

Curriculum Vitae of Weihong Pan, MD, PhD, Sleep Neurologist

- Owner and Manager, Biopotentials, L.L.C, a sleep medicine service, research, and innovation company
- Medical Director, Biopotentials Sleep Center, Baton Rouge, LA 70809
- Part-time research as Professor of Neuroscience, with Prof. Abba J. Kastin, MD, Blood-Brain Barrier Group, Louisiana State Univ (LSU) – Pennington Biomedical Research Center, Baton Rouge, LA 70808

Cell 504-669-4813; e-mail: sleep@[biopotentials.org](mailto:sleep@biopotentials.org); biopotential.org; labs.pbrc.edu/bloodbrainbarrier

Personal summary:

Becoming a full professor in Neuroscience before age 40, I have two parallel career paths:

(a) Basic neuroscience research on how the blood-brain barrier (BBB) mediates communications between the central nervous system and the rest of the body. The work so far has led to 150 full papers, 15 book chapters, more than a dozen successful trainees who stayed in research with their own labs, and community service for many scientific organizations and grant agencies;

(b) Serve as a sleep specialist and neurologist in part-time private practice. I have won teaching and patient satisfaction awards, and cared for thousands of patients.

Since Dec. 2014 I resigned from part-time practice as an employed sleep physician and started Biopotentials Sleep Center. There are three aspects of Biopotentials[®]: (1) Provide comprehensive management of sleep disorders; (2) Use biopotentials to assess risks and guide the care of neurological functions, particularly gait and memory; (3) Collaborate with basic scientists on research and development in the field of sleep brain health.

CLINICAL EXPERTISE:

1. Treating all aspects of sleep disorders
2. All levels of portable monitoring as well as in-lab sleep studies
3. EEG, EMG, evoked potentials, in outpatient adult neurology practice
4. Telemedicine for sleep disorders
5. Research publication on sleep, obesity, and neurodegeneration

MAJOR ACADEMIC ACCOMPLISHMENTS:

1. Spent more than 15 years in neuroscience research. Projects included characterizing BBB transport of cytokines, neurotrophic factors, and some adipokines, in both cell biology and pharmacokinetic studies. Served as a consultant for drug delivery into the CNS on many occasions
2. As a basic neuroscientist, extended the field of BBB signal amplification that is implicated in neuroinflammation as well as neuroendocrine regulation
3. Wrote 6 funded NIH R01's in the past decade (since 2002) and published more than 150 full papers and book chapters (1996-2014), with an H-index of 34 and more than 4000 citations in the scientific literature
4. As a board-certified sleep neurologist, set up and secured full AASM accreditation for a new 2-bed sleep lab and out-of-center sleep testing (OCST) from ground zero in 2012
5. Mentoring. Some former trainees are now independent researchers (assistant - full professors) in cell biology or neuroscience
6. Actively participate in research community service as a reviewer for grant organizations and journals. Completed tenure for two regular NIH study sections. Serve as an associate editor for 2 journals, and an editorial board member of more than 10 journals. Helped to organize international meetings and deliver talks

BOARD CERTIFICATION:

American Board of Psychiatry and Neurology (ABPN)

Initial certification: Jan 2002 – Dec 2012

Maintenance of certification: March 2012 – present

American Board of Sleep Medicine (ABSM) via ABPN subspecialty board

Nov 2011 - present

MEDICAL LICENSE:

State of Louisiana, LA13456R, February 2000 – present

DEA LICENSES:

Federal and State of Louisiana, both valid since 2000

EDUCATION:

7/1984 - 7/1990 M.D., Shanghai Medical University School of Medicine (now Fudan University Shanghai Medical College), Shanghai, China

1/1993 - 7/1997 Ph.D. in Neuroscience, Tulane University Graduate School, New Orleans, Louisiana, USA

CLINICAL TRAINING:

7/1990 - 1/1993 Residency in Internal Medicine, Zhong Shan Hospital, Shanghai Medical University (Fudan University Shanghai Medical College), Shanghai, China

7/1996 - 6/2000 Residency in Neurology, Department of Psychiatry & Neurology, Tulane University Medical Center, New Orleans, LA

8/2009 - 1/2010 Fellowship in Sleep Medicine, Division of Pulmonary, Critical Care & Sleep, Departments of Medicine and Neurology, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA

CLINICAL PRACTICE:

7/2000 - 4/2002 Staff Neurologist (part-time), The Ochsner Clinic Foundation, New Orleans and the Northshore (Covington and Slidell), LA

10/2007 – 6/2009 Staff Neurologist (part-time), Ochsner Health Center, Baton Rouge, LA

7/2011 – 10/2014 Sleep Physician (part-time), Sleep Department, Ochsner Health Center, Baton Rouge, LA

12/2014 – present Medical Director, BioPotentials Sleep Center, Baton Rouge, LA

RESEARCH POSITIONS:

7/2000 - 6/2003 Assistant Professor, the Neuroscience Interdisciplinary Program and Department of Medicine, Tulane University School of Medicine, New Orleans, LA

7/2003 - 3/2004 Associate Professor, the Neuroscience Interdisciplinary Program and Department of Medicine, Tulane University School of Medicine, New Orleans, LA

4/2004 – 6/2007 Associate Professor, Blood-Brain Barrier Group, Pennington Biomedical Research Center (PBRC), Louisiana State University System, Baton Rouge, LA

7/2007 – present Professor, Blood-Brain Barrier Group, PBRC, Baton Rouge, LA

FULL PAPERS: (PUBMED SEARCH: “PAN W, KASTIN AJ” AND “PAN W, HALBERG F”)

1. Pan W, Banks WA, Kennedy MK, Gutierrez EG, Kastin AJ. Differential permeability of the BBB in acute EAE: enhanced transport of TNF- α . *American Journal of Physiology*, 271: E636 - E642, 1996

2. **Pan W**, Zadina JE, Harlan HE, Weber JT, Banks WA, Kastin, AJ. Tumor necrosis factor alpha: a neuromodulator in the CNS. *Neuroscience & Biobehavioral Reviews*, 21: 603 - 613, 1997
3. **Pan W**, Banks WA, Kastin AJ. Permeability of the blood-brain and blood-spinal cord barriers to interferons. *Journal of Neuroimmunology*, 76: 105 - 111, 1997
4. **Pan W**, Banks WA, Kastin AJ. Permeability of the BCB to TNF and ebiratide in acute spinal cord injury. *Experimental Neurology*, 146: 367 - 373, 1997
5. **Pan W**, Banks WA, Kastin AJ. Permeability of the BBB to neurotrophins. *Brain Research*, 788: 87 - 94, 1998
6. **Pan W**, Banks WA, Kastin AJ. Transport of BDNF across the blood-brain barrier. *Neuropharmacology*, 37: 1553 - 561, 1998
7. **Pan W**, Kastin AJ. Penetration of neurotrophins and cytokines across the blood-brain/blood-spinal cord barrier. *Advanced Drug Delivery Reviews*, 36: 291 - 298, 1999
8. **Pan W**, Kastin AJ, Maness LM, Brennan JM. Saturable entry of ciliary neurotrophic factor into brain. *Neuroscience Letters*, 263: 69 - 71, 1999
9. **Pan W**, Kastin AJ, Bell RL, Olson RD. Upregulation of TNF transport across the BBB after acute compressive spinal cord injury. *Journal of Neuroscience*, 19: 3649 - 3655, 1999
10. Kastin AJ, Banks WA, **Pan W**. Peptides and cytokines cross the blood-brain barrier. In: *Elsevier's Encyclopedia of Neuroscience*, 2nd edition. G Adelman and BH Smith ed., Eslevier Science B.V. 1607 - 1608, 1999
11. Banks, WA, Kastin AJ, **Pan W**. Uptake and degradation of blood-borne insulin by the olfactory bulb. *Peptides*, 20: 373 - 378, 1999
12. **Pan W**, Banks WA, Zadina, JE, Kastin AJ. CNS effects of neuropeptides - a chronological review. *Peptides*, 20: 1127 - 1138, 1999
13. **Pan W**, Kastin AJ. Entry of EGF into brain is rapid and saturable. *Peptides*, 20: 1091 - 1098, 1999
14. **Pan W**, Vallance K, Kastin AJ. TGF α and the blood-brain barrier: accumulation in cerebral vasculature. *Experimental Neurology*, 160: 454 - 459, 1999
15. Kastin AJ, **Pan W**, Maness LM, Banks WA. Peptides crossing the blood-brain barrier: some unusual observations. *Brain Research*, 848: 96 - 100, 1999
16. Kastin AJ, **Pan W**, Maness LA, Koletsky RJ, Ernberger P. Decreased transport of leptin across the blood-brain barrier in rats lacking the short form of the leptin receptor. *Peptides*, 20: 1449 - 1453, 1999
17. **Pan W**, Kastin AJ, Brennan JM. Saturable entry of leukemia inhibitory factor from blood to the CNS. *Journal of Neuroimmunology*, 106: 172 - 180, 2000
18. **Pan W**, Kastin AJ. Interactions of IGF1 with the blood-brain barrier in vivo and in-situ. *Neuroendocrinology*, 72: 171 - 178, 2000
19. Somogyvari-Vigh A, **Pan W**, Reglodi D, Kastin AJ, Arimura A. Effect of middle cerebral artery occlusion on the passage of pituitary adenylate cyclase activating polypeptide across the blood-brain barrier in the rat. *Regulatory Peptides*, 91: 89 - 95, 2000
20. Kastin AJ, **Pan W**. Dynamic regulation of leptin entry into brain by the blood-brain barrier. *Regulatory Peptides*, 92: 37 - 43, 2000
21. Kastin AJ, Akerstrom V, **Pan W**. Activation of urocortin transport into brain by leptin. *Peptides*, 21: 1811 - 1817, 2000
22. Kastin AJ, Akerstrom V, Hackler L, **Pan W**. Adrenomedullin and the blood-brain barrier. *Hormone and Metabolism Research*, 33: 19 - 25, 2001
23. **Pan W**, Kastin AJ. Changing the chemokine gradient: CINC1 crosses the blood-brain barrier. *Journal of Neuroimmunology*, 115: 64 - 70, 2001
24. **Pan W**, Kastin AJ. Diurnal variation of leptin entry from blood to brain is related to partial saturation of the transport system. *Life Sciences*, 68: 2705 - 2714, 2001

