

# 20<sup>TH</sup> INTERNATIONAL SYMPOSIUM ON THE AUTONOMIC NERVOUS SYSTEM

Marriott Frenchman's Reef Resort  
St. Thomas, U.S. Virgin Islands  
November 11-14, 2009

## Preliminary Program

<b>WEDNESDAY, NOVEMBER 11, 2009</b>	
5:00-7:00 PM	<b>Registration</b>
7:00-7:15 PM	<b>Welcome</b> Dr. Mark Chapleau President, American Autonomic Society
<b>Postural Orthostatic Tachycardia Syndrome (POTS)</b> <b>Chairs: Julian Stewart &amp; Michael Joyner</b>	
7:15-7:30 PM	Postural tachycardia syndrome versus inappropriate sinus tachycardia: role of autonomic modulation <u>SY Paranjape</u> , BK Black, EM Garland, I Biaggioni, D Robertson, SR Raj Nashville, TN, USA
7:30-7:45 PM	Evaluation of a novel non model driven assessment of cardiac autonomic activity: response of patients with postural tachycardia syndrome (POTS) <u>R Schondorf</u> , J Benoit, MJ Lafitte Montreal, QC, Canada
7:45-8:00 PM	Postural orthostatic tachycardia syndrome with reduced sympathetic neural outflow <u>A Diedrich</u> , K Sato, L Diedrich, A Gamboa, SR Raj, I Biaggioni, D Robertson Nashville, TN, USA
8:00-8:15 PM	The autonomic nervous system and nitric oxide in postural tachycardia syndrome <u>A Gamboa</u> , LE Okamoto, A Diedrich, G Farley, S Paranjape, B Black, I Biaggioni Nashville, TN, USA
8:15-8:30 PM	Paradox of high levels of angiotensin II and low angiotensin converting enzyme 2 activity in postural tachycardia syndrome <u>SR Raj</u> , E Garland, I Biaggioni, BK Black, H Mustafa, D Robertson Nashville, TN, USA
8:30-8:45 PM	Menstrual cycle effects on neurohumoral regulation of hemodynamics during 2 hours of standing in the postural orthostatic tachycardia syndrome <u>Q Fu</u> , TB VanGundy, MM Galbreath, S Shibata, BD Levine Dallas, TX, USA
8:45-9:00 PM	Low iron storage and anemia in postural tachycardia syndrome (POTS) in adolescents <u>IT Jarjour</u> , LK Jarjour Houston, TX, USA
<b>THURSDAY, NOVEMBER 12, 2009</b>	

7:00-8:00 AM	<b>Breakfast</b>
8:00-8:45 AM	<b>Plenary Lecture</b> Contribution of neural-epithelial cell interactions to sensory mechanisms in the lower urinary tract <u>Dr. William de Groat</u> Pittsburgh, PA, USA
<b>CNS Sequelae of Autonomic Disorders &amp; Associated Diseases</b> <b>Chairs: Eduardo Benarroch &amp; Horacio Kaufmann</b>	
8:45-9:00 AM	Magnetic resonance anatomical and perfusion imaging in multiple system atrophy P Novak, <u>O Zurkiya</u> , P Zhao, D Alsop, V Novak Boston, MA, USA
9:00-9:15 AM	Differential involvement of periaqueductal gray columns in multiple system atrophy <u>AM Schmeichel</u> , PA Low, JE Parisi, EE Benarroch Rochester, MN, USA
9:15-9:30 AM	Brain structural changes and functional outcomes in older people with altered cerebral autoregulation <u>K Hu</u> , M Aoi, P Zhao, L Desrochers, MT Lo, Y Liu, CK Peng, P Novak, M Selim, LA Lipsitz, V Novak Boston, MA, USA
9:30-9:45 AM	Relationship between regional brain atrophy and inflammation in type 2 diabetes mellitus <u>V Novak</u> , P Zhao, K Hu, M Munshi, D Alsop, A Abduljalil, B Manor, L Desrochers, P Novak Boston, MA, USA
9:45-10:00 AM	Association of olfactory dysfunction with autonomic failure in Parkinson disease <u>DS Goldstein</u> , L Sewell, C Holmes Bethesda, MD, USA
10:00-10:15 AM	Autoimmune autonomic ganglionopathy: not just autonomic failure anymore... <u>C Gibbons</u> , J Centi, R Freeman Boston, MA, USA
10:15-10:30 AM	<b>Coffee Break</b>
<b>Novel Pathophysiology &amp; Therapies for Autonomic Disorders</b> <b>Chairs: David Robertson &amp; Felicia Axelrod</b>	
10:30-10:45 AM	What is the mechanism of non-dipping phenomenon in postural tachycardia syndrome? <u>K Sato</u> , L Diedrich, I Biaggioni, SR Raj, L Wang, D Robertson, A Diedrich Nashville, TN, USA
10:45-11:00 AM	Indomethacin rapidly controls tachycardia in postural tachycardia syndrome <u>SR Raj</u> , I Biaggioni, BK Black, S Paranjape, D Enayat, D Robertson Nashville, TN, USA
11:00-11:15 AM	Beta blockers and exercise tolerance in postural tachycardia <u>A Gamboa</u> , LE Okamoto, G Farley, S Paranjape, B Black, A Diedrich, I Biaggioni Nashville, TN, USA
11:15-11:30 AM	Familial dysautonomia: a genetic disorder with complete afferent baroreflex failure <u>L Norcliffe-Kaufmann</u> , F Axelrod, H Kaufmann New York, NY, USA

