

Thursday, September 17, 1998
(morning)

Thursday

LUCERNE CULTURE & CONCERT CENTER Concert Hall

09:00	10:30	Concert Hall: Opening Ceremony	
		Welcome Address of the Congress President	Claus Naumann
		Welcome Address of the Minister of Health of the Canton of Lucerne. Regierungsrat Klaus Fellmann, Lucerne	Klaus Fellmann
09:40	10:05	History of Neuromodulation	Giancarlo Barolat
10:05	10:30	History of Functional Electrical Stimulation	Uros Stanic
10:30	10:50	Coffee Break	
10:50	12:30	Today's Concepts and Technology	
		Chairs: Giancarlo Barolat, Uros Stanic	
10:50	11:10	Electrical Neuromodulation	Richard North
11:10	11:30	Functional Electrical Stimulation	Ross Davis
11:30	11:50	Chemical Neuromodulation	Elliot Krames
11:50	12:10	Neuromodulation and functional electrostimulation: goals and methods	Jan Holsheimer
12:10	12:30	Discussion	
12:00	13:00	Snacks available at the Lucerne Culture & Congress Center	

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Thursday, September 17, 1998
(afternoon)

CASINO LUCERNE / Exhibition Site

13:00 14:00 Opening of the Industrial Exhibits

Panorama Auditory

14:00	15:45	Intrathecal Therapy I Chairs: Enrique Reig, Claus Naumann	
14:00	14:20	Physiology of Pain	Elliot Krames
14:20	14:40	Intrathecal Therapy for Non-Malignant Pain	Wolfhard Winkelmüller
14:40	15:00	Intrathecal Therapy for Malignant Pain	Tim Deer*
15:00	15:20	Which Pump for which Patient ?	Gerhard Müller- Schwefe
15:20	15:45	Discussion	
15:45	16:15	Coffee Break	
16:15	18:30	Medtronic Symposium : Neuromodulation for Spasticity Chairs: Gunther Ochs, Joyce Campbell	
16:15	16:30	IT Baclofen Therapy for MS, Patient Selection, Management and Outcomes	Gunther Ochs
16:30	16:45	IT Baclofen Therapy for SCI/ SCD: Patient Selection, Management and Outcomes	Marc Sindou *
16:45	17:05	Neuronal mechanisms of spasticity	Milan Dimitrijevic
17:20	17:35	IT Baclofen Therapy for Brain Injury and Stroke	TBD
17:35	17:50	Spasticity modulation with Electrical Stimulation	Joyce Campbell
17:50	18:30	Roundtable	

19:00 21:00 RECEPTION CITY HALL LUCERNE

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Terrace Auditory

14:00	15:45	Bladder Control I	
		Chairs: Dieter Sauerwein	
14:00	14:20	Sacral Deafferentiation (SDAF) and Sacral Anterior Root Stimulation (SARS) - a Treatment of Bladder Spasticity	Ulf Bersch
14:20	14:40	Selective Block Techniques of Urethral Sphincter Contraction in Sacral Anterior Root Stimulation	Stephan Schumacher
14:40	15:00	Attempts to prevent Detrusor-Sphincter-Dyssynergia	Klaus P. Jünemann
15:00	15:20	Whole Nerve Cuffs Recordings from Nerves innervating the Bladder	S Jezernik
15:20	15:45	Discussion	
15:45	16:15	Coffee Break	
16:15	18:15	Lower Limb Dysfunction	
		Chairs: Ross Davis	
16:15	16:35	History and Complex Problems ass. with FES-Standing in Paraplegia	T Bajd
16:35	16:55	Surface applied FES systems for standing and ambulation in Paraplegia	D Graupe
16:55	17:15	Percutaneous intramuscular FES systems for standing and ambulation in Paraplegia	J Shimada
17:15	17:35	Fully-implanted FES-systems for standing and ambulation in Paraplegia	Ross Davis
17:35	17:55	Sensors and closed-loop control systems for FES in Paraplegia	Brian Andrews
17:55	18:15	Discussion	

19:00 21:00 RECEPTION CITY HALL LUCERNE

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Titlis Auditory

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08:00 12:00 No program

14:00 16:00 Free Papers Session I, for details see next pages
Chairs: Lars Erik Augustinsson
10 min. per paper

16:15 18:15 Free Papers Session II, for details see next pages
Chairs: Paul Meadows
10 min. per paper

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Free Paper Session I THURSDAY, Sept 17, 1998

Chairs: Lars Erik Augustinsson

- FP 1 **"Spinal Cord Stimulation Counteracts Ischemia in Experimental Skin Flaps: Animal Studies"**
B. Linderoth, G. Gherardini, T. Lundeborg, J.-G. Cui, S.V. Eriksson, S. Trubek
Dept. of Neurosurgery, Karolinska Institute/Hospital, S-171 76 Stockholm, Sweden
- FP 2 **"Early Multi-Centre Results with a New Transverse Tripole System for Spinal Cord Stimulation for Chronic Neuropathic Pain"**
G. Espinosa, G. Quartey, J. McKean, P. Allen, G. Spincemaille, B. Nuttin
Dept. of Surgery, Kingston General Hospital, Kingston, Ontario K7L 2V7, Canada
- FP 3 **"Spinal Cord Stimulation in Patients with Pain in Back or Lower Limbs Using a New Transverse Tripolar Lead (TTL) and Temporary Dual Pulse Generator. The Leuven Experience"**
B. Nuttin, P. De Sutter, J. Holsheimer, W. Wesselink, J. Gybels
Dept. of Neurosurgery, Univ. Hospitals of Leuven, B-3000 Leuven, Belgium
- FP 4 **"Deep Brain Stimulation in Parkinson's Disease: A New Stereotactic Apparatus for Contemporary Neurophysiological Assessment of Multi-Target Activity"**
P. Mazzone, G. Gattoni, P. Stanzione
Dept. of Neurosurgery, CTO Hospital, I-00145 Rome, Italy
- FP 5 **"Thalamic Stimulation in Various Types of Tremor"**
B.C. Kern, Th. Funk, J. Vesper, Th. Kombos, U. Jahnke, M. Straschill
Neurosurgery, UKBF, D-12200 Berlin, Germany

Free Paper Session I continued...

- FP 6** **"Stereotactic Manipulation: A Comparison of Radiofrequency, Chemical, Physical, and Electrical Stimulation Methods of Producing "Lesions"**
J.P. Gorecki, A. Villavincencio, J. Wellons, L. Rubin
Stereotactic/Functional Neurosurgery, Duke University Medical Center, Durham, NC 27710, USA
- FP 7** **"Transcranial Electroanalgesia (TEA) as Effective Non-Pharmaceutical Method for Pain Management (PM)"**
V.P. Lebedev
Pavlov Institute of Physiology, 199034 Saint Petersburg, Russia
- FP 8** **"Paravertebral Structures as a Main Subject for Pain Management"**
A.I. Soukhanov
Rehabilitation Centre of Dr. A. Soukhanov, 197342 St. Petersburg, Russia
- FP 9** **"Direct Nerve Stimulation for Painful Peripheral Neuropathies"**
H. Waisbrod, E. Eisenberg
Dept. of Orthopedics, Linn Medical Center and Pain Relief Unit, Rambam Medical Center, Haifa, Israel
- FP 10** **"Peripheral Neurostimulation in the Control of Essential Tremor"**
L.M. Silverstone, J.A. Cella, S.R. Nusinow, A. Mossanen
BioSciences Systems, LLC., La Jolla, Ca. 92038, USA

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Free Paper Session I continued...