25. **Pan W**, Kastin AJ, Gera L, Stewart JM. Bradykinin antagonist decreases early disruption of the blood-brain barrier after spinal cord injury. *Neuroscience Letters*, 307: 25 - 28, 2001
26. **Pan W**, Kastin AJ. Increase in TNF α transport after SCI is specific for time, region, and type of lesion. *Experimental Neurology*, 170: 357 - 363, 2001
27. **Pan W**, Kastin AJ. Upregulation of the transport system for TNF α at the blood-brain barrier. *Archive of Physiology and Biochemistry*, 109: 350 - 353, 2001
28. McLay RN, Kastin AJ, **Pan W**. Effects of peptides on animal and human subjects: a review of studies published in the first twenty years of the journal *Peptides*. *Peptides*, 22: 2181 - 2256, 2001
29. Kastin AJ, Akerstrom V, **Pan W**. Validity of multiple-time regression analysis in measurement of tritiated and iodinated leptin crossing the blood-brain barrier: meaningful controls. *Peptides*, 22: 2127 - 2136, 2001
30. **Pan W**, Cornelissen-Guillaume GG, Halberg F, Kastin AJ. Circadian rhythm of TNF α uptake in the spinal cord. *Journal of Applied Physiology*, 92: 1357 - 1362, 2002
31. **Pan W**, Kastin AJ. TNF α transport across the blood-brain barrier is abolished in receptor knockout mice. *Experimental Neurology*, 174: 193 - 200, 2002
32. Kastin AJ, Akerstrom V, **Pan W**. Interactions of glucagon-like peptide-1 (GLP-1) with the blood-brain barrier. *Journal of Molecular Neuroscience*, 18: 7 - 14, 2002
33. **Pan W**, Solomon B, Maness LM, Kastin AJ. Antibodies to β -amyloid decrease the blood-to-brain transfer of β -amyloid peptide. *Experimental Biology and Medicine*, 227: 609 - 615, 2002
34. Kastin AJ, **Pan W**, Akerstrom V, Hackler L, Wang C, Kotz CM. Novel peptide-peptide cooperation may transform feeding behavior. *Peptides*, 23: 2189 - 2196, 2002
35. **Pan W**, Zhang L, Liao J, Csernus B, Kastin AJ. Selective increase in TNF α permeation across the blood-spinal cord barrier after SCI. *J. Neuroimmunology*, 134: 111 - 117, 2003
36. **Pan W**, Kastin AJ. Interactions of cytokines with the blood-brain barrier: implications for feeding. *Current Pharmaceutical Design*, 9: 827 - 831, 2003
37. Kastin AJ, **Pan W**. Feeding peptides interact in several ways with the blood-brain barrier. *Current Pharmaceutical Design*, 9: 789- 794, 2003
38. **Pan W**, Kastin AJ, Rigai T, McLay RM, Pick CG. Increased hippocampal uptake of TNF α and behavioral changes in mice after mild brain trauma. *Experimental Brain Research*, 149: 195 - 199, 2003
39. Kastin AJ, Akerstrom V, **Pan W**. Glial cell line-derived neurotrophic factor does not enter normal mouse brain. *Neuroscience Letters*, 340: 239 - 241, 2003
40. Kastin AJ, Akerstrom V, **Pan W**. Interleukin-10 as a CNS therapeutic: the obstacle of blood-brain/spinal cord barrier. *Brain Research*, 114: 168 - 171, 2003
41. Kastin AJ, Akerstrom V, **Pan W**. Circulating TGF- β 1 does not cross the intact blood-brain barrier. *Journal of Molecular Neuroscience*, 21: 43 - 48, 2003
42. Kastin AJ, Akerstrom V, Hackler L, **Pan W**. Different mechanisms influencing permeation of PDGF-AA and PDGF-BB across the blood-brain barrier. *Journal of Neurochemistry*, 87: 7 - 12, 2003
43. **Pan W**, Csernus B, Kastin AJ. Upregulation of p55 and p75 receptors mediating TNF α transport across the injured blood-spinal cord barrier. *Journal of Molecular Neuroscience*, 21: 173 - 184, 2003
44. Kastin AJ, **Pan W**. Peptide transport across the blood-brain barrier. *Progress in Drug Research*, 61: 79 - 100, 2003
45. Somogyvari-Vigh A, Kastin AJ, Liao J, Zadina JE, Pan W. Endomorphins exit the brain by a saturable efflux system at the basolateral surface of cerebral endothelial cells. *Experimental Brain Research*, 156: 224 - 230, 2004