11:30-11:45 AM	Cardiac ectopy in chronic autonomic failure <u>DS Goldstein</u> Bethesda, MD, USA
11:45-12:00 PM	Treatment with droxidopa - a phase III multinational, placebo-controlled, parallel group, withdrawal-design study in subjects with neurogenic orthostatic hypotension and non-diabetic autonomic neuropathy <u>H Kaufmann</u> , C Mathias, R Freeman, P Low, I Biaggioni and the Droxidopa Study Group New York, NY, USA
12:00-1:30 PM	<b>Lunch &amp; Poster Session I</b>
1:30-4:10 PM	<b>Free Time</b>
<b>STREETEN LECTURE &amp; TRAINEE TRAVEL AWARDEE PRESENTATIONS</b>	
<b>Chairs: Mark Chapleau &amp; Italo Biaggioni</b>	
4:10-4:15 PM	<b>Awards Session - Introduction</b> <u>Dr. Mark Chapleau</u> Iowa City, IA, USA
4:15-5:00 PM	<b>Streeten Lecture</b> <b>Sensory signals in the development of neurogenic hypertension</b> <u>Dr. Francois M. Abboud</u> Iowa City, IA, USA
5:00-5:15 PM	<b>Streeten Travel Fellowship Award</b> L-Dopa induced depression of hypoxic ventilatory drive in Parkinson's disease <u>C Noack</u> , C Schroeder, S Hartmann, A Lipp Berlin, Germany
5:15-5:30 PM	<b>AAS Travel Award</b> Enhanced SOD activation in the central nervous system and high blood pressure are associated with ACE2 gene deletion in aging mice <u>H Xia</u> , Y Cai, S Bindom, E Lazartigues New Orleans, LA, USA
5:30-5:45 PM	<b>FMS/Penaz Wesseling Award</b> Norepinephrine transporter blockade and cholinesterase inhibition have a synergistic effect on blood pressure in autonomic failure <u>LE Okamoto</u> , A Gamboa, C Shibao, BK Black, SR Raj, D Robertson, I Biaggioni Nashville, TN, USA
5:45-6:00 PM	<b>FMS/Penaz Wesseling Award</b> Autonomic and exercise testing in healthy adults before and after endoscopic thoracic sympathectomy for hyperhidrosis <u>EA Wehrwein</u> , RL Elvebak, RD Fealey, JL Atkinson, N Charkoudian, JH Eisenach Rochester, MN, USA
6:00-7:30 PM	<b>Cocktail Reception Sponsored by Chelsea Therapeutics</b>
<b>FRIDAY, NOVEMBER 13, 2009</b>	
7:00-8:30 AM	<b>Breakfast &amp; Poster Session II</b>

