



CURRICULUM VITAE  
**CARL Y SAAB**

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**EDUCATION**

Environmental Health B.S.  
American University of Beirut (AUB)  
1991-1994

Neuroscience M.S.  
AUB  
1995-1997

Neuroscience Ph.D.  
University of Texas Medical Branch (UTMB)  
1997-2001

**ACADEMIC  
APPOINTMENTS**

Assistant Professor-Research  
Rhode Island Hospital  
Department of Surgery  
Brown Medical School  
&  
Assistant Professor  
Brown University  
Department of Neuroscience

Visiting Lecturer  
AUB, School of Medicine  
2-14/3-10 2004; 1-27/2-12 2006

**POSTGRADUATE  
HONORS  
AND AWARDS**

Travel award, Baltic Summer School, Kiel, Germany August 16-30, 2003

Young Investigator Travel Support, American Pain Society (APS) April 19-22, 2001

Young Investigator Travel Support and Citation Poster award, (APS) November 2-5, 2000

Travel award, International Society for Magnetic Resonance in Medicine (ISMRM), May, 1999

Travel award, International Association for the Study of Pain (IASP) 9<sup>th</sup> World Congress on Pain, Vienna, Austria, August, 1999

Travel awards (2), University of Wisconsin Symposium on Health and Emotion, Madison, Wisconsin, 1998-99

Certificate of Achievement in Teaching, UTMB, Physiology, Allied Health School, Spring, 1998

Who's Who Among Students In American Universities & Colleges (# 11 187-24-0-99), 1998

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**POSTGRADUATE  
TRAINING**

Postdoctoral Fellow  
Yale University & VA Hospital  
Department of neurology  
2001-2004

**HOSPITAL  
COMMITTEES**

Institutional Animal Care and Use Committee, Rhode Island Hospital, 09 2007  
Research Advisory Committee, Rhode Island Hospital, 11 2008

**MEMBERSHIP IN  
SOCIETIES**

Society For Neuroscience; American Pain Society; International Association for the Study of Pain; American Physiological Society; φ κ φ Honor Society

**PUBLICATIONS LIST**

1. Saab C.Y. and Hains B.C. Remote neuroimmune signaling: a long-range mechanism of nociceptive network plasticity. **TINS** (*In Press*).
2. Saab C.Y., et al. Cytokine expression in DRG after neuropathic injury *Submitted*.
3. Saab C.Y., Waxman S.G. and Hains B.C., Alarm or Curse? The Pain of Neuroinflammation. **Brain Res Rev** (*In Press*).
4. Shaw S.K., Owolabi S.A., Bagley J., Morin N., Cheng E., LeBlanc B.W., Kim M., Harty P., Waxman S.G. and Saab C.Y. Activated polymorphonuclear cells promote injury and excitability of dorsal root ganglia neurons. **Exp Neurol** 210(2):286-94, 2008 (COVER).
5. Saab C.Y. and Harty M.W., Letter to Editor (Author's reply to McLachlan et al.) **J Neuroimmunol** 187(1-2):214-15, 2007.
6. Saab C.Y., Wang J., Gu C., Garner K.N. and Al-Chaer E.D. Microglia: A newly discovered role in visceral hypersensitivity. **Neuron Glia Biol** 2:1-7, 2007.
7. Morin N., Owolabi S.A., Harty M.W., Papa E.F., Tracy T.F. Jr., Shaw S.K.n, Kim M. and Saab C.Y. Neutrophils invade lumbar dorsal root ganglia after chronic constriction injury of the sciatic nerve. **J Neuroimmunol** 184:164-71, 2007.
8. Black J.A., Liu S., Hains B.C., Saab C.Y. and Waxman S.G. Long-term neuroprotection of central axons with phenytoin in monophasic and chronic-relapsing murine EAE. **Brain** 129:3196-208, 2006.
9. Owolabi S.A. and Saab C.Y. Fractalkine and minocycline alter neuronal activity in the spinal cord dorsal horn. **FEBS Lett** 580:4306-10, 2006.
10. Hains B.C., Saab C.Y. and Waxman S.G. Alterations in burst firing of thalamic VPL neurons and reversal by Na<sub>v</sub>1.3 antisense after spinal cord injury. **J Neurophysiol** 95:3343-3352, 2006.
11. Hains B.C.\*, Saab C.Y.\* and Waxman S.G. Changes in electrophysiologic properties and sodium channel Na<sub>v</sub>1.3 expression in thalamic neurons after spinal cord injury. **Brain** 128: 2359-71, 2005 (\* equal contribution)
12. Saab C.Y. and Waxman S.G. Potentiation of sural nerve A $\beta$  action potential after neurogenic inflammation. **NeuroReport** 15: 1773-1777, 2004
13. Hains B.C., Saab C.Y., Klein J.P., Craner M.J., Black J.A. and Waxman S.G. Altered sodium channel expression in second-order spinal sensory neurons contributes to pain after peripheral nerve injury. **J Neurosci** 24: 4832-4839, 2004
14. Hains B.C., Saab C.Y., Lo A.C., Black J.A. and Waxman S.G. Sodium channel blockade with phenytoin protects spinal cord axons, and improves functional motor recovery after contusion SCI. **Exp Neurol** 188: 365-377, 2004
15. Saab C.Y., Park Y.C. and Al-Chaer E.D. Thalamic modulation of visceral nociceptive processing in adult rats with neonatal colon irritation. **Brain Res** 1008: 186-192, 2004
16. Saab C.Y., Craner M.J., Kataoka Y. and Waxman S.G. Abnormal Purkinje cell activity *in vivo* in experimental allergic encephalomyelitis. **Exp Brain Res** 158:1-8, 2004
17. Hains B.C., Klein J.P., Saab C.Y., Craner M.J., Black J.A. and Waxman S.G. Upregulation of sodium channel Na<sub>v</sub>1.3 and functional involvement in neuronal hyperexcitability associated with central neuropathic pain after spinal cord injury. **J Neurosci** 23: 8881-8892, 2003
18. Lo A.C., Saab C.Y., Black J.O. and Waxman S.G. Phenytoin protects spinal cord axons and preserves neurological function in experimental allergic encephalomyelitis. **J Neurophysiol** 90: 3566-3571, 2003.
19. Saab C.Y., Cummins T.R. and Waxman S.G. GTP<sub>γs</sub> increases Na<sub>v</sub>1.8 current in small diameter dorsal root ganglia neurons. **Exp Brain Res** 152: 415-419, 2003
20. Saab C.Y. and Willis W.D. The cerebellum: organization, functions and its role in