46. Quinton LJ, Nelson S, Zhang P, Boé DM, Happel KI, **Pan W**, Bagby GJ. Selective transport of cytokine-induced neutrophil chemoattractant from the lung to the blood facilitates pulmonary neutrophil recruitment. *American Journal of Physiology*, 286: L465 - L472, 2004
47. Kastin AJ, Akerstrom V, **Pan W**. Neuregulin-1- β 1 enters brain and spinal cord by receptor-mediated transport. *Journal of Neurochemistry*, 88: 965 - 970, 2004
48. **Pan W**, Kastin AJ. Polypeptide delivery across the blood-brain barrier. *Current Drug Targets - CNS and Neurological Disorders*, 3: 131 - 136, 2004
49. Pejovic V, Soskic V, **Pan W**, Kastin AJ. Brain proteome of mice lacking the receptors for tumor necrosis factor α . *Proteomics*, 4: 1461 - 1464, 2004
50. **Pan W**, Akerstrom V, Zhang J, Pejovic V, Kastin AJ. Modulation of feeding-related peptide/protein signals by the blood-brain barrier. *Journal of Neurochemistry*, 90: 455 - 461, 2004
51. **Pan W**, Kastin AJ. Why study transport of peptides and proteins at the neurovascular interface. *Brain Research Review*, 46: 32 - 43, 2004
52. Yu Y, Jawa A, **Pan W**, Kastin AJ. Effects of peptides, with emphasis on feeding, pain, and behavior. A 5-year (1999-2003) review of publications in Peptides. *Peptides*, 25: 2257 - 2289, 2004
53. **Pan W**, Kastin AJ, Zankel T, van Kerkhoff P, Terasaki T, Bu G. Efficient transfer of receptor-associated protein (RAP) across the blood-brain barrier. *Journal of Cell Science*, 117: 5071 - 5078, 2004
54. **Pan W**, Kastin AJ, Pick CG. The staircase test in mice after SCI. *GCNN Journal*, 1: 32 - 37, 2004
55. **Pan W**. Preface: Spinal cord injury and repair. *Current Pharmaceutical Design*, 11: 1209 & 1351, 2005
56. Ding Y, Kastin AJ, **Pan W**. Neural plasticity after spinal cord injury. *Current Pharmaceutical Design*, 11: 1441 - 1450, 2005
57. Xiang S, **Pan W**, Kastin AJ. Strategies to create a regenerating environment for the injured spinal cord. *Current Pharmaceutical Design*, 11: 1267 - 1277, 2005
58. Kastin AJ, **Pan W**. Targeting neurite growth inhibitors to induce CNS regeneration. *Current Pharmaceutical Design*, 11: 1247 - 1253, 2005
59. **Pan W**, Yu Y, Nyberg F, Couraud PO, Kastin AJ. Permeation of growth hormone across the blood-brain barrier. *Endocrinology*, 146: 4898-904, 2005
60. Jozsa R, Halberg F, Cornélissen G, Zeman M, Kazsaki J, Csernus V, Katinas GS, Wendt HW, Schwartzkopff O, Stebelova K, Dulkova K, Chibisov SM, Engebretson M, **Pan W**, Bubenik GA, Nagy G, Herold M, Hardeland R, Hüther G, Pöggeler B, Tarquini R, Perfetto F, Salti R, Olah A, Csokas N, Delmore P, Otsuka K, Bakken EE, Allen J, Amory-Mazaudin C. Chronomics, neuroendocrine feedsideways and the recording and consulting of nowcasts—forecasts of geomagnetics. *Biomedicine & Pharmacotherapy*, 59: S24 - S30.
61. Stebelova K, Zeman M, Cornélissen G, Bubenik G, Jozsa R, Hardeland R, Peoggeler B, Huether G, Olah A, Nagy G, Csernus V, Kasxaki J, **Pan W**, Otsuka K, Halberg F. Chronomics reveal and quantify circadian rhythmic melatonin in duodenum of rats. *Biomedicine & Pharmacotherapy*, 59: S208 - S211, 2005.
62. Jozsa R, Olah A, Cornélissen G, Csernus V, Otsuka K, Zeman M, Nagy G, Kazsaki J, Stebelova K, **Pan W**, Herold M, Halberg F. Circadian and extracircadian exploration during daytime hours of circulating corticosterone and other endocrine chronomes. *Biomedicine & Pharmacotherapy*, 59: S109 - S116, 2005.
63. Zeman M, Józsa R, Cornélissen G, Stebelova K, Bubenik G, Olah A, Peoggeler B, Huether G, Hardeland R, Nagy G, Czernus V, **Pan W**, Otsuka K, Halberg F. Chronomics: circadian lead of extrapineal vs. pineal melatonin rhythms with an infradian hypothalamic exploration. *Biomedicine & Pharmacotherapy*, 59: S212 - S218, 2005.
64. Poeggeler B, Cornélissen G, Huether G, Hardeland R, Józsa R, Zeman M, Balazova K, Oláh A, Bubenik G, **Pan W**, Otsuka K, Schwartzkopff O, Halberg F. Chronomics affirm extending scope of

- lead in phase of duodenal vs pineal circadian melatonin rhythms. *Biomedicine & Pharmacotherapy*, 59: S219 – S223, 2005.
65. **Pan W**, Kastin AJ, Yu Y, Cain C, Fairburn T, Stütz AM, Morrison C, Argyropoulos G. Selective tissue uptake of AgRP₈₃₋₁₃₁ and its modulation by fasting. *Endocrinology*, 146:5533-5539, 2005.
 66. **Pan W**, Ding Y, Yu Y, Ohtaki H, Nakamachi T, Kastin AJ. Stroke upregulates TNF α transport across the blood-brain barrier. *Experimental Neurology*, 198: 222-233, 2006
 67. **Pan W**, Tu H, Kastin AJ. Differential BBB interactions of three ingestive peptides: obestatin, ghrelin, and adiponectin. *Peptides*, 27: 911 – 916, 2006
 68. Kastin AJ, **Pan W**. Editorial: Intranasal leptin: blood-brain barrier bypass (BBBB) for obesity? *Endocrinology*, 147: 2086 – 2087, 2006
 69. **Pan W**, Cain C, Yu Y, Kastin AJ. Receptor-mediated transport of LIF across blood-spinal cord barrier is upregulated after spinal cord injury. *Journal of Neuroimmunology*, 174: 119-125, 2006
 70. Yu Y, Kastin AJ, **Pan W**. Reciprocal interactions of insulin and IGF-I in receptor-mediated transport across the BBB. *Endocrinology*, 147: 2611 – 2615, 2006
 71. **Pan W**, Yu Y, Yemane R, Cain C, Yu C, Kastin AJ. Permeation of hepatocyte growth factor across the blood-brain barrier. *Experimental Neurology*, 201: 99 – 104, 2006
 72. Yu C, Kastin AJ, Ding Y, **Pan W**. Gamma glutamyl transpeptidase is a dynamic indicator of endothelial response to stroke. *Experimental Neurology*, 203: 116 – 122, 2007
 73. Tu H, Kastin AJ, Bjorbaek C, **Pan W**. Urocortin trafficking in cerebral microvessel endothelial cells. *Journal of Molecular Neuroscience*, 31: 171 – 82, 2007
 74. **Pan W**, Kastin AJ. Mahogany, blood-brain barrier, and fat mass surge in A^{VY} mice. *International Journal of Obesity*, 31: 1030 - 1032, 2007
 75. Tu H, Kastin AJ, **Pan W**. CRH-R1 and CRH-R2 are both trafficking and signaling receptors for urocortin. *Molecular Endocrinology*, 21: 700 – 711, 2007
 76. **Pan W**, Kastin AJ. Adipokines and the blood-brain barrier. *Peptides*, 28: 1317 – 1330, 2007
 77. **Pan W**, Kastin AJ, Daniel J, Yu C, Baryshnikova LM, von Bartheld CS. TNF α trafficking in cerebral vascular endothelial cells. *Journal of Neuroimmunology*, 185: 47 - 56, 2007
 78. Tu H, **Pan W**, Feucht L, Kastin AJ. Convergent trafficking pattern of leptin after endocytosis mediated by ObRa-ObRd. *Journal of Cell Physiology*, 212: 215 - 222, 2007
 79. Yu C, Kastin AJ, **Pan W**. TNF reduces LIF endocytosis despite increasing NF κ B-mediated gp130 expression. *Journal of Cell Physiology*, 213: 161 – 166, 2007
 80. Yu C, Kastin AJ, Tu H, **Pan W**. Opposing effects of proteasomes and lysosomes on LIFR: modulation by TNF. *Journal of Molecular Neuroscience*, 32: 80 – 89, 2007.
 81. **Pan W**, Tu H, Yu C, Hsuchou H, Yang Y, Kastin AJ. Differential role of TNF receptors in cellular trafficking of intact TNF. *Cellular Physiology and Biochemistry*, 20: 559 – 568, 2007
 82. **Pan W**, Barron M, Hsuchou H, Tu H, Kastin AJ. Increased leptin permeation across the blood-brain barrier after chronic alcohol ingestion. *Neuropsychopharmacology*, 2007 May 9 E-pub, PMID 17487223
 83. **Pan W**, Kastin AJ. Tumor necrosis factor and stroke: role of the blood-brain barrier. *Progress in Neurobiology*, 83: 363 – 374, 2007
 84. Yu C, Kastin AJ, Tu H, Waters S, **Pan W**. TNF activates P-glycoprotein in cerebral microvascular endothelial cells. *Cellular Physiology and Biochemistry*, 20: 853 – 858, 2007
 85. **Pan W**, Hsuchou H, Kastin AJ. Nesfatin-1 crosses the blood-brain barrier without saturation. *Peptides*, 28: 2223-8, 2007
 86. **Pan W**, Tu H, Hsuchou H, Daniel J, Kastin AJ. Unexpected amplification of leptin-induced Stat3 signaling by urocortin: implications for obesity. *Journal of Molecular Neuroscience*, 33: 232-8, 2007
 87. Hsuchou H, **Pan W**, Kastin AJ. The fasting polypeptide FGF21 can enter brain from blood. *Peptides*, 28: 2382 – 2386, 2007