8:30-9:15 AM	<p><b>Plenary Lecture</b>  Sympathetic vasoconstriction in skeletal muscle during exercise: a finely tuned balancing act  Dr. Gail D. Thomas  Dallas, TX, USA</p>
<p><b>Autonomic Regulation in Cardiovascular Disease &amp; Aging</b>  <b>Chairs: Harold Schultz &amp; André Diedrich</b></p>	
9:15-9:30 AM	<p>Spontaneous baroreflex during salt-loading in young hypertensive men  IV Emelyanov, <u>AO Konradi</u>, AY Bagrov, EV Shlyakhto  Saint-Petersburg, Russian Federation</p>
9:30-9:45 AM	<p>Cardiac sympathetic denervation does not alter development or maintenance of DOCA-salt hypertension  <u>EA Wehrwein</u>, M Yoshimoto, P Gusman, DL Kreulen, JW Osborn  Rochester, MN, USA</p>
9:45-10:00 AM	<p>Spinophilin affects central angiotensin II- and L-NAME induced changes in blood pressure regulation in mice  AC da Costa-Goncalves, MA Peliky Fontes, J Janke, J Tank, R Plehm, J Jordan, FC Luft, <u>V Gross</u>  Berlin, Germany</p>
10:00-10:15 AM	<p>High NIHSS scores after stroke onset suggest increased sympathetic risk  <u>MJ Hilz</u>, H Marthol, P De Fina, S Schwab  Erlangen, Germany</p>
10:15-10:30 AM	<p>Reduced parasympathetic heart rate reserve in healthy middle-aged subjects  <u>J Tank</u>, K Heusser, A Diedrich, FC Luft, J Jordan  Hannover, Germany</p>
10:30-10:45 AM	<p>Sympathoinhibitory actions of the urocortin peptides suggest therapeutic potential in acute cardiac injury  <u>CJ Charles</u>, DL Jardine, MT Rademaker, AM Richards  Christchurch, New Zealand</p>
10:45-11:00 AM	<p><b>Coffee Break</b></p>
<p><b>Sympathetic Nerve Activity &amp; Effector Responses in Humans</b>  <b>Chairs: Nisha Charkoudian &amp; Jens Jordan</b></p>	
11:00-11:15 AM	<p>Concurrent recording of spontaneous muscle sympathetic nerve activity and whole-brain fMRI signal intensity: 'real-time' imaging of cardiovascular control in awake human subjects  <u>VG Macefield</u>, C James, LA Henderson  Sydney, Australia</p>
11:15-11:30 AM	<p>Unique sympathetic recruitment patterns by different reflex pathways in humans  <u>C Ozan Tan</u>, JA Taylor  Boston, MA, USA</p>
11:30-11:45 AM	<p>Effects of oral contraceptives on sympathetic neural responses to orthostatic stress in young, healthy women  <u>JR Carter</u>, JC Klein, CE Schwartz  Houghton, MI, USA</p>

11:45-12:00 PM	Effects of aerobic exercise training on sympathetic and renal responses to mental stress in humans <u>CA Ray</u> , JR Carter Hershey, PA, USA
12:00-12:15 PM	Relationship between sympathetic activity and pain intensity in fibromyalgia F Barbic, A Diana, F Casella, F Perego, M Borella, F Dipaola, G Costantino, P Longhi, P Rubin, <u>R Furlan</u> Milan, Italy
12:15-12:30 PM	Sympathetic neural activity and lipolysis TB Curry, <u>HM Tonyan</u> , MJ Joyner, JM Miles, N Charkoudian Rochester, MN, USA
12:30-7:00 PM	<b>Free Time</b>
7:00-10:00 PM	<b>Presidential Dinner</b>
<b>SATURDAY, NOVEMBER 14, 2009</b>	
7:00-8:30 AM	<b>Breakfast &amp; Poster Session III</b>
<b>Orthostasis, Syncope &amp; Cerebral Blood Flow Regulation</b> <b>Chairs: Peter Raven &amp; Wouter Wieling</b>	
8:30-8:45 AM	Contribution of cardiac output and sympathetic vasoconstrictor activity to vasovagal syncope evoked by tilt testing <u>B Verheyden</u> , Q Fu, W Wieling, B Levine Leuven, Belgium
8:45-9:00 AM	Increased phase synchronization in syncope <u>AJ Ocon</u> , D Clark, I Taneja, M Medow, JM Stewart Hawthorne, NY, USA
9:00-9:15 AM	Association between oscillations in cerebral blood velocity and sympathetic activity <u>CA Rickards</u> , KL Ryan, VA Convertino Fort Sam Houston, TX, USA
9:15-9:30 AM	The effects of sex and aging on cerebral blood flow regulation <u>BM Deegan</u> , FA Sorond, LA Lipsitz, G O'Laighin, JM Serrador Galway, Ireland
9:30-9:45 AM	Acute effect of sildenafil (Viagra) on cerebrovascular hemodynamic responses in healthy males S Jahshan, M Zaaroor, V Shik, M Masoud, Y Vardi, <u>G Jacob</u> Haifa, Israel
9:45-10:15 AM	<b>Business Meeting</b>
10:15-10:30 AM	<b>Coffee Break</b>
<b>Autoimmune &amp; Diabetic Neuropathies, Hypoglycemia</b> <b>Chairs: Phillip Low &amp; Vaughan Macefield</b>	