- nociception. **Brain Res Rev** 42-1: 85-95, 2003
21. Saab C.Y., Cummins T.R., Dib-Hajj S.D. and Waxman S.G. Molecular determinant of Na<sub>v</sub>1.8 sodium channel resistance to the venom from the scorpion *Leiurus quinquestriatus hebraeus*. **Neurosci Lett** 331: 79-82, 2002
  22. Saab C.Y., Garcia-Nicas E. and Willis W.D. Stimulation in the rat fastigial nucleus enhances the responses of neurons in the dorsal column nuclei to innocuous stimuli. **Neurosci Lett** 327: 17-20, 2002
  23. Saab C.Y. and Willis W.D. Cerebellar stimulation modulates the intensity of a visceral nociceptive reflex in the rat. **Exp Brain Res** 146: 117-21, 2002
  24. Saab C.Y. and Willis W.D. Nociceptive visceral stimulation modulates the activity of cerebellar Purkinje cells. **Exp Brain Res** 140: 122-126, 2001
  25. Saab C.Y., Kawasaki M., Al-Chaer E.D. and Willis W.D. Cerebellar cortical stimulation increases spinal nociceptive responses. **J Neurophysiol** 85: 2359-2363, 2001
  26. Saab C.Y. and Willis W.D. A visceral nociceptive input to the cerebellum: Possible functional significance? **J Pain** 2 (2;sup1): 32, 2001
  27. Saadé N.E., Kafrounni A.I., Saab C.Y., Atweh S.F. and Jabbur S.J. Chronic thalamotomy increases pain-related behavior in rats. **Pain** 83: 401-409, 1999
  28. Burton A.W., Lee D.H., Saab C.Y. and Chung J.M. Preemptive intrathecal ketamine injection produces a long-lasting decrease in neuropathic pain behaviors in a rat model. **Reg Anes & Pain Med** 24(3): 208-13, 1999
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**BOOKS AND BOOK CHAPTERS**

Saab C.Y., Makki A., Quast M.J., Wei J.N., Al-Chaer E.D. and Willis W.D. Is the cerebellum involved in pain? **Proceedings of the 9<sup>th</sup> World Congress on Pain**, IASP Press: Seattle, 1999

Carl Y. Saab, The Spinal Cord, Eric Chudler (Ed.), from the Series Gray Matter, **Chelsea House Publishers**, Philadelphia, 2006 (ISBN 0791085112)

Carl Y. Saab, The Hindbrain, Eric Chudler (Ed.), from the Series Gray Matter, **Chelsea House Publishers**, Philadelphia, 2006 (ISBN 0791085104)

