Program

Poster
**Poster Session Area**

**Room F (Poster & Exhibition)**

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**Exhibition**

**Late Breaking Abstracts**

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Acupuncture and related therapy

I-P-1 Evaluation of autonomic nervous function using heart rate variability analysis during heart rate reduction by manual acupuncture
C. Uchida¹, H. Waki²,³, Y. Minakawa²,³, H. Tamai²,³, T. Hisajima²,³, K. Imai²,³
Graduate School of Health Sciences, Teikyo Heisei University, Japan¹, Faculty of Health Care, Teikyo Heisei University, Japan², Research institute of oriental medicine, Japan³

I-P-2 Effects of Electro-acupuncture and Indirect Moxibustion via Central Oxytocin on Gastric Emptying in Rats
H Taniguchi¹, S Taniguchi¹, M Okada¹, K Isaji¹, H Kitakoji¹, T Sakai¹, K Imai¹
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I-P-3 Can self-care using contact needles based on the gentle tactile stimuli applied to the skin relieve menstrual pain? A randomized, placebo-controlled, double-blind, comparative study
K Imura¹, S Miyazaki¹, K Imai¹, T Hisajima¹
Graduate School of Health Science, Teikyo Heisei University, Tokyo, Japan.¹, Department of Acupuncture and Moxibustion, Faculty of Health Care, Teikyo Heisei University, Tokyo, Japan.²

I-P-4 Effect of direct current electric-acupuncture on the blood flow of lower-back
K Tama³,², H Waki³,², T Suzuki², Y Tanaka³, Y Minakawa³,², K Imai³,², K Uebaba³,², K Maebaru³,², T Hisajima³,²
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Aging

I-P-5 Influence of interaction among the elderly through amusement on their salivary amylase and autonomic nervous system activity: One-month introduction at a day care service center for the elderly
N Kawabata¹, H Miyaguchi¹, M Kunishige¹, C Ishizuki¹, Y Ito⁵, T. Harada⁵, T. Iida⁵
Department of Rehabilitation/Occupational Therapist, Faculty of Health Sciences, Hiroshima Cosmopolitan University, Hiroshima, Japan¹, Department of Human Behavior Science of Occupational Therapy, Health Sciences Major, Graduate School of Biomedical & Health Sciences, Hiroshima University, Hiroshima, Japan², Division of Occupational Therapy, Graduate School of Biomedical & Health Sciences, Hiroshima University, Hiroshima, Japan², Health Sciences, Fujita Health University, Aichi, Japan³, Department of Physical Therapy, Faculty of Health and Welfare, Prefectural University of Hiroshima, Hiroshima, Japan⁴

I-P-6 Age-related Changes in Coherent Activity of Low-Band Frequency Fluctuations between Pulse Waves from Face Laser Speckle Flowgraphy and Autonomic Functions; Heart Rate, Systolic or Diastolic Pressure Variabilities during the Resting-State
Y. Nagashima¹,², K. Umeno¹, Y. Ohsugi¹, M. Hiraiishi¹, Y. Niki¹, T. Okamoto¹, K. Maeda¹
Personal Health Care Products Research, Kao Corporation, Tokyo, Japan¹, Department of Systems Design and Informatics, Kyushu Institute of Technology, Fukuoka, Japan²

I-P-7 Sympathetic regulation of ovarian functions under chronic estradiol treatment in rats
F. Kagitani², S. Uchida¹
Department of Autonomic Neuroscience, Tokyo Metropolitan Institute of Gerontology, Japan¹, University of Human Arts and Sciences, Japan²
Autonomic failure

I-P-8 Sympathetic neurograms with characteristics of both muscle and skin sympathetic nerve activity in a patient with pure autonomic failure
Kazumasa Shindo, Mai Tsuchiya, Tohko Sato, Yuta Ichinose, Nobuo Yamashiro, Takamura Nagasaka, Yoshiihsa Takiyama
Department of Neurology, University of Yamanashi

I-P-9 Autonomic failure following solid organ transplantation
Brent P. Goodman1, Eric Steidley, Maria F. Grill1, Charlene Hoffman-Snyder1, Mira T. Keddis3
Departments of Neurology, Cardiology, Nephrology, Mayo Clinic