10:30-10:45 AM	Plasma catecholamine profile in autoimmune autonomic ganglionopathy <u>W Singer</u> , S Vernino, P Sandroni, PA Low Rochester, MN, USA
10:45-11:00 AM	Modern approaches to diagnosis of diabetic cardiovascular autonomic neuropathy OV Mamontov, EA Shapkova, EI Krasilnikova, <u>EV Shlyakhto</u> Saint-Petersburg, Russian Federation
11:00-11:15 AM	The upregulation of catecholaminergic fibers in diabetes <u>C Gibbons</u> , N Wang, B Illigens, C Brown, R Freeman Boston, MA, USA
11:15-11:30 AM	Peripheral nerve function in patients with clinical evidence of diabetic neuropathy <u>C Gibbons</u> , R Freeman, A Veves Boston, MA, USA
11:30-11:45 AM	The effects of hypoglycemic and euglycemic hyperinsulinemia on aldosterone GK Adler, I Bonyhay, V Curren, E Waring, <u>R Freeman</u> Boston, MA, USA
11:45-12:00 PM	<b>Open Discussion/Future Directions</b> <b>Chairs: Roy Freeman &amp; Benjamin Levine</b>
12:00 PM	<b>Adjourn</b>

<b>POSTER SESSION I</b> <b>Thursday, November 12, 2009</b> <b>12:00-1:30 PM</b>	
<b>Postural Orthostatic Tachycardia Syndrome</b> <b>Chairs: Benjamin Levine &amp; William Cheshire</b>	
Poster #1	Change in thoracic fluid content has a linear relationship with change in heart rate in patients with POTS <u>S Ashfaq</u> , R Horne, M Ishaque, P Reddy, T Fugitt, A Suleman Dallas, TX, USA
Poster #2	Heart rate recovery characteristics in the postural tachycardia syndrome: factors influencing a return to baseline <u>KA Mayuga</u> , C Gaw, C Tatsuoka, F Fouad-Tarazi Cleveland, OH, USA
Poster #3	Neurohormonal and autonomic changes after head-up tilt in postural tachycardia syndrome (POTS) <u>J Freitas</u> , R Santos, F Boomsma, MJ Maciel, F Rocha-Goncalves Porto, Portugal
Poster #4	Cardiovascular and sympathetic neural responses to handgrip and cold pressor stimuli in the postural orthostatic tachycardia syndrome <u>Q Fu</u> , TB VanGundy, S Shibata, MM Galbreath, BD Levine Dallas, TX, USA
Poster #5	Chronic treatment with propranolol does not alter sympathetic neural responses to handgrip and cold pressor stimuli in the postural orthostatic tachycardia syndrome <u>Q Fu</u> , TB VanGundy, S Shibata, MM Galbreath, BD Levine Dallas, TX, USA
Poster #6	Chemoreceptor sensitivity in postural tachycardia syndrome <u>I Taneja</u> , MS Medow, AJ Ocon, DA Clarke, JM Stewart Hawthorne, NY, USA
Poster #7	Defects in cutaneous angiotensin converting enzyme 2 and angiotensin-(1-7) production in postural tachycardia syndrome <u>JM Stewart</u> , AJ Ocon, D Clarke, I Taneja, MS Medow Hawthorne, NY, USA
Poster #8	Postural orthostatic tachycardia syndrome with ganglionic nAChR autoantibody positivity <u>V Iodice</u> , K Kimpinski, P Sandroni, S Vernino, PA Low Rochester, MN, USA
Poster #9	Gynecological abnormalities and catamenial lightheadedness in postural tachycardia syndrome D Enayat, D Robertson, BK Black, I Biaggioni, NR Keller, <u>SR Raj</u> Nashville, TN, USA
Poster #10	The effect of pregnancy on postural tachycardia syndrome <u>K Kimpinski</u> , V Iodice, P Sandroni, PA Low Rochester, MN, USA
<b>Cystitis, IBS, Fibromyalgia, Migraine &amp; Depression</b> <b>Chairs: Thomas Chelimsky &amp; Christopher Gibbons</b>	