FP 11

"Direct Electrostimulation and Hyperbaric Oxygenation in Surgical Treatment of Nerve-Injured Patients"

V.P. Bersnev, I.V. Iakovenko, T.G. Tyshkevich

Rehabilitation Dept., Russian Polenov Neurosurgical Institute, 191104 St. Petersburg, Russia

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Free Paper Session II Thursday Sept 17, 1998

Chairs: Paul Meadows

- FP 13** **"The Demand for Walking Improvements in Potential FES System and Users within the Spinal Cord Injured Population"**
D.J. Maxwell, M.H. Granat, G. Baardman, H. Hermans
Bioengineering Unit, University of Strathclyde, Glasgow G 4, United Kingdom
- FP 14** **"Control by Handle Reactions of Leg Muscles Stimulation (CHRELMs): Results from Standing Experiments"**
C.H. Yu, N. Donaldson
University College London, GB-London WC1, Great Britain
- FP 15** **"FES Control Strategies for Standing-Up and Sitting-Down Supported by a Seesaw-Construction: A Stimulation Study"**
R. Riener, M. Ferrarin, C. Frigo
Centro di Bioingegneria, Fond.P. Juventute Don Gnocchi, Politecnico di Milano, I-20148 Milano, Italy
- FP 16** **"Restoration of Standing and Walking Ability in Paraplegia by FES Without Orthotics"**
K. Ihashi, R. Yagi, S. Tanaka, T. Fujii, Y. Handa
Tohoku University Graduate School of Medicine, 980-8575 Sendai, Japan
- FP 17** **"Dynamic Neuromuscular and Stretch Reflex Model for FES Control"**
J. Quintern, F. Palazzo, R. Riener, T. Edrich, M. Ferrarin
Dept. of Neurology, University of Munich, Klinikum Grosshadern, D-81377 Munich, Germany

Free Paper Session II continued...

- FP 18** **"Electrocutaneous Cognitive Feedback System for Assistance of Paraplegic Standing"**
P.L. Jensen, Z. Matjacic, R. R. Riso, Th. Sinkjaer, T. Bajd
Center of Sensory-Motor Interaction (SMI), Aalborg University, DK-9000 Aalborg, Denmark
- FP 19** **"Stimulation of the Deep Paroneal Nerve as a Method for Inhibition of the Stretch Reflex"**
P.H. Veltink, M. Ladouceur, T. Sinkjaer
Institute for Biomedical Technology, Faculty of Electrical Engineering, Univ. of Twente, 7500 AE Ensched, Denmark
- FP 20** **"Optimization of Parameters of Abdominal Muscles Stimulation for Augmentation of Pulmonary Ventilation in Tetraplegia"**
F. Kandare, U. Stanic, J. Jeraj, J. Aorli, R. Jaeger
Clinical Dept. of Respiratory Disease and Allergy, 4204 Golnik, Slovenia
- FP 21** **"Muscle Fatigue During Intermittent Electrical Stimulation"**
T. Matsunaga, Y. Shimada, K. Sato, T. Kashiwagura, A. Misawa
Akita University of Medicine, 010-8543 Akita, Japan
- FP 22** **"Telemetry EMG from Implantable Stimulator"**
S. Pourmehdi, P. Strojnik, H. Peckham
Neuro Control Corporation, Cleveland, Ohio 44106-7212, USA

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Free Paper Session II continued...

- FP 23** **"Externally-Powered Implantable Device Dedicated to Monitor FES Events and Parameters"**
M. Sawan, C. Donfack, E. Schneider, S. Boyer, M. Roy
Ecole Polytechnique, DGEGI, Montreal H3C3A7, Canada
- FP 24** **"Electrocutaneous Cognitive Feedback System for Assistance of Paraplegic Standing"**
P.L. Jensen, Z. Matjacic, R. R. Riso, Th. Sinkjaer, T. Bajd
Center for Sensory-Motor Interaction (SMI), Aalborg University, DK-Aalborg, Denmark

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Panorama Auditory

Friday

08:00	09:45	Neuromodulation for Motor Disorders Chairs: Yves Keravel	
08:00	08:20	Physiologic Mechanisms of Motor Disorders	TBD
08:20	08:40	Deep Brain Stimulation	Jean Siegfried
08:40	09:00	Neurostimulation for Tremor due to MS	Jean Paul N'Guyen
09:00	09:20	Neurostimulation of the Sub-Thalamic Nucleus for Akinesia	Alim L Benabid*
09:20	09:45	Roundtable	
09:45	10:15	Coffee Break	
10:15	12:00	Drugs for Intrathecal Pain Treatment Chairs: Elliot Krames, Marshal Bedder	
10:15	10:35	Opioid update	Tony Yaksh *
10:35	10:55	Intraspinal Use of Clonidine for Pain	Sam Hassenbusch
10:55	11:15	Drug Combination Therapy for Pain	Stuart
			Dupen*/Eisenach*
11:15	11:35	New drugs	Joachim Chrubasik
11:35	12:00	Discussion	
12:00	14:00	Lunch, Poster Session	
14:00	15:45	Intrathecal Therapy II Chairs: Joachim Chrubasik	
14:00	14:15	Screening Procedures	Claus Naumann
14:15	14:30	How long to use externalized catheters	Stuart L DuPen*
14:30	14:45	Appropriate Use of Drug Delivery Systems	Athanasius
			Koulousakis
14:45	15:05	Complications of Intrathecal Therapy	Claus Naumann
15:05	15:25	Trouble Shooting and Pump Failure	Marshal Bedder
15:25	15:50	Discussion	
15:50	16:15	Coffee Break	
16:15	18:00	Spinal Cord Stimulation : Basic physiological mechanisms Chairs: TBD	
16:15	16:35	SCS in Neuropathic Pain: Basic Physiological Mechanisms	Bengt Linderoth
16:35	16:55	SCS in Ischemia and Ischemic Pain: Basic Physiological Mechanisms.	Robert Foreman
16:55	17:15	Basic mechanisms of vagal stimulation	Basim Uthman
17:15	17:35	Neuronal Networks	Hans Peter Wüest
17:35	18:00	Discussion	

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Terrace Auditory

08:00	09:45	Treatment of Epilepsy	
		Chairs: TBD	
08:00	08:20	Vagus nerve Stimulation: Basic Mechanisms	Robert Foreman
08:20	08:40	VNS Implantation Technique, Complications and side effects	L. E. Augustinsson
08:40	09:00	Thalamic Stimulation for Epilepsy	Andres Lozano
09:20	09:20	Stimulation or Neuromodulation in Epilepsy?	Basim Uthman
09:20	09:45	Discussion	
09:45	10:15	Coffee Break	
10:15	12:15	Spinal Cord Stimulation for PVD	
		Chairs: Renate Koppensteiner, Luc Claeys, Philippe Gersbach	
10:15	10:30	Conservative Options in the Treatment of Endstage PVD	R. Koppensteiner
10:30	10:45	Clin. Experience with SCS in the Treatment of Crit. Limb Ischemia	Dieter Raithel
10:45	11:00	The Swedish Randomized Study	Lennart Jivegard
11:00	11:15	The Cologne Randomized Study	Svante Horsch
11:15	11:30	Microcirculatory Selection Criteria for the Use of SCS	Michael Jacobs
11:30	11:45	Microcirculatory Screening in Patients considered for SCS	Philippe Gersbach
11:45	11:55	Future Perspectives	Svante Horsch
11:55	12:15	Discussion	
12:00	14:00	Lunch, Poster Session	
14:00	15:45	Spinal Cord Stimulation for Angina : Pro and Con	
		Chairs: Lars Erik Augustinsson	
14:00	14:15	Efficacy : Pro	Mike De Jongste
14:15	14:30	Efficacy : Con	F Bologna
14:30	14:45	Mechanisms : Pro	Clas Manheimer
14:45	15:00	Mechanisms : Con	J. Sanderson
15:00	15:15	Scandinavian experience of SCS in Angina pectoris	L. E. Augustinsson
15:15	15:45	Discussion	
15:45	16:15	Coffee Break	
16:15	18:00	Bladder Control II	
		Chairs: Ulf Bersch	
16:15	16:35	Neuromodulation of the Sacral Nerves: Indications, Technique and Results	Dieter Sauerwein
16:35	16:55	Urethral Pressure Responses to Micro-Stimulation in the feline Sacral Spinal Cord	Warren Grill
16:55	17:15	The "Barcelona" stimulation technique for voiding in the spinal cord injured	A. Borau
17:15	17:35	Treatment of Sexual Dysfunction in Paraplegics by FES	D. Löchner-Ernst
17:35	18:00	Discussion	

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**08:00 09:45 Free Paper Session III : see next pages
Chairs: Wilhelm Erdmann**

09:45 10:15 Coffee Break

**10:15 12:00 Free Paper Session IV : see next pages
Chairs: Wilhelm Erdmann**

12:00 14:00 Lunch

14:00 18:00 No program

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Free Paper Session III Friday Sept 18 1998, 08.00
(10 minutes per paper)