Baroreflex regulation, orthostatic intolerance

I-P-10 Prefrontal hemodynamic changes measured using near-infrared spectroscopy during Valsalva maneuver in patients with orthostatic intolerance
BJ Kim1, YH Kim1, ZP Y1, SH Paik1, BJ Kim1, BM Kim1
Department of Neurology, Korea University Medical Center, & Brain Convergence Research Center, Korea University Anam Hospital, Seoul, Republic of Korea; Department of Bio-convergence Engineering, Korea University, Seoul, Republic of Korea; Department of Neurology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea; Neuroscience Center, Samsung Medical Center, Seoul, Republic of Korea

I-P-11 Outcome of Orthostatic Dysregulations in Psychosomatic Medicine
U Yamada
Department of Psychosomatic Internal Medicine, St. Luke’s International Hospital, Tokyo, Japan

I-P-12 Long-term effects of surgical treatment on baroreflex sensitivity in patients with obstructive sleep apnea
Departments of Neurology1, Radiology2, Otolaryngology3, Division of Pulmonology and Critical Care Medicine, Department of Internal Medicine4, Sleep Center, Kaohsiung Chang Gung Memorial Hospital, Chang Gung University College of Medicine, Kaohsiung, Taiwan; Department of Otolaryngology and Bronchoesophagology, Rush University Medical Center, Chicago, IL, USA; Department of Otolaryngology, Advocate Illinois Masonic Medical Center, Chicago, IL, USA

I-P-13 The effect of aerobic capacity on spontaneous baroreflex sensitivity in African American women
P. Latchman1, G. Gates1, R. Thiel1, W. Zhu1, R. Axtell2, N. Stachenfeld3, K Gardner5, R. De Meersman6
Exercise Science Department, Southern Connecticut State University, USA; Pediatrics Department, Albert Einstein College of Medicine, USA; School of Kinesiology and Health, Capital University of Physical Education and Sports, China; Department of Obstetrics, Gynecology and Reproductive Sciences, Yale School of Medicine, USA; G.C. Foster of Physical Education and Sports, Jamaica; College of Medicine, Alfaisal University, Saudi Arabia

I-P-14 Central alteration of baroreceptor reflex during anaphylactic hypotension
Y. Yoshioka, Y. Suzuki, J. Horiuchi
Department of Biomedical Engineering, Toyo University, Japan

I-P-15 Neural mechanisms of cardiovascular responses to stroking of the abdomen in anesthetized rats
R. Shimojo1, I. Imai1, R. Tokunaga1, S. Makita2, M. Kurosawa3
Division of Physical Therapy, Graduate School of Health and Welfare Sciences, International University of Health and Welfare, Otawara, Tochigi, Japan; Department of Physical Therapy, Nasu Neurosurgical Center, Nasushiobara, Tochigi, Japan; Center for Medical Science, International University of Health and Welfare, Otawara, Tochigi, Japan; International University of Health and Welfare Rehabilitation center, Otawara, Tochigi, Japan
Bladder & micturition

I-P-16  Primary afferent fibers are involved in partial recovery of urinary function in neonatally spinalized rats

M Fujioka1, M Takiguchi2, K Funakoshi2
Yokohama City University School of Medicine, Japan1, Department of Neuroanatomy, Yokohama City University School of Medicine, Japan2

I-P-17  Systematic study of the contribution of cutaneous afferent Aβ, Aδ, and C fiber groups on the inhibition of the rhythmic micturition contractions of the urinary bladder in rats

A. Onda1, S. Uchida1, H. Suzuki1, H. Hotta1
Department of Autonomic Neuroscience, Tokyo Metropolitan Institute of Gerontology, Tokyo, Japan1, Graduate School of the University of Human Arts and Sciences, Saitama, Japan2

Brainstem and autonomic regulation

I-P-18  Muscle blood flow responses mapped in the rat autonomic ventrolateral medulla areas with microinjections of an ionotropic excitatory amino acid L-cysteine

Y. Takemoto
Hiroshima Univ., Institute Biomed. Health Sci., Basic Life Sci., Hiroshima, Japan

I-P-19  Relationship between cardiac parasympathetic dysfunction and atrophy of the medulla oblongata in multiple system atrophy