Poster #11	Familial co-morbidities of interstitial cystitis <u>E Heller</u> , CT Buffington, R Rackley, D Zhang, T Chelimsky Cleveland, OH, USA
Poster #12	Effects of sacral nerve stimulation on sympathetic nerve activity during graded head up tilt: a case report <u>L Diedrich</u> , P Konrad, A Diedrich, K Sato, D Sukdeb Nashville TN, USA
Poster #13	Gender differences in autonomic reactivity to stress in IBS and healthy children <u>M Puzanovova</u> , A Diedrich, LS Walker Nashville, TN, USA
Poster #14	Migraines and gastroparesis: a clinical and treatment outcome analysis <u>M Isani</u> , C Lahr, J Hughes, L Halley, A Kedar, T Kothari, C Subramony, T Abell, R Schmeig Flowood, MS, USA
Poster #15	Migraines and gastroparesis: a histophysiologic analysis <u>M Isani</u> , C Lahr, J Hughes, L Halley, A Kedar, T Kothari, C Subramony, T Abell, R Schmeig Flowood, MS, USA
Poster #16	Evaluation of symptoms and psychosocial issues in younger patients with neurogenic orthostatic hypotension <u>JL Gilden</u> , D Vahedi, A Nuygen, A Garg, N Patel, R Marri, S Ubhayakar Chicago, IL, USA
Poster #17	Essential hypotension registry: Psychometric measurements for anxiety, depression and coping strategies: Hypotension is associated with depression and anxiety. Is there a psycho-biotype? Preliminary report <u>LE Medina</u> , J Ospina, MA Lemos, G Cuartas, J Calle, M Gutierrez, Y Torres Medellin, Colombia
<b>Pediatric Autonomic Disorders</b>	
<b>Chairs: Gisela Chelimsky &amp; Felicia Axelrod</b>	
Poster #18	Norepinephrine levels in pediatric postural tachycardia syndrome G Chelimsky, <u>S Madan</u> , D Zhang, T Chelimsky Cleveland, OH, USA
Poster #19	Autonomic dysfunction in adolescents with irritable bowel syndrome (IBS) N Raghunath, E Rivera, AJ Ocon, JM Stewart, <u>MS Medow</u> Hawthorne, NY, USA
Poster #20	Hypovitaminosis D in postural tachycardia syndrome (POTS) in adolescents <u>IT Jarjour</u> , LK Jarjour Houston, TX, USA
Poster #21	Nutritional correlates of orthostatic intolerance and chronic fatigue <u>RM Antiel</u> , JS Caudill, BEU Burkhardt, CK Brands, PR Fischer Rochester, MN, USA
Poster #22	Sleep patterns in children with autonomic disorders compared to children with organic gastrointestinal illness <u>S Safder</u> , C Rosen, G Chelimsky Cleveland, OH, USA
Poster #23	Acquired orthostatic intolerance and alpha-3 ganglionic acetylcholine antibodies in an adolescent girl HR Murali, KJ Mack, <u>NL Kuntz</u> Rochester, MN, USA

