18th International Leksell Gamma Knife Society meeting 2016,
May 15 - 19, 2016,
Amsterdam, Netherlands

Scientific Programme

Sunday, 15 May 2016

GK General
15:00 - 17:00
Berlage Zaal (B)

Special Topic Educational Seminar: Standardization in Terminology, Contouring and Treatment Planning
Caroline Chung (UNH Princess Margaret Hospital, Toronto, Canada)
Vinicio Toledo (San Javier Hospital, Guadalajara, Mexico)

About Standardization  15:00 - 15:10
Michael Torrens (Hygeia Hospital, Athens, Greece)