M Suzuki1, T Nakamura1, M Hirayama1, M Ueda1, E Imai1, M Katsuno1
Department of Neurology, Nagoya University Graduate School of Medicine, Nagoya, Japan1, Department of Pathophysiological Laboratory Science, Nagoya University Graduate School of Medicine, Nagoya, Japan1

Cognitive function, stress and emotions

I-P-20  Facial skin blood flow decreases during exposure to pleasantly charged movie in humans

R Asahara, K Endo, M Yoshikawa, S Kusunoki, K Matsukawa
Department of Integrative Physiology, Graduate School of Biomedical and Health Sciences, Hiroshima University, Japan

I-P-21  Reduction in prefrontal oxygenation during exposure to positively-charged emotional movie in humans

K Endo, M Yoshikawa, S Kusunoki, R Asahara, K Matsukawa
Department of Integrative Physiology, Graduate School of Biomedical and Health Sciences, Hiroshima University, Japan

I-P-22  Effects of High-resolution Musical Box Sounds on the Autonomic Nervous Function and Findings from Order Changes of Hearing Sounds

Shoji Ito1, Toshihide Harada2, Ryuta Yamamoto3, Katsuyuki Niyada3, Hiroyuki Miyazaki7, Kenji Suehiro3, Fumiko Ishizaki2
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I-P-23  Autonomic functioning, emotional regulation and sensory over-responsivity in young children with or without autism spectrum disorder

C.Y.Y. LAI, I.N. GOMEZ, W.K. YUNG
Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, Hong Kong
I-P-24  Effect for autonomic nerves activity and psychological condition by the combination of nitrous oxide inhalation sedation and listening to music
K Yamashita¹, T Kibe², M Sugimura¹
Department of Dental Anesthesiology, Field of Oral Maxillofacial Rehabilitation, Developmental Therapeutics Course, Graduate School of Medical and Dental Sciences, Kagoshima University, Kagoshima, Japan¹, Department of Oral and Maxillofacial Surgery, Field of Oral and Maxillofacial surgery, Developmental Therapeutics Course, Graduate School of Medical and Dental Sciences, Kagoshima University, Kagoshima, Japan²

I-P-25  Heart rate variability and sluggish cognitive tempo behaviour among children with typical development
Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, Hong Kong

I-P-26  Heart rate variability and working memory among children with typical development
Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, Hong Kong

I-P-27  The impact of diurnal emotions on autonomic activation during sleep
H. Sequeira¹³, J. Delannoy¹, O. Mandai², J. Honoré¹, T. Kobayashi²
SCALab, CNRS UMR 9193, Université de Lille, France.¹, Sleep Research Center, Ashikaga Institute of Technology, Japan.², Neurosciences, UFR Biologie, Université de Lille, France.³

I-P-28  Complexity of heart rate in behavior formed on different stages of ontogeny
A.V. Bakhchina
Laboratory of Neuronal Bases of Mind named of V.B. Shvyrkov, Institute of Psychology Russian Academy of Sciences, Moscow, Russia

I-P-29  Comparison of skin sympathetic nerve activities by visual discrimination tasks
Yuko Kuwahara, Reiko Tsukahara, Satoshi lwase, Yuuki Shimizu, Naoki Nishimura
Dept. Physiol., Aichi Med. Univ., Nagakute, Japan

I-P-30  Cardiac Vanilloid Receptor-1 Afferent Depletion Paradoxically Enhances Efferent Sympathetic Response to Multimodal Cardiac Stress
UCLA Cardiac Arrhythmia Center and Neurocardiology Research Center of Excellence, Los Angeles, CA, USA

Enteric nervous system

I-P-31  Morphology of the myenteric plexus at different gut segments of human foetuses
Subhash Bhukya, A. Shariff, S. Singh, T.C. Nag, J A Quadri, Saba S
Department of Anatomy, All India Institute Of Medical Sciences, INDIA

I-P-32  Development of measurement and advanced analysis systems to examine the effect of autonomic nervous activity
Y OKITA¹, K OHARA¹, I TAKAHASHI¹, M KIMURA¹, H NAKAMURA²
Department of Engineering, Graduate School of Integrated Science and Technology, Shizuoka University, Shizuoka, Japan¹, Graduate School of Human Development and Environment, Kobe University, Hyogo, Japan²