88. **Pan W**, Kastin AJ. From MIF-1 to endomorphin: The Tyr-MIF-1 family of peptides. *Peptides*, 28: 2411 – 2434, 2007
89. **Pan W**, Kastin AJ. Urocortin and the brain. *Progress in Neurobiology*, 84: 148 – 56, 2008
90. Tu H, Kastin AJ, Hsueh H, **Pan W**. Soluble receptor inhibits leptin transport. *Journal of Cell Physiology*, 214: 301-5, 2008
91. **Pan W**, Hsueh H, Tu H, Kastin AJ. Developmental changes of leptin receptors in cerebral microvessels: unexpected relation to leptin transport. *Endocrinology*, 149: 877-85, 2008
92. **Pan W**, Hsueh H, He Y, Sakharkar A, Cain C, Yu C, Kastin AJ. ObR and leptin transport in adult-onset obese mice. *Endocrinology*, 149: 2798-806, 2008
93. Kastin AJ, **Pan W**. Peptides and hormesis. *Critical Reviews in Toxicology*, 38: 1-3, 2008
94. Wang QP, Guan JL, **Pan W**, Kastin AJ, Shioda S. A diffusion barrier between the area postrema and nucleus tractus solitarius. *Neurochemical Research*, 33:2035-43, 2008
95. **Pan W**, Hsueh H, Yu C, Kastin AJ. Permeation of blood-borne IL15 across the blood-brain barrier and the effect of LPS. *Journal of Neurochemistry*, 106: 313-9, 2008
96. Gupta AK, Greenway FL, Cornelissen G, **Pan W**, Halberg F. Prediabetes is associated with abnormal circadian blood pressure variability. *Journal of Human Hypertension*, 22:627-33, 2008
97. **Pan W**, Yu C, Hsueh H, Zhang Y, Kastin AJ. Neuroinflammation facilitates LIF entry into brain: role of TNF. *American Journal of Physiology*, 294: C1436-42, 2008
98. Kastin AJ, **Pan W**. Blood-brain barrier and feeding: Regulatory roles of saturable transport systems for ingestive peptides. *Current Pharmaceutical Design*, 14: 1615-9, 2008
99. **Pan W**, Kastin AJ. Cytokine transport across the injured blood-spinal cord barrier. *Current Pharmaceutical Design*, 14: 1620-4, 2008
100. Yu C, Argyropoulos G, Zhang Y, Kastin AJ, Hsueh H, **Pan W**. Neuroinflammation activates Mdr1b efflux transport through NFκB: promoter analysis in BBB endothelia. *Cellular Physiology & Biochemistry*, 22: 756-66, 2008
101. **Pan W**, Kastin AJ. Commentaries on viewpoint: effect of altitude on leptin, does it go up or down? *Journal of Applied Physiology*, 105:1686-7, 2008
102. He Y, Kastin AJ, Hsueh H, **Pan W**. The Cdk5/p35 kinases modulate leptin-induced STAT3 signaling. *Journal of Molecular Neuroscience*, 39:49-58, 2009
103. Hsueh H, He Y, Kastin AJ, Tu H, Markadakis EN, Rogers RC, Fossier PB, **Pan W**. Obesity induces functional astrocytic leptin receptors in hypothalamus. *Brain*, 132:889-902, 2009
104. Khetarpal I, Kastin AJ, Mollah S, Yu C, Hsueh H, **Pan W**. Mass spectrometric quantification of MIF-1 in mouse brain by multiple reaction monitoring. *Peptides*, 30:1276-81, 2009.
105. Zhang Y, Wu X, Kastin AJ, Hsueh H, Rosenblum CI, **Pan W**. Melanocortin potentiates leptin-induced STAT3 signaling via MAPK pathway. *Journal of Neurochemistry*, 110:390-9, 2009
106. **Pan W**, Hsueh H, Wu X, Kastin AJ. Cessation of blood-to-brain influx of interleukin-15 during development of EAE. *Journal of Cerebral Blood Flow and Metabolism*, 29:1568-78, 2009
107. Hsueh H, **Pan W**, Barnes MJ, Kastin AJ. Leptin receptor mRNA in rat brain astrocytes. *Peptides*, 30:2275-80, 2009
108. **Pan W**, Yu C, Hsueh H, Khan RS, Kastin AJ. Cerebral microvascular IL15 is a novel mediator of TNF action. *Journal of Neurochemistry*, 111:819-27, 2009
109. Hsueh H, Kastin AJ, Wu X, Tu H, **Pan W**. CRHR1 in cerebral microvessels changes during development and influences urocortin transport across the BBB. *Endocrinology*, 151:1221-7, 2010
110. He Y, Wu X, Hsueh H, Kastin AJ, Khan RS, Pistell PJ, Wang W-H, Li Z, Guo X, **Pan W**. Interleukin-15 receptor is essential to facilitate GABA transmission and hippocampal dependent memory. *Journal of Neuroscience*, 30:4725-34, 2010
111. He Y, Wu X, Khan RS, Kastin AJ, Cornelissen-Guillaume GG, Hsueh H, Robert B, Halberg F, **Pan W**. IL15 receptor deletion results in circadian changes of thermoregulation and metabolic activity. *Journal of Molecular Neuroscience*, 41:315-21, 2010

