in neurological disorders: migraine, malignant stroke, subarachnoid and intracranial hemorrhage, and traumatic brain injury. <i>Journal of Cerebral Blood Flow and Metabolism</i> 31(1):17-35. 10. Lu XM, Hartings JA, Si Y, Balbir A, Cao Y, Tortella FC (2011) Electroconvulsive pathology in a rat model of penetrating ballistic-like brain injury. <i>Journal of Neurotrauma</i> 28(1):71-83. 11. Oliveira-Ferreira A, Milakara D, Alam M, Jorks D, Major S, Hartings JA, Lückl J, Martus P, Graf R, Dohmen C, Bohner G, Woitzik J, Dreier JP (2010) Experimental and preliminary clinical evidence of an ischemic zone with prolonged negative DC shifts surrounded by a normally perfused tissue belt with persistent electrocorticographic depression. <i>Journal of Cerebral Blood Flow and Metabolism</i>. 30(8):1504-1519. 12. Eriksen N, Rostrup E, Andersen K, Lauritzen MJ, Fabricius M, Larsen VA, Dreier JP, Strong AJ, Hartings JA, Pakkenberg B (2010) Application of stereological estimates in patients with severe head injuries using CT and MR scanning images. <i>British Journal of Radiology</i>. 83(988):307-317. 13. Hartings JA, Strong AJ, Fabricius M, Manning A, Bhatia R, Dreier JP, Mazzeo AT, 	

Jed A. Hartings, Ph.D.

- Tortella FC, Bullock MR (2009) Spreading depolarizations and late secondary insults after traumatic brain injury. *Journal of Neurotrauma*. 26(11):1857-1866.
14. Lu XM, Gryder D, Si Y, Williams A, **Hartings JA**, Tortella FC (2009) NNZ-2566, a glypromate analog, attenuates brain ischemia induced non-convulsive seizures in rats. *Journal of Cerebral Blood Flow and Metabolism*. 29(12):1924-1932.
 15. **Hartings JA**, Watanabe T, Dreier JP, Major S, Fabricius M (2009) Recovery of slow potentials in AC-coupled electrocorticography by digital inverse filtering: application to spreading depolarizations in rat and human cerebral cortex. *Journal of Neurophysiology*. 102(4):2563-2575.
 16. Dreier JP, Major S, Manning A, Woitzik J, Drenckhahn C, Steinbrink J, Tolia C, Oliveira-Ferreira AI, Fabricius M, **Hartings JA**, Vajkoczy P, Lauritzen M, Dirnagl U, Bohner G, Strong AJ (2009) Cortical spreading ischaemia is a novel process involved in ischaemic damage in patients with aneurysmal subarachnoid haemorrhage. *Brain*. 132(Pt 7):1866-1881.
 17. Fabricius M, Fuhr S, Willumsen L, Dreier JP, Bhatia R, Boutelle MG, **Hartings JA**, Bullock MR, Strong AJ, Lauritzen M (2008) Co-occurrence of cortical spreading depression and seizure activity in acutely injured human cerebral cortex. *Clinical Neurophysiology*. 119(9):1973-1984.
 18. **Hartings JA**, Gugliotta M, Gilman C, Strong AJ, Tortella FC, Bullock MR (2008) Repetitive spreading depolarizations in a case of severe brain trauma. *Neurological Research*. 30(8):876-882.
 19. Wei G, **Hartings JA**, Yang X, Tortella FC, Lu XC (2008) Extraluminal cooling of bilateral common carotid arteries as a method to achieve selective brain cooling for neuroprotection. *Journal of Neurotrauma*. 25(5):549-559.
 20. Williams AJ, Tortella FC, Gryder D, **Hartings JA** (2008) Topiramate reduces non-convulsive seizures after focal brain ischemia in the rat. *Neuroscience Letters*. 430(1):7-12.
 21. Strong AJ, **Hartings JA**, Dreier JP (2007) Cortical spreading depression: an adverse but treatable factor in intensive care? *Current Opinion in Critical Care*. 13(2):126-133.
 22. Dreier JP, Woitzik J, Fabricius M, Bhatia R, Major S, Drenckhahn C, Lehmann T-N, Sarrafzadeh A, Willumsen L, **Hartings JA**, Sakowitz O, Seemann JH, Thieme A, Lauritzen M, Strong AJ (2006) Delayed ischaemic neurological deficits after subarachnoid hemorrhage are associated with clusters of spreading depolarisations. *Brain*. 129(Pt 12):3224-3237.
 23. Williams AJ, **Hartings JA**, Lu X-CM, Rolli ML, Tortella FC (2006) Penetrating ballistic-like brain injury in the rat: differential time courses of hemorrhage, cell death, inflammation, and remote degeneration. *Journal of Neurotrauma*. 23(12):1828-1846.
 24. Fraser G, **Hartings JA**, Simons DJ (2006) Adaptation of trigeminal ganglion cells to periodic whisker deflections. *Somatosensory and Motor Research*. 23(3/4):111-118.
 25. Williams AJ, Bautista C, Lu XM, Tortella FC, **Hartings JA** (2006) Evaluation of gabapentin and ethosuximide for treatment of acute non-convulsive seizures (NCS) following ischemic brain injury in rats. *Journal of Pharmacology and Experimental Therapeutics*. 318(3):947-955.
 26. **Hartings JA**, Tortella FC, Rolli ML (2006) AC electrocorticographic correlates of peri-infarct depolarizations following transient focal ischemia and reperfusion. *Journal of Cerebral Blood Flow and Metabolism*. 26(5):696-707.
 27. Lu X-C, Williams AJ, Wagstaff JD, Tortella FC, **Hartings JA** (2005) Effects of delayed intrathecal infusion of an NMDA receptor antagonist on ischemic injury and peri-