I-P-33  A novel in vivo method is useful for investigating central mechanisms of esophageal peristalsis in rats
Kazuhiko Horii, Takahiko Shina, Kiyotada Naitou, Hiroyuki Nakamori, Yuuki Sano, Hiroki Shimaoka, Yasutake Shimizu
United Graduate School of Veterinary Sciences, Gifu University, Laboratory of Veterinary Physiology, Japan
I-P-34 Colonic transit can be measured by geometric center analysis for time-course on non-anesthesia rat
M Okada1, S Taniguchi1, H Taniguchi2, K Isaji1, H Kitakoji1, K Itoh1, K Imai2
Department of Acupuncture and Moxibustion, Meiji University of Integrative Medicine1, Department of Acupuncture and Moxibustion, Tokyo Ariake University of Medical and Health Sciences2, Department of Acupuncture and Moxibustion, Faculty of Health Science, Teikyo Heisei University3

I-P-35 Identification of neurotransmitters acting on the spinal defection center in rats
Kiyotada NAITOU, Hiroyuki NAKAMORI, Takahiko SHIINA, Yuuki SANNO, Hiroki SHIMAOKA, Kazuhiro HORII, Yasutake SHIMIZU
Department of Basic Veterinary Science, Laboratory of Physiology, The United Graduate School of Veterinary Sciences, Gifu University, Japan

I-P-36 Serotonin in the lumbar sacral defection center regulates colorectal motility in rats
Hiroyuki NAKAMORI, Kiyotada NAITOU, Yuuki SANNO, Hiroki SHIMAOKA, Kazuhiro HORII, Takahiko SHIINA, Yasutake SHIMIZU
Department of Basic Veterinary Science, Laboratory of Physiology, The United Graduate School of Veterinary Sciences, Gifu University, Japan.

I-P-37 Serum ganglionic acetylcholine receptor antibodies in patients with chronic intestinal pseudo-obstruction
Akihiro Mukaino1, Shunya Nakane1, Makoto Yamakawa2, Osamu Higuchi3, Yasuhiro Maeda4
Hiddenori Matsuo5, Yukio Ando6
Department of Molecular Neurology and Therapeutics, Kumamoto University Hospital, Kumamoto, Japan1, Department of Neurology, Graduate School of Medical Sciences, Kumamoto University, Kumamoto, Japan2, Department of Clinical Research, National Hospital Organization Nagasaki Kawatana Medical Center, Nagasaki, Japan3, Department of Neurology, National Hospital Organization Nagasaki Kawatana Medical Center, Nagasaki, Japan4

I-P-38 Evidence of a ghrelin-independent activation of ghrelin receptors in the spinal cord
R. Pustovit1,2, B. Callaghan1, B. Hunne1, M. Ringuet1,2, J. B. Furness1,2
Department of Anatomy and Neuroscience, University of Melbourne, Australia1, Florey Institute of Neuroscience and Mental Health, Australia2

I-P-39 Enhancement of neurogenesis in enteric nervous system by c-Kit inhibition
H Tamada1,2, H Kiyama1
Department of Functional Anatomy & Neuroscience, Nagoya University, Graduate School of Medicine, Japan1, Japan Society for the Promotion of Science, Japan2

I-P-40 Netrin-1 might determine functional phenotype of neurons in the adult gastrointestinal tract
SY Ko1, K Nurgali1, JT Price1, GL Blatch1
College of Health and Biomedicine, Victoria University, Melbourne, Australia1, The University of Notre Dame Australia, Fremantle, Western Australia2

I-P-41 Electrogastrography in healthy elderly persons
Nobuyuki Araki1,2, Yoshitaka Yamanaka1, Masato Asahina1, Yoshikatsu Fujinuma1, Akira Katagiri1, Satoshi Kuhwabar1
Department of Neurology, Graduate School of Medicine, Chiba University, Japan1, Department of Neurology, Chiba Higashi Hospital1, Neurology Clinic Tsudanuma & Dowa Institute of Clinical Neuroscience, Japan2