112. Khan RS, Yu C, Kastin AJ, Ehrensing R, Hsueh H, Stone KP, **Pan W**. Brain activation by peptide Pro-Leu-Gly-NH₂ (MIF-1). *International Journal of Peptides*, 2010. pii: 537639 PMID: 20721355
113. Tu H, Hsueh H, Kastin AJ, Wu X, **Pan W**. Unique leptin trafficking by a tailless receptor. *FASEB Journal*, 24:2281-91, 2010
114. **Pan W**, Yu C, Hsueh H, Kastin AJ. The role of cerebral vascular NFκB in LPS-induced inflammation: differential regulation of efflux transporter and transporting cytokine receptors. *Cellular Physiology and Biochemistry*, 25: 623-30, 2010.
115. Wu X, **Pan W**, Stone KP, Zhang Y, Hsueh H, Kastin AJ. Expression and signaling of novel IL15Rα splicing variants in cerebral endothelial cells of the blood-brain barrier. *Journal of Neurochemistry*, 114:122-9, 2010
116. Wu X, He Y, Kastin AJ, Hsueh H, **Pan W**. Cerebral interleukin-15 shows upregulation and beneficial effects in experimental autoimmune encephalomyelitis. *Journal of Neuroimmunology*, 223:65-72, 2010
117. Wu X, Kastin AJ, Hsueh H, **Pan W**. The effects of IL2Rγ knockout on depression and contextual memory. *Behavioral Brain Research*, 213:319-22, 2010
118. Wu X, Kastin AJ, He Y, Hsueh H, Rood JC, **Pan W**. Essential role of interleukin-15 receptor in normal anxiety behavior. *Brain, Behavior, and Immunity*, 24: 1340 – 6, 2010
119. Kastin AJ, **Pan W**. Concepts for biologically active peptides. *Current Pharmaceutical Design*, 16: 3390 – 3400, 2010
120. Hsueh H, Kastin AJ, Tu H, Abbott NJ, Couraud PO, **Pan W**. Role of astrocytic leptin receptor subtypes on leptin permeation across hCMEC/D3 endothelial cells. *Journal of Neurochemistry*, 115: 1288 – 1298, 2010
121. Wu X, Hsueh H, Kastin AJ, He Y, Khan RS, Stone KP, Cash MS, **Pan W**. Interleukin-15 affects serotonin system and exerts antidepressive effects through IL15Rα receptor. *Psychoneuroendocrinology*, 36: 266-78, 2011
122. **Pan W**, Wu X, Kastin AJ, Zhang Y, Hsueh H, Halberg F, Chatu F, Khan RS, Robert B, Cornelissen-Guillaume GG. Potential protective role of IL15Rα during inflammation. *Journal of Molecular Neuroscience*, 43: 412-23, 2011
123. **Pan W**, Hsueh H, Xu C, Wu X, Bouret SG, Kastin AJ. Astrocytes modulate distribution and neuronal signaling of leptin in the hypothalamus of obese A^{yy} mice. *Journal of Molecular Neuroscience*, 43: 478-84, 2011
124. Stone KP, Kastin AJ, Hsueh H, Yu C, **Pan W**. Rapid endocytosis of interleukin-15 by cerebral endothelia. *Journal of Neurochemistry*, 116: 544-53, 2011
125. **Pan W**, Nyberg F, Kastin AJ. Interactions of growth hormone, insulin-like growth factor-1, and ghrelin with the blood-brain barrier. *The Open Endocrinology Journal*, 2011
126. **Pan W**, Stone KP, Hsueh H, Manda VK, Zhang Y, Kastin AJ. Cytokine signaling modulates blood-brain barrier function. *Current Pharmaceutical Design*, 17: 3729-40, 2011
127. Stone KP, Kastin AJ, **Pan W**. NFκB is an unexpected major mediator of interleukin-15 signaling in cerebral endothelia. *Cellular Physiology and Biochemistry*, 28: 115-24, 2011
128. Hsueh H, Kastin AJ, Tu H, Markadakis EN, Stone KP, Wang Y, Heymsfield SB, Chua SC Jr, Obici S, Magrisso IJ, **Pan W**. Effects of cell-type specific leptin receptor mutation on leptin transport across the BBB. *Peptides* 32: 1392-9, 2011
129. **Pan W**, Hsueh H, Cornelissen-Guillaume GG, Jayaram B, Wang Y, Tu H, Halberg F, Wu X, Chua SC Jr, Kastin AJ. Endothelial leptin receptor mutation provides partial resistance to diet-induced obesity. *J Appl Physiol*, 112:1410-8, 2012
130. Hsueh H, Kastin AJ, **Pan W**. Blood-borne metabolic factors in obesity exacerbate injury-induced astrogliosis. *J Mol Neurosci*, 47: 267-277, 2012
131. **Pan W**, Hsueh H, Jayaram B, Khan RS, Huang EYK, Wu X, Chen C, Kastin AJ. Leptin action on non-neuronal cells in the CNS: potential clinical implications. *Ann NY Acad Sci*, 1264:64-71, 2012

132. Hsuchou H, Kastin AJ, Mishra PK, **Pan W**. C-reactive protein increases BBB permeability: Implications for obesity and neuroinflammation. *Cellular Physiology and Biochemistry*, 30:1109-1119, 2012
133. **Pan W**, Wu X, He Y, Hsuchou H, Huang EYK, Mishra PK, Kastin AJ. Brain interleukin-15 in neuroinflammation and behavior. *Neurosci Biobehav Rev*, 37: 184-192, 2013
134. Wu X, Hsuchou H, Kastin AJ, Mishra PK, **Pan W**. Upregulation of astrocytic leptin receptor in mice with experimental autoimmune encephalomyelitis. *J Mol Neurosci*, 49:446-56, 2013
135. Jayaram B, Khan RS, Kastin AJ, Hsuchou H, Wu X, **Pan W**. Protective role of astrocytic leptin signaling against excitotoxicity. *J Mol Neurosci*, 49: 523-30, 2013
136. Hsuchou H, Jayaram B, Kastin AJ, Wang Y, Ouyang S, **Pan W**. Endothelial cell leptin receptor mutant mice have hyperleptinemia and reduced tissue uptake. *J Cell Physiol*, 228: 1610 – 6, 2013
137. Hsuchou H, Mishra PK, Kastin AJ, Wu X, Wang Y, Ouyang S, **Pan W**. Saturable leptin transport across the BBB persists in EAE mice. *J Mol Neurosci*, 51: 364-70, 2013
138. Jayaram B, **Pan W**, Wang Y, Hsuchou H, Mace A, Cornelissen-Guillaume GG, Mishra PK, Koza RA, Kastin AJ. Astrocytic leptin receptor knockout mice show partial rescue of leptin resistance in diet-induced obesity. *J Applied Physiol*, 114:734-41, 2013
139. Ouyang S, Hsuchou H, Kastin AJ, **Pan W**. TNF stimulates nuclear export and secretion of IL-15 by acting on CRM1 and ARF6. *PLOS One*, 8: e69356, 2013
140. Hsuchou H, Wang Y, Cornelissen-Guillaume GG, Kastin AJ, Jang E, Halberg F, **Pan W**. Diminished leptin signaling can alter circadian rhythm of metabolic activity and feeding. *J Applied Physiol*, 115: 995-1003, 2013
141. Wang Y, Kastin AJ, Hsuchou H, He J, **Pan W**. Obesity changes sleep architecture and neurobehavior: minimal role of leptin. *J Mol Neurosci*, 51: 1038-45, 2013
142. Mishra PK, Hsuchou H, Ouyang S, Kastin AJ, Wu X, **Pan W**. Loss of astrocytic leptin signaling worsens experimental autoimmune encephalomyelitis. *Brain Behav Immunity*, 34:98-107, 2013
143. Hsuchou H, Kastin AJ, **Pan W**. Fibroblast growth factor 19 and the blood-brain barrier. *Fluids and Barriers of the CNS*, 10: 32, 2013. doi: 10.1186/2045-8118-10-32, PMID 24176017
144. **Pan W**, Kastin AJ. Leptin: a biomarker for sleep disorders? *Sleep Med Rev*, 18: 263-70, 2014
145. Ouyang S, Hsuchou H, Kastin AJ, Wang Y, Yu C, **Pan W**. Diet-induced obesity suppresses expression of many proteins at the blood-brain barrier. *Journal of Cerebral Blood Flow and Metabolism*, 34: 43-51, 2014
146. Ouyang S, Hsuchou H, Kastin AJ, Mishra PK, Wang Y, **Pan W**. Leukocyte infiltration into spinal cord of EAE mice is attenuated by removal of endothelial leptin signaling. *Brain, Behav, Immunity*, 40:61-73, 2014
147. He J, Wang Y, Kastin AJ, **Pan W**. Increased sleep fragmentation in experimental autoimmune encephalomyelitis. *Brain, Behav, Immunity*, 38:53-8, 2014
148. He J, Kastin AJ, Wang Y, **Pan W**. Sleep fragmentation has differential effects on obese and lean mice. *J Mol Neurosci*, in press, PMID 25152064
149. He J, Hsuchou H, He Y, Kastin AJ, **Pan W**. Sleep restriction impairs blood-brain barrier function. *J Neurosci*, 34(44):14697-706, 2014
150. **Pan W**, Kastin AJ. Can sleep apnea cause Alzheimer's disease? *Neurosci Biobehav Rev*, 47C:656-669
151. He J, Hsuchou H, He Y, Kastin AJ, Mishra PK, Fang J, **Pan W**. Leukocyte infiltration across the blood-spinal cord barrier is modulated by sleep fragmentation in EAE mice. *Fluids and Barriers of the CNS*, in press

BOOK CHAPTERS:

1. Kastin AJ, **Pan W**, Zadina, JE, Banks WA. The endocrine **brain**. Chapter 176, pp 1611 - 1615. In: *Principles and Practice of Endocrinology & Metabolism*, 3rd edition. KL Becker, ed., JB Lippincott, Philadelphia, 2001
2. **Pan W**, Kastin AJ. Transport of cytokines and neurotrophins across the BBB, and its regulation after spinal cord injury. Chapter 20, pp. 395-407. In: *Blood-spinal cord and brain barriers in health and disease*. HS Sharma and J Westman ed., Academic Press, San Diego, 2003
3. Kastin AJ, **Pan W**. Brain influx of endogenous peptides affecting food intake. Chapter 6, pp 57 - 62. In: *Blood-spinal cord and brain barriers in health and disease*. HS Sharma and J Westman ed., Academic Press, San Diego, 2003
4. **Pan W**, Yu Y, Nyberg F, Kastin AJ. Growth hormone, insulin, and IGF-1: do they interact at the blood-brain barrier? Chapter 6, pp 75 – 79. In: *The somatotrophic axis in the brain*, Nyberg F ed., Elsevier, 2006
5. **Pan W**, Xiang S, Tu H, Kastin AJ. Cytokines interact with the blood-brain barrier. Chapter 11, pp 247 – 264. In: *The Blood-brain Barriers: From Ontogeny to Artificial Interfaces*. Volume I, Dermietzel R, Spray DC and Nedergaard M ed., Weinheim, Germany: Wiley-VCH, 2006.
6. **Pan W**. Permeability of the blood-brain barrier to neurotrophic peptides. Chapter 200, pp 1435 – 1441. In: *The Handbook of Bioactive Peptides*, Kastin AJ ed., Elsevier, 2006
7. Halberg F, Cornelissen G, Kanabrocki E, Sothorn RB, Haus E, Zinker S, Jozsa R, **Pan W**, Tarquini R, Perfetto F, Maggioni C, Bakken EE. Peptide chronomics. Chapter 213, pp 1529 – 1564. In: *Handbook of Bioactive Peptides*, Kastin AJ ed., Elsevier, 2006
8. **Pan W**, Kastin AJ. Peptide/polypeptide transport in the central nervous system. Chapter 20, pp 405 - 422. In: *Handbook of Neurochemistry and Molecular Neurobiology: Neural Membranes and Transport*. Lajtha A & Reith MEA ed, Springer, 2007
9. **Pan W**, Kastin AJ. In vivo techniques quantifying blood-brain barrier permeability to small proteins in mice. Pp 97 – 113. In: *Neuropeptide techniques*. Gozes I ed., Humana Press, Totowa, NJ, 2007
10. **Pan W**, Kastin AJ. Evolution of neuropeptide concepts illustrated by MIF-1 and MSH. In: *Transmitters and Modulators in Health and Disease*. Shioda S ed., Springer, Japan, 2009
11. **Pan W**, Kastin AJ. Glial leptin receptors and obesity. Chapter 21, pp. 185-196. In: *Modern Insights into Disease - from Molecules to Man: Adipokines*. Preedy VR ed., Science Publishers, Enfield, NH, USA, 2011
12. **Pan W**, Kastin AJ. Neurotrophic peptides and the BBB. In: *The Handbook of Bioactive Peptides*, Kastin AJ ed., 2nd edition, Elsevier/Academic Press, pp 1682 -1687, 2013.
13. Halberg F, **Pan W**, Cornelissen GG. Peptide chronomics. In: *The Handbook of Bioactive Peptides*, Kastin AJ ed., 2nd edition, Elsevier/Academic Press, pp 1850 – 1857, 2013
14. **Pan W**, Kastin AJ. Protein transport across the blood-spinal cord barrier. In: *Blood-spinal cord and brain barriers in health and disease*. HS Sharma and J Westman ed., 2nd edition, in press
15. Kastin AJ, **Pan W**. Neuroendocrine regulation at the BBB by ingestive peptides. In: *Blood-spinal cord and brain barriers in health and disease*. HS Sharma and J Westman ed., 2nd edition, in press

GRANT FUNDING:

- “Neuroimmune modulation across the BBB: Regulation of IL15 trafficking by TNF”, NINDS 5R01 NS062291, 9/1/08 – 8/31/14 with no cost extension till 8/31/16), principal investigator (PI), \$214,375/year direct cost
- “Leptin transport across the BBB: The role of ObR(+) astrocytes”. 5R01DK054880-12, 4/1/99 – 6/30/15 (expected no-cost extension till 6/30/17), Co-investigator with Abba J. Kastin, MD, \$209,888/year direct cost
- “Consequences of astrocyte leptin receptor upregulation on obesity”. 5R01 DK-92245-02. 7/26/11 – 4/30/15 (expected no-cost extension till 4/30/17), Co-investigator with Abba J. Kastin, MD, \$213,748/year direct cost

“Delivery of neurotrophic peptides across the BBB as CNS therapeutics”, Acorda Pharmaceuticals, 2013
– ongoing, PI, \$85,100/year direct cost

COMPLETED GRANTS:

“Transport of TNF α across the BBB”. NINDS R01 NS45751, 1/1/04 - 12/31/09, PI

“Transport of neurotrophic cytokines after spinal cord injury”. NINDS R01 NS46528, 3/1/04 - 2/29/09, PI

“Blood-brain barrier regulates leptin transport in obesity”. NIDDK R01 DK54880, 8/1/04 - 7/31/11, co-investigator (PI: AJ Kastin)

“CNS Delivery of therapeutic peptides for Alzheimer’s disease”. Proteotech, 2006 - 2007, co-investigator (PI: AJ Kastin)

“Fusion protein delivery across the BBB to treat lysosomal storage diseases in the brain”. BioMarin Pharm, 2003 - 2004, PI

EDITORIAL EXPERIENCE:

Associate Editor, *Peptides*, 1/2007-present

Senior Editor, *Current Pharmaceutical Design*, 2011 – present

Guest Editor for special issues of “Spinal cord injury and repair”, *Current Pharmaceutical Design*, 11(10) and 11(11), 2005

Section editor, “Peptides and the blood-brain barrier”, *The Handbook of Peptides*, Elsevier, 2005 (1st edition), and 2013 (2nd edition)

Managing editor, *International Journal of Peptides*, 2011 - present

Co-editor (with Dr. Abba J. Kastin), *Henry Stewart Talks*, Blood-Brain Barrier, 2007

Editorial board, *Peptides*, 2000 - 2006

Editorial board, *Clinical Medicine Insights: Endocrinology and Diabetes*, 2007-present

Editorial board, *Current Pharmaceutical Design*, 2007-present

Editorial board, *Journal of Epithelial Biology & Pharmacology*, 2008-present

Editorial board, *International Journal of Peptides*, 2008-present

Editorial board, *Journal of Molecular Neuroscience*, 2009-present

Editorial board, *World Journal of Cardiology*, 2009-present

Editorial board, *World Journal of Diabetes*, 2009-present

Editorial board, *Reviews in Neuroscience*, 2009-present

Editorial board, *Fluids and Barriers of the CNS*, 2010 - present

BOARD MEMBER, The International Neuropeptide Society /Society for Biologically Active Peptides (1 of 13 members)

MEETING CHAIR AND ORGANIZATIONAL COMMITTEE:

International organization committee, The International Symposium on Neuropeptides and Neuroendocrinology, Tokyo,, FEBS-IUBMB Conference, Budapest, Hungary, July 2005

International organization committee, The First Chinese International Bioactive Neuropeptide Conference: From Basic Studies to Clinical Implications. Beijing, China, May 2007

International organization committee, The International Symposium on Neuropeptides and Neuroendocrinology, Tokyo, Japan, Aug 2008

Session Chair, Gordon Research Conference of Barriers of the CNS, New London, NH, June 2010

International organization committee, Joint Symposium: The Second Meeting of the Japan Branch of International Neuropeptide Society and The Fifth International Peptide Symposium, Kyoto, Japan, Dec 2010

Discussion leader, Barriers of the CNS Gordon Research Seminar, Colby Sawyer College, NH, June 2012

Session Chair, Gordon Research Conference of Barriers of the CNS, New London, NH, June 2014

REVIEWER FOR GRANTS:

National Institutes of Health (NIH), Brain Injury and Neurovascular Pathologies (BINP), regular member, 2012 - 2016
NIH, Neuroendocrinology, Neuroimmunology, and Behavior (NNB) Study Section, regular member, 2006 - 2010
NIH, special emphasis panel, Therapeutics Delivery for Neurodegenerative Diseases, March 2007
NIH, Brain Injury and Neurovascular Pathologies (BINP), June 2007
NIH, Mechanisms of Drug Abuse Interactions with HIV Neuropathogenesis, July 2007
NIH, NIDA Avant Garde, April 2009 & April 2010
American Institute of Biological Sciences
Austrian Science Fund (Fonds zur Förderung der wissenschaftlichen Forschung)
Binational Israel-US Science Foundation
Israel Ministry of Science
National Science Foundation
Neurological Foundation of New Zealand
The Natural Sciences and Engineering Research Council of Canada (NSERC)
Swiss National Science Foundation
VA Merit Review
The Wellcome Trust, England

REFEREE FOR PROFESSIONAL JOURNALS:

Acta Neuropathologica Communications
American Journal of Medicine
American Journal of Physiology
Brain, Behavior, and Immunity
Brain Pathology
Brain Research
Brain Research Bulletin
Cell Proliferation
Current Biology
Diabetes
Endocrine Practice
Endocrinology
European Neuropsychopharmacology
Experimental Cell Research
Experimental Neurology
Expert Opinion on Investigational Drugs
Fluids and Barriers of the CNS
Hypertension
International Journal of Obesity
Journal of Andrology
Journal of Cerebral Blood Flow and Metabolism
Journal of Clinical Investigation
Journal of Clinical Endocrinology & Metabolism
Journal of Clinical Psychopharmacology
Journal of Drug Targeting
Journal of Neurochemistry

Journal of Neuroscience
Journal of Neurovirology
Journal of Pharmacology and Experimental Therapeutics
Life Sciences
Molecular Psychiatry
Nature Methods
Neurobiology of Learning and Memory
Neuroscience
Neuroscience Letters
NeuroImmunoModulation
Obesity
Peptides
PlosOne
Proceedings of National Academy of Sciences USA
Proceedings of the Society for Experimental Biology and Medicine
Physiology & Behavior
Regulatory Peptides
Stress
Stroke

INVITED SPEAKER FOR INTERNATIONAL MEETINGS:

Selective upregulation of TNF transport across the BBB. The first International Meeting of Asia Minor Branch of the International Neuropeptide Society, Antalya, Turkey, May 2001, speaker and chair
SCI and the blood-brain barrier. 4th International Symposium on Experimental Spinal Cord Repair and Regeneration. Brascia, Italy, March 2002, speaker and chair
The blood-spinal cord barrier after injury. NIEHS symposium, Research Triangle Park, North Carolina, Sept. 2002 (dir.niehs.nih.gov/dirlpc/symposium/program.htm)
Vascular cytokine transport after spinal cord injury. 5th International Conference of Cerebral Vascular Biology, Amarillo, Texas, June 2003
Blood-spinal cord barrier permeation of neurotrophic cytokines after injury. The Global College of Neuroprotection and Neuroregeneration annual conference, Zermatt, Switzerland, February 2004
Cytokine transport in spinal cord regeneration. Translational Neuro-oncology/BBB meeting, Sunriver Resort, Oregon, March 2004
Peptide transport across the blood-brain barrier. CNS drug delivery workshop, Conference of Emerging Molecular Targets to Treat Disorders Affecting Cognitive Function. Princeton, New Jersey, May 2004
BBB-permeable peptides and cytokines. Centocor Biology Research, Malvern, Pennsylvania, April 2005
Organ-specific uptake of AgRP from circulation. Biology of the AgRP-Melanocortin System. Baton Rouge, Louisiana, May 2005
Regulated access of peripheral cytokines to the injured CNS. FEBS-IUBMB Conference, Budapest, Hungary, July 2005
Protein delivery across the blood-brain barrier. Strategies for Engineered Negligible Senescence (SENS), Cambridge, England, Sept 2005
Peptides crossing the BBB to treat CNS disorders. The First Chinese International Bioactive Neuropeptide Conference: From Basic Studies to Clinical Implications. Beijing, China, May 2007
Transport of urocortin and leptin in cerebral microvessels and the implications in obesity. Neuropeptides: Perspectives and Applications. 10th IUBMB Conference and XXXVI annual meeting of the Brazilian Society of Biochemistry and Molecular Biology, Salvador, Brazil, May 2007
Adipokines and the blood-brain barrier. Summer Neuropeptide Conference, Essex, Vermont, Sept 2007

Cytokine signal modification at the BBB. 10th symposium of signal transduction in the blood-brain barriers. Potsdam-Sanssouci, Germany, Sept 2007
Blood-brain barrier to cytokines. International Structural Neuroscience Conference on Neuropeptides, Nagpur, India, Feb 2008
Cytokines, neuroinflammation, and the BBB. Barriers of the CNS Gordon Research Conference, Tilton, New Hampshire, June 2008
IL15 in Neuroinflammation. The International Symposium on Neuropeptides and Neuroendocrinology, Tokyo, Japan, Aug 2008
MIF-1: A tripeptide to treat depression and Parkinson's disease. International Symposium on Biologically Active Peptides: Peptide Diversity. Sendai, Japan, Sept 2008
Leptin transporters and astrocytic influences. The 8th Cerebral Vascular Biology Conference. Sendai, Japan, June 09
The glial leptin receptors. The 3rd Asia-Pacific International Peptide Symposium, Jeju, Korea, Nov 2009
Shift of cellular distribution of leptin receptors: What it means to functional outcome. International Symposium: Frontier in biologically active peptide research. Kyoto, Japan, Dec 2010
BBB cytokine signaling – from cell biology to behavior. Barriers of the CNS Gordon Research Conference, Colby Sawyer College, NH, June 2012

HENRY STEWART TALKS:

Neurotrophins and neurotrophic peptides and the blood-brain barrier, 2007

RECENT GRAND ROUNDS, INSTITUTIONAL INVITED TALKS, AND REGIONAL MEETINGS:

Endothelial activation in neurodegeneration, Saint Louis University School of Medicine, GRECC, Department of Medicine, St. Louis, MO, Aug. 2006
Blood-brain barrier in neuroinflammation and hypoxia, Emory University Department of Neurology, Atlanta, GA, Aug. 2007
Drug delivery across the blood-brain barrier, Gene Therapy Program, Louisiana State University Health Science Center, New Orleans, LA, Sept. 2007
Cytokines and neuroinflammation. Showa University, Department of Anatomy I, Tokyo, Japan, Sept 2008
Blood-brain barrier and neuroinflammation. University of Illinois at Urbana-Champaign, Department of Animal Sciences, November 2008
Telemetry for mouse metabolic studies. University of Minnesota, July 2009
Obesity, sleep, and neuroinflammation. University of Michigan, Department of Neurology, Ann Arbor, MI, July 2010
Leptin and sleep. University of Arkansas, Department of Neurology, Little Rock, AR, August 2010
The many faces of complex sleep apnea. Ochsner Clinic Foundation, Department of Neurology, New Orleans, LA, Nov. 2010
From a cytokine to neuropsychiatric disorders: what we learn from IL-15. National Cerebral and Cardiovascular Research Center, Department of Molecular Pharmacology, Osaka, Japan, Dec. 2010
Obesity and Sleep: the cytokine connections. Southern Sleep Society 33rd Annual Meeting: New Approaches in Understanding and Management of Sleep Disorders, New Orleans, LA, March 2011
Obesity and astrocytic leptin signaling. Lanzhou University, Lanzhou, China, April 2011
Cerebral interleukin-15 signaling affects neurotransmitters and neurobehavior. The Neuroscience Institute, Beijing University Medical Center, Beijing, China, April 2011
Blood-brain barrier and CNS drug targeting. Southern Research Institute, Birmingham, AL, May 2011
Leptin action on non-neuronal cells in the central nervous system - Potential clinical implications. The NIDDK Brain & Obesity lectures, NIH, Bethesda, May 2011
Nocturnal sleep-related eating disorders. Southern Sleep Society 34th Annual Meeting, Miramar Beach,