- FP 25** **"Preliminary Results of Peripheral Nerve Stimulation for Intractable Lower Extremity Nerve Pain"**
L.C. Schon, P.W.-C. Lam, C.D. Anderson, M.E. Easley, H.-J. Trnka
The Union Memorial Hospital, Baltimore, Maryland 21218, USA
- FP 26** **"Spinal Cord Stimulation in the Management of Pain from Brachial Plexus Avulsion"**
E. Kurt, G.H.J.J. Spincemaille, G. Blaauw
Dept. of Neurosurgery, Univ. Hoispital, NL-6202AZ Maastricht, The Netherlands
- FP 27** **"Neurostimulation of Peripheral Nerves"**
D. Buschmann, F. Oppel
Dept. of Neurosurgery, Krankenanstalten Gilead, D-33617 Bielefeld, Germany
- FP 28** **"Spinal Cord Stimulation (SCS) Prevents the Effects of Combined Experimental Ischemic and Traumatic Brain Injury"**
M. Visocchi, M. Meglio, B. Cioni, D. Cabezas Cuevas, F. Romeo
Institute of Neurosurgery, Catholic University of S. Heart, I-00168 Rome, Italy
- FP 29** **"Hardware Failures in Spinal Cord Stimulation for Failed Back Surgery Syndrome"**
N.G. Rainov, V. Heidecke, W. Burkert
Dept. Neurosurgery, M.-Luther-Univ., D-06097 Halle, Germany

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Free Paper Session III continued...

- FP 30** **"The Post-Stimulation Analgesic Effect of Transcutaneous Electrical Nerve Stimulation (TENS) is more profound than during Stimulation"**
G.L.Y. Cheing, C.W.Y. Hui-Chan
Dept. of Rehabilitation Sciences, The Hong Kong Polytechnic, Kowloon, Hong Kong
- FP 31** **"Clinical Improvement of Parkinsonian Symptoms may not be uncoupled by Levodopa-Induced Dyskinesias Resolution by Internal Globus Pallidus Stimulation in Parkinson's Disease"**
P. Mazzone, S. Vangelista, A. Stefani, P. Stanzione, A. Peppe, M. Pierantozzi, V. Iantorno, M.G. Altibrandi, A. Bassi, R. Pisani, G. Bernardi,
Neurosurgical Clinic, University of Genova, I-16132 Genova, Italy
- FP 32** **"Chronic Motor Cortex Stimulation in the Treatment of Central and Neuropathic Pain. Correlations between Clinical, Electrophysiological and Anatomical Datas"**
J.P. Nguyen, J.P. Lefaucheur, S. Kondo, F. Velasco, J.A. Brown, Y. Keravel
Service de Neurochirurgie, Hôpital Henri Mondor, F-94000 Créteil, France
- FP 33** **"Location of Posteroventral Pallidum during Stereotactic Surgery can be Optimized by Turns-Amplitude Analysis of Electroneurograms and Visual Evoked Potential Recording"**
J.P. Lefaucheur, B. Pollin, J.P. Nguyen
Dept. of Physiology, Henri Mondor Hospital, F-94010 Creteil, France
- FP 34** **"Stereotactic Posteroventral Pallidotomy Improves Balance Control as Assessed by Computerized Posturography"**
G. Mandybur, M. King
Medical Center, Univ. of Mississippi, Jackson, 39216, USA

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Free Paper Session III continued...

- FP 35** **"Target Calculation for Deep Brain Stimulation in the Advances Parkinsonian Syndrome"**
Th. Funk, J. Vesper, B.C. Kern, F. Wagner, Th. Kombos, M. Brock
Dept. of Neurosurgery, Univ.-Clinic B. Franklin, D-12200 Berlin, Germany
- FP 36** **"Cortical Stimulation for Pain: The Turin Experience"**
S. Canavero, V. Bonicalzi, C.A. Pagni, S. Zeme, N. Montrucchio, P. Perozzo
Pain Relief Unit, Dept. Neuroscience, Div. Neurosurgery, Ospedale Molinette, I-10132 Torino, Italy

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Free Paper Session IV Friday, Sept 18, 1998 10:15
(10 minutes per paper)

- FP 37** **"Lessons learned from using Functional Electrical Stimulation Systems to Enhance Grasping and Reaching in Humans with Paralysis"**
D. Popovic, M. Popovic
Faculty of Electrical Engineering, University of Belgrade, YU-11000
Belgrade, Yugoslavia
- FP 38** **"Instrumented Evaluation of Control of Bilateral Stimulated Hand Grasp and Release in Persons with Tetraplegia"**
T.R.D. Scott, J.M. Heasman, R.Y. Flynn, V.A. Vare, C.R. Gschwind,
J.W. Middleton, S.B. Rutkowski
Spinal Injuries Unit, Royal North Shore Hospital, 2065 St. Leonards,
NSW, Australia
- FP 39** **"FES and Arm Supported Standing Up Strategies in Paraplegia"**
R. Kamnik, T. Bajd, A. Kralj, H. Benko, P. Obreza
Faculty of Electrical Engineering, Univ. of Ljubljana, 1000 Ljubljana,
Slovenia
- FP 40** **"Cooperative Neuroprostheses to Restore Functional Movements in the Lower Extremities"**
T.C. Fuhr, R. Riener, G. Schmidt
Institute of Automatic Control Engineering, Technische Universität
München, D-80290 Munich, Germany
- FP 41** **"Modern Signal Processing Methods in Control of FES-assisted Locomotion"**
A. Kostov
University of Alberta, Edmonton T6G 2G3, Canada

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Free Paper Session IV continued...

- FP 42** "Hermetic Implantable Electronic Design in Laboratory Settings"
P. Strojnik, S. Pourmehdi, B. Smith, H. Peckham
Case Western Reserve University, Cleveland, Ohio 44106-7211, USA
- FP 43** "Spinal Neurons Regulating Micturition: Identification and Effects of Stimulation"
W.M. Grill, B. Wang, N. Bhadra, M. A. Haxhiu
Applied Neural Control Lab., Case Western Reserve University, Cleveland, Ohio 44106-4912, USA
- FP 44** "Role of C-Afferent Fibers in the Mechanism of Action of Sacral Nerve Root Neuromodulation"
H. Shaker, Y. Wang, M. Fehlings, M.M. Hassouna
Div. of Urology and Div. of Neurosurgery, The Toronto Hospital, Toronto, ON M5T2S8, Canada
- FP 45** "CT-Guided Endoscopic Laser Lesioning (CELL) for Treatment of Z-Joint Pain"
M.A. Lutze, R. Saballus
Zentrum f. Wirbelsäulenerkrankungen, Spine Group Berlin, D-12627 Berlin, Germany
- FP 46** "CT-Assisted Endoscopic Laser Discectomy (CTD)"
R. Saballus, M.A. Lutze
Spine Group Berlin, Zentrum f. Wirbelsäulenerkrankungen, D-12627 Berlin, Germany

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Free Paper Session IV continued...

- FP 47** **"Intrathecal Baclofen in Bedridden and Walking Patients: Two Different Approaches"**
I. Dones, D. Fabbrica, F. Molteni, G. Broggi
Dept. Neurosurgery, Ist.Nazionale Neurologico "C. Besta", I-20133 Milano, Italy
- FP 48** **"Anticephalgic Photoprotective Premedicated Mask - A Report of a Successful Double-Blind Placebo-Controlled Study of a New Treatment for Headaches with Associated Frontalis Pain and Photophobia"**
M. I. Hyson
The American Assoc. for the Study of Headache, University of Nevada, School of Medicine, Las Vegas, NV 89106, USA

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Lakewalk Gallery – Poster Exhibits

- PP 1 **"The Human Lateral Dorsal Columns have Larger Afferents than the Medial Parts: Model Prediction and Morphometric Verification"**
W.A. Wesselink, J. Holsheimer
Faculty of Electrical Engineering, University of Twente, NL-7500 AE Enschede, The Netherlands
- PP 2 **"The Order of Paresthesias in Transverse Tripolar Field Steering is Determined by Dorsal Column Topography"**
J. Holsheimer, W.A. Wesselink
Faculty of Electrical Engineering, University of Twente, NL-7500 AE Enschede, The Netherlands
- PP 3 **"Intraosseous Blockades in the Treatment of Neurological Syndromes of Lumbar Osteochondrosis"**
E.L. Sokov
Peoples' Friendship University of Russia, 117198 Moscow, Russia
- PP 4 **"Assessment of Neurostimulation in the Treatment of Intractable Pain with SCS"**
W. Roth, K. Dei-Anang, W. Al-Qut
Dept. of Neurosurgery, Schmerzzentrum Mainz, D55131 Mainz, Germany
- PP 5 **"Does Long-Term Home Treatment with Epidural Analgesia Effect Later Spinal Cord Stimulation (SCS) in Patients with Otherwise Intractable Angina Pectoris"**
C. Andersen, P. Hole
Dept. of Cardiothoracic Anaesthesia, Odense University Hospital, DK-5000 Odense C., Denmark

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Lakewalk Gallery – Poster Exhibits

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Poster Presentation I continued...

- PP 6 **"Normalization of Nervous Conductivity in a Treatment of Cancer Pain"**
A.I. Soukhanov
Rehabilitation Centre of Dr. A. Soukhanov 197342 St. Petersburg, Russia
- PP 7 **"Clinical Experience of Chronic Vagus Nerve Stimulation in Four Patients"**
M. Sardella, A. Dario, A. Dorizzi
Neurosurgical Dept. Epilepsy Centre, Varese Regional Hospital, I-21100 Varese, Italy
- PP 8 **"Chromosomic and Histological Analysis of the Tissue Around Implantable Pulse Generator (IPG)"**
A. Dario, R. Casalone, D. Mazzola, M. Cerati, G. Fortini
Centre of Neurostimulation, Varese Regional Hospital & Macchi Foundation, I-22100 Como, Italy
- PP 9 **"Spinal Cord Stimulation: A Comparison of Laminectomy and Percutaneous Lead Placement"**
J.P. Gorecki, A. Villavicencio, B. Urban, W. Spillane, J. Lefevre, L. Rubin
Stereotactic/Functional Neurosurgery, Duke University Medical Center, Durham, NC 27713, USA
- PP 10 **"Analgesic and Anti-Inflammatory Activity in the Series of Sulfon- and Carboxamides of Norbornene Series"**
H.T. Zlenko, L.I. Kasyan, V.I. Mamchur, A.O. Kasyan, I.N. Tarabara, H.M. Demchenko
Dept. of Pharmacology, Medical State Academy, Dniepropetrovsk 320044, Ukraine

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Lakewalk Gallery – Poster Exhibits

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Poster Presentation I continued...

- PP 11 **"Long Term Intrathecal Drug Administration".**
C. P. Naumann
Swiss Paraplegic Center, Nottwil, Swiss Pain Institute, Rheinfelden,
Switzerland
- PP 12 **"Iontophoretic Morphine Administration".**
C. P. Naumann
Swiss Paraplegic Center, Nottwil, Swiss Pain Institute, Rheinfelden,
Switzerland
- PP 13 **"Ropivacaine vs. Bupivacaine for Long Term Epidural and
Brachial Plexus Infusions for CRPS"**
M. S. Stepniewski, S. Heim, K. L. Scherrer
- PP 14 **"Is there a Place for Spinal Cord Stimulation in the Treatment of
Critical Limb Ischemia"**
L.G.Y. Luc
Dept.of Cardiovascular and Thoracic Surg., Univ. Hospital Kroellwitz,
D-06120 Halle/Saale, Germany
- PP 15 **"Effects of Spinal Cord Stimulation on the Skin Blood Flow in
Patients with Ischemic Pain: A Review of Techniques and
Results"**
L.G.Y. Luc
Dept.of Cardiovascular and Thoracic Surg., Univ. Hospital Kroellwitz,
D-06120 Halle/Saale, Germany

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Poster Presentation I continued...

- PP 16 **"Improved Correction of Hemiparetic Gait by New Implantable Nerve Stimulator"**
I. Tekavcic, J. Rozman, J. Krajnik
Dept. of Neurosurgery, Clinical Centre Ljubljana, 1000 Ljubljana, Slovenia
- PP 17 **"On Calcium Dynamics and the Mechanisms for Non-Linear Summations in Mammalian Muscle"**
S.J. Dorgan
Instit. of Automatic Control Engineering, Technical University, D-80333 Munich, Germany
- PP 18 **"Prolonged Standing in Paraplegia Using Closed-Loop FES and Andrews Ankle-Foot Orthosis"**
R. Davis, T. Houdayer, B. Andrews
Neural Engineering Clinic, Augusta, Main 04330, USA
- PP 19 **"Effect of Initial Position on Nerve Cuff Recordings of Muscle Afferents During Passive Rotation of the the Rabbit's Ankle Joint"**
W. Jensen, R. Riso, Th. Sinkjaer
Center of Sensory-Motor Interaction, DK-9000 Aalborg, Denmark
- PP 20 **"The Role of Auditory Cognitive Feedback in Underactuated Standing"**
Z. Maticic
Center for Sensory-Motor Interaction, Aalborg University, DK-9220 Aalborg, Denmark

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Poster Presentation I continued...

- PP 21 **"Vertical GRF and Anterior/Posterior COP in Supported Paraplegic Standing"**
Z. Matjacic, P.L. Jensen, R. Riso, Th. Sinkjaer
Center for Sensory-Motor Interaction, Aalborg University, DK-9220 Aalborg, Denmark
- PP 22 **"Evaluation of Grasping Power by Means of Functional Electrical Stimulation in a Patient with C6 Complete Tetraplegia"**
S. Chida, Y. Shimada, K. Sato, T. Matsunaga, Y. Tsutsumi, T. Kashiwagura
Akita University of Medicine, 010-8543 Akita, Japan
- PP 23 **"Motor Point Delineation of the HIP Muscles for Functional Electrical Stimulation Using Percutaneous Intramuscular Electrodes: An Anatomic Study"**
Y. Tsutsumi, Y. Shimada, K. Sato, T. Matsunaga, T. Kashiwagura, A. Misawa
Akita University of Medicine, 010-8543 Akita, Japan
- PP 24 **"Solous Stretch Reflex Inhibition in the Early Swing Phase of Gait Using Deep Peroneal Nerve Stimulation"**
M.M. Voormolen, M. Ladouceur, P.H. Veltink, T. Sinkjaer
Center for Sensory Motor Interaction (SMI), DK-9220 Aalborg, Denmark
- PP 25 **"Evaluation Of A Portable Clinician System That Configures The Walkaide, A Peroneal Nerve Stimulator"**
B. DaSilva, W. Gibson, S. Lomas
Neuromotion, Edmonton, Alberta T6G0T2, Canada

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Poster Presentation I continued...

- PP 26 **"A Possibility of Using M-Waves Evoked by Double Pulses for Evaluating Muscle Fatigue on FES Control"**
T. Watanabe, N. Miura, T. Kamimura, S Ohba, R. Futami, N. Hoshimiya
Dept. Electronic Eng., Grad. Sch. Eng., Tohoku Univ., 980-8579 Sendai, Japan
- PP 27 **"A Purpose for Epileptic Patient"**
D. Rosselli, M. Magliano
Gruppo Rieducazione Funzionale, I-10147 Turin, Italy
- PP 28 **"Mapping of Energy Field for a Two Channel Implantable Nerve Stimulator"**
C. Childs, M. Haugland, E.M. Nielsen
Center for Sensory-Motor Interaction, Aalborg University, DK-9220 Aalborg, Denmark
- PP 29 **"Energy Costs of Electrically-Assisted Ambulation in SCI Paraplegics"**
P.L. Jacobs
University of Miami, Miami, FL 33187, USA
- PP 30 **"Effect of Electrical Pudendal Nerve Stimulation for Urinary Incontinence due to Neurogenic Hyperreflexic Bladder"**
S. Tanaka, K. Takahashi, T. Fujii, K. Ihashi, R. Yagi, Y. Handa, T. Namima
Dept. of Retrorative Neuromuscular Surgery and Rehabilitation, Tohoku University, Graduate School of Medicine, Sendai 980-8575, Japan

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Poster Presentation I continued...

- PP 31 **"The Therapeutic Effect of Surface Electrical Stimulation on Spasticity"**
S.H. Chen, Y.C. Chen, Y Handa
Dept. of Physical Medicine and Rehabilitation, Taipei Medical College, Tohoku Univ. Graduate School, 110 Taipei City, Taiwan
- PP 32 **"Electromyostimulation - Basics, Chances and Limits"**
U.G. Randoll, F.F. Hennig
Previously Institute of Phys. Education and Sports, D-04277 Leipzig, Germany
- PP 33 **"High Resolution Video-Microscopy of Vital Hard Tissue"**
U.G. Randoll, F.F. Hennig
Dept. of Traumatology, Univ. of Erlangen-Nürnberg, D-82194 Gröbenzell, Germany
- PP 34 **"Continuous Intrathecal Application of Morphine in Cancer Pain"**
A. Koulousakis, M. Indahl, M. Weber
Neurosurgery, Dept. of Stereotaxie, Univ.-Klinken Köln, D-50924 Köln, Germany
- PP 35 **"Cost-Effectiveness of Spinal Cord Stimulation for Treatment of Intractable Angina in an American Patient"**
C.S. Szabo
The Pain Treatment Center, Kentfield Rehabilitation Hospital, Kentfield, Ca. 94904, USA

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Poster Presentation I continued...

- PP 40** **"Selective Neural Stimulation to Improve Bladder Voiding:
Chronic Experiments in Dogs"**
S. Boyer, M. Abdel-Gawad, T.M. Abdel-Baky, M. Sawan, M.M. Elhilali
Dept. of Electrical and Computer Engineering, Ecole Polytechnique,
Montreal H3C3A8, Canada
- PP 39** **Prospective Study on the Effect on the Neuromodulation on the
Walking Pattern in the Treatment of the Patient with the Failed
Back Surgery Syndrome(FBSS)**
L.Jacques,M.D.,FRCSC*, T.DelDuca,Pht** and P.Allard,Pht**.
Division of Neurosurgery* and Physical Therapy Center**,Jewish
General Hospital, McGill University,Montreal,Quebec, Canada

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Poster Presentation I continued...

- PP 41 **"Cerebellar Stimulation for Seizure Suppression"**
D. Ross, S. Emmons
Neural Engineering Clinic, Augusta, Main 04330, USA
- PP 42 **"Transcutaneous Nervous Stimulation Used to Select Patients for Treatment with SCS in Intractable Angina Pectoris"**
G.I. Guhl, H. S. Pedersen, C. Andersen
Dept. of Anesthesia, Odense Univ. Hospital, DK-5000 Odense, Denmark
- PP 43 **"Pain and Its Differential Neuromodulation from the Point of Information Theory and Functional Systems"**
V.F. Gulik, A.B. Mullo, S.S. Mainagashev, V.D. Slepushkin
Instit. of General Reanimatology, RAMS, Novokuznetsk, Russia
- PP 44 **"Surgical Management of Chronic Lower Extremity Neuropathic Pain"**
L.C. Schon, M.E. Easley, P.W.-C. Lam, C.D. Anderson, H.-J. Trnka
The Union Memorial Hospital, Baltimore, Maryland 21219, USA
- PP 45 **"Electroneurostimulation for Posttraumatic Neurogenic Pain Syndromes and Motor Disorders"**
L.Y. Livshits, V.G. Ninel, F.V. Suvorov
Research Institute of Traumatology and Orthopedics, 410002 Saratov, Russia

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Poster Presentation I continued...

- PP 46 **"The Use of Syncromed Medtronic Implanted Pump of the Treatment of the Post Laminotomy Pain"**
M. Ghiara, P. Poli, A. Ciaramella, R. Guerrini
Pain Therapy Unit, S. Chiara Hospital, I-56100 Pisa, Italy
- PP 47 **"Optimizing Machine Learning in Functional Electrical Stimulation Assisted Foot-Drop Correction Based on Natural Sensors: A Case Study"**
M. Hansen, A. Kostov, M.K. Haugland, T. Sinkjaer
Center for Sensory-Motor Interaction, Aalborg University, DK-9000 Aalborg, Denmark
- PP 48 **"Neuromodulation Device Registry" A Pilot Program**
E. Buchser, Y. Martin, I. Coronado, C. Van Den Abeele, R. Hirsch, P. Wolf, D. Bach
Service d'Anesthésie, Hôpital de Morges, Morges, Switzerland
- PP 49 **"Sacral Nerve Stimulation to Control Micturition Disorders"**
E. Buchser, I. Coronado, S. Meyer, T. Pache, Y. Martin, B. Depierraz, D. Chédél, B. Rutschmann, A. Clemence-Dörr, A.L. Sprunger, N. Schweizer, C. Lepage
Service d'Anesthésie, Hôpital de Morges, Morges, Switzerland
- PP 50 **"The Treatment of Refractory Reflex Sympathetic Dystrophy with High Frequency Tripolar Dual Octrode Spinal Cord Stimulation, A Case Report"**
K.M. Alo, P. Poli, M. Ghiara, A Ciaramella, G.Varelli, M. Yland
Dept. of Pain Management, Pain and Health Management Center, Houston, TX 77029, USA

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Saturday, September 19, 1998

Panorama Auditory

Saturday

08:00	09:45	ANS-Symposium : Spinal Cord Stimulation for Complex Pain Chairs: Giancarlo Barolat, John Oakley	
08:00	08:15	The Problem and Potential Solutions	John Oakley
08:15	08:30	Lead Positioning and Programming Strategies	Ken Alo
08:30	08:45	Multi-Center Low Back Pain Study- Early Results	Giancarlo Barolat
08:45	09:00	SCS in the treatment of RSD	Daniel Bennet
09:00	09:15	New SCS - Ideas and Approaches	Claudio A Feler
09:15	09:40	Questions and Answers	
09:40	09:45	ANS Message	Chris Chavez/ Scott Drees
09:45	10:15	Coffee Break	
10:15	12:00	Complex Regional Pain Syndrome (CRPS) Chairs: Michael Stanton-Hicks	
10:15	10:20	Introduction and Welcome	M. Stanton-Hicks
10:20	10:35	Clinical Features of Diseases and Treatment Options.	M. Stanton-Hicks
10:35	10:50	Selection of Patients for Spinal Cord Stimulation.	Marshal Bedder
10:50	11:05	Experience with Peripheral Nerve Stimulation	Tom Graham
11:05	11:20	Topographical Mapping: Combination of SCS and PNS.	Gabor Racz
11:20	11:35	Outcome Studies with PNS	Sam Hassenbusch
11:35	12:00	Discussion	
12:00	14:00	Lunch / Poster Session	
14:00	16:10	Symposium on Radiofrequency Chairs: Menno Sluijter	
14:00	14:20	Old and new Concepts of the Mechanism of Action of AF	Menno Sluijter
14:20	14:40	RF Procedures for Back Pain and Sciatica	Mary Jo Curran
14:40	15:00	Cervical RF Technique	Marten van Kleef
15:00	15:20	RF Procedures in the thoracic Region	RJ Stolker
15:20	15:40	RF for Headache and Facial Pain	Menno Sluijter
15:40	16:10	Panel Discussion: Are ablative Procedures outdated?	
16:10	16:40	Coffee Break	
16:40	18:00	Peripheral Nerve Stimulation Chairs: John Oakley	
16:40	16:55	Retrograde Intraspinal Peripheral Neurostimulation:A Novel Anatomical Approach	Ken Alo
16:55	17:10	Peripheral Nerve Stimulation for Occipital Neuralgia	Richard L. Weiner
17:10	17:25	Peripheral Nerve Stimulation for Upper Limb	Tom Graham
17:25	18:00	Discussion	

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Saturday, September 19, 1998

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Terrace Auditory

08:00 10:15 no program

09:45 10:15 **Coffee Break**

10:15 12:20 **FES-Systems for Restoration of Function in Hemiplegia**

Chairs: TBD

10:15	10:35	Canadian Multicenter Trial using FES for assisting Gait in Hemiplegia	R Stein
10:35	10:55	Surface applied FES system of the lower extremity of Stroke Patients for gait improvement	M Ichie
10:55	11:15	Routine clinical use of surface-applied FES in hemiplegia (28yr. experience)	Ruza Acimovic
11:15	11:35	Therapeutic results of the "Handmaster" surface applied FES prosthesis in Stroke Patients	RH Nathan
11:35	11:55	FES-Systems for control and restoration of upper extremity functions	Michael Keith
11:55	12:20	Discussion	

12:20 14:00 **Lunch / Poster Session**

14:00 15:45 **Minimal Invasive Procedures in FES**

Chairs: Paul Meadows

14:00	14:20	Potential uses of injectable microstimulators and microsensors	Paul Meadows
14:20	14:40	Multi-channel nerve recordings using cuff and intra-fascicular electrodes	JA Hoffer
14:40	15:00	A miniature implantable nerve stimulator	M Haugland
15:00	15:20	Steriological assessment of lesions caused by implanted nerve cuff electrodes	JO Larson
15:20	15:45	Discussion	

15:45 16:15 **Coffee Break**

16:15 18:00 **Epiduroscopy**

Chairs: Gabor Racz

16:15	16:35	Indications for Epiduroscopy	TBD
16:35	16:55	Epidural Adhesiolysis	Gabor Racz
16:55	17:05	Electrode placement for SCS	Raffaelli
17:15	17:35	Epiduroscopic guided Discectomy	Hansjörg Leu*
17:35	18:00	Discussion	

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Saturday, September 19, 1998

Titlis Auditory

Saturday

08:00 **10:15** no program

09:45 **10:15** **Coffee Break**

10:15 **12:20** no program

12:20 **14:00** **Lunch/Poster Session**

14:00 **15:45** **Video - Session I (for detail see next pages)**
Chairs: TBD

15:45 **16:15** **Coffee Break**

16:15 **18:00** **Video Session II (for detail see next pages)**
Chairs: Claus Naumann

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VIDEO -Session I

- V 1 **"Vagal Stimulation in Treatment of Epilepsy - First Experiences"**
J. Paladino, N. Pirker, S. Hajsek, Z. Poljakovic, N. Gubarev
Dept. of Neurosurgery, School of Medicine, 10000 Zagreb, Croatia
- V 2 **"Medial Branch Neurotomy for Chronic Low Back Pain. A
Prospective Study Using Dual Medial Branch Blocks"**
P. Dreyfuss
ETMC Neurological Institute, Spine Specialists, Tyler, Texas 75701,
USA
- V 3 **"Selective Lumbar and Sacral Nerve Root Stimulation in the
Treatment of Chronic Pain"**
K.M. Alo, M. J. Yland, V. Redko
Dept. of Pain Management, Pain and Health Management Center,
Houston, TX 77030, USA
- V 4 **"An In Vitro Study of Electrode Placement at the Cervical Nerve
Roots using a Trans-Spinal Approach"**
K.M. Alo, C. Feler, J. Oakley, M. J. Yland
Dept. of Pain Management, Pain and Health Management Center,
Houston, TX 77031, USA
- V 5 **"Nerve Stimulation in the Treatment of Occipital Neuralgia"**
R.L. Weiner, K.M. Alo, C. Feler, J- Oakley, C. Naumann, M.
Stepniewski, H. Keller, V. Redkol, M.J. Yland
Dept. of Neurosurgery, Dallas Neurosurgical Associates,
Presbyterian Hospital, Dallas, TX 75231, USA

Saturday, September 19, 1998

Titlis Auditory

Thursday

Video Session I continued...

- V 6** "Periduroscopy: Preliminary Reports - Technical Notes"
W. Raffaeli
Dept. of Algology, Serafini Foundation, Infermi Hospital, I-47900
Rimini, Italy
- V 7** "Operative Periduroscopy: Personal Experience"
W. Raffaeli, L. Visani, M. Balestri
Dept. of Algology, Serafini Foundation, Infermi Hospital, I-47900
Rimini, Italy

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Video - Session II

- V 11 **"Standing, Stepping and Cycling for a T9 Paraplegic with a Lumbosacral Anterior Root Stimulator Implant (LARS)"**
T.A. Perkins, N. de N. Donaldson, V.J. Harper, J.A. Norton, D.N. Rushton, A.M. Tromans, D.E. Wood
Dept. of Medical Physics, University College London, GB-London WC1E 6JA, United Kingdom
- V 12 **"Stroke Induced Spastic Hemiplegia - Benefit of Intrathecal Baclofen?"**
L. Saltuari
Dept. of Neurological Rehabilitation, Hochzirl-Innsbruck, A-6170 Hochzirl/Innsbruck, Austria
- V 13 **"Vagus Nerve Stimulation in Patients with Drug Resistant Focal Epilepsy"**
J. Vesper, B.C. Kern, Th. Funk, M. Merschhemke, C. Dehnicke
Neurosurgery, UKBF, D-12200 Berlin, Germany
- V 14 **"The Handmaster NMS1 Surface FES Neuroprosthesis in Hemiplegic Patients"**
R.H. Nathan, H.P. Weingarden, A. Dar, G. Butin
NESS, Neuromusc. Electr. Stimul. Systems Ltd., Raanana 43654, Israel
- V 15 **"A Modified Technique for Implantation of Sacral Neuromodulators: The Tailored Laminectomy of the Os Sacrum"**
J. Boschert, P. Braun, P. Jünemann, L. Schilling, P. Alken, P. Schmiedek
Neurochirurgische Klinik, Univ. Klinikum GmbH, D-68167 Mannheim, Germany

Video Session II continued...

- V 16 **"Neuropsychological Evaluation of Deep-Brain-Stimulation of Patients with Parkinson Disease or Essential Tremor"**
I. Friesenborg, D. Gruia, U. Sander
Neurochirurgische Klinik, Evangelisches Krankenhaus, D-26121 Oldenburg, Germany
- V 17 **" Standing, stepping and cycling for a T9 paraplegic with a Lumbo-sacral Anterior Root Stimulator Implant (LARSi)"**
T.A. Perkins, N. de N. Donaldson, V.J. Harper, J.A. Norton, D.N. Rushton
Dept. of Medical Physics, University College London, London WC1E 6JA, Great Britain
- V 18 **"Attenuation of Intrinsic Cardiac Neuronal Activity with High Thoracic Spinal Cord Stimulation (SCS) in the Dog: Implications for Treating Refractory Angina Pectoris"**
R. D. Foreman, J.L. Ardell, J.A. Armour, K.W. Barron, M.J. Chandler, M.J.L. DeJongste, S.S. Hull, Jr, C.J. Jou, W.D. Min, G.J. TerHorst, B. Linderoth
Dept. of Physiology, OUHSC, Oklahoma City, USA

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Lakewalk Gallery - Poster Exhibits

- PP 51 **"A Novel Technique to Selective Nerve Root Cannulation in the Treatment of Chronic Pain"**
K.M. Alo, M.J. Yland, V. Redko
Dept. of Pain Management, Pain and Health Management Center,
Houston, TX 77030, USA
- PP 52 **"Lumbar Intrathecal Baclofen for Supraspinal Spasticity in Adults"**
N. Massager, P. Voordecker, M. Levivier, J. Brotchi, B. Pirotte
Dept. of Neurosurgery, University Hospital Erasme, B-1070 Brussels,
Belgium
- PP 53 **"Continuous Intrathecal Administration of Hydromorphone in Patients with Chronic Benign Pain"**
H. Bartsch
Dept. of Neurosurgery, University of Regensburg, D-93042
Regensburg, Germany
- PP 54 **"Treatment of Abdominal Pelvic Cancer Pain with Intrathecal Morphinothrapy"**
C. Baude
Département d'Anesthésie, Hôpital d'Arsonval, Pavillon V, F-69437
Lyon Cedex 03, France
- PP 55 **"The Effect of DBS on Tremor is Mediated by the Electrical Stimulation of Myelinated Nerve Fibres"**
J. Holsheimer
Faculty of Electrical Engineering, University of Twente, NL-7500 AE
Enschede, The Netherlands

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Poster Presentation II continued...

- PP 56 **"True Relapse of Herniated Disc in a Patient with Functioning Drug Administration System"**
E.H. Engel, H. Wiegand, G.M.A. Engel
Dept. of Neurosurgery, Westküstenklinikum, D-25746 Heide, Germany
- PP 57 **"Experimental Evidence of Efficiency of Low-Level Microwave Irradiation for Pain Management"**
Z.A. Tamarova, N.D. Kolbun
Dept. of Brain Stem Physiology, Bogomoletz Instit. of Physiology, 252601 Kiev, Ukraine
- PP 58 **"Transcranial Electrostimulation as a Treatment of Head and Back Pain: Immediate Analgesic Effect and Correlation with Beta-Endorphin Blood Level"**
B. Shklar, L. Gabis, Z. Zadik, D. Geva
Dept. of Anesthesiology, Kaplan Medical Center, Rehovot 76100, Israel
- PP 59 **"Hymoral Factors in Mechanism of Action of Sympatic Block"**
L.A. Nasirova, I.U. Shumilova, A.O. Suvanov
Dept. of Anesthesiology, Research Centr of Surgery, Tashkent 700115, Republic of Uzbekistan
- PP 60 **"SCS and Periduroscopy. Potential Advantages from Use of Two Techniques and Hypotheses for Procedural Steps"**
W. Raffaeli
Dept. of Algology, Serafini Foundation, Infermi Hospital, I-47900 Rimini, Italy

Poster Presentation II continued...

- PP 61 **"Near Infrared Spectroscopy and Transcranial Doppler Sonography Changes Correlates with Therapeutic Effect During Cervical SCS in Man"**
M. Visocchi, M. Meglio, B. Cioni, D. Cabezas Cuevas, F. Papacci
Institute of Neurosurgery, Catholic University of S. Heart, I-00168 Rome, Italy
- PP 62 **"Interconnection between Psychological Disturbances and Specialities of Bioelectrical Activity of the Brain in Cases of Patients with Combination of Hypertonical and Ulcer Diseases in the Preoperational Period and their Correction."**
O.G. Olkhov, A.V. Sokolovsky, M.N. Chernova, T.Y. Baybuz, O.S. Khrustalyova
Reg.Centre of Psychotherapeutic Rehabilitation and Psychoprophylactics, 6th Clinical Hospital, Dniepropetrovsk 320037, Ukraine
- PP 63 **"The Comparison of Analgesic Activity of Promedol and Dramal in Condition of Chronic Pain"**
H. Zlenko, H. Demchenko
Dniepropetrovsk Medical Academy, Dniepropetrovsk 320044, Ukraine
- PP 64 **"Rehabilitation of Neurosurgical Patients Using Physical Stimulation"**
V.P. Bersnev, T.G. Tyshkevich, I.V. Iakovenko
Rehabilitation Dept., Russian Polenov Neurosurgical Institute, 191104 St. Petersburg, Russia
- PP 65 **"The Optimum Stimulus Frequency for Therapeutic Electrical Stimulation"**
A. Misawa, Y. Shimada, K. Sato, T. Matsunaga, Y. Tsutsumi, T. Kashiwagura
Akita University of Medicine, 010-8543 Akita, Japan

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Poster Presentation II continued...

- PP 66 **"Muscle Fatigue Under Low Frequency Block Stimulation"**
T. Kashiwagura, Y. Shimada, K. Sato, T. Matsunaga, A. Misawa, M. Sato, T. Chida
Akita University of Medicine, Dept. of Orthopedic Surgery, 010-8543 Akita, Japan
- PP 67 **"The Effect of Chronic Thalamic Stimulation in the Dominant Hemisphere and/or Prelesioned Brain on Language Deficits"**
G. Mandybur, E. Manning, B. Bible
Medical Center, Univ. of Mississippi, Jackson, 39216, USA
- PP 68 **"Feasibility Study of Hybrid Therapeutic Electrical Stimulation for Walking in the Hemiplegia"**
Y. Toshiyasu, O. Junichi, Y. Hideo, B. Arimitu
Rehabilitation R&D Dept., Toyama Prefectural Koshi Rehab. Hospital, 931-8517 Toyama, Japan
- PP 69 **"The Effect of Early Functional Electrical Stimulation on the Bones of Paralyzed Limbs in Rabbit"**
Y.H. Lee, R.W. Park, J.H. Rah, C.I. Park
Wonju Christian Hospital, Yonsei University Wonju College of Medicine, Wonju 220-701, Korea
- PP 70 **"Central Sleep Apnea, Intestinal Obstruction. Two Unusual Complications of Intrathecal Baclofen"**
N.A. Mekhail, K.S. Steckner, E. Atalla, V. Sahgal
Pain Management Center, The Cleveland Clinic Foundation, Cleveland, OH 44195, USA

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Poster Presentation II continued...

- PP 71 **"Efficacy of SCS in Chronic Neuropathic Pain According with the Site of the Nervous System Lesion"**
C. Bonezzi, L. Paulin, D. Miotti, L. Demartini, R. Bettaglio, M. Barbieri
Dept. of Anesthesiology and Pain Management, Fondazione Salvatore Maugeri, I-27100 Pavia, Italy
- PP 72 **"Median Evoked Responses: Stimulation Modalities for Midlatency Cortical Components"**
I. Rundshagen, K. Schnabel, J. Schulte am Esch
Dept. of Anesthesiology, University Hospital Eppendorf, D-20246 Hamburg, Germany
- PP 73 **"Re-Conditioning of Paretic Wrist Extensor Muscles by Functional Electrical Stimulation in Tetraplegic Individuals - Contractile and Metabolic Properties"**
A. Hartkopp, M. Mizuno, B. Quistorff, M. Kjaer, F. Biering-Sorensen
Centre for Spinal Cord Injured, The Neuroscience Centre, DK-3100 Hornbaek, Denmark
- PP 74 **"Dynamic Cardiomyoplasty in the Treatment of Dilated Cardiomyopathy: Indications Technique, Clinical Results, Mechanisms of Action and Perspectives"**
L.G.Y. Luc
Dept. of Cardiovascular and Thoracic Surg., Univ. Hospital Kroellwitz, D-06120 Halle/Saale, Germany
- PP 75 **"Opioids Interference on Cytotoxic Activity"**
W. Raffaeli, G. Pari, L. Visani
Dept. of Algology, Serafini Foundation, Infermi Hospital, I-47900 Rimini, Italy

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Poster Presentation II continued...

- PP 76 **"Intrathecal Therapy of Spasticity. Drugs, Dose and Outcome for 84 Patients during 274 Patient-Years"**
C. Naumann, H. Keller, M. Wolfensberger
Swiss Paraplegic Center, Nottwil, Swiss Pain Institute, Rheinfelden, Switzerland
- PP 77 **"Intrathecal Therapy for Non-Malignant Pain. Drugs, Drug Combinations and Outcome for 112 Patients during 363 Patient-Years"**
C. Naumann, H. Keller, M. Wolfensberger
Swiss Paraplegic Center, Nottwil, Swiss Pain Institute, Rheinfelden, Switzerland

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Sunday, September 20, 1998

Panorama Auditory

Sunday

08:00	09:45 Future Trends in Functional Electrical Stimulation Chairs: Ross Davis, Uros Stanic	
08:00	08:20 EU-funded FES projects: Breathing	A Pedotti
08:20	08:40 EU-funded FES projects : Sensation/Sensors	T Sinkjaer
08:40	09:00 EU-funded Projects : Lower extremity. Training and Mobility of Researchers	P Veltink
09:00	09:20 Cardiomyoplasty: Success, Problems and Future ?	S Salmons
09:20	09:45 Roundtable	
09:45	10:15 Coffee Break	
10:15	12:45 Decision making and Costs of Interventional Therapy Chairs: Gerhard Müller-Schwefe	
10:15	10:35 Patient Selection for Spinal Cord Stimulation	Brian Simpson
10:35	10:55 Patient Selection for IT Therapy	Wolfhard
10:55	11:15 Criteria for Measuring Outcome	Winkelmüller
11:15	11:35 Intrathecal vs. Oral Opioids	Gerhard Müller-Schwefe
11:35	11:55 Stimulation vs. Conservative Therapy	Keith Budd
11:55	12:15 Comparison of Conservative vs. Interventional Therapies	Mayaert*
12:15	12:45 Roundtable	Enrique Reig
12:45	13:30 Lunch	
13:30	16:00 Future Trends in Neuromodulation Chairs : Elliot Krames	
13:30	13:50 New drugs for Chemical Neuromodulation	Tony Yaksh
13:50	14:10 Encapsulated Factor Producing Cells in the CSF	Peter Aebischer*
14:10	14:30 A Molecular View on Pain Treatment	HP Wüest
14:30	14:55 Spinal Cord Transplantation: Clinical Background and First Results	Basim Uthman
14:55	15:20 Spinal Cord Transplantation: Neurophysiological Findings	Floyd Thompson
15:20	15:35 Prospects of Gene Therapy Approaches to Neuromodulation.	R. Freese
15:35	16:00 Roundtable	
16:00	Best Free Paper Award	
	Adjourn	Giancarlo Barolat
		Uros Stanic
		Claus Naumann
		Elliot Krames

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Sunday, September 20, 1998

Jay

Terrace Auditory

08:00 **09:45 Free Paper Session V**
Chairs: **Wolfhard Winkelmüller**

09:45 **10:15 Coffee Break**

10:15 **12:30 Free Paper Session VI**
Chairs: **Giancarlo Barolat**

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Sunday, September 20, 1998

Terrace Auditory

Sunday

08:00 10:00 Free Paper Session V

- FP 49 **"Complex Regional Pain Syndrome (CRPS): A Systematic Approach to Treatment"**
J.P. Gorecki, W. Spillane, J. Lefevre, L. Rubin
Stereotactic/Functional Neurosurgery, Duke University Medical Center, Durham, NC 27712, USA
- FP 50 **"Electrical Spinal Cord Stimulation for Reflex Sympathetic Dystrophy"**
M. Kemler, G. Barends, F. v.d. Wildenberg, M. van Kleef
Dept. of Surgery, Maastricht Univ. Hospital, NL-6202 AZ Maastricht, The Netherlands
- FP 51 **"Matrix-Rhythm-Therapy of Dynamic Illnesses"**
U.G. Randoll, I. Westner, F.F. Hennig
Dept. of Traumatology, Univ. of Erlangen-Nürnberg, D-82194 Gröbenzell, Germany
- FP 52 **"Prospective Randomized Trial Comparing Intrathecal Narcotic Infusion To Best Medical Management for BENING Pain"**
J.P. Gorecki, L. Rubin, J. Lefevre, A. Villavincencio
Stereotactic/Functional Neurosurgery, Duke University Medical Center, Durham, NC 27711, USA

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Sunday, September 20, 1998

Terrace Auditory

Thursday

Free Paper Session V continued...

- FP 53 **"Relief of Neuropathic Pain with Carbamazepine (CMZ) Extended-Release Morphine (MO) and Spinal Cord Stimulation (SCS)" A Double-blind Crossover Study"**
H. Härke, H.U. Ladleif, P. Gretenkort
Institut f. Anästhesiologie, Klinikum Krefeld, D-47805 Krefeld, Germany
- FP 54 **"Joined Effort SOLARIS: Visual Prosthesis by Selective Stimulation of the Optic Nerve in Patients with Retinal Diseases"**
B. Fischer, K. Deurloo, H. Dinse, H. Reinke, B. Godde, D. Jancke, R. Leonhardt, S. Bösing, W. von Seelen, J. Holsheimer, W. Wittkowski, J. Bartha
Dept. of Neurosurgery, Westfälische Wilhelms-University, D-48129 Münster, Germany
- FP 55 **"Chronic, Intractable Neuropathic Pain: Marked Analgesic Efficacy of Ziconotide"**
P. Staats
Division of Pain Management, Johns Hopkins Hospital, Baltimore, MD 21205, USA
- FP 56 **"Spinal Cord Stimulation : A Comparative Study between Percutaneous Quadripolar Lead and the Resume Lead Inserted by Laminectomy on the Outcome for the Patient Presenting with the Failed Back Surgery Syndrome"**
L.Jacques,M.D.,FRCS[®]*, G. Bouvier, M.D.,FRCS[®]**,P.Molinas-Negro,M.D** and N.Martinez M.D.,FRCS[®]**
Divisions of Neurosurgery, Jewish General Hospital,McGill University* Notre-Dame Hospital,Montreal University**,Montreal, Quebec,Canada

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Sunday, September 20, 1998

Terrace Auditory

Sunday

10:15 12:30 Free Paper Session VI

- FP 57 **"Quantitative Comparisons of Spinal Cord Stimulation Electrode Designs"**
R.B. North
Dept. of Neurosurgery, School of Medicine, Johns Hopkins University, Baltimore, Maryland, USA
- FP 58 **"Investigation of Physical and Psychological Outcomes of Patients with Matrix Dual Channel Spinal Cord Stimulators (Octad & Electrode Spinal Lead)"**
M. Jackson, J. Nichols
Pain Unit, College Anaesthetist, Calvary Hospital, Hobart, Tasmania 7000, Australia
- FP 59 **"Quantitative Clinical Evaluation of a Transverse Tripolar SCS System"**
W.A. Wesselink, J. Holsheimer
Faculty of Electrical Engineering, University of Twente, NL-7500 AE Enschede, The Netherlands
- FP 60 **"Spinal Cord Stimulation Electrode Design: A Prospective, Randomized Comparison of Percutaneous and Insulated Paddle Electrodes"**
R.B. North, D.H. Kidd, J. Olin, J.M. Sieracki
Dept. of Neurosurgery, School of Medicine, Johns Hopkins University, Baltimore, Maryland, USA
- FP 61 **"Spinal Cord Stimulation for Axial Low Back Pain: Single versus Dual Percutaneous Electrodes"**
R.B. North, D.H. Kidd, J. Olin, J.M. Sieracki, P.N. Cutchis
Dept. of Neurosurgery, School of Medicine, Johns Hopkins University, Baltimore, Maryland, USA

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Sunday, September 20, 1998

Terrace Auditory

Thursday

Free Paper Session VI continued...

- FP 62 **"Computer Assisted and Patient Interactive Programming of Dual Octrode Spinal Cord Stimulation in 173 Patients"**
K.M. Alo, M.J. Yland, V. Redko, J.H. Charnov, D.L. Kramer
Dept. of Pain Management, Pain and Health Management Center,
Houston, TX 77027, USA
- FP 63 **"Computer Assisted and Patient Interactive Programming of Dual Octrode Spinal Cord Stimulation. Three Year Follow-Up"**
K.M. Alo, M.J. Yland, V. Redko, J.H. Charnov, D.L. Kramer
Dept. of Pain Management, Pain and Health Management Center,
Houston, TX 77028, USA
- FP 64 **"Spinal Cord Stimulation: A Comparative Study between Percutaneous Quadripolar Lead and the Resume Lead Inserted by Laminectomy on the Outcome for the Patient Presenting with the Failed Back Surgery Syndrome".**
L.Jacques, G. Bouvier, P.Molinas-Negro, N.Martinez
Divisions of Neurosurgery, Jewish General Hospital,McGill University,
Montreal, Quebec, Canada
- FP 65 **"Prospective Study on the Effect on the Neuromodulation on the Walking Pattern in the Treatment of the Patient with the Failed Back Surgery Syndrome (FBSS)".**
L.Jacques, T.DelDuca, P.Allard
Divisions of Neurosurgery, Jewish General Hospital,McGill University,
Montreal, Quebec, Canada
- FP 66 **"Chronic Thalamic Stimulation for Tremor Requires Frequent Adjustments of Electrical Parameters During the First 6-12 Months Post-Surgery"**
M.I. Hariz, H. Fodstad, P. Shamsgovara
Dept. of Neurosurgery, University Hospital, S-901 85 Umea, Sweden

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Sunday, September 20, 1998

Terrace Auditory

Thursday

Free Paper Session VI continued...

- FP 67** **"Quantitative Assessment of Results of Spinal Cord Stimulation (SCS) in Reflex Sympathetic Dystrophy by Autonomic Function Tests"**
R. Segal, M. Giuliani, B. Stacey, M.B. Ott
Dept. of Neurological Surgery, Univ. of Pittsburgh Medical Center,
Pittsburgh, PA 15213, USA
- FP 68** **"SCS: Experience (1987 - 1997) of the Rimini Centre"**
W. Raffaeli, G. Pari, L. Visani
Dept. of Algology, Serafini Foundation, Infermi Hospital, I-47900
Rimini, Italy

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