I-P-42 Mesenchymal stem cell treatment for enteric neuropathy associated with colitis
R Stavley1, AM Robinson1, R Filippone1, AA Rahman1, R Eri2, S Sakka1, K Nurgali1
College of Health and Biomedicine, Victoria University, Melbourne, Australia1, School of Health Sciences, University of Tasmania, Launceston, Australia2
I-P-43  A detailed mechanism for sudden death in epilepsy (SUDEP) including an explanation for postical phenomenology and resuscitation success and failures
M. Stewart¹,², R. Kollmar¹,³, K. Nakase¹, R. Orman⁴, J. Lazar⁵
Departments of Cell Biology¹, Medicine¹, Neurology², Otolaryngology², Physiology/Pharmacology³, SUNY Downstate Medical Center, Brooklyn, New York

I-P-44  Correlation of seizure-associated central apneic episode durations with their frequency of occurrence in a rat model
S. Villiere⁵, K. Nakase⁴, R. Kollmar¹,³, R. Orman⁴, M. Stewart²,⁴
Departments of Cell Biology¹, Neurology¹, Otolaryngology², Physiology/Pharmacology³, SUNY Downstate Medical Center, Brooklyn, New York, Research Initiative for Scientific Enhancement (RISE) Program CUNY Medgar Evers College, Brooklyn, New York²

Exercise, Energy and metabolic regulation, obesity

I-P-45  Loss of bone mass due to short sleep is related to the leptin-sympathetic nervous system activity
NKuriyama¹, M Inaba³, E Ozaki¹, Y Yoneda¹, D Matsui¹, K Hashiguchi¹, T Koyama¹, K Iwai¹, I Watanabe¹, F Niwa², Y Watanabe¹
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I-P-46  Electrical microstimulation of peripheral sympathetic nerve fascicle enhances glucose uptake independently of insulin action in rats
D Sato¹, R Yamauchi¹, R Suzuki¹, H Sasaki¹, M Kusunoki², Z Feng¹, T Nakamura¹
Department of Biomedical Information Engineering, Graduate School of Medical Science, Yamagata University, Yamagata, Japan¹, Research Center of Health, Physical Fitness and Sports, Nagoya University, Nagoya, Japan², Department of Bio-Systems Engineering, Graduate School of Science and Engineering, Yamagata University, Yonezawa, Japan³

I-P-47  Seasonal differences in cardiac autonomic nervous activity during exercise in obese men
Maki Sato¹, Y Hayashi¹, TIkemoto³, T Ushida³, SIwase¹, Motohiko Sato¹
Department of Physiology, Aichi Medical University School of Medicine¹, Institutional Research, Aichi Medical University School of Medicine¹, Institute of Physical Fitness, Sports Medicine and Rehabilitation, Aichi Medical University School of Medicine²

I-P-48  Activated brown adipose tissue shows nuclear accumulation of phospho-nuclear factor kappa B p65-like immunoreactive protein
Ryo Mizutani, Tomohiro Inoue, Kousuke Moriguchi, Kiyoshi Matsumura
Biomedical Engineering, Grad Sch Technol, Osaka Inst Technol, Osaka, Japan

I-P-49  Medullary reticular nuclei control metabolism and food intake during starvation
Y Nakamura¹, Y Yanagawa¹, S F Morrison², K Nakamura¹,⁴
Department of Integrative Physiology, Nagoya University Graduate School of Medicine, Japan¹, Department of Genetic and Behavioral Neuroscience, Gunma University Graduate School of Medicine, Japan², Department of Neurological Surgery, Oregon Health & Science University, USA³, PRESTO, JST, Japan⁴
Hypertension, Heart failure, stroke, and related cardiovascular diseases

I-P-50 Rapamycin ameliorates the portal hypertension, cardiovascular autonomic dysfunction, and alterations in the excitability of sympathetic and parasympathetic cardiac neurons in cirrhotic rats
C.K Lee, S.W Jeong
Department of Physiology, Yonsei University Wonju College of Medicine Republic of Korea

I-P-51 Study of short term heart rate variability in patients with transient ischemic attack
M. Chaswal, R. Kappor, H. Ahluwalia, B. Kaul, G. Prakash
Department of Physiology, Department of Neurology, VMWC and Safdarjung Hospital, New Delhi, India

I-P-52 Aortic baroreceptor activity in relation to the rheological properties of the atherosclerotic aorta in KHC rabbits
S Katsuda, H Waki, M Yamasaki, M Kusanagi, A Hazama, T Shimizu
Department of Cellular and Integrative Physiology, Fukushima Medical University School of Medicine, Japan

I-P-53 Blockade of orexin 2 receptor in the paraventricular nucleus reduced arterial pressure in spontaneously hypertensive rats
Y-W E Dai, L-L Hwang
Graduate Institute of Medical Sciences, College of Medicine, Taipei Medical University, Taipei, Taiwan

I-P-54 Selective ablation of central pre-sympathetic neurons from the Rostral Ventrolateral Medulla prevents cardiac function impairment in heart failure rats with preserved ejection fraction
Lab. Cardiorespiratory Control, Universidad Autónoma de Chile, Santiago, Chile

I-P-55 Different effects of lipophilic and hydrophilic statin on muscle sympathetic nerve activity in heart failure with preserved ejection fraction
System Biology, Kanazawa University Graduate School of Advanced Preventive Medical Sciences, Kanazawa, Japan

I-P-56 Heart rate variability and aortic pressure augmentation
Exercise Science Department, Southern Connecticut State University, USA

I-P-57 Cardiac autonomic dysfunction in recurrent stroke patients as compared to patients with a first-ever stroke
S Mishra, S Gupta, R Kapoor
Department of Physiology, VMWC and Safdarjung Hospital, New Delhi, India.
Hypothalamus and autonomic regulation

I-P-58  Activation of autonomic nervous system and arginine vasopressin (AVP) synthesis in the central nerve system after peripheral administration of furosemide in AVP-eGFP transgenic rat

H Ueno1,2, H Nishimura1, K Nishimura1, S Sonoda1, Y Motojima1, R Saito1, M Yoshimura1, T Maruyama1, R Serino1, M Tamura1, Y Otsuji1, Y Ueta1
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I-P-59  Cardiovascular pressor effects of orexins in the dorsomedial hypothalamus

T-L Li1, JYS Chen2, S-C Huang1, Y-W E Dai1, L-L Hwang1,3
Graduate Institute of Medical Sciences, College of Medicine1, School of Pharmacy, College of Pharmacy2, Department of Physiology, School of Medicine, College of Medicine, Taipei Medical University, Taipei, Taiwan

I-P-60  Knockdown of orexin in the medial hypothalamus reduces blood pressure in adult spontaneously hypertensive rats (SHR).

BW Dampney, PCarris
School of Medical Sciences, University of New South Wales, Australia

I-P-61  Effect of glutamate receptor blockade in RVM on PVN stimulation-elicited sympathoexcitation in anesthetized rats

S Koba1, E Hanai1, N Kumada1, N Kataoka2, KNakamura2,3, T Watanabe1
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Neuroimmune interactions, autoimmune diseases, neuroinflammation and Neuropathies

I-P-62  A case of autoimmune autonomic ganglionopathy presenting as a unilateral Adie’s tonic pupil

JH Cho
Department of Neurology, National Health Insurance Service Ilsan Hospital, Goyang, Korea

I-P-63  Cardiac sympathetic nerve activity increase mediated by mechanical pressure stimulation is exaggerated in acutely inflamed muscles

N. Watanabe, H. Hotta
Department of Autonomic Neuroscience, Tokyo Metropolitan Institute of Gerontology, Japan

I-P-64  Sympathetic activity regulates macrophages via the β2-adrenergic receptor

RA Willemze1, LE Nijhuis1, O Welting1, J Folgering1, H Darwinkel1, SEM Heinsbroek1, WJ de Jonge1
Tytgat Institute for Liver and Intestinal Research, Academic Medical Center, Amsterdam, The Netherlands1, Brains Online B.V., Groningen, The Netherlands1, Galvani Bioelectronics, Stevenage, United Kingdom

I-P-65  Skin denervation in patients with hereditary and wild-type transthyretin amyloidosis

T Masuda1, M Ueda1, Y Misumi1, T Nomura1, M Tasaki1, T Yamashita1, K Obayashi1, Y Ando1
Department of Neurology, Graduate School of Medical Sciences, Kumamoto University, Kumamoto, Japan1, Department of Morphological and Physiological Sciences, Graduate School of Health Sciences, Kumamoto University, Kumamoto, Japan2
Other

I-P-66  Cutaneous sympathetic function in patients with cortical cerebellar atrophy
  Yoshitaka Yamanaka1, Nobuyuki Araki1, Yoshikatsu Fujinuma1, Akira Katagiri1, Minako Beppu1,
  Tatsuya Yamamoto1, Shigeki Hirano1, Masato Asahina1, Satoshi Kuwabara1
  Department of Neurology, Graduate School of Medicine, Chiba University, Japan1, Neurology Clinic Tsudanuma
  & Institute of Neurology, Japan2

I-P-67  The autonomic nerve function of patients with lower extremity lymphedema during complex decongestive
  physiotherapy
  Yasuko Nishioka1, Takeshi Nakamura1, Jiro Maegawa2
  Department of rehabilitation medicine, Yokohama City University1, Department of plastic and reconstructive
  surgery, Yokohama City University2

I-P-68  Analysis of spontaneous fetal movement generator at the segmentation in the spinal cord
  C Uchida1, H Okat1, S Tonomura1, 2, A Arata1
  Dept. of Physiol., Hyogo College of Med., Mukogawa, Nishinomiya, Hyogo Japan1, Dept. of Anatomy, Hyogo
  College of Med., Mukogawa, Nishinomiya, Hyogo Japan2

I-P-69  Migration influences autonomic regulation of response to sensory stimuli in children
  J.N. GOMEZ1, 2, C.Y.Y LAI1, C.C.H. CHAN1, H.W.H. TSANG2
  Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, Hong Kong1, Department of
  Occupational Therapy, College of Rehabilitation Sciences, University of Santo Tomas, Manila, Philippines2

I-P-70  Long-term exposure to microgravity impairs head-up tile-induced vestibulo-cardiovascular reflex
  H Morita1, C Abe1, K Tanaka2
  Department of Physiology, Gifu University Graduate School of Medicine, Japan1, Gifu University of Medical
  Science, Japan2

Parkinson’s disease

I-P-71  Parkinson’s disease and prostate hyperplasia: which is more contributing to overactive bladder?
  Ryuji Sakakibara1, Osamu Takahashi1, Fuyuki Tateno1, Masahiko Kishi1, Yohei Tsuyusaki1, Yasuke Aiba1,
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I-P-72  Choroidal structure analysis of Parkinson’s syndrome by Binarization of Optical Coherence Tomography
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I-P-73  Bowel movement frequency in patients with idiopathic REM sleep behavior disorder
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I-P.74 Validation of the Korean Version of the Composite Autonomic Symptom Scale-31 (COMPASS-31)
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I-P.75 Photo-stimulating effect of low reactive level laser can improve overactive bladder in a patient with Parkinson
disease
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I-P.76 Seasonal variation in blood pressure in Parkinson’s disease
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I-P.77 Association of impaired melatonin secretion with sleep disturbance in Parkinson’s disease
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I-P.78 Cathecholamine levels and cardiac MIBG scintigraphy in patients with Parkinson disease without and with
orthostatic hypotension
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Renin angiotensin system

I-P.79 Angiotensin II enhanced peripheral sympathetic nerve activity in the brainstem-spinal cord preparation from
newborn rats
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I-P.80 Angiotensin II modulates baroreflex responses of cardiovascular neurons in the rabbit rostral ventrolateral
medulla
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Sleep

I-P.81 Circadian rhythm of autonomic function and sleep patterns in the elderly
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I-P-82 Heart rate response to arousal from sleep is amplified by spontaneous swallows
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Transmitters, hormones, receptors, channels

I-P-83 Nitric oxide-mediated S-nitrosylation can be involved in brain nicotinic acetylcholine receptors-mediated activation of central adrenomedullary outflow in rats
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I-P-84 Stimulation of the superior laryngeal nerve promotes calcitonin and thyroxine secretion, without changes in parathormone secretion, from the thyroid and parathyroid glands
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I-P-85 Development of NO-ergic synaptic sympathetic transmission
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I-P-86 Does cardiac intrinsic innervation depend on animal species?
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