

XXIST CONGRESS OF THE EUROPEAN SOCIETY FOR STEREOTACTIC AND FUNCTIONAL NEUROSURGERY

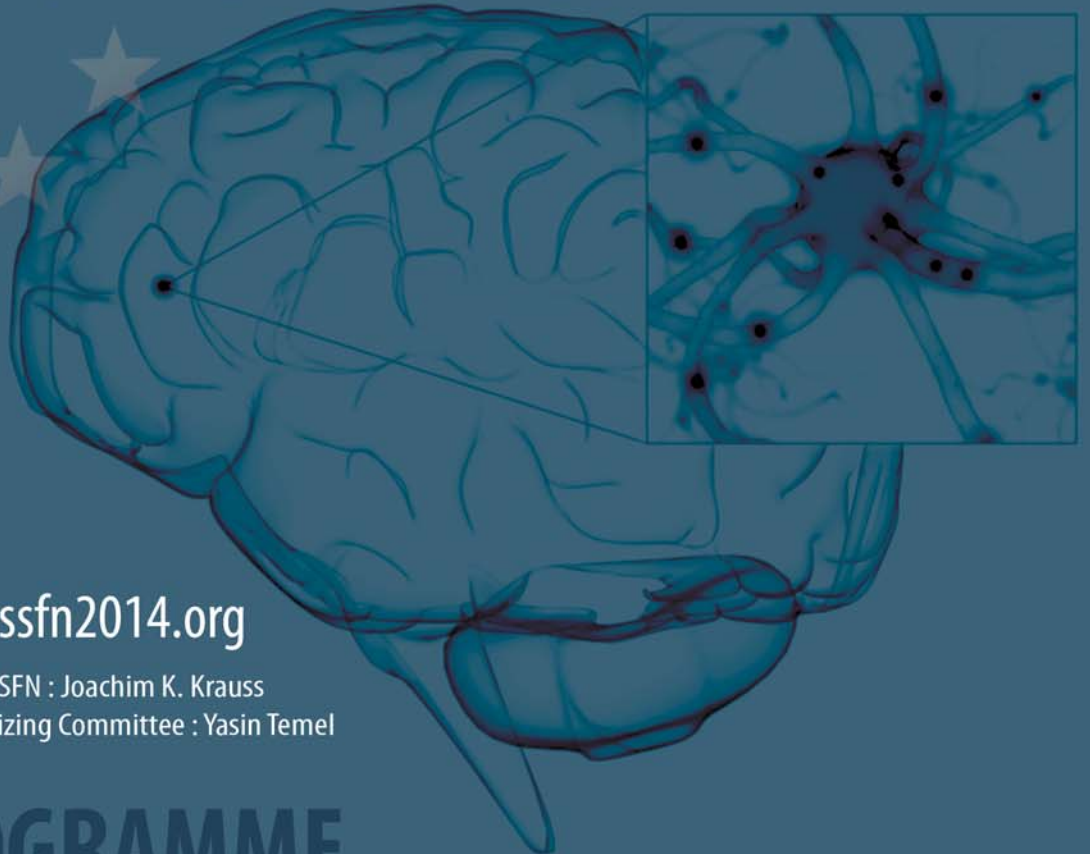
"Implementing research in clinical applications"



17 > 20 SEPTEMBER 2014

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MECC MAASTRICHT THE NETHERLANDS



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President ESSFN : Joachim K. Krauss
Chair, Organizing Committee : Yasin Temel

FINAL PROGRAMME

XXIST CONGRESS OF THE EUROPEAN SOCIETY FOR STEREOTACTIC AND FUNCTIONAL NEUROSURGERY

“Implementing research in clinical applications”

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CHAIRMAN OF THE ORGANIZING COMMITTEE

Dear colleagues and friends,

With great pleasure, I welcome you to the XXI Congress of the European Society of Stereotactic and Functional Neurosurgery. We have put together a scientifically appealing programme to create an active platform to exchange and discuss the latest research results and concepts in the field of Stereotactic and Functional Neurosurgery.

Important characteristic of the XXI Congress is the translational nature of the scientific programme. Invited clinician- and basic-scientists will give authoritative lectures, combined by selected speakers of excellent abstracts. The progress in our field is reflected by the high number and the outstanding quality of the submitted abstracts.

Another characteristic of this meeting is the location. Maastricht is one of the oldest cities in the Netherlands with well-preserved cultural heritage, and Maastricht University, being the most international University of the Netherlands, has a tradition in Clinical and Experimental Functional and Stereotactic Neurosurgery.

I am convinced that this meeting will highlight essential details of our past, provide us the current opinions, and perhaps more importantly, illustrate the next advances in our field.

On behalf of the organizing committee,

Yasin Temel

PROGRAMME

XXIST CONGRESS OF THE EUROPEAN SOCIETY FOR
STEREOTACTIC AND FUNCTIONAL NEUROSURGERY 17 > 20 SEPTEMBER 2014
MECC MAASTRICHT THE NETHERLANDS

WEDNESDAY 17

- 09.00 – 12.00 ESSFN Officers Meeting *Brussels room*
- 10.00 – 18.00 Registration
- 12.00 – 18.30 *Exhibition*
- 13.00 – 15.30 PRE-CONGRESS SYMPOSIUM 1 *Auditorium 2*
See page 30 for the details of the programme.
- 15.30 – 16.00 *Coffee break and visit of exhibition*
- 16.00 – 18.30 PRE-CONGRESS SYMPOSIUM 2 *Auditorium 2*
See page 30 for the details of the programme.
- 20.00 *ESSFN Welcome Reception Old City Hall*
Opening by Professor Luc Soete, Rector Magnificus of Maastricht University

THURSDAY 18

07.00 Meeting of the WSSFN Committee for Psychiatric disorders *Brussels room*

07.00 – 18.30 *Exhibition*

08.30 – 10.15 **PLENARY SESSION 1 OPENING CEREMONY AND SPECIAL LECTURES** *Auditorium 2*

Chairs: J. Krauss, Y. Temel

> Opening address. *Joachim Krauss, Hannover*

> Welcome address. *Yasin Temel, Maastricht*

Special lectures

> With or without a knife. *Andries Bosch, Amsterdam*

> From Ramon Y Cajal to functional anatomy. *Harry Steinbusch, Maastricht*

> Advances in deep brain stimulation. *Andres Lozano, Toronto*

> Obituary: Jean Siegfried. *Serge Blond, Bjorn Meyerson and Yves Lazorthes*

10.15 – 10.45 *Coffee break and visit of posters & exhibition*

10.45 – 12.30 **PLENARY SESSION 2 PHILOSOPHY AND SCIENCE** *Auditorium 2*

Chairs: A. Bosch, Y. Lazorthes

> Great Expectations. Neuroscience and the ethics of promising. *Tsjalling Swierstra, Maastricht*

> Progress in neurotransplantation. *Tom Foltynie, London*

> Mechanisms of DBS in depression. *Clement Hamani, Toronto*

> DBS of the STN: a matter of silencing or desynchronizing? *Abdelhamid Benazzouz, Bordeaux*

12.30 – 14.00 ESSFN Executive Committee Meeting *Rome room*

12.30 – 14.00 *Lunch*

14.00 – 15.00 **PLENARY SESSION 3 SCIENCE** *Auditorium 2*

Chairs: A. Benazzouz, H. Bergman

> The contribution of animal models in the field of DBS. *Kerstin Schwabe, Hannover*

> Cellular mechanisms of DBS. *Nick Spitzer, San Diego*

> Computer-based modeling of DBS. *Ciska Heida, Enschede*

15.00 – 16.30 **PARALLEL SESSION 1 MOVEMENT DISORDERS** *Auditorium 2*

Chairs: F. Alesch, J. Guridi

Oral presentations

#11 A prospective pilot trial for Pallidal Deep Brain Stimulation in Huntington's Disease.

Jan Vesper, Alfons Schnitzler, Lars Wojtecki (Düsseldorf, Germany)

#18 Microelectrode recording in subthalamic nucleus deep brain stimulation : advantage or loss of time? *Ersay Kocabicak, Dursun*

Aygun, Kemal Paksoy, Musa Onar, Hatice Guz, Omer Boke, Murat Kurt, Murat Terzi, Onur Alptekin, Onur Yildiz, Yasin Temel (Turkey / Netherlands)

#36 STN-DBS for Parkinson's disease: correlation between the active contact electrode and oscillatory activity.