Poster #24	Hyperventilation induced neurally mediated syncope S Dietz, J Sanders, P Thakker, H Vyas, <u>WP Whitehouse</u> Nottingham, UK
Poster #25	Panic attack and neurally mediated syncope in the same patient J Sanders, S Dietz, <u>WP Whitehouse</u> Nottingham, UK
Poster #26	Autonomic and neuroendocrine features of familial Panayiotopoulos syndrome <u>A Gonzalez Duarte</u> , L Norcliffe-Kaufmann, J Martinez, F Axelrod, H Kaufmann New York, NY, USA
<p><b>POSTER SESSION II</b>  <b>Friday, November 13, 2009</b>  <b>7:00-8:30 AM</b></p> <p><b>Autonomic Assessment in Health &amp; Disease</b>  <b>Chairs: Andrew Taylor &amp; Max Hilz</b></p>	
Poster #27	Plethysmography improves interpretation of the blood pressure response to the Valsalva maneuver <u>F Fouad-Tarazi</u> , R Shields, F Jaeger, R Christian Cleveland, OH, USA
Poster #28	Autonomic function is preserved in the majority of male and female Fabry patients M Biegstraaten, IN van Schaik, <u>W Wieling</u> , FA Wijburg, CEM Hollak Amsterdam, The Netherlands
Poster #29	Autonomic modulation is not altered in mitochondrial myopathy <u>MN Bartels</u> , RE Gerardo, K Engelstad, R De Meersman, P Kaufmann New York, NY, USA
Poster #30	Essential hypotension registry: Sympathovagal balance at 24 hours, day and night in ambulatory Holter monitoring according to blood pressure groups in real-life settings <u>L Medina</u> , M Duque, J Marin, E Gonzalez, V Astudillo, J Aristizabal, J Bernal, MA Restrepo, A Arroyave, G Jaramillo, Y Torres, W Uribe Medellin, Colombia
Poster #31	Essential hypotension registry. Cardiovascular reactivity: A search for the integration of the neuro-cardiovascular relationship and their association with glucose challenge and depression <u>L Medina</u> Medellin, Colombia
Poster #32	HIV/AIDS leads to early cardiovascular autonomic neuropathy P Nemecek, S Ghosh-Dastidar, <u>J Colombo</u> Philadelphia, PA, USA
Poster #33	Early autonomic dysfunction is associated with secondary hypertension in HIV/AIDS patients P Nemecek, S Ghosh-Dastidar, <u>J Colombo</u> Philadelphia, PA, USA
Poster #34	Factitious recurrent tachyarrhythmias with cardiac enzyme elevations <u>A Gonzalez Duarte</u> , L Norcliffe-Kaufmann, J Martinez, H Kaufmann New York, NY, USA

<b>Physiology &amp; Pathophysiology in Humans</b>	
<b>Chairs: Chet Ray &amp; Qi Fu</b>	
Poster #35	Modelflow underestimates cardiac output in heat stressed humans <u>CG Crandall</u> , TE Wilson, M Bundgaard-Nielsen, T Seifert, NH Secher Dallas, TX, USA
Poster #36	Immediate hemodynamic and sympathetic responses to coffee <u>DL Jardine</u> , JM Butler Christchurch, New Zealand
Poster #37	Melatonin attenuates the vestibulosympathetic reflex in humans <u>JS Cook</u> , CA Ray Hershey, PA, USA
Poster #38	Evaluation of a novel non model driven assessment of cardiac autonomic activity: response to initiation and termination of head-up tilt (HUT) <u>R Schondorf</u> , J Benoit, MJ Lafitte Montreal, QC, Canada
Poster #39	Wavelet transform assessment of heart rate variability during simulated orthostatic stress after antecedent hypoglycemia <u>M Risk</u> , I Bonyhay, G Adler, E Waring, V Curren, R Freeman Boston, MA, USA
Poster #40	Peripheral endocannabinoid concentrations during orthostatic stress <u>C Schroeder</u> , S Batkai, S Engeli, J Tank, A Diedrich, FC Luft, J Jordan Berlin, Germany
Poster #41	Baroreceptor sensitivity and autonomic modulations in obese and non-obese children <u>P Latchman</u> , M Mathur, MN Bartels, R De Meersman Stamford, CT, USA
Poster #42	Impaired sympathetic vasoconstriction in athletes with hypertension OV Bogomolova, OV Mamontov, AO Konradi, <u>EV Shlyakhto</u> Saint-Petersburg, Russian Federation
Poster #43	Paradoxically preserved cardiovascular reflexes in patients with continuous flow left ventricular assist devices <u>C Rasche-Schuermann</u> , J Tank, K Heusser, D Malehsa, C Bara, J Jordan, M Strueber Hannover, Germany
Poster #44	Cerebral blood flow regulation during intermittent hypoxia (IH) induced increases in sympathetic activity <u>PB Raven</u> , WL Eubank, S Ogoh Fort Worth, TX, USA
Poster #45	Alteration of baroreflexes and autoregulation of cerebral blood flow in diabetic autonomic neuropathy <u>SJ Yeh</u> , CC Chiu, BY Liau Taichung, Taiwan
Poster #46	Systemic blood pressure, cerebral blood flow and autonomic cardiovascular modulation during mental challenge in SCI <u>JM Wecht</u> , D Rosado-Rivera, WA Bauman Bronx, NY, USA
<b>Advances in Basic Autonomic Neuroscience</b>	
<b>Chairs: David Jardine &amp; Volkmar Gross</b>	