FL, March 2012
 Neuroimmune modulation across the BBB: Cell specific actions of leptin. UT Southwestern Medical Center, Dept of Neurology, Dallas, TX, Sept 2012
 Sleep with Parkinson's disease. Louisiana Academy of Sleep Medicine Annual Meeting, Baton Rouge, LA, October 2012
 Sleep fragmentation in mouse and man. Grand rounds, Dartmouth Medical College, Dept of Psychiatry, Lebanon, NH, Nov 2012
 Neuroendocrine immune regulation across the blood-brain barrier. Research seminar, Dartmouth Medical College, Lebanon, NH, Nov 2012
 Blood-brain barrier in neuroinflammation. University of Texas in San Antonio, Dept of Physiology, San Antonio, TX, March 2013
 The activated endothelia. Temple University Dept of Pathology, Philadelphia, PA, May 2013
 Protective effect of sleep in mice with experimental autoimmune encephalomyelitis. Sleep 2013 annual meeting, Baltimore, MD, June 2013
 Blood-brain barrier and sleep regulation. University of Utah Dept of Neurology, Salt Lake City, UT, April 2014
 Effect of sleep disruption on BBB functions. Sleep 2014 annual meeting, Minneapolis, MN, June 2014
 The blood-brain barrier and CNS drug delivery. Chinese Traditional Medicine Research Institute, Shanghai, China, Sept 2014
 Biopotential monitoring in experimental obesity and inflammation. Chung Gung University Dept of Physiology and Pharmacology, Taipei, Taiwan, Oct 2014
 Effect of sleep disturbance on BBB function. National Defense Medical Center Dept of Pharmacology, Taipei, Taiwan, Oct 2014
 Sleep and brain health. Southern Sleep Society Annual Meeting, New Orleans, LA, April 2015

VISITING PROFESSORSHIP, MINI SABBATICALS, & MAJOR COLLABORATIONS:

3/2003 – 4/2003 Washington University Department of Cell Biology, St. Louis, MO with Guojun Bu, cellular trafficking of low density lipoprotein related receptors, their ligands, and chaperons
 8/2002 – 7/2004 Showa University Department of Anatomy I, Tokyo, Japan with Seiji Shioda, electron microscopic studies on circumventricular organs
 1/2004 – present University of Minnesota, Halberg Chronobiology Center, Minneapolis, MN with Franz Halberg and Germaine G Cornélissen, biological rhythms related to BBB and sleep
 2/2010 – 6/2010 Harvard Medical School, Boston, MA, (a) molecular imaging of neuroinflammation, neurotransmitters, and gliovascular coupling with Anna Moore and collaborators involving near infrared fluorescent spectroscopy, positron emission tomography, and pharmacological magnetic resonance imaging (phMRI and fMRI) of mice in the Martinos Center for Biomedical Imaging, Massachusetts General Hospital (MGH), (b) biopotential monitoring in sleep disorders, with Robert Thomas
 5/2007 – 5/2010 Zhejiang University Department of Physiology, Hangzhou, Zhejiang Province, China, with Jizeng Du and Xuequn Chen, corticotrophin releasing hormone, intermittent hypoxia, and altitude sickness
 3/2011 – 6/2013 Sleep disorders and BBB impairment in neurosyphilis patients. In collaboration with Pingyu Zhou, Shanghai Dermatology Center, China
 9/2012 – present Micromagnetic stimulation to modulate neuronal activities, in collaboration with Guanglin Zhao, Southern University of Louisiana Department of Physics and Astronomy, Baton Rouge, LA

- 9/2012 - present Hippocampal slice electrophysiology to determine the effect of MIF-1 and IL-15 on long-term potentiation, and spinal cord evoked potential recording in the context of sleep-wake and pain regulation. In collaboration with YK Eagle Huang, Department of Pharmacology, National Defense Medical Center, Taipei, Taiwan
- 9/2013 - present Effect of environmental enrichment on neuroendocrine regulation of cancer progression. In collaboration with Hong Tu, Shanghai Cancer Institute, Jiaotong University Medical Center, Shanghai, P.R. China

ADMINISTRATIVE EXPERIENCE:

- 2007 – 2008 Chief, Division of Neuroscience (Nutrition and the Brain), PBRC, Baton Rouge, LA
- 2012 – 2014 Medical Director, PBRC Sleep Health Center (accredited by AASM for in-lab and portable sleep studies)

HONORS AND AWARDS:

- The Owl Club teaching award, Tulane University School of Medicine, 1997
- Patient Satisfaction award (top neurologist), The Ochsner Clinic Foundation, 2000
- Honorary Cuiying Professor, Lanzhou University, Lanzhou, Gansu Province, China, 2009
- Who's Who in America

VOLUNTEER WORK IN THE COMMUNITY:

- Team captain, American Heart Association heart walk
- Red Cross
- Volunteer sleep clinic

CONSULTANT:

- BioMarin Pharmaceutical Inc., Novato, CA (2003)
- Acorda Therapeutics, Ardsley, NY (2013)

PROFESSIONAL ORGANIZATIONS:

- American Academy of Neurology
- American Academy of Sleep Medicine
- American Medical Association
- American Society for Cell Biology
- International Neuropeptide Society/Society for Biologically Active Peptides
- International Society for Cerebral Blood Flow and Metabolism
- Louisiana Sleep Society
- Louisiana State Medical Society
- Society for Neuroscience
- The Endocrine Society

TRAINEES MATRICULATED:

- J. Matthew Brennan, B.S. (Research Assistant, 1998 – 1999): now a cardiologist in private practice
- Balazs Csernus, Ph.D. (Postdoctoral Fellow, 2002): Faculty of Medicine, Semmelweis University, Budapest, Hungary
- Vojislav Pejovic, Ph.D. (Postdoctoral Fellow, 2003): Scientific writer, Chicago, IL
- Yueming Ding, M.D. (Postdoctoral Research Associate, 2004-2005): Faculty, Hangzhou University, Zhejiang, China
- Yongmei Yu, M.S. (Research Associate, 2004 – 2006): Research associate, PBRC
- Jeremy Daniels, M.S. (Research Associate, 2005-2006): Postdoctoral fellow after graduating with a PhD

from University of Oklahoma
Courtney Cain, B.S. (Research Associate, 2005 – 2008): Cellular Imaging Core Facility technician, PBRC; pharmacy school student
Chuanhui Yu, Ph.D. (Postdoctoral Fellow, 2005 – 2008): Research Instructor, University of California-Irvine
Sarah Waters, B.S. (Research Associate, 2006-2007): High School Teacher, Lafayette, LA
Laura Feucht, B.S. (Research Associate, 2006-2007): Dentist, Baton Rouge, LA
Amul Sakharkar, Ph.D. (Postdoctoral Fellow, 2006-2007): Postdoctoral fellow, University of Illinois, Chicago
Ruth Yemane, B.S. (Research Associate, 2007-2008): Physician
David Hirsch, B.S. (Research Associate, 2009): Physician
Yi He, Ph.D. (Postdoctoral Fellow, 2008-2009): Assistant Professor, Department of Physiology, Beijing Capital University, Beijing, China
P. Brad Fossier (Student worker, 2009): Student, Tulane Medical School
Emily N. Markadakis (Student worker, 2009): Graduate Student, Biochemistry PhD Program, University of Oklahoma
Michael Cash (Student worker and research associate, 2010): Technician, Biotechnology corporation
Xiaojun Wu, Ph.D. (Postdoctoral Fellow, 2007 – 2010): Professor, Shanghai Chinese Traditional Medicine University
Reas Sulaimankutty Khan, Ph.D. (postdoctoral fellow, 2009-2010): Postdoctoral fellow, University of Pennsylvania
Kirsten P. Stone, Ph.D. (Research Instructor, 2010-2011): Research Instructor, PBRC
Pramod K. Mishra, Ph.D. (Postdoctoral Fellow, 2011-2012): Research Assistant Professor, University of Texas San Antonio
Eujin Jang, B.S. (Research Associate, 2012-2013): Medical student, UT Southwestern, Dallas, TX
Bhavaani Jayaram, PhD (Postdoctoral Fellow, 2011-2013): Postdoc, UCLA
Carrie Ingerman (high school student, 2013): currently high school student
Courtney Wang (high school student, 2013): now undergraduate at Tulane University
Suidong Ouyang, PhD (Research Associate, 2011-2014): Research Instructor, Cleveland Clinic Foundation