Jorge Guridi, David Garcia-Garcia, Manuel Alegre, Maria Cruz Rodriguez-Oroz, Jose A. Obeso (Pamplona, Spain)

- #37 Resting state cortical oscillations of Parkinson's disease patients without and with subthalamic deep brain stimulation, a MEG study. *Cao Chunyan, Jang Tianxiao, Li Dianyou, Zhan Shikun, Firat Ince Nuri, Sun Bomin (China/USA)*
- #53 Deep Brain Stimulation of the internal globus pallidus in severe Tourette Syndrome. *Anouk Smeets, Annelien Duits, Albert Leentjens, Mayke Oosterloo, Veerle Visser-Vandewalle, Birgit Plantinga, Yasin Temel, Linda Ackermans (Germany / Netherlands)*
- #76 Saccade-related modulation of beta oscillation in the human internal globus pallidus. *Akihiro Yugeta, Robert Chen, William D. Hutchison (Japan / Canada)*

Flash Oral presentations

- #13 Suboptimal benefits of subthalamic stimulation in elderly Parkinson's disease patients. *Shang-Ming Chiou (Taichung, Taiwan)*
- #19 Deep brain stimulation in complex tremor. *Ersay Kocabicak, Dursun Aygun, Murat Terzi, Musa Onar, Hatice Guz, Omer Boke, Yasin Temel (Turkey / Netherlands)*
- #40 Can the substantia nigra pars reticulata be stimulated by the electrode in subthalamic nucleus stimulation? *Takashi Kawasaki, Yuiko Kimura, Masahiro Shin, Makoto Taniguchi, Fusako Yokochi, Ryoichi Okiyama, Yshitomo Umitsu, Hironobu Tokuno, Seki Erika, Nobutaka Arai (Tokyo, Japan)*
- #42 Decline in verbal fluency after subthalamic nucleus deep brain stimulation in Parkinson's disease : a lesional effect of the electrode trajectory? *Stéphane Derrey, Floriane Travers, Romain Lefaucheur, Vianney Gilard, David Maltete (Rouen, France)*
- #47 The in vivo application accuracy of the neuromate® robot during frame based stereotactic implantations of electrodes for DBS. *Daniel Von Langsdorff, Marco Sgambati, Philippe Paquis, Denys Fontaine (Nice, France)*
- #48 The effect of dopaminergic therapy on intraoperative microelectrode recordings for subthalamic deep brain stimulation under GA: can we operate on patients in the 'ON' state? *M. J Asha, H. Krovvidi, J. Kausar, C. Shirley, H. Pall, R.D Mitchell (Birmingham, United Kingdom)*

15.00 – 16.30 PARALLEL SESSION 2 RADIOSURGERY *Brussels room*

Chairs: K. van Overbeeke, J. Regis

Oral presentations

- #26 Radiosurgery for large arteriovenous malformations. *Roman Liscak, Tomas Chytka, Dusan Urgosik, Gabriela Simonova, Josef Vymazal (Prague, Czech Republic)*
- #44 Long term visual outcome after radiosurgery in 97 patients affected by anterior skull base benign meningiomas. *Marcello Marchetti, Stefania Bianchi, Valentina Pinzi, Ida Milanese, Luisa Fumagalli, Achille Bergantin, Angelo Franzini, Francesco Di Meco, Laura Fariselli (Milano, Italy)*
- #120 X-knife stereotactic radiosurgery for cerebral AVM: a single centre experience in Hong Kong. *Benedict Beng Teck Taw, Ho Fun Victor Lee, Kwan Ngai Hung (Hong Kong SAR China)*
- #147 Gammaknife radiosurgery in pituitary adenomas: A 10-year single centre study of 150 cases. *Anne Balossier, Gustavo Touzet, Nicolas Reyns, Thierry Sarrazin, Christine Cortet-Rudelli, Serge Blond (Caen - Lille, France)*
- #162 Is there a role for gammaknife stereotactic radiosurgery in Grade 4 acoustic schwannoma? Highlight from a case series of 86 patients. *Michel Lefranc, Romain Carron, Pierre Yves Borius, Xavier Murraciale, Jean Marc Thomassin, Pierre Hugues Roche, Jean Regis (Amiens - Marseille, France)*
- #201 LINAC radiosurgery for vestibular schwannomas: fusion optimization with FIESTA MRI and high definition CT improves hearing preservation rate. *Ouzi Nissim, Roberto Spiegelmann, Leor Zach, Yaakov Lawrence, Raphael Pfeffer (Ramat Gan - Tel Aviv, Israel)*
- #221 Stereotactic radiosurgery for brain AVMS: outcome analysis. *Antonio Gonçalves Ferreira, Ana Raquel Escolástico, Herculano Carvalho, Rosário Vicente (Lisbia, Portugal)*
- #235 Dedicated linear accelerator radiosurgery for trigeminal neuralgia : a single-center experience in 238 patients with an anterior target. *Bertrand Debono, Igor Latorzeff, Yves Lazorthes, Jean-Albert Lotterrie, Pierre-Yves Borius, Pierre Duthil, Isabelle Berry, Jean-Christophe Sol, Jean Sabatier (Toulouse, France)*

Flash Oral presentations

- #218 How spatially accurate is a mono-isocentric shot with Leksell Gamma Knife at the end of the procedure ? Results of a series of 85 patients in "Real-Life" Conditions. *Romain Carron, Michel Lefranc, Antoine Dorenlot, Denis Porcheron, Pierre-Yves Borius, Jean Régis (Marseille, France)*

15.00 – 16.30 **PARALLEL SESSION 3 BRAIN MACHINE INTERFACE AND IMAGING** *Paris room*

Chairs: J. Bloch, L. Ackermans

Oral presentations

- #35 A wireless cortical prosthesis for epilepsy and BCI. *Pantaleo Romanelli, napoléon torres martinez, Alim Louis Benabid (Italy / France)*
- #82 Reliable control of a brain-machine interface using epidural electrocorticography. *Jocelyne Bloch, Ricardo Chavarriaga, Aleksander Sobolewski, robert leeb, Etienne Pralong, José del R. Millán (Lausanne, Switzerland)*
- #83 Neuronal expression of c-Fos after epicortical and intracortical electric stimulation of the primary visual cortex. *Belal Neyazi, Makoto Nakamura (Hannover, Germany)*
- #255 Reconstruction of Upper Limb Movement from Electrocorticographic Signals to Control Functional Electrical Stimulation for Hand Function Restoration. *Omid Talakoub, Cesar Marquez-Chin, Wong Willy, Jessie Navarro, Clement Hamani, Erich Fonoff, Milos R Popovic (Canada/ Brazil)*
- #87 In vivo ultra-high field tractography and subdivision of the human subthalamic nucleus to improve deep brain stimulation. *Birgit Plantinga, Alard Roebroek, Dimo Ivanov, Kâmil Uludağ, Mark Kuijf, Bart ter Haar Romeny, Yasin Temel (Maastricht - Eindhoven, Netherlands)*
- #163 Effect of direct visualization of GPi using MDEFT MR sequence on targeting and location of the active electrode. *Andreas Nowacki, Michael Fiechter, Jens Fichtner, Markus Oertel, Ines Debove, Lenard Lachenmayer, Michael Schüpbach, Roland Wiest, Claudio Pollo (Bern, Switzerland)*

Flash Oral presentations

- #51 Trigeminal nerve asymmetry in classic trigeminal neuralgia: evaluation by magnetic resonance imaging. *Dusan Urgosik, Aaron Rulseh, Jiri Keller, Vojtech Svehlik, Daniel Horinek, Roman Liscak (Prague - Brno - Usti nad Labem, CzechRepublic)*
- #172 What You See is What You Get: Lead Location Within Deep Brain Structures is Accurately Depicted by Stereotactic MRI. *Jonathan Hyam, Harith Akram, Marwan Hariz, Ludvic Zrinzo (London, Unitedkingdom)*
- #188 Targeting of the ventro-intermediate nucleus for Gamma Knife surgery purposes using high-field 7 Tesla MRI: a pilot in vivo study on healthy young subjects. *Constantin Tuleasca, Elena Najdenovska, José Rebelo Ferreira Marques, Francois Vingerhoets, Jean-Philippe Thiran, Meritxell Bach Cuadra, Marc and Levivier (Lausanne, Switzerland)*
- #267 Can we rely on susceptibility weighted imaging (SWI) for identification of the STN in DBS surgery? *M. Bot, MD, L. Bour, PhD, R.M.A. de Bie, MD PhD, P. R Schuurma, MD PhD, P. van den Munckhof, MD PhD (Amsterdam, NL)*

