

21ST INTERNATIONAL SYMPOSIUM ON THE AUTONOMIC NERVOUS SYSTEM

Marco Island Marriott Beach Resort, Spa & Golf Club
Marco Island, Florida
November 3-6, 2010

Program

WEDNESDAY, NOVEMBER 3, 2010	
6:00-7:00 PM	Registration & Welcome Reception Palms Ballroom Sabal Foyer
7:00-7:15 PM	Welcome - Dr. Mark Chapleau, President Palms Ballroom Sabal
Sympathovagal Balance in Physiological & Pathological States Chairs: Jens Tank & André Diedrich	
7:15-7:30 PM	Parasympathetic-sympathetic modulation 101 <u>M.W. Chapleau</u> Iowa City, IA, USA
7:30-7:45 PM	Respiration-adjusted low frequency power of heart rate variability reflects baroreflex function, not cardiac sympathetic innervation F. Rahman, S. Pechnik, D.J. Gross, L. Sewell, <u>D.S. Goldstein</u> Bethesda, MD, USA
7:45-8:00 PM	Relationship between cardiovagal activity and endothelial function in young healthy subjects <u>A. Pinter</u> , T. Horváth, M. Kollai Budapest, Hungary
8:00-8:15 PM	Autonomic function in mild cognitive impairment <u>O. Collins</u> , S. Dillon, C. Finnucane, B.A. Lawlor, R.A. Kenny Dublin, Ireland
8:15-8:30 PM	Parasympathetic "bias" as a form of autonomic dysregulation associated with depressive/hopeless states <u>B.D. Miller</u> , B.L. Wood Buffalo, NY, USA
8:30-8:45 PM	Association of arterial pressure oscillations with direct measurement of sympathetic outflow in subjects with differing tolerances to central hypovolemia <u>K.L. Ryan</u> , C.A. Rickards, C. Hinojosa-Laborde, V.A. Convertino Fort Sam Houston, TX, USA
8:45-9:00 PM	Cardiovascular autonomic assessment in rats with spinal cord injury <u>J.A. Inskip</u> , L.M. Ramer, M.S. Ramer, A.V. Krassioukov, V.E. Claydon Vancouver, BC, Canada

THURSDAY, NOVEMBER 4, 2010

7:00-7:45 AM **Breakfast & Exhibits**
Palms Ballroom Royal

Postural Orthostatic Tachycardia Syndrome
Chairs: Julian Stewart & Jens Jordan

7:45-8:00 AM Prospective analysis of postural tachycardia syndrome
K. Kimpinski, V. Iodice, D.M. Sletten, W. Singer, P. Sandroni, A. Lipp, T.L. Gehrking, J.A. Gehrking, K.K. Nickander, P.R. Fischer, J. Figueroa, R.D. Fealey, P.A. Low
London, ON, Canada

8:00-8:15 AM Diurnal variations of blood pressure in postural tachycardia syndrome: dippers vs. non-dippers
J.J. Figueroa, D. Bott-Kitslaar, J.A. Mercado, J.R. Basford, P. Sandroni, W. Singer, M.J. Joyner, W.K. Shen, D.M. Sletten, T.L. Gehrking, J.A. Gehrking, P.A. Low
Rochester, MN, USA

8:15-8:30 AM Blood volume deficit and the non-dipping phenomenon in postural tachycardia syndrome
A. Diedrich, K. Sato, S.R. Raj, L. Diedrich, V. Weimann, I. Biaggioni, D. Robertson
Nashville, TN, USA

8:30-8:45 AM Regulation of the renin-angiotensin-aldosterone system in postural tachycardia syndrome
H.I. Mustafa, S.R. Raj, B.K. Black, S.Y. Paranjape, I. Biaggioni, D. Robertson
Nashville, TN, USA

8:45-9:00 AM Baroreceptor unloading augments peripheral and decreases central chemoreceptor sensitivity in postural tachycardia syndrome
I. Taneja, D.A. Clarke, M.S. Medow, A.J. Ocon, J.M. Stewart
Valhalla NY, USA

9:00-9:15 AM The effects of intense cardiovascular exercise on postural tachycardia syndrome: a physiologic success but a treatment failure
C. Gibbons, R. Freeman
Boston, MA, USA

9:15-9:30 AM Blockade of norepinephrine transporter magnifies tachycardia and worsens symptoms in postural tachycardia syndrome (POTS)
S.R. Raj, I. Biaggioni, B.K. Black, C.A. Shibao, S.Y. Paranjape, D. Robertson
Nashville, TN, USA

9:30-10:00 AM **AAS Business Meeting**

10:00-10:15 AM **Coffee Break**
Palms Ballroom Royal

Orthostatic Hypotension & Syncope	
Chairs: Wouter Wieling & Maria Hopman	
10:15-10:30 AM	Climate influence on emergency department syncope attendances: The role of temperature variability A. Galli, F. Barbic, M. Borella, G. Costantino, F. Perego, F. Dipaola, F. Casella, P.G. Duca, A. Diedrich, S. Raj, D. Robertson, A. Porta, <u>R. Furlan</u> Bergamo, Italy
10:30-10:45 AM	Hypertension, orthostatic hypotension and the risk of falls in a community-dwelling elderly population: the MOBILIZE Boston study A. Gangavati, I. Hajjar, L. Quach, R.N. Jones, D.K. Kiely, P. Gagnon, <u>L.A. Lipsitz</u> Roslindale, MA, USA
10:45-11:00 AM	Effects of age on vasomotor sympathetic activity and hemodynamic responses during neurally mediated syncope <u>Q. Fu</u> , M.M. Galbreath, T.B. VanGundy, S.S. Jarvis, R.L. Meier, B.D. Levine Dallas, TX, USA
11:00-11:15 AM	Muscle sympathetic nerve activity responses during prolonged post faint hypotension <u>J. Rozenberg</u> , W. Wieling, D. Jardine Amsterdam, The Netherlands
11:15-11:30 AM	Sympathetic nerve protein abnormalities in patients with recurrent vasovagal syncope <u>M. Esler</u> , L. Guo, E. Lambert, G. Lambert, G. Vaddadi Melbourne, Australia
11:30-11:50 AM	Experience with droxidopa (Northera™) in a phase III multinational, placebo-controlled, parallel group, induction-design study to assess clinical benefit and safety in subjects with neurogenic orthostatic hypotension <u>H. Kaufmann</u> , C. Mathias, P. Low, I. Biaggioni, R. Freeman, and the Droxidopa Study Group New York, NY, USA
11:50-12:00 PM	Open Discussion
12:00-1:30 PM	Lunch & Poster Session I Palms Ballroom Royal
1:30-3:45 PM	Free Time
Awards Session	
Chairs: Mark Chapleau & Michael Joyner	
3:45-4:00 PM	Introduction Dr. Mark Chapleau
4:00-4:45 PM	Streeten Lecture An autonomic journey in only 30 seconds <u>Wouter Wieling, M.D., Ph.D.</u> Department of Medicine, Academic Medical Centre, Amsterdam, The Netherlands

4:45-5:00 PM	<p>Streeten Travel Fellowship Award Preserved peripheral vasoconstriction during an orthostatic challenge in pure autonomic failure <u>J.T. Groothuis</u>, D.H.J. Thijssen, J. Deinum, J.W.M. Lenders, M.T.E. Hopman Nijmegen, The Netherlands</p>
5:00-5:15 PM	<p>FMS/Penaz Wesseling Award Relationship between muscle sympathetic nerve activity and aortic wave reflection characteristics in young men and women <u>D.P. Casey</u>, T.B. Curry, M.J. Joyner, N. Charkoudian, E.C. Hart Rochester, MN, USA</p>
5:15-5:30 PM	<p>FMS/Penaz Wesseling Award Beta-2 adrenergic receptor gene variation and the cardiovascular response to orthostatic testing <u>E.D. Wittwer</u>, N.D. Warner, Z. Liu, D.R. Schroeder, A.M. Nadeau, A.R. Allen, C.J. Murillo, J.H. Eisenach Rochester, MN, USA</p>
5:30-5:45 PM	<p>AAS Travel Award Quantitative Pilomotor Axon-Reflex Test (QPART) – A novel quantitative test of pilomotor function <u>T. Siepmann</u>, C. Gibbons, J. Lafo, C. Brown, R. Freeman Boston, MA, USA</p>
5:45-6:00 PM	<p>AAS Travel Award Altered leptin sensitivity for baroreflex suppression within the solitary tract nucleus of older Sprague-Dawley rats is associated with increased endogenous leptin tone <u>A.C. Arnold</u>, D.I. Diz Winston-Salem, NC, USA</p>
6:00-6:15 PM	<p>MSA Research Award Prospective 5-year natural history study of probable multiple system atrophy (MSA) in 175 North American subjects S. Gilman, <u>P.A. Low</u>, S. May, C. Tanner, M. Stern, P. Sandroni, S. Reich, F. Marshall, P. Novak, J. Jankovic, G. F. Wooten, B. Racette, D. Sletten, C. Shults Rochester, MN, USA (Poster 65)</p>
6:15-7:45 PM	<p>American Autonomic Society Reception (Registrants & Guests) Hosted by Chelsea Therapeutics Palms Terrace</p>
<p>FRIDAY, NOVEMBER 5, 2010</p>	
7:00-7:30 AM	<p>Breakfast & Exhibits Palms Ballroom Royal</p>

7:30-8:15 AM	<p>Plenary Lecture Linking cyclic nucleotide regulation to the neural control of cardiac excitability: implications for therapeutic targeting <u>David J. Paterson, D.Phil, D.Sc.</u> Department of Physiology, Anatomy & Genetics, University of Oxford, Oxford, United Kingdom</p>
<p>Control of Sympathetic Nerve Activity & Blood Flow in Humans Chairs: Chet Ray & Jason Carter</p>	
8:15-8:30 AM	<p>Sympathetic cardiovascular control functional mapping of the ventrolateral medullary surface in humans with microneurography and circulatory monitoring <u>C.M. Welzig</u>, S.J. Patel Charleston, SC, USA</p>
8:30-8:45 AM	<p>Sympathetic neural responsiveness to increasing and decreasing arterial pressures in young and older humans: the role of baseline nerve activity <u>E.C. Hart</u>, B.G. Wallin, M.J. Joyner, T.B. Curry, N. Charkoudian Rochester, MN, USA</p>
8:45-9:00 AM	<p>Elderly hypertensive women have lower cardiovagal but similar sympathetic baroreflex sensitivity compared with elderly hypertensive men <u>Q. Fu</u>, M.M. Galbreath, T.B. VanGundy, S.S. Jarvis, R.L. Meier, S. Shibata, W. Vongpatanasin, B.D. Levine Dallas, TX, USA</p>
9:00-9:15 AM	<p>Concurrent recording of spontaneous skin sympathetic nerve activity and whole-brain fMRI signal intensity in awake human subjects V.G. Macefield, <u>C. James</u>, L.A. Henderson Sydney, Australia</p>
9:15-9:30 AM	<p>The role of reactive oxygen species (ROS) in the control of skin blood flow response to local heat in healthy subjects <u>M.S. Medow</u>, N. Bamji, D. Clarke, A.J. Ocon, J.M. Stewart Hawthorne, NY, USA</p>
9:30-11:00 AM	<p>Coffee & Poster Session II Palms Ballroom Royal</p>
<p>Autonomic-Cardiac-Blood Pressure Interactions in Humans & Animal Models Chairs: Gregory Fink & Italo Biaggioni</p>	
11:00-11:15 AM	<p>Novel role for the peripheral chemoreceptors in regulating blood glucose <u>E.A. Wehrwein</u>, R. Basu, A. Basu, T.B. Curry, R. Rizza, M.J. Joyner Rochester, MN, USA</p>
11:15-11:30 AM	<p>Modulation of the ventilatory baroreflex by changes in chemoreceptor activation D.A. Clarke, A.J. Ocon, I. Taneja, M.S. Medow, <u>J.M. Stewart</u> Hawthorne, NY, USA</p>
11:30-11:45 AM	<p>Cardiovascular responses during acute intermittent apnea in normotensive and spontaneously hypertensive conscious rats <u>S.L. Cravo</u>, M.V. Rossi, T.A. Silva, S. Tufik, G.H.M. Schoorlemmer Sao Paulo, Brazil</p>

11:45-12:00 PM	Autonomic dysregulation precedes and predicts cardiac dysfunction and mortality in a mouse model of muscular dystrophy <u>R. Sabharwal</u> , R.M. Weiss, K. Zimmerman, M.W. Chapleau Iowa City, IA, USA
12:00-12:15 PM	Baroreflex failure makes patients super susceptible to volume overload and predisposes patients to pulmonary edema in the absence of left ventricular systolic failure <u>K. Sunagawa</u> Fukuoka, Japan
12:15-12:30 PM	Mechanism and durability of blood pressure reduction with catheter-based denervation in essential hypertension <u>M. Esler</u> , M. Schlaich, R. Whitbourn, A. Walton, H. Krum Melbourne, Australia
12:30-4:00 PM	Free Time
Highlights from the Posters on Stage Chairs: Mark Chapleau & Peter Raven	
4:00-4:08 PM	Poster 19 Role of otolith inputs in cerebral blood flow regulation <u>J.M. Serrador</u> , B. Deegan, S. Forstbauer, T. Nichols, S.J. Wood East Orange, NJ, USA
4:08-4:16 PM	Poster 13 Mechanisms mediating tilt-induced (pre)syncope may be sensitive to age but not gender <u>C. Schroeder</u> , J. Tank, K. Heusser, A. Diedrich, F.C. Luft, J. Jordan Berlin, Germany
4:16-4:24 PM	Poster 52 Postural tachycardia in children and adolescents - what is abnormal? <u>W. Singer</u> , D.M. Sletten, T.L. Opfer-Gehrking, P.A. Low Rochester, MN, USA
4:24-4:32 PM	Poster 26 Regional hypothalamic activity associated with spontaneous fluctuations in muscle sympathetic nerve activity in humans <u>C. James</u> , L.A. Henderson, V.G. Macefield Sydney, Australia
4:32-4:40 PM	Poster 29 Single-unit muscle sympathetic nerve activity responsiveness to lower body negative and positive pressure in healthy humans <u>H. Murai</u> , C.F. Notarius, B.L. Morris, D. Kimmerly, P. Picton, J.S. Floras Toronto, ON, Canada
4:40-4:48 PM	Poster 31 Mental stress attenuates sympathetic baroreflex sensitivity in humans <u>J.R. Carter</u> , J.J. Durocher, C.E. Schwartz, J.C. Klein Houghton, MI, USA

4:48-4:56 PM	Poster 33 Does yogic breathing increase baroflex gain? <u>S.M. Bertisch</u> , C.O. Tan, J.A. Taylor Boston, MA, USA
4:56-5:04 PM	Poster 34 Can meditation influence the autonomic nervous system? A case report of a man immersed in crushed ice for 80 minutes J.T. Groothuis, T.M. Eijvogels, R.R. Scholten, D.H.J. Thijssen, <u>M.T.E. Hopman</u> Nijmegen, The Netherlands
5:04-5:12 PM	Poster 49 Reduced SK channel function mediates enhanced excitability of pre-sympathetic PVN neurons and sympathoexcitation in heart failure L. Gui, J.H. Zhu, L.P. LaGrange, <u>Q.H. Chen</u> Houghton, MI, USA
5:12-5:20 PM	Poster 50 Early autonomic dysfunction and cardiac failure in a mouse model of spinal muscular atrophy <u>A.K. Bevan</u> , K.R. Hutchinson, K.D. Foust, L. Braun, V.L. McGovern, L. Schmelzer, J.G. Ward, J.C. Petruska, P.A. Lucchesi, A.H.M. Burghes, B.K. Kaspar Columbus, OH, USA
5:20-5:28 PM	Poster 59 Congenital Central Hypoventilation Syndrome (CCHS): PHOX2B genotype/CCHS pupillary function phenotype P.P. Patwari, J. Chesniak, N.L. Kuntz, A.S. Kenny, <u>D.E. Weese-Mayer</u> Chicago, IL, USA
5:28-5:36 PM	Poster 73 Positron emission tomography guided placement of deep brain stimulator electrodes in the treatment of medically refractory cluster headache <u>W.P. Cheshire</u> , R.E. Wharen Jacksonville, FL, USA

SATURDAY, NOVEMBER 6, 2010

7:00-7:30 AM	Breakfast & Exhibits Palms Ballroom Royal
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7:30-8:15 AM	Plenary Lecture What is the mechanism for circadian rhythms of body temperature? <u>Clifford B. Saper, M.D., Ph.D.</u> Department of Neurology, Program in Neuroscience, and Division of Sleep Medicine, Beth Israel Deaconess Medical Center and Harvard Medical School, Boston, MA, USA
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Autonomic & Vascular Dysfunction in Diabetes

Chairs: Roy Freeman & Max Hilz

8:15-8:30 AM	Increased adrenergic innervation of sweat glands in early diabetic neuropathy <u>C. Gibbons</u> , N. Wang, C. Brown, R. Freeman Boston, MA, USA
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8:30-8:45 AM	Effects of inflammation on vasoreactivity, white matter hyperintensity and brain volume in diabetes P. Zhao, B. Manor, M. Munshi, D. Alsop, A. Abduljalil, <u>P. Novak</u> , P. Roberson, V. Novak Boston, MA, USA
8:45-9:00 AM	Features of cardiac autonomic neuropathy in patients with diabetic foot syndrome. Effect of sympathetic vasomotor dysfunction and poor control of hypertension O.V. Mamontov, O.E. Korotkova, T.A. Zelenina, <u>E.V. Shlyakhto</u> St. Petersburg, Russian Federation
9:00-9:15 AM	GSK3 β : a new mechanism in cardiac diabetic autonomic dysfunction <u>Y. Zhang</u> , H.-J. Park, C.M. Welzig, K. Picard, C. Du, S. Georgescu, C. Vaickus, M. Aronovitz, W. Claycomb, J.B. Galper Boston, MA, USA
9:15-10:45 AM	Coffee & Poster Session III Palms Ballroom Royal
Autonomic Failure in the Synucleinopathies Chairs: Phillip Low & David Robertson	
10:45-11:00 AM	An important pitfall in submaximal exercise testing in Parkinson's disease patients <u>J.T. Groothuis</u> , A.D. Speelman, J.J.M. Verbeek, B.R. Bloem, M. Munneke, M.T.E. Hopman Nijmegen, The Netherlands
11:00-11:15 AM	Is Parkinson disease with orthostatic hypotension a distinctive entity? <u>D.S. Goldstein</u> , L. Sewell, C. Holmes, Y. Sharabi Bethesda, MD, USA
11:15-11:30 AM	Norepinephrine transporter blockade and cardiac sympathetic innervation <u>C. Shibao</u> , S.R. Raj, L.E. Okamoto, D. Robertson, I. Biaggioni Nashville, TN, USA
11:30-11:45 AM	Differentiation of Parkinson's disease from multiple systems atrophy: Comparison of clinical autonomic testing with ¹²³ I MIBG myocardial scintigraphy <u>K. Kimpinski</u> , V. Iodice, D.D. Burton, M. Camilleri, B.P. Mullan, A. Lipp, P. Sandroni, T.L. Gehrking, D.M. Sletten, J.E. Ahlskog, R.D. Fealey, W. Singer, P.A. Low London, ON, Canada
11:45-12:00 PM	Hemodynamic changes underlying nocturnal blood pressure dipping and morning surge in autonomic failure patients with supine hypertension <u>L.E. Okamoto</u> , A. Gamboa, C. Shibao, A. Diedrich, B.K. Black, S.R. Raj, S. Paranjape, D. Robertson, I. Biaggioni Nashville, TN, USA
12:00-12:15 PM	Olfactory function in pure autonomic failure, multiple system atrophy and dopamine beta hydroxylase deficiency <u>E.M. Garland</u> , S.R. Raj, A.C. Peltier, D. Robertson, I. Biaggioni Nashville, TN, USA
12:15-12:25 PM	Open Discussion & Adjourn
7:00-10:00 PM	Presidential Dinner Tiki Beach

POSTER SESSION I Thursday, November 4, 2010 12:00-1:30 PM	
POTS & Co-morbidities Chair: Thomas Chelimsky	
Poster #1	Hyperadrenergic postural tachycardia syndrome with sympathetic storms <u>J.J. Figueroa</u> , P. Sandroni, W. Singer, J.R. Basford, D.M. Sletten, T.L. Gehrking, J.A. Gehrking, P.A. Low Rochester, MN, USA
Poster #2	CANCELLED
Poster #3	Menstrual cycle does not affect sympathetic neural and hemodynamic responses to upright tilt in the postural orthostatic tachycardia syndrome <u>Q. Fu</u> , T.B. VanGundy, S. Shibata, M.M. Galbreath, S.S. Jarvis, B.D. Levine Dallas, TX, USA
Poster #4	Pregnancy in postural tachycardia syndrome: clinical course and maternal and fetal outcomes <u>S. Blitshteyn</u> , H. Poya, G.C. Bett Buffalo, NY, USA
Poster #5	POTS due to excessive venous pooling in an enlarged inferior vena cava C. Gaw, R. Shields, K. Mayuga, H. Gornik, C. Fonseca, <u>F. Fouad-Tarazi</u> Cleveland, OH, USA
Poster #6	Neurohormonal and hemodynamic profile of patients with postural tachycardia and chronic fatigue syndrome <u>L.E. Okamoto</u> , S.R. Raj, A. Gamboa, C. Shibao, A. Diedrich, B.K. Black, G. Farley, D. Robertson, I. Biaggioni Nashville, TN, USA
Poster #7	Clinical observations in a cohort of patients with autonomic dysfunction <u>A. Barboi</u> , T. Prieto, M. Yellick, J. Bergholte, C. Dennis, N. Fabian, S. Jaradeh Milwaukee, WI, USA
Poster #8	Serotonin reuptake inhibition acutely worsens symptoms in postural tachycardia syndrome (POTS) <u>S.R. Raj</u> , I. Biaggioni, B.K. Black, C.A. Shibao, S.Y. Paranjape, D. Robertson Nashville, TN, USA
Poster #9	Beta blockers and exercise in POTS <u>A. Gamboa</u> , L.E. Okamoto, A. Arnold, B. Black, A. Diedrich, G. Farley, S.Y. Paranjape, I. Biaggioni Nashville, TN, USA
Orthostatic Hypotension, Cerebral Blood Flow Regulation & Spinal Cord Injury Chair: Max Hilz	
Poster #10	Alterations of cardiovascular autonomic profile in constitutional hypotension F. Barbic, <u>R. Furlan</u> , A. Porta, M. Glago, G. Jacob Bergamo, Italy
Poster #11	Multiscale entropy of heart rate and blood pressure – an effect of orthostasis <u>M. Javorka</u> , Z. Turianikova, K. Javorka, M. Baumert Martin, Slovak Republic

Poster #12	Characteristic pattern of autonomic dysfunction in chronic radiation-induced baroreflex failure presenting with orthostatic hypotension <u>W. Singer</u> , B.P. Goodman, T.L. Opfer-Gehrking, P.A. Low Rochester, MN, USA
Poster #13	Mechanisms mediating tilt-induced (pre)syncope may be sensitive to age but not gender <u>C. Schroeder</u> , J. Tank, K. Heusser, A. Diedrich, F.C. Luft, J. Jordan Berlin, Germany
Poster #14	Mechanisms for the reduction in facial skin blood flow at pre-syncope in normothermic and heat-stressed individuals <u>C.G. Crandall</u> , R.M Brothers, M.S. Ganio Dallas, TX, USA
Poster #15	During comprehensive autonomic testing dirotic notch changes detected by transcranial Doppler monitoring helped to clarify the pattern of autonomic changes present in a patient with a history of syncope: A case study <u>R.E. Leppanen</u> , J. Collins, D. Morrison, A. Line Knoxville, TN, USA
Poster #16	The influence of autonomic neural control on human cerebral vessels 'in vivo' S. Purkayastha, R. Zhang, B.D. Levine, <u>P.B. Raven</u> Fort Worth, TX, USA
Poster #17	What is the stimulus for oscillations in arterial pressure and cerebral blood velocity? <u>C.A. Rickards</u> , K.L. Ryan, C. Hinojosa-Laborde, W.H. Cooke, V.A. Convertino San Antonio, TX, USA
Poster #18	Time domain indices of cerebral autoregulation and the nonlinear role of sympathetic control <u>C. Ozan Tan</u> , J.W. Hamner, J.A. Taylor Boston, MA, USA
Poster #19	Role of otolith inputs in cerebral blood flow regulation <u>J.M. Serrador</u> , B. Deegan, S. Forstbauer, T. Nichols, S.J. Wood East Orange, NJ, USA
Poster #20	Orthostatic hypotension in mild cognitive impairment <u>O. Collins</u> , C. Finnuane, S. Dillon, B.A. Lawlor, R.A. Kenny Dublin, Ireland
Poster #21	Are compression stockings really an effective treatment for orthostatic intolerance? <u>C.L. Protheroe</u> , A. Dikareva, V.E. Claydon Burnaby, BC, Canada
Poster #22	Perceptions of exercise effects in younger patients with neurogenic orthostatic hypotension <u>J.L. Gilden</u> , T. Kim, T. Malledi, S. Maineni, S. Ubhayakar, D. Vahedi, A. Nuygen Chicago, IL, USA
Poster #23	CANCELLED
Poster #24	The influence of different wheelchair seating positions on cardiovascular control <u>I.S. Sahota</u> , J.E. Camp, C.S. Mah, J.F. Borisoff, L.T. McPhail, V.E. Claydon Burnaby, BC, Canada
Poster #25	ECG-based predictors for cardiac arrhythmias after spinal cord injury <u>H.J.C. Ravensbergen</u> , M.L. Walsh, A.V. Krassioukov, V.E. Claydon Burnaby, BC, Canada

Poster #LB1	Vasovagal syncope and its relationship with hypotension: what is the current conception and how it may change if essential hypotensive population emerges. Lessons learned from the essential hypotension registry. <u>L. Medina</u> , J. Marin, M. Duque, W. Uribe, S. Mesa, J. Aristizabal, J. Velasquez, M.A. Restrepo, A. Miranda, J. Bernal, Y. Torres Medellin, Colombia
<p>POSTER SESSION II Friday, November 5, 2010 9:30-11:00 AM</p>	
<p>Neural Mechanisms of Cardiovascular Regulation Chairs: Craig Crandall & Michael Joyner</p>	
Poster #26	Regional hypothalamic activity associated with spontaneous fluctuations in muscle sympathetic nerve activity in humans <u>C. James</u> , L.A. Henderson, V.G. Macefield Sydney, Australia
Poster #27	Somatosensory inputs inhibit insular activation during baroreceptor unloading <u>R. Goswami</u> , M.F. Frances, J. K. Shoemaker London, ON, Canada
Poster #28	Cortical autonomic alterations with hypertension <u>K.N. Norton</u> , R. Goswami, R.P. Nolan, J.K. Shoemaker London, ON, Canada
Poster #29	Single-unit muscle sympathetic nerve activity responsiveness to lower body negative and positive pressure in healthy humans <u>H. Muraj</u> , C.F. Notarius, B.L. Morris, D. Kimmerly, P. Picton, J.S. Floras Toronto, ON, Canada
Poster #30	Sympathetic and cardiovascular responses to glossopharyngeal insufflation in trained apnea divers <u>K. Heusser</u> , G. Dzamonja, T. Breskovic, C. D. Steinback, A. Diedrich, J. Tank, J. Jordan, Z. Dujic Hannover, Germany
Poster #31	Mental stress attenuates sympathetic baroreflex sensitivity in humans <u>J.R. Carter</u> , J.J. Durocher, C.E. Schwartz, J.C. Klein Houghton, MI, USA
Poster #32	Autonomic tests: possible link between body composition and vulnerability to stress in healthy young adults <u>S. Ghosh</u> Kuala Lumpur, Malaysia
Poster #33	Does yogic breathing increase baroflex gain? <u>S.M. Bertisch</u> , C.O. Tan, J.A. Taylor Boston, MA, USA
Poster #34	Can meditation influence the autonomic nervous system? A case report of a man immersed in crushed ice for 80 minutes <u>J.T. Groothuis</u> , T.M. Eijsvogels, R.R. Scholten, D.H.J. Thijssen, M.T.E. Hopman Nijmegen, The Netherlands

Poster #35	Use of electrical impedance to measure sympathetic activity of human skin <u>I. Wexler</u> Lewes, DE, USA
Poster #36	Melatonin differentially affects vascular blood flow in humans J.S. Cook, C.L. Sauder, <u>C.A. Ray</u> Hershey, PA, USA
Poster #37	Influences of an acute ozone exposure on heart rate and blood pressure variability in healthy subjects <u>J. Tank</u> , K. Heusser, H. Biller, W. Koch, A. Diedrich, N. Krug, J. Jordan, J. Hohlfeld Hannover, Germany
Poster #38	Blood pressure variability after heart transplantation. Patterns and probable mechanisms O.V. Mamontov, A.O. Konradi, <u>E.V. Shlyakhto</u> St. Petersburg, Russian Federation
Poster #39	Valsalva maneuver: shortest optimal expiratory strain duration <u>R.K. Khurana</u> , D. Mittal, N.H. Dubin Baltimore, MD, USA
Poster #40	Autonomic imbalance may underlie labile hypertension: I. Possible remedy E.S. Pereira, S. Baker, R. Bulgarelli, R.R. Arora, S. Ghosh-Dastidar, <u>J. Colombo</u> Philadelphia, PA, USA
Poster #41	Autonomic imbalance may underlie labile hypertension: II. Possible physiology S. Baker, E.S. Pereira, R. Bulgarelli, R.R. Arora, S. Ghosh-Dastidar, <u>J. Colombo</u> Philadelphia, PA, USA
Poster #42	Baroreflex sensitivity associates with salt-sensitivity in patients with resistant hypertension <u>A.O. Konrady</u> , I.V. Emelyanov, A.Y. Bagrov, E.V. Shlyakhto St. Petersburg, Russia
Poster #43	Autonomic nervous system and insulin sensitivity <u>A. Gamboa</u> , L.E. Okamoto, A. Diedrich, G. Farley, S.Y. Paranjape, K. Jabbour, N. Abumrad, I. Biaggioni Nashville, TN, USA
Poster #44	Autonomic function in mildly obese sleep apnea patients <u>A.C. Peltier</u> , K. Bagai, A. Diedrich, E. Garland, Y. Shi, L. Wang, D. Robertson, B. Malow Nashville, TN, USA
Poster #45	Assessment of cerebral autoregulation and baroreflex in first-ever ischemic stroke patients <u>S.J. Yeh</u> , C.C. Chiu, B.Y. Liao Taichung, Taiwan
Poster #46	Increased baroreflex sensitivity correlates with clinical improvement of acute stroke <u>M.J. Hilz</u> , H. Marthol, A. Akhundova, P. De Fina, S. Schwab, S. Moeller Erlangen, Germany
Poster #47	Baroreflex regulates arterial pressure by modulating vascular properties, not by modulating ventricular properties <u>K. Sunagawa</u> Fukuoka, Japan

Poster #48	Angiotensin II-induced reactive oxygen species signaling in sympathetic ganglia S.W. Flanagan, C.A. Whiteis, F.M. Abboud, <u>M.W. Chapleau</u> Iowa City, IA, USA
Poster #49	Reduced SK channel function mediates enhanced excitability of pre-sympathetic PVN neurons and sympathoexcitation in heart failure <u>L. Gui</u> , J.H. Zhu, L.P. LaGrange, Q.H. Chen Houghton, MI, USA
Poster #50	Early autonomic dysfunction and cardiac failure in a mouse model of spinal muscular atrophy <u>A.K. Bevan</u> , K.R. Hutchinson, K.D. Foust, L. Braun, V.L. McGovern, L. Schmelzer, J.G. Ward, J.C. Petruska, P.A. Lucchesi, A.H.M. Burghes, B.K. Kaspar Columbus, OH, USA
Poster #51	Blood flow dynamics in sciatic nerve supply artery detected by Doppler ultrasound <u>J. Junuzovic</u> , M.L. Thorne, J.C. Lacefield, J.K. Shoemaker London, ON, Canada
Poster #LB2	Left and right stellate ganglion stimulation modulates left ventricular function, regional myocardial interstitial norepinephrine kinetics and activation recovery interval <u>W. Zhou</u> , M. Vaseghi, R. Ramirez, N. Patel, K. Shivkumar, A. Mahajan Los Angeles, CA, USA
Poster #LB3	Bilateral renal denervation in established hypertension results in acute fall of blood pressure in spontaneous hypertensive stroke prone rat J.T. Phelps, H. Garver, <u>G. Fink</u> E. Lansing, MI, USA
Poster #LB4	Autonomic modulation and arterial compliance in young African American women <u>P. Latchman</u> , G. Gates, K. Sollanek, R. Axtell, R. De Meersman New Haven, CT, USA
Poster #LB5	Modulatory influence of sympathetic nervous system activity on vascular endothelial dysfunction with aging in humans R.E. Kaplon, A.E. Walker, <u>D.R. Seals</u> Boulder, CO, USA

POSTER SESSION III Saturday, November 6, 2010 9:15-10:45 AM	
Pediatric Disorders & Autonomic Neuropathies Chair: Felicia Axelrod	
Poster #52	Postural tachycardia in children and adolescents - what is abnormal? <u>W. Singer</u> , D.M. Sletten, T.L. Opfer-Gehrking, P.A. Low Rochester, MN, USA
Poster #53	Length of tilt table test in children: an unresolved problem S. Kassabian, T.C. Chelimsky, D. Zhang, <u>G. Chelimsky</u> Cleveland, OH, USA
Poster #54	Co-morbidities in pediatric patients with postural tachycardia syndrome A. Ojha, T.C. Chelimsky, <u>G. Chelimsky</u> Cleveland, OH, USA
Poster #55	Orthostatic tolerance and autonomic symptoms in a prospective cohort of adolescents with chronic fatigue syndrome and recovered controls following infectious mononucleosis B.Z. Katz, <u>J.M. Stewart</u> , Y. Shiraishi, C.J. Mears, R. Taylor Hawthorne, NY, USA
Poster #56	Functional gastrointestinal disorders (FGID): Not just a GI problem <u>G. Chelimsky</u> , D. Zhang, S. Safder, T. Chelimsky Cleveland, OH, USA
Poster #57	Headache following reflex syncope in adolescents may be due to deregulated cerebral blood flow <u>A.J. Ocon</u> , D. Clark, M.S. Medow, J.M. Stewart Valhalla, NY, USA
Poster #58	Familial dysautonomia: alterations in cardiopulmonary regulation during wakefulness and sleep M.S. Carroll, A.S. Kenny, J.M. Ramirez, <u>D.E. Weese-Mayer</u> Chicago, IL, USA
Poster #59	Congenital Central Hypoventilation Syndrome (CCHS): PHOX2B genotype/CCHS pupillary function phenotype P.P. Patwari, J. Chesniak, N.L. Kuntz, A.S. Kenny, <u>D.E. Weese-Mayer</u> Chicago, IL, USA
Poster #60	Longitudinal changes to neurophysiologic function in diabetes <u>C. Gibbons</u> , R. Freeman, A. Veves Boston, MA, USA
Poster #61	CANCELLED
Poster #62	A unique deficit in pupillary function in autoimmune autonomic ganglionopathy <u>S. Vernino</u> Dallas, TX, USA
Poster #63	A case of autonomic autoimmune ganglionopathy: Profound improvement with maintenance rituximab <u>B.K. Black</u> , R.D. Hollenbeck, A.C. Peltier, I. Biaggioni, D. Robertson, E.F. Winton, S.R. Raj Nashville, TN, USA

Poster #64	Autonomic dysfunction in chronic inflammatory demyelinating polyradiculoneuropathy <u>J.J. Figueroa</u> , P.J. Dyck, P. Sandroni, R.S. Laughlin, J.A. Mercado, R. Massie, P.A. Low Rochester, MN, USA
<p>Multiple System Atrophy & Parkinson's Disease Chair: Horacio Kaufmann</p>	
Poster #65	Prospective 5-year natural history study of probable multiple system atrophy (MSA) in 175 North American subjects S. Gilman, <u>P.A. Low</u> , S. May, C. Tanner, M. Stern, P. Sandroni, S. Reich, F. Marshall, P. Novak, J. Jankovic, G. F. Wooten, B. Racette, D. Sletten, C. Shults Rochester, MN, USA
Poster #66	Autopsy confirmed multiple system atrophy (MSA) cases: Mayo experience and role of autonomic function tests V. Iodice, A. Lipp, J.E. Ahlskog, P. Sandroni, R.D. Fealey, J.E. Parisi, J.Y. Matsumoto, K.K. Nickander, D.M. Maraganore, E.E. Benarroch, K. Kimpinski, W. Singer, T.L. Gehrking, J.A. Gehrking, D.M. Sletten, A.M. Schmeichel, J.H. Bower, S. Gilman, J. Figueroa, <u>P.A. Low</u> Rochester, MN, USA
Poster #67	Norepinephrine transporter blockade, as diagnostic tool for early multiple system atrophy. Case report <u>C. Shibus</u> , L.E. Bradbury, I. Biaggioni Nashville, TN, USA
Poster #68	Severe generalized autonomic failure in Parkinson disease <u>P. Novak</u> , L. Qin, P. Ravin Worcester, MA, USA
Poster #69	When in the course of Parkinson disease does cardiac sympathetic denervation occur? <u>D.S. Goldstein</u> Bethesda, MD, USA
Poster #70	Cooling of skin of the back: a novel autonomic function test <u>D.S. Goldstein</u> , L. Sewell, D.J. Gross, P. Sullivan, C. Holmes, R. Imrich, Y. Sharabi Bethesda, MD, USA
Poster #71	Postganglionic sympathetic function in Parkinson's disease and multiple system atrophy C. Noack, K. Hahn, L. Zange, R. Rukwied, M. Schmelz, <u>A. Lipp</u> Berlin, Germany
Poster #72	Fava bean ingestion potently alters catecholamine metabolism <u>T. Smith Cesar</u> , E.M. Garland, S. Lonce, D. Robertson Nashville, TN, USA
Poster #73	Positron emission tomography guided placement of deep brain stimulator electrodes in the treatment of medically refractory cluster headache <u>W.P. Cheshire</u> , R.E. Wharen Jacksonville, FL, USA

Poster #LB6	Improvement of chronic idiopathic nausea in children with orthostatic intolerance by fludrocortisone is not accompanied by correction of gastric dysrhythmias <u>J.E. Fortunato</u> , H.A. Shaltout, M.L. Larkin, P.C. Rowe, D.I. Diz, KL. Koch Winston-Salem, NC, USA;
Poster #LB7	Variability in heart rate and blood pressure in subjects with Parkinson's disease or extrapyramidal motor slowing: is variability a reliable indicator of autonomic dysfunction in Parkinson's disease? <u>R. Brown</u> , S.R. Duma, G.A. Broe, V. Macefield Sydney, Australia
Poster #LB8	The pressor response to water is inversely proportional to baseline blood pressure in autonomic failure patients <u>A. Hernandez</u> , L.E. Okamoto, H. Mustafa, S.R. Raj, E.M. Garland, A. Diedrich, B.K. Black, D. Robertson, I. Biaggioni Nashville, TN, USA
Poster #LB9	Use of a calibrated method of massage therapy results in pressure-dependent reductions in cardiovascular parameters <u>K. Spurgin</u> , M. Valdez, A. Kaprielian, R. Nichol, B. Martinez, M.C. Curras-Collazo Riverside, CA, USA

SPECIAL INTEREST GROUP MEETINGS/EVENTS

THURSDAY, NOVEMBER 4, 2010	
1:30-3:30 PM	AAS Board Meeting Executive Boardroom
8:00 PM	Rare Disease Consortium Reunion (NIH) Dinner
FRIDAY, NOVEMBER 5, 2010	
2:30-3:30 PM	CAR Editorial Board Meeting Caxambas 1
5:45-7:00 PM	Trainee and Young Investigator/Clinician Career Development/Mentoring Event Quinn's Beach

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