Jed A. Hartings, Ph.D.

- infarct depolarizations. *Brain Research*. 1056(2):200-208.
28. Williams AJ, **Hartings JA**, Lu XC, Rolli ML, Dave JR, Tortella FC (2005) Characterization of a new rat model of penetrating ballistic brain injury. *Journal of Neurotrauma*. 22(2):313-331.
 29. Yao C, Williams AJ, **Hartings JA**, Lu XC, Tortella FC, Dave J (2005) Down-regulation of the sodium channel Nav1.1 α -subunit following focal ischemic brain injury in rats: in situ hybridization and immunohistochemical analysis. *Life Sciences*. 77(10):1116-1129.
 30. Lu XC, Williams AJ, Yao C, Berti R, **Hartings JA**, Whipple R, Vahey MT, Polavarapu RG, Woller KL, Tortella FC, Dave JR (2004) Microarray analysis of acute and delayed gene expression profile in rats after focal ischemic brain injury and reperfusion. *Journal of Neuroscience Research*. 77(6):843-857.
 31. Khatri V, **Hartings JA**, Simons DJ (2004) Adaptation in thalamic barreloid and cortical barrel neurons to periodic whisker deflections varying in frequency and velocity. *Journal of Neurophysiology*. 92(6):3244-3254.
 32. Williams AJ, Tortella FC, Lu XM, Moreton E, **Hartings JA** (2004) Anti-epileptic drug treatment of non-convulsive seizures induced by focal brain ischemia. *Journal of Pharmacology and Experimental Therapeutics*. 311(1):1-8.
 33. **Hartings JA**, Rolli ML, Lu X-C M, Tortella FC (2003) Delayed secondary phase of peri-infarct depolarizations following focal cerebral ischemia: relation to infarct growth and neuroprotection. *Journal of Neuroscience*. 23(37):11602-11610.
 34. **Hartings JA**, Temereanca S, Simons DJ (2003) Processing of periodic whisker deflections by neurons in the ventroposterior medial and thalamic reticular nuclei. *Journal of Neurophysiology*. 90(5):3087-3094.
 35. Williams AJ, Lu X-C M, **Hartings JA**, Tortella FC (2003) Neuroprotection assessment by topographic electroencephalographic analysis: effects of a sodium channel blocker to reduce polymorphic delta activity following ischemic brain injury in rats. *Fundamental and Clinical Pharmacology*. 17(5):581-593.
 36. **Hartings JA**, Temereanca S, Simons DJ (2003) State-dependent processing of sensory stimuli by thalamic reticular neurons. *Journal of Neuroscience*. 23(12): 5264-5271.
 37. Pinto DJ, **Hartings JA**, Brumberg JC, Simons DJ (2003) Cortical damping: analysis of thalamocortical response transformations in rodent barrel cortex. *Cerebral Cortex*. 13(1):33-44.
 38. **Hartings JA**, Williams AJ, Tortella FC (2003) Occurrence of non-convulsive seizures, periodic epileptiform discharges, and intermittent rhythmic delta activity in rat focal ischemia. *Experimental Neurology*. 179(2):139-149.
 39. Kelly MK, Carvell GE, **Hartings JA**, Simons DJ (2001) Axonal conduction properties of antidromically identified neurons in rat barrel cortex. *Somatosensory and Motor Research*. 18(3):202-210.
 40. **Hartings JA**, Simons DJ (2000) Inhibition suppresses transmission of tonic vibrissa-evoked activity in the rat ventrobasal thalamus. *Journal of Neuroscience*. 20(19):RC100(1-5).
 41. **Hartings JA**, Temereanca S, Simons DJ (2000) High responsiveness and direction sensitivity of neurons in the rat thalamic reticular nucleus to vibrissa deflections. *Journal of Neurophysiology*. 83(5):2791-2801.
 42. **Hartings JA**, Simons DJ (1998) Thalamic relay of afferent responses to 1-12 Hz whisker stimulation in the rat. *Journal of Neurophysiology*. 80(2):1016-1019.