16.30 – 17.00 **Coffee break and visit of posters & exhibition**17.00 – 18.30 **PARALLEL SESSION 4 EXPERIMENTAL** *Auditorium 2*

Chairs: K. Lehtimäki, A. Savas

Oral presentations

- #199 Delta oscillations in the bed nucleus of the stria terminalis correlate with compulsion in a rat model of obsessive-compulsive disorder. *Hemmings Wu, Tim Tambuyzer, Ioana Nica, Kris van Kuyck, Jean-Marie Aerts, Sabine Van Huffel, Bart Nuttin (Leuven, Belgium)*
- #54 Long-term Functional Recovery of Rodent Hemiparkinsonism by Carbon Nanotube-mediated siRNA 'Genetic Lesioning' of the Subthalamic Nucleus. *Katie Bates, Marwan Hariz, Kostas Kostarellos (London- Manchester, UnitedKingdom)*

- #67 Kilohertz Frequency and Conventional Spinal Cord Stimulation in Rat Models of Different Pain Conditions. *Björn Meyerson, Antti Pertovaara, Zhiyang Song, Hanna Viisanen, Bengt Linderöth (Sweden / Finland)*
- #123 Deep brain stimulation of the centromedian-parafascicular complex prevents apomorphine-, and attenuates dizocilpine-induced deficient sensorimotor gating in rats. *Nadine Polascheck, Thomas Elle, Joachim K. Krauss, Kerstin Schwabe (Hannover, Germany)*
- #124 High frequency stimulation of the Subthalamic Nucleus improves graft survival and behavioural outcome in a rat model of Parkinson's disease. *Luciano L Furlanetti, Joacir G Cordeiro, Karina K Cordeiro, Joanna AS Garcia, Christian Winkler, Guilherme Lepski, Volker A Coenen, Guido Nikkhah, Máté D Döbrössy (Brazil / Germany)*
- #125 Continuous and chronic bilateral deep brain stimulation of the medial forebrain bundle in rats. *Luciano L Furlanetti, Máté D Döbrössy, Inigo Aguirre, Volker A Coenen (Freiburg, Germany)*

Flash Oral presentations

- #20 Deep brain stimulation of the rat subthalamic nucleus induced inhibition of median raphe serotonergic and dopaminergic neurotransmission. *Ersay Kocabicak, Ali Jahanshahi, Lisa Schönfeld, Sarah-Anna Heschem, Yasin Temel, Sonny K.H Tan (Turkey / Belgium / Netherlands / Germany)*
- #130 Ventral tegmental area lesion-induced ultrasonic vocalization phenotype reversed by high-frequency stimulation of the medial forebrain bundle in rodents: indication of non-dopaminergic mechanisms. *Luciano L Furlanetti, Timo S Spehl, Lars Frings, Friederike Braun, Marisa Ferch, Philipp T Meyer, Máté D Döbrössy, Volker A Coenen (Freiburg, Germany)*
- #131 Electrophysiological correlates of auditory change detection: A simultaneous depth and scalp EEG study. *Anne-Kathrin Beck, Götz Lütjens, Hans Heissler, Kerstin Schwabe, Reinhard Dengler, Joachim Kurt Krauss, Pascale Sandmann (Hannover, Germany)*
- #164 Subthalamic nucleus high frequency stimulation reduces – almost immediately – primary sensorimotor and prefrontal dorsolateral cortical activity whatever the patient is at rest or performing a motor task: a fNIRS study. *Michel Lefranc, Mahdi Mahmoudzadeh, Melissa Tir, Pierre Krystkowiak Fabrice Wallois (Amiens, France)*
- #193 Lesions of cholinergic neurons in the anterior or posterior pedunculopontine nucleus in rats: effect on motor behaviour and neuronal network activity in the basal ganglia motor loop. *Xingxing Jin, Kerstin Schwabe, Joachim K Krauss, Mesbah Alam (Hannover, Germany)*
- #233 In vitro electrotaxis: low current densities attract neural precursor cells. *Lisa-Maria Schönfeld, Evi Lemmens, Ali Jahanshahi, Yasin Temel, Sven Hendrix (Belgium/ Netherlands)*

17.00 – 18.30

PARALLEL SESSION 5 EPILEPSY *Brussels room*

Chairs: P. Sokal, I. Valalik

Oral presentations

- #46 Deep brain stimulation of the centromedian thalamic nucleus: a single blind trial. *Cristina Torres, Jesus Pastor, Marta Navas, Eduardo García-Navarrete Paloma Pulido, Lorena Vega-Zelaya, Oscar Garnés-Camarena, Rafael Sola (Madrid, Spain)*
- #57 Defining anterior nucleus of thalamus (ANT) as a surgical target in epilepsy: delineation using 3T MRI and intraoperative microrecording. *Timo Möttönen, Jani Katisko, Joonas Haapasalo, Timo Tähtinen, Tommi Kiekara, Veikko Kähärä, Jukka Peltola, Juha Öhman, Kai Lehtimäki (Oulu - Tampere, Finland)*
- #108 Amygdalo-hippocampotomy: long-term (5 years) epilepsy outcome. *Antonio Gonçalves-Ferreira, Alexandre Rainha-Campos, Manuel Herculano Carvalho, Carlos Morgado, Carla Bentes, Rita Peralta, Jose Pimentel (Lisbon, Portugal)*
- #133 Temporal resection is an effective treatment in patients with MRI negative intractable epilepsy. *JB. Cheserem, I. Ughratdar, Irfan Malik, Antonio Valentin, Robert Elwes, Nandini Mullatti, Gonzalo Alarcon, Richard Selway (London, United Kingdom)*
- #165 Prospective evaluation of Gamma Knife Surgery in Hypothalamic Hamartomas : about a series of 57 patients *Jean Regis, Medhi Lagmari, Géraldine Daquin, Nathalie Villeneuve, Fabrice Bartolomei, Patrick Chauvel (Marseille, France)*

- #166 Gamma knife radiosurgical treatment of paracentral epilepsy. *Jean Regis, Aileen McGonigal, Fabrice Bartolomei (Marseille, France)*
- #170 Application of stereotactic 3D photographic texture-encoded surface contour imaging in epilepsy surgery. *David Roberts, Xiaoyao Fan, Songbai Ji, Alex Hartov, Keith Paulsen (Lebanon, United States)*

Flash Oral presentations

- #12 Improved localization of implanted subdural electrode contacts on MRI using an elastic image fusion algorithm in invasive EEG recording. *Lennart Stieglitz, Christian Ayer, Markus Oertel, Roland Wiest, Claudio Pollo (Zurich - Bern, Switzerland)*
- #14 Deep Brain Stimulation of the nucleus accumbens – 1st experience in pharmacoresistant focal epilepsies. *Friedhelm Schmitt, Alexander Kowski, Lars Buentjen, Patricia Panther, Julia Matzen, Wenjie Li, Hans-Jochen Heinze, Tino Zaehle, Martin Holtkamp, Frank Oltmanns, Juergen Voges (Magdeburg - Berlin, Germany)*
- #15 Radiofrequency lesioning for focal epilepsies – a rational approach. *Friedhelm Schmitt, Lars Buentjen, Johannes Klein, Joerg Wellmer, Christian Bien, Friedrich Woermann, Tilman Polster, Heinz Pannek, Reinhard Schulz, Hans-Jochen Heinze, Klaus Kopitzki, Juergen Voges (Magdeburg - Dresden - Bochum - Bielefeld, Germany)*
- #155 Anterior nucleus of the thalamus (ANT) stimulation in epilepsy: stereotactic targeting and localization of effective contacts. *Johannes A Koeppen, Berthold Voges, Patrick M. House, Fahimeh Nahravani, Torge Huckhagel, Andreas K Engel, Manfred Westphal, Stefan RG Stodieck, Christiane Kuhlmann, Alessandro Gulberti, Christian KE Moll, Wolfgang Hamel (Hamburg - Meerbusch, Germany)*

FRIDAY 19

07.30 – 08.30 Breakfast seminar “MOVEMENT DISORDERS SURGERY” *Paris room*

Chairs: R. Schuurman, A. Lozano

> Solve the case. *Rick Schuurman, Amsterdam - Andres Lozano, Toronto*

Breakfast seminar “NEUROMODULATION BY RADIOSURGERY: BACK TO THE FUTURE” *Brussels room*

Chair: J. Regis, B. Nuttin

> Radiosurgery for Trigeminal Neuralgia. *Constantin Tuleasca, Lausanne*

> Radiosurgery for Psychiatric disorders. *Roberto Martinez, Madrid*

> Radiosurgery for Epilepsy. *Jean Regis, Marseille*

08.30 – 18.30 *Exhibition*

08.30 – 10.00

PLENARY SESSION 4 SURGERY AND SCIENCE *Auditorium 2*

Chairs: Y. Temel, C. Hamani

> **Optogenetics** - Stimulating the brain by light. *Jaimie Henderson, Stanford*

> **Ablative Surgery** - Ablative Surgery in movement disorders, the pendulum of history. *Jean Regis, Marseille*

> **Motion and Emotion** - New insights in the Basal ganglia. *Hagai Bergman, Jerusalem*

> **Gait** - Freezing of gait: a mysterious motor phenomenon. *Bas Bloem, Nijmegen*

10.00 – 10.30 *Coffee break and visit of posters & exhibition*

10.30 – 11.30

PLENARY SESSION 5 SURGERY *Auditorium 2*

Chairs: J. Regis, B. Nuttin

> Current opinion in DREZotomies and Rhyzotomies for Spasticity. *George Georgoulis, Lyon*

> Radiosurgery for metastases: is there a number limit? *Patrick Hanssens, Tilburg*

> Occipital nerve stimulation in headache syndromes. *Onno Teernstra, Maastricht*

11.30 – 12.30

PARALLEL SESSION 6 SPASTICITY *Auditorium 2*

Chairs: S. Blond, O. Teernstra

Oral presentations

#122 Tibial neurotomy for lower limb spasticity in cerebral palsy. *Nobuhiko Takeda, Takaomi Taira (Tokyo, Japan)*

#153 Efficacy, safety and complication profile of the Prometra programable pump in providing intrathecal baclofen therapy for intractable spasticity. *Aristotelis V. Kalyvas, Marios Themistocleous, Nikolaos Boutos, Konstantinos Themistoklis, Stefanos Korfiatis, Damianos E. Sakas (Athens, Greece)*

#154 Infectious complications and treatment options in intrathecal baclofen delivery systems. *Konstantinos Themistoklis, Nikolaos Boutos, Marios Themistocleous, Aristotelis V. Kalyvas, Damianos E. Sakas (Athens, Greece)*

#70 Behavioral and EEG responses to deep cerebellar stereotactic stimulation. *Miroslav Galanda, Peter Jombik, Tomas Galanda, Jana Mistinova, Peter Bob (Slovakia / Czech Republic)*

#109 Stereotactic planning software for human neurotransplantation: suitability in 22 surgical cases of Huntington's disease. *William Omar Contreras Lopez, Guido Nikkhah, Elisabeth Schultke, Luciano Furlanetti (Brazil / Germany)*

11.30 – 12.30 **PARALLEL SESSION 7 MOVEMENT DISORDERS** *Brussels Room*

Chairs: L. Ackermans, V. Shabalov

Oral presentations

- #271 Subthalamic spectral densities in Parkinson's disease and the effect of steering deep brain stimulation. *LJ Bour, PhD, MAJ Lourens, PhD, R Verhagen, MSc, RMA de Bie, MD, PhD, P. van den Munckhof, MD, PhD, MF Contarino, MD, PhD, PR Schuurman, MD, PhD (Amsterdam - The Hague, The Netherlands)*
- #102 Assessment of neural activation using directional deep brain stimulation leads. *Christopher Butson, Lalit Venkatesan (Salt Lake City - Plano, TX, United States)*
- #272 Deep brain stimulation: life-long treatment, life-long complications. *O. van der Veer, MD, L. Bour, PhD, R.M.A. de Bie, MD PhD, P.R. Schuurman, MD PhD P. van den Munckhof, MD PhD (Amsterdam, NL)*

Flash Oral presentations

- #213 Altered taste during thalamic DBS stimulation can be normalized with interleaved stimulation. *Anna-Lena Törnqvist Jensen, Natalie Montevert, Hjalmar Bjartmarz (Lund, Sweden)*
- #268 Should lead Penetration of the Caudate Nucleus be avoided in DBS surgery for Parkinson's Disease? *M. Bot, MD, R.M.A. de Bie, MD PhD, P. van den Munckhof, MD PhD, P.R. Schuurman, MD PhD (Amsterdam, The Netherlands)*
- #27 The impact of deep brain stimulation on tinnitus: a multicenter questionnaire study. *Jasper V Smit, Marcus LF Janssen, Malou Engelhard, Rob MA De Bie, Arne Mosch, Fiorella Contarino, Robert J Stokroos, Yasin Temel (Maastricht - Amsterdam - The Hague, Netherlands)*
- #28 Infections associated with deep brain stimulators: Characteristics and Outcome. *David Bervini, Stefano Giulieri, Trampuz Andrej, Claudio Pollo, Marc Levivier, Jocelyne Bloch (Germany / Switzerland)*
- #89 Taste disturbances in thalamic deep brain stimulation - analysis of a common therapeutic dilemma. *Bastian Sajonz, Burkhard Mädler, Stephan Herberhold, Sebastian Paus, Niels Allert, Volker Arnd Coenen (Freibur - Bonn, Germany)*
- #143 Bacterial biofilm formation on neurostimulation systems. *Bujung Hong, Andreas Winkel, Mahmoud Abdallat, Assel Saryyeva, Götz Lütjens, Meike Stiesch, Joachim K Krauss (Hannover, Germany)*
- #196 Infected implantable devices. Treatment without removal. *Marios Themistocleous, Christos Anagnostopoulos, Aristotelis Kalyvas, Konstantinos Themistoklis, Stefanos Korfiatis, Damianos Sakas (Athens, Greece)*

11.30 – 12.30 **PARALLEL SESSION 8 ONCOLOGY/EPILEPSY** *Paris room*

Chairs: J. Ciurea, O. Schijns

Oral presentations

- #72 Artificial Induction Of Cortical Plasticity By High Frequency Cortical Stimulation Permits To Increase Resection Of Brain Tumors Located In Eloquent Areas. *Juan A. Barcia, Paola Rivera, Osman Salazar, Sandra Sanchez-Casarrubios, Marcos Ríos-Lago, Mercedes González-Hidalgo, Miguel Yus, Juan Alvarez-Linera, Josue Avecillas Chasin (Madrid, Spain)*
- #279 ZEB1 mediates hypoxia driven- glioma invasion and is associated to neural stem cell. *UD Kahlert, FA Siebzehnruhl, EE Bar, CG Eberhart and J Maciaczyk (USA/Germany)*
- #219 Accuracy of electromagnetic frameless stereotactic brain biopsy. *Alessandro Dario, Jacopo Poli, Angelo Rusconi, Lidia Bifone (Varese, Italy)*

Flash Oral presentations

- #203 Seizure and neuropsychological outcome after stereotactic amygdalohippocampectomy for mesial temporal lobe epilepsy. *Roman Liscak, Zdenek Vojtech, Hana Malikova, Lenka Kramaska, Tomas Prochazka (Prague, Czech Republic)*

- #220 Changes in intracerebral EEG connectivity during VNS. *Romain Carron, Francesca Bonini, Jean Régis, Fabrice Wendling, Fabrice Bartolomei (Rennes - Marseille, France)*
- #246 DBS of ANT for Epilepsy – Long Term Follow-up. *Alexandre Rainha Campos, Inês Cordeiro, Carla Bentes, Ana Rita Peralta, José Pimentel, António Gonçalves-Ferreira (Lisbon, Portugal)*

12.30 – 14.00 **Lunch SYMPOSIUM** *Brussels Room*
See page 30 for the details of the programme.

12.30 – 14.00 WSSFN Board meeting *Rome room*

14.00 – 15.00 **PLENARY SESSION 6 SURGERY FOR MOVEMENT DISORDERS: AN UPDATE** *Auditorium 2*

Chairs: J. Krauss, P. Krack

- > Parkinson's disease. *Paul Krack, Grenoble*
- > Dystonia. *Joachim Krauss, Hannover*
- > Tourette's syndrome. *Veerle Visser-Vandewalle, Cologne*

15.00 – 16.30 **PARALLEL SESSION 9 MOVEMENT DISORDERS** *Auditorium 2*

Chairs: I. Panourias, G. Beute

Oral presentations

- #94 Cerebellar peduncle stimulation reduces symptoms of dystonia in patients with cerebral palsy treated due to spasticity. *Pawel Sokal, Marek Harat, Marcin Rudas, Łukasz Szyłberg, Marcin Rusinek (Bydgoszcz, Poland)*
- #106 Study of subthalamic motor cortical connectivity in parkinson's disease as predictive factor for deep brain stimulation. *Rebeca Conde, Antonio Gutierrez, Irene Martinez, Ignacio Rubio, Vicente Belloch, Carlos Botella (Valencia, Spain)*
- #157 Technical considerations and outcome of DBS for dystonia in very young children. *Ismail Ughratdar, Eunice Chan, Daniel Lumsden, Margaret Kaminska, Jean-Pierre Lin, Keyoumars Ashkan, Richard Selway (London, United Kingdom)*
- #176 Fiber tractography-guided stereotactic thalamic surgery for intractable tremor. *Susumu Sasada (Okayama, Japan)*
- #182 A functional assessment of essential tremor treated with bilateral or unilateral surgery. *Robert Dallapiazza, Diane Huss, Binit Shah, Madaline Harrison, W. Jeff Elias (Charlottesville, United States)*
- #184 NSTAPS trial: 3-year follow-up interim analysis Netherlands Subthalamic And Pallidal Stimulation trial in Parkinson's disease. *Vincent Odekerken, P. Rick Schuurman, Rob de Bie (Amsterdam, Netherlands)*

Flash Oral presentations

- #50 Bilateral ablative surgery for Parkinson's disease. *Kostiantyn Kostyuk, Vitaliy Tsybaliuk, Yurii Medvedev, Andriy Popov, Maksim Shevelov, Valeriy Cheburakhin, Sergei Dichko (Kyiv, Ukraine)*
- #71 A susceptibility-weighted MRI-based analysis of the subthalamic nucleus footprint in patients with Parkinson's disease and non-Parkinson's disease controls and electrophysiological validation of the morphology. *James McEvoy, Ismail Ughratdar, Stefan Schwarz, Dorothee Auer, Surajit Basu (Nottingham, United Kingdom)*
- #75 A prospective, randomized assessment of GPi and/or Voa-Vop DBS in a case of stroke induced hemidystonia. *Philipp J Slotty, Walleed Dabbas, Christopher R Honey (Vancouver, BC, Canada)*
- #77 Predictive factors of cognitive outcome in PD patients treated with Stn-DBS and medical therapy. *Clarissa Cavandoli, Andrea Trezza, Alberto Bona, Manuela Pilleri, Angelo Antonini, Erik Sganzerla, Andrea Landi (Monza - Venezia, Italy)*

- #81 Deep brain stimulation of STN for advanced Parkinson disease with octopolar leads: Programming electrical parameters guided for a neuroanatomical-3D-image software. *Muñoz Jorge, Gabriel Salazar, Cladellas Josep Maria, Tardaguila Manel (Barcelona, Spain)*
- #95 Pallidal and nucleus accumbens stimulation in Tourette Syndrome: a four cases series report. *Pawel Sokal, Marek Harat, Marcin Rudas, Marcin Rusinek (Bydgoszcz, Poland)*

15.00 – 16.30 **PARALLEL SESSION 10 PAIN** *Brussels room*

Chairs: A. Franzini, B. Meyerson

Oral presentations

- #31 Impact of deep brain stimulation on visceral pain in a model of rat. *Pierre Hannequin, Mathieu Meleine, Pierre Dechelotte, Guillaume Gourcerol, Stéphane Derrey (Rouen, France)*
- #58 Possible reason for the loss of effectivity of motor cortex stimulation for treatment of neuropathic pain syndromes. *Wilhelm Eisner, Thomas Fiegele, Florian Sohm (Innsbruck, Austria)*
- #64 A tractography analysis of a new target of Deep Brain Stimulation for pain: the Anterior Cingulate Cortex. *Sandra Boccard-Binet, Saad Jbabdi, Tim Van Hartevelt, Morten Kringelbach, Henrique Fernandes, James FitzGerald, Erlick Pereira, Liz Moir, Alex Green, Tipu Aziz (Oxford, UnitedKingdom)*
- #149 Deep Brain Stimulation for Refractory Chronic Cluster Headache. *Harith Akram, Sarah Miller, Susie Lagrata, Jonathan Hyam, Marwan Hariz, Manjit Matharu, Ludvic Zrinzo (London, UnitedKingdom)*
- #179 Construction and refinement of a collagenase induced haemorrhagic stroke model. *Philippe De Vloot, Kris van Kuyck, Johannes van Loon, Bart Nuttin (Leuven, Belgium)*
- #253 Topography of pain and somatic sensations in the insula: a study of responses to direct electrical stimulation on children population. *Vincent d'Hardemare, Sarah Ferrand-Sorbet, Georg Dorfmueller, Delphine Taussig, Jean-Baptiste thiebaut (Paris, France)*
- #254 Electromagnetic navigation system in the percutaneous cannulation of the foramen ovale. Technical note. *Vincent d'Hardemare, Jean Bruxelles, Anne Margot-Duclos, Maximilien Bachelart, Jean-Baptiste thiebaut (Paris, France)*

Flash Oral presentations

- #41 Relation of effective stimulation settings and motor threshold in motor cortex stimulation. *Philipp J Slotty, Walleed Dabbas, Christopher R Honey (Vancouver, BC, Canada)*
- #138 Sacral nerve root stimulation (SNRS) for the chronic pelvic pain. *Emil Isagulyan, Vladimir Shabalov (Moscow, Russia)*
- #139 Central cortex stimulation (CCS) in the complex treatment of severe pain. *Vladimir Shabalov, Emil Isagulyan, Ekaterina Salova, Alexei Tomskiy (Moscow, Russia)*
- #167 Drug-enhanced spinal cord stimulation in neuropathic pain: long term follow up of a translational based pilot study. *Gastón Schechtmann, Jaleh Winter, Göran Lind (Stockholm, Sweden)*

15.00 – 16.30 **PARALLEL SESSION 11 EXPERIMENTAL** *Paris room*

Chairs: R. Liscak, A. Jahanshahi

Oral presentations

- #128 High-frequency stimulation of the Medial Forebrain Bundle reverses depressive-like behavior in a combined rodent model of depression and Parkinson's disease. *Luciano L Furlanetti, Inigo Aguirre, Volker A Coenen, Máté D Döbrössy (Freiburg, Germany)*

- #129 Long-term characterization of the Flinders Sensitive Line rodent model of depression: Behavioral and PET evidence of a dysfunctional hippocampal system. *Stephanie Thiele, Timo S Spehl, Lars Frings, Friederike Braun, Marisa Ferch, Philipp T Meyer, Luciano L Furlanetti, Volker A Coenen, Máté D Döbrössy (Freiburg, Germany)*
- #159 Conceptualization and validation of an open source closed-loop deep brain stimulation system in rats. *Hemmings Wu, Hartwin Ghekiere, Dorien Beeckmans, Tim Tambuyzer, Kris van Kuyck, Jean-Marie Aerts, Bart Nuttin (Leuven, Belgium)*
- #178 Efficacy of rostral and caudal PPN stimulation in an experimental rat model for Parkinson's disease based on the functional STN-PPN connectivity. *Marcus Janssen, Filipa Campos, Joao Casaca-Carreira, Ali Jahanshahi, Sarah Hescham, Graca Baltazar, Nuno Sousa, Yasin Temel (Portugal / Netherlands)*
- #192 Striatal and entopeduncular nucleus single neuronal discharges and oscillatory activity in the 6-OHDA rat model of Parkinson's disease with levodopa-induced dyskinesia. *Xingxing Jin, Kerstin Schwabe, Joachim K Krauss, Mesbah Alam (Hannover, Germany)*
- #276 The hyperdirect pathway in the basal ganglia is the location of 5-HT_{2C} and D₂ receptors interaction and controls the emergence of purposeless oral movements. *Mélanie Lagière, Marion Bosc, Philippe De Deurwaerdère (Bordeaux, France)*
- #30 Deep Brain Stimulation of the anterior thalamic nucleus increases neurotrophin expression and neurogenesis in the rat dentate gyrus. *Tharakeswari Selvakumar, Travis Tierney (Boston, United States)*

Flash Oral presentations

- #168 Endothelial barrier dysfunction in temporal lobe epilepsy: preliminary results. *Roel Haeren, Govert Hoogland, Olaf Schijns, Jim Dings, Kim Rijkers, Jo de Mey, Koo van Overbeeke, Paul Schiffers (Maastricht, The Netherlands)*
- #169 Vessel wall permeability in temporal lobe epilepsy. *Roel Haeren, Denise Habets, Amanda van Vliet, Paul Schiffers, Olaf Schijns, Jim Dings, Jo de Mey, Marc van Zandvoort, Koo van Overbeeke, Hans Vink, Kim Rijkers (Maastricht, Netherlands)*
- #280 Deep brain stimulation to restore memory loss? *Sarah Hescham, Ali Jahanshahi, Leewei Lim, Harry Steinbusch, Arjan Blokjan, Yasin Temel (Maastricht, the Netherlands)*
- #195 Deep brain stimulation by 5-track microelectrode recordings causes no detectable by s-100b brain injury. *Marios Themistocleous, Christos Anagnostopoulos, Damianos Sakas (Athens, Greece)*
- #202 Nucleus accumbens deep brain stimulation as treatment option for binge eating disorder? *R Lok, M Verhagen, L Staal, J Van Dijk, A van Beek, Y Temel, A Jahanshahi, M Staal, G van Dijk (Maastricht, Netherlands)*

16.30 – 17.00 *Coffee break and visit of posters & exhibition*

17.00 – 18.30 ESSFN General Assembly *Auditorium 2*

20.00 *The ESSFN society's dinner Neercanne Castle*

SATURDAY 20**07.30 – 08.30** Breakfast seminar “EPILEPSY SURGERY” *Paris room*Chairs : *D. van Roost, O. Schijns*

- > Resections for epilepsy in at around the central region. *Hans Clussman, Aachen*
- > Advances in non-resective epilepsysurgery. *Dirk van Roost, Gent*
- > SEEG : the quest for the epileptogenic focus and/or network. *Olaf Schijns, Maastricht*

Breakfast seminar “PAIN SURGERY” *Brussels room*Chairs : *D. Sakas, T. Aziz*

- > A new, proposed classification of the causes of trigeminal neuralgia as a basis for the planning and application of surgical treatment. *Damianos Sakas, Athens*
- > DBS in Chronic Pain *Tipu Aziz, Oxford*
- > Neuromodulation in Cluster Headache *Angelo Franzini, Milano*

08.30 – 13.00 *Exhibition***08.30 – 09.15****PLENARY SESSION 7 SURGERY FOR PSYCHIATRIC DISORDERS: AN UPDATE** *Auditorium 2*Chairs: *A. Goncalves-Ferreira, V. Visser-Vandewalle*

- > Electrical stimulation of the BNST in OCD. *Bart Nuttin, Leuven*
- > Electrical stimulation of the Nucleus Accumbens in OCD. *Rick Schuurman, Amsterdam*

09.15 – 10.45**PARALLEL SESSION 12 ESSFN-ISIN JOINT SESSION** *Auditorium 2*Chairs: *D. Sakas, J. Arle*

- > How computational modeling of the neurophysiology can help in the design and intra-operative placement of neuromodulation devices. *Jeff Arle, Boston*
- > Intraoperative Monitoring in cortical stimulation for central pain. *Damianos Sakas, Athens*
- > MER in the ANT for DBS in epilepsy. *Yasin Temel, Maastricht*
- > Complication avoidance using IONM during functional procedures. *Jay Shils, New York*

09.15 – 10.45**PARALLEL SESSION 13 PSYCHIATRIC DISORDERS** *Brussels room*Chairs: *R. Schuurman, V. Coenen***Oral presentations**

- #90** Deep Brain Stimulation for Treatment Resistant Major Depression - Targeting the Dysfunctional Human Reward System. *Volker Coenen (Freiburg, Germany)*
- #136** Anterior Cingulotomy for Refractory Major Depression: case series outcomes and predicting response. *Serenella Tolomeo, David Christmas, Muftah S. Eljamel, J. Douglas Steele, Keith Matthews (Dundee, United Kingdom)*
- #175** Delineation of the nucleus accumbens: targeting for deep brain stimulation. *Laura Cif, Jocelyne Bloch, Etienne Pralong, Bogdan Draganski (Lausanne, Switzerland)*
- #273** Deep brain stimulation in nucleus accumbens / ventral anterior limb of the internal capsule is effective in decreasing depressive symptoms. *I.O. Bergfeld, M.H. Mantione, P. van den Munckhof, P.R. Schuurman, D. Denys (Amsterdam, The Netherlands)*

- #274 DTI/Tractography of the Human Nucleus Accumbens – implications for psychosurgery. *Neto L, Sousa J, Reimão S, Campos J, Nunes R, Gonçalves-Ferreira A (Lisbon, Portugal)*

Flash Oral presentations

- #43 Long term results of posteromedial hypothalamic deep brain stimulation for patients with resistant erethism. *Cristina Torres, Rafael Sola, Jesus Pastor, Elena Ezquiaga, Eduardo García-Camba (Madrid, Spain)*
- #73 Is the proper DBS target for OCD patient-specific? Multimodal fMRI-DWI to predict success of striatal DBS in obsessive compulsive disorder. *Juan A. Barcia, Jose Angel Pineda-Pardo, Josue AVECILLAS-Chasin, Rocio Arza, Bryan Strange (Madrid, Spain)*
- #114 Long-term results of posteromedial hypothalamic deep brain stimulation in resistant epilepsy associated to aggressive behavior. *Juan Carlos Benedetti Isaac, Martin Torres-Zambrano, William Omar Contreras Lopez, Randy Guerra-Olivares, Esther Perea-Castro, Gabriel Alcala, Thomas Reithmeier, Luciano Furlanetti (Brazil / Colombia / Germany)*
- #134 A model for modernity? Interpreting outcome data for the stereotactic subcaudate tractotomy (SST). *Christine Matthews, Keith Matthews (Dundee, United Kingdom)*
- #171 GK radiosurgery in intractable psychiatric disorders. *Jung Kyo Lee, Seung Yoon Kim, Tae Kyung Lee, Eun Ki Chung (Seoul, South Korea)*
- #180 Rechargeable neurostimulators in deep brain stimulation for obsessive-compulsive disorder: experience in a series of 10 patients. *Philippe De Vloo, Simon Raymaekers, John Das, Loes Gabriëls, Bart Nuttin (Leuven, Belgium)*
- #194 Event-related potentials in the bed nucleus of the stria terminalis/ internal capsule in response to neutral and aversive stimuli in OCD. *Mesbah Alam, Lotta Winter, Kerstin Schwabe, Hans H. Heissler, Lütjens Goetz, Kai Kahl, Joachim K Krauss (Hannover, Germany)*

09.15 – 10.45 PARALLEL SESSION 14 MOVEMENT DISORDERS *Paris room*

Chairs: R. Mahesparan, M. Galanda

Oral presentations

- #197 Successful pallidotomy using remote microelectrode mapping. *Jason Moyer, He Huang, Fred Haer, Andrei Barborica, Erwin Montgomery, Leland Albright (Romania / United States)*
- #200 Deep brain stimulation and its effect on the cost of Parkinson's medications. *David Rowell, Hong Son Nghiem, Terry Coyne, Luke Connelly (Brisbane, Australia)*
- #227 Directional Deep Brain Stimulation improves the therapeutic window: an Intraoperative Double-Blind Pilot Study. *Claudio Pollo, Alain Kaelin-Lang, Markus Oertel, Lennart Stieglitz, Michael Schüpbach (Lugano - Zürich - Bern, Switzerland)*
- #237 DBS in STN and Vim for tremor. Are we stimulating a unique structure? *Michael Fiechter, Andreas Nowacki, Michael Schüpbach, Ines Debove, Lennart Lachenmayer, Roland Wiest, Markus Oertel, Claudio Pollo (Bern, Switzerland)*
- #241 Probabilistic tractography-based connectivity of the active contact region after Vim-DBS for Essential tremor. *Péter Szloboda, István Valálik (Budapest, Hungary)*
- #256 Spinal cord stimulation improves gait performance in advanced parkinson disease in chronic stn-dbs patients: pilot study. *Erich Talamoni Fonoff, Carolina Oliveira Souza, Carolina Pinto Souza-Pinto, Maria Gabriela Santos-Ghilardi, Rubens Gisbert Cury, William Omar Contreras-Lopez, Egberto Reis Barbosa, Manoel Jacobsen Teixeira (São Paulo, Brazil)*

Flash Oral presentations

- #103 Frameless system (nexframe) in deep brain stimulation. study of accuracy comparing neurophysiological and electrode coordinates. *Massimo Mondani (Udine, Italy)*
- #112 Deep brain stimulation of the Globus Pallidus internus for Holmes tremor. *Rachel Martinez, William Omar Contreras Lopez, Marcus Pinsker, Thomas Reithmeier, Erich Talamoni Fonoff, Luciano Furlanetti, Oscar Escobar, Gabriel J Arango (Brazil / Germany / Colombia)*
- #115 Neurosurgical treatment in dystonia: A proposed algorithm and its outcome in a case series of 80 patients. *Jairo Alberto Martinez Espinosa, William Omar Contreras Lopez, Marcus Pinsker, Gabriel J Arango, Xiomara Garcia, Luciano Furlanetti, Inigo Aguirre, Jorge Humberto Marin, Oscar Escobar (Brazil / Germany / France / Colombia)*
- #186 Directional steering: clinical observations from an intraoperative study with a 32-contact lead. *Maria Fiorella Contarino, Lo Bour, Rens Verhagen, Marce Lourens, Rob de Bie, Pepijn van den Munckhof, Rick Schuurman (Amsterdam, Netherlands)*
- #189 Dynamic change of synchronized temporal patterns of somatosensory evoked potentials within thalamus following median nerve stimulation in Parkinson's disease and essential tremor patients. *Katsushige Watanabe, Sumito Sato, Futaba Maki, Yasushi Okamura, Makoto Taniguchi, Fusako Yokochi Kanagawa - Tokyo, Japan)*
- #204 Chronic spinal cord stimulation in medically intractable orthostatic tremor: longterm follow-up. *Tamara Sauer, Christian Blahak, Goetz Luetjens, Assel Saryyeva, Hansjoerg Baezner, Hans-Holger Capelle, Michael Hennerici, Joachim K. Krauss (Mannheim - Stuttgart - Hannover, Germany)*

10.45 – 11.15 **Coffee break and visit of posters & exhibition**

11.15 – 12.00 **CLOSING LECTURES - PLENARY SESSION 8 Auditorium 2**

Chairs: J. Krauss, T. Aziz

> History of electrical stimulation of the nervous system. *Damianos Sakas, Athens*

> DBS for psychiatric illness: chronic stimulation or chronic investigation? *Marwan Hariz, London*

12.00 - 13.00 **ESSFN RESEARCH GRANT 2012 REPORT Auditorium 2**

Neurostimulation to promote neurobiological recovery in Stroke. *Yasin Temel, Maastricht*

ESSFN RESEARCH GRANT AND AWARDS 2014

CLOSING CEREMONY *Joachim Krauss and Damianos Sakas.*

POSTER PRESENTATIONS

MOVEMENT DISORDERS

- #9** Long-Term Outcomes of Bilateral Pallidal Stimulation for Primary Generalized Dystonia. *Michał Sobstyl, Mirosław Ząbek, Karol Budohoski, Tomasz Kmieć, Zbigniew Mossakowski (Warsaw, Poland) Krzysztof Szczatuba (Kielce, Poland)*
- #23** Children's pallidal deep brain stimulation with torsion dystonia: case report. *Tatiana Tubaeva, Albert Sufanov, Vladimir Shabalov, Artur Biktimirov, Alexander Orlov, Sergey Churkin, Evgeniy Matveev (Tyumen, Russia)*
- #24** Combination of stereotactic radiofrequency lesion and neuromodulation techniques in treatment of Parkinson's disease. *Evstafiy Melidi, Oxana Gavronina (Novosibirsk, Russia)*
- #25** Deep brain stimulation for Parkinson disease in Kazakstan. *Serik Akshulakov, Chingiz Shashkin, Yerbol Makhambetov, Azat Shpekov (Astana, Kazakhstan)*
- #29** A new neurosurgical analysis system by image processing to determine the accuracy of frameless DBS in parkinson's disease. The nexframe-stealthstation[®] experience. *Pedro Roldan, Antonio Salvador, Jose Dura, Gabriel Calatayud, Jose Gonzalez-Darder, Jose Lainez (Valencia, Spain)*
- #33** Lead location for subthalamic nucleus deep brain stimulation using a 3D visualization tool. *Ignacio Regidor, Lidia Cabañes, Marta del Alamo, Luis Ley (Madrid, Spain), Francisco Estella (Granada, Spain)*
- #38** Intraoperative CT scan utility in evaluation of DBS lead implantation. *Domenico Servello, Claudia Menghetti, Edwin Zekaj, Giovannie Broggi, Mauro Porta (Milan, Italy)*
- #49** Deep brain stimulation in movement disorder. Experience in three years using 3 mm length active tip lead and high frequency constant current stimulation. *Muñoz Jorge, Alvarez Ramiro, Blanco Alberto, Cladellas Josep Maria, Tardaguila Manel, Rimbau Jordi (Barcelona, Spain)*
- #56** DTI-tractography for stereotactic planning of deep brain stimulation for tremor. *Donatus Cyron, Uwe Spetzger, Fabian Meisel (Karlsruhe, Germany), Fernando Garcia, Jesse Ross-Jones (Mannheim, Germany), Vitor Vieira (Heidelberg, Germany)*
- #63** Technical reasons for differences in intraoperative findings in semi - macrostimulation and postoperative neurological state in respect to dysarthria or other side effects? *Wilhelm Eisner, Florian Sohm, Thomas Fiegele (Innsbruck, Austria)*
- #65** A Possible Pathogenic Mechanism of Hemifacial Spasm: Hemodynamic Effects caused by Venous Sinus. *Moonyoung Chung, Ryoong Huh (Incheon, South Korea), Inbo Han, Sang-Sup Chung (Seongnam, South Korea)*
- #66** Case report: A patient with fixed dystonia successfully treated by pallidal deep brain stimulation. *Fusako Yokochi, Makoto Taniguchi, Ryouichi Okiyama, Takashi Kawasaki, Kouichi Hamada (Tokyo, Japan)*
- #69** Cerebrospinal fluid content of neurostimulator pocket – complication of deep brain stimulation in movement disorders – a case report. *Dusan Urgosik, Robert Jech, Stefan Raev, Petr Dusek, Daniela Stastna, Filip Ruzicka, Roman Liscak, Evzen Ruzicka (Prague, Czech Republic)*
- #80** Holmes tremor in a patient with progressive multifocal leukoencephalopathy. *Vimal Raj Nitish Gunness, Georges Doods, Bernd Wauschkuhn, Frank Hertel, Nico Diederich (Luxembourg) Wolfgang Feiden (Trier, Germany)*
- #91** A method for electric field simulations and acceleration measurements for intraoperative test stimulation. *Simone Hemm-Ode, Daniela Pison, Ashesh Shah, Erik Schkommodau (Northwestern Switzerland), Fabiola Alonso, Karin Wårdell (Linköping, Sweden), Jérôme Coste, Jean-Jacques Lemaire (Clermont-Ferrand, France)*
- #92** Intraoperative tissue resistance measurement using DBS electrode for movement disorders. *Etienne Pralong, Laura Cif, Xavier Vasques, Marc Levivier, Jocelyne Bloch (Lausanne, Switzerland)*
- #96** Peri-electrode oedema after DBS implantation: case report. *Alberto Bona, Andrea Trezza, Clarissa Cavandoli, Erik Sganzerla, Andrea Landi (Monza, Italy), Manuela Pilleri, Angelo Antonini (Venezia, Italy)*

- #98** Comparison between constant voltage and constant current stimulation in dbs for Parkinson's disease and Primary generalized dystonia. *Clarissa Cavandoli, Alberto Bona, Andrea Trezza, Andrea Landi, Erik Sganzerla (Monza, Italy) Manuela Pilleri, Angelo Antonini (Venezia, Italy), Maria Chiara Sensi, F Preda, Michele L Cavallo (Ferrara, Italy)*
- #99** Chronic intraventricular baclofen infusion in patients with secondary dystonia. *Andrey Dekopov, Aleksey Tomsky, Vladimir Shabalov (Moscow, Russia)*
- #104** Simultaneous bilateral MER-guided Stereotactic implantation of DBS electrodes. *Erich Talamoni Fonoff, William Omar Contreras Lopez, Rachel Martinez, Jairo Angelos, Jessie Navarro, Angelo Azevedo, Manoel Jacobsen Teixeira (Sao Paulo, Brazil)*
- #107** Deep brain stimulation for essential tremor in the elderly – a single center analysis. *Johann Klein (Dresden, Germany), Andreas Kupsch, Imke Galazky, Lars Büntjen, Hans-Jochen Heinze, Jürgen Voges (Magdeburg, Germany)*
- #117** Downward displacement of a deep brain stimulation electrode ten years following implantation. *Domenico Iacopino, Rosario Maugeri, Antonella Giugno (Palermo, Italy), Cole Giller (Augusta, United States)*
- #118** Relief of occipital neuralgia due to parkinsonian cervical dystonia by C2 rhizotomy and C1-2 fusion. *Ethan Taub, Peter Fuhr, Margareth Amort, Gregory F. Jost (Basel, Switzerland)*
- #119** GPi-DBS in dystonic patients using frameless versus frame-based. stereotaxy: a single centre experience. *S. D'Auria, M. Mondani, Christian Lettieri, S. Rinaldo, G. Devigili, M. Skrap, R. Eleopra (Udine, Italy)*
- #132** A case series of dopamine agonist withdrawal syndrome following deep brain stimulation for Parkinson's disease. *Lucy Partington, Monty A Silverdale, Gemma Mercer, Julian Evans, Christopher Kobylecki (Salford, U.K)*
- #140** Advanced age and neuropsychological deficits do not predict difficulty using a rechargeable Deep Brain Stimulation system in a typical cohort of implanted Parkinson's Disease patients. *Stephen Carcieri, Lilly Chen (CA, United States), Lars Timmermann, Michael Barbe, Mohammed Maarouf (Cologne, Germany), Thomas Bruecke (Vienna, Austria), Fernando Seijo, Esther Suarez San Martin (Oviedo, Spain), Steven Gill, Alan Whone (Bristol, United Kingdom), Domenico Servello, Mauro Porta (Milan, Italy), Claire Haegelen, Verin Marc (Rennes, France)*
- #145** Correlation analysis between quantitatively analyzed stimulation effects and anatomical position during deep brain stimulation surgery. *Ashesh Shah, Erik Schkommodau, Simone Hemm-Ode (Switzerland, Basel), Jerome Coste, Jean-Jacques Lemaire (Clermont-Ferrand, France)*
- #146** Surgical Experience with Miniature Rapid-Prototype Stereotactic Frames for Deep Brain Stimulation. *James McInerney, Namath Hussain, David Carr, Oliver Mrowczynski (Hershey, United States)*
- #150** Aim for the suprasternal notch: Technical note to avoid bowstringing after deep brain stimulation. *Harith Akram, Jonathan Hyam, Patricia Limousin, Marwan Hariz, Ludvic Zrinzo (London, United Kingdom)*
- #156** Reuse of internal pulse generator in infected cases after deep brain stimulation surgery. *Selcuk Gocmen (Denizli, Turkey)*
- #161** Twiddler's syndrome in a patient with dystonic tremor treated with DBS. *Patric Blomstedt, Jennifer Samuelsson (Umeå, Sweden)*
- #181** Initial experiences with intraoperative computed tomography (O-arm) in deep brain stimulation surgery. *Eduarne Ruiz de Gopegui, Gaizka Bilbao, Imanol Lambarri, Elena Lezcano, Juan Carlos Gomez, Beatriz Tijero, Olivia Rodriguez, Rafael Villoria, Ibai Diez, Iñigo Pomposo (Barakaldo, Spain)*
- #183** Early outcomes after frameless DBS placement in the intraoperative MRI suite. *Darlene A Lobel, Danilo Silva (Cleveland, United States), Andrei Barborica (Bucharest, Romania)*
- #198** Combined pallidal and thalamic stimulation for multifocal primary dystonia with prominent writers' cramp. *Joachim Krauss, Christoph Schrader, Götz Lütjens, Mahmoud Abdallat, Andreas Wloch (Hannover, Germany)*
- #205** Cessation of deep brain stimulation for secondary parkinsonism may result in a neuroleptic-like malignant syndrome. *Tamara Sauer, Mark Wolf, Michael Hennerici, Christian Blahak (Mannheim, Germany), Goetz Luetjens, Hans-Holger Capelle, Joachim K. Krauss (Hannover, Germany), Hansjoerg Baezner (Stuttgart, Germany)*
- #206** Comparative study of emotional prosody following subthalamic nucleus Deep Brain Stimulation (DBS) for Parkinson's Disease. *Dimitra Kastamoniti, Miltiadis Georgiopoulos, George Sakellaropoulos, Constantine Constantoyannis (Patras, Greece)*

- #208** Deep brain stimulation for dystonia in patients with previous thalamotomy/subthalamotomy or pallidotomy and peripheral denervation. *Goetz Luetjens, Hans-Holger Capelle, Christoph Schrader, Joachim K. Krauss (Hannover, Germany)*
- #210** Quality of Life in Advanced Parkinson's Disease after Bilateral Subthalamic Stimulation: 2 Years Follow-up Study. *Michał Sobstyl, Mirosław Ząbek, Wojciech Górecki, Zbigniew Mossakowski (Warsaw, Poland)*
- #212** Staged bilateral thalamotomy for musician's dystonia. *Takaomi Taira, Shiro Horisawa (Tokyo, Japan)*
- #214** Fingertapping 5 year postoperatively is performed in similar speed with DBS on without antiparkinsonian medication as before surgery in the L-dopa challenge test. *Natalie Montevert, Ursula Albert, Hjalmar Bjartmarz, Anna-Lena Törnqvist Jensen (Lund, Sweden)*
- #215** Paroxysmal cough attacks with syncope induced by thalamic DBS for essential tremor. *Bernhard Décard, Ethan Taub, Peter Fuhr (Basel, Switzerland)*
- #222** Advantage of axillary skin incision for implantation of deep brain stimulator. *Takeshi Nakajima, Takehiko Konno, Rie Nagayama, Yoshihito Ando, Hidenori Yokota, Keiji Oguro, Kenichi Fujimoto, Eiju Watanabe (Tochigi, Japan)*
- #225** Deep Brain Stimulation Programming Experiences for Non-Motor Complications in Parkinson's Disease. *Peter Poortvliet, Karen O'Maley, Terry Coyne, Peter Silburn, (Brisbane, Australia)*
- #226** Effect of intraoperative narrowing of the third ventricle on the electrode implantation site in DBS surgery. *Jens Fichtner, Markus Oertel, Andreas Nowacki, Michael Fiechter, Ines Debove, Lenard Lachenmayer, Michael Schüpbach, Claudio Pollo (Bern, Switzerland)*
- #228** Magnetic resonance safety in two DBS patients with Vercise©System, our experience report. *Pedro De La Rosa Jiménez, Beatriz Cuartero Pérez, Ossama Morsi, Miguel Ángel Pérez-Espejo Martínez, Juan Francisco Martínez-Lage Sanchez (Murcia, Spain)*
- #229** Use of Microrecording and Multiple Trajectories in Deep Brain Stimulation (DBS) of the Nucleus Subthalamicus. *Daniela Falk, Jose W.L. Reis, Steffen Paschen, Nils Warneke, H.Maximilian Mehdorn (Kiel, Germany)*
- #230** Effectiveness of zona incerta deep brain stimulation in tremors refractory to thalamic stimulation. *Witold Libionka, Wojciech Kloc (Gdansk, Poland)*
- #231** Acute transient severe dyskinesia following subthalamic nucleus stimulation. *Mehmet Tonge, Nesrin Helvacı Yilmaz, Fatihhan Bolukbasi, İlhan Elmaci (Istanbul, Turkey), Yasin Temel (Maastricht, Netherlands)*
- #232** The effect of deep brain stimulation on cognitive performance in patients with Parkinson's disease. *István Valálik, Gyula Demeter, Ferenc Kemény, Ágnes Lukács, Mihály Racsmány (Budapest, Hungary)*
- #234** Deep brain stimulation for pediatric dystonia secondary to cerebral palsy. *Mehmet Tonge, Nesrin Helvacı Yilmaz, Guzide Turanlı, Ramazan Sari, İlhan Elmaci (Istanbul, Turkey), Yasin Temel (Maastricht, Netherlands)*
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- #247** Detachment of the distal contact during removal of the DBS electrode. *István Valálik, Péter Szloboda (Budapest, Hungary)*
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