Poster #47	Chronic femoral artery occlusion augments exercise pressor reflex in decerebrated rats H Tsuchimochi, JL McCord, SG Hayes, S Koba, <u>MP Kaufman</u> Hershey, PA, USA
Poster #48	Microscopic analysis of sympathetic and parasympathetic axon distribution, structure and interaction in whole-mount C57BL/6 mouse atria <u>SW Harden</u> , ZJ Cheng Orlando, FL, USA
Poster #49	Response of parasympathetic cardiac vagal neurons to hypoxia and hypercapnia <u>D Mendelowitz</u> Washington, DC, USA
Poster #50	Mechanisms of enhanced carotid body function in heart failure: a link to vascular endothelial function <u>HD Schultz</u> , Y Ding, J Yin, Y Li, M Zimmerman Omaha, NE, USA
Poster #51	Paraventricular nucleus (PVN) noradrenergic-mediated sympathetic activation in chronic heart failure (CHF) <u>KP Patel</u> , X Liu, H Zheng Omaha, NE, USA
Poster #52	Altered balance of subthreshold K <sup>+</sup> and Ca <sup>2+</sup> channels contributes to enhanced excitability of preautonomic PVN neurons in hypertensive rats <u>JE Stern</u> , JA Filosa, PM Sonner Augusta, GA, USA
Poster #53	TRPV4 is essential for water's pressor effect <u>J McHugh</u> , M Appalsamy, A Diedrich, J Jordan, SR Raj, D Robertson Nashville, TN, USA

**POSTER SESSION III**  
**Saturday, November 14, 2009**  
**7:00-8:30 AM**

**Hypotensive Disorders & Syncope**  
**Chairs: Giris Jacob & A. Kim Johnson**

Poster #54	Essential hypotension registry: definition, blood pressure and demographic report <u>L Medina</u> Medellin, Colombia
Poster #55	Syncope diagnosis in patients with no apparent structural heart disease and components for both neurally mediated and cardiac origin (mixed syncope): Is a quantitative history score reliable? <u>L Medina</u> , M Duque, J Marin, E Gonzalez, V Astudillo, J Aristizabal, J Bernal, MA Restrepo, A Arroyave, Y Torres, W Uribe Medellin, Colombia
Poster #56	Clinical spectrum as predictor of tilt induced neurally mediated reflex in patients with orthostatic intolerance <u>J Freitas</u> , E Tajera, R Santos, MJ Maciel, F Rocha-Goncalves Porto, Portugal

Poster #57	Fainting early or late – Does it make a difference? <u>KJ McNeeley</u> , D Zhang, TC Chelimsky Cleveland, OH, USA
Poster #58	Head-up tilt testing in children and young people with transient loss of consciousness: is it useful? S Dietz, J Murfitt, L Florence, P Thakker, <u>WP Whitehouse</u> Nottingham, UK
Poster #59	Cardiovascular autonomic functions in symptomatic and asymptomatic patients of orthostatic hypotension <u>E Khandelwal</u> , AK Jaryal, KK Deepak New Delhi, India
Poster #60	Severe cardiodepression underlies prolonged postfaint hypotension <u>W Wieling</u> , J Rozenberg, IK Schon, DL Jardine, BE Westerhof Amsterdam, The Netherlands
Poster #61	Hemodynamic study of the efficacy of lower limb and abdominal compression bandage in preventing delayed orthostatic hypotension <u>C Podoleanu</u> , R Maggi, D Oddone, A Solano, P Donateo, F Croci, E Carasca, C Gingham, M Brignole Targu Mures, Romania
Poster #62	Physiologic assessment of autonomic dysfunction in cough syncope <u>WP Cheshire</u> Jacksonville, FL, USA
Poster #63	Systemic capillary leak syndrome: a rare cause of severe episodic hypotension <u>G Matte</u> , RW Shields Jr Cleveland, OH, USA
<b>Peripheral Autonomic Neuropathies</b> <b>Chairs: Paola Sandroni &amp; Jorge Serrador</b>	
Poster #64	Novel immunofluorescent methods in peripheral autonomic nerve fiber imaging <u>C Gibbons</u> , N Wang, R Freeman Boston, MA, USA
Poster #65	Skin biopsy findings in complex regional pain syndrome <u>KR Chémali</u> , L Zhou Cleveland, OH, USA
Poster #66	Sudomotor innervation: correlating functional and pathologic data <u>A Loavenbruck</u> , W Kennedy, G Wendelshafer-Crabbe, P Sandroni Minneapolis, MN, USA
Poster #67	Sudomotor dysfunction in autoimmune autonomic ganglionopathy <u>K Kimpinski</u> , V Iodice, P Sandroni, RD Fealey, S Vernino, PA Low Rochester, MN, USA
Poster #68	Assessment of other symptoms of autonomic dysfunction in diabetic patients with and without neurogenic orthostatic hypotension <u>JL Gilden</u> , A Nuygen, D Vahedi, S Ubhayakar Chicago, IL, USA
Poster #69	Autoimmune autonomic ganglionopathy presenting as Harlequin syndrome <u>W Singer</u> , RD Fealey, PA Low Rochester, MN, USA

Poster #70	Enhancing sensory vibration perception using imperceptible electrical stimulation <u>PP Breen</u> , G O'Laughin, C McIntosh, S Dineen, JM Serrador Galway, Ireland
<b>CNS Disorders, Autonomic Failure &amp; Therapies</b> <b>Chairs: Vera Novak &amp; David Goldstein</b>	
Poster #71	Posturo-respiratory coupling during upright stance: effects of age and stroke <u>B Manor</u> , K Hu, CK Peng, L Lipsitz, V Novak Boston, MA, USA
Poster #72	How common are electrocardiographic, oximeter, and QTc changes in patients during partial complex and secondarily generalized seizures? <u>BD Moseley</u> , E Wirrell, E Benarroch, J Britton Rochester, MN, USA
Poster #73	Hemispheric sidedness, epilepsy surgery and cardiovascular autonomic functions <u>N Choudhary</u> , M Tripathi, PS Chandra, R Sagar, AK Jaryal, RM Pandey, D Kondal, KK Deepak New Delhi, India
Poster #74	Brain death is preceded by sympathetic cardiovascular hyperactivity <u>MJ Hiltz</u> , H Marthol, T Intravooth, P De Fina, S Schwab Erlangen, Germany
Poster #75	The question remains...is autonomic dysfunction associated with Arnold Chiari malformation? <u>D Turner</u> Bartlett, TN, USA
Poster #76	Carvedilol reverses standing parasympathetic excess in non-diabetics RR Arora, RJ Bulgarelli, M Hearyman, S Ghosh-Dastidar, <u>J Colombo</u> Philadelphia, PA, USA
Poster #77	Treatment of multiple system atrophy using intravenous immunoglobulins – Update <u>P Novak</u> , P Raven, BM White, A Williams, V Novak Worcester, MA, USA
Poster #78	A case report of albumin infusions in a patient with pure autonomic failure <u>A Suleman</u> , R Horne, M Ishaque Dallas, TX, USA

**This program is sponsored in part by unrestricted educational grants provided by the following.  
This support is gratefully acknowledged.**

Main Sponsors:

**Chelsea Therapeutics, Inc.**

**Dainippon Sumitomo Pharma Co. Ltd.**

Award Sponsor:

**Finapres Medical Systems**