Carl Y. Saab, Seeing, Hearing and Smelling the World, Eric Chudler (Ed.), from the Series Brain Works, **Chelsea House Publishers**, Philadelphia, 2006 (ISBN 0791089452)

**INTERVIEWS**

Cerebellar Processing Of Pain Signals Confirmed In Rats;  
October 1999

*If the study results are confirmed, they will open up a new area of research* **Medical Tribune**,  
by Shoshana Miriam Frei

Human Cells Make Morphine;

September 21 2004

*Whether the body can use it to treat pain still unknown, researchers say* **HealthScout**,  
by Steven Reinberg

**CONSULTANCY**

MD Anderson Cancer Research Institute, Texas Medical Center, Houston, Dr. C. Cleeland,  
'Pain Group', 2000-2001

Clinical Advisors, Orbimed Advisors (NY), Newron (Italy), March-2004

Stryker Dev., Cambridge, MA, September-2006

Brintnall & Nicollini, Inc., Research and Consulting, April-2008

**GRANTS**

**Grants awarded:**

Rhode Island Foundation, "Mechanisms of Neutrophil Recruitment to Dorsal Root Ganglia after Nerve Injury", 1/1/06

NIH, R01, "N-type Calcium Channels in Nociceptive Neurons", 10%, PI Diane Lipscombe, 7/11/06

Stryker Dev., "Vagal Nerve Stimulation", 4/12/06.

NIH, R21, "Development of Neuroprotective PDZ-domain Inhibitors for the Treatment of MS", 10%, PI John Marshall, 7/1/08

NIH, R21, "Mechanisms of Microglia in Visceral Pain", 10%, PI Elie Al-Chaer, 8/1/08

**Submitted grants pending revision:**

NIH R21 (2)

**INVITED  
PRESENTATIONS**

Pain genealogy: From cells and proteins to human suffering  
Colorado University, Boulder (Dr. L. Watkins), February, 12, 2007

Contribution of microglia and neutrophils to neuropathic pain  
Dartmouth University, Dartmouth (Dr. J DeLeo), April 11, 2006

Neutrophils invade the dorsal root ganglia following chronic constriction of the sciatic nerve  
Yale University, West Haven (Dr. S. Waxman, Lecture Honorarium), September 14, 2005

Neutrophils invade the dorsal root ganglia following chronic constriction of the sciatic nerve  
Brown University, Providence (Dr. A. Ayala), August 23, 2005

How inflammation impacts neurons  
Brown University, Providence (Dr. D. Bereiter), May 10, 2004

One protein, one pain  
AUB, Beirut, Lebanon (Dr. N. Saadé), February 27, 2004

Targeting sodium channels in the EAE mouse model of MS  
AUB, Beirut, Lebanon (Dr. N. Saadé), June 13, 2003

Nociception, pain, and the cerebellum  
Johnson & Johnson Pharmaceutical Research and Development  
Spring House, PA (Dr. P. Hornby), July 22, 2002

The cerebellum and the modulation of nociception  
Yale University, West Haven (Dr. S. Waxman), June 18, 2001

The cerebellum as a microprocessor of nociceptive information  
California Institute of Technology, Pasadena (Dr. J. Bower), January 9, 2001

The cerebellum as a microprocessor of nociceptive information  
University of California in San Diego, San Diego (Dr. L. Sorkin, Lecture Honorarium), July 26,  
2000

Pain, analgesia and the cerebellum  
MD Anderson Cancer Research Institute, Texas Medical Center, Houston (Dr. C. Cleeland,  
'Pain Group'), April 13, 2000

**LABORATORY  
MENTORING**

Andrew Mallon, Ph.D.  
Postdoctoral Fellow (May-August 2008)

Masahashi Iwata, Ph.D.  
Takeda Pharmaceutical Int'l (Sabbatical, 2008-)

Todd Bromberg, M.D.  
Resident Y2 Neurology (2008-)

Owolabi Samuel, M.D.  
Postdoctoral Fellow (2004-2008)

Brian LeBlanc, Ph.D.  
Postdoctoral Fellow (2007-)

Ursillo Christopher,  
Undergraduate (May 2005)

Nicole Morin,  
Technician (July 2006)

Cheng Elise  
Undergraduate (May 2006)

Jaffa Zachary  
Undergraduate (May 2006)

Bagley Jacob  
Undergraduate (September- 2006)

Matthew Amarante  
Undergraduate (September- 2007)

Christen Sylvester  
Undergraduate (September- 2007)

Tran Le  
Undergraduate (September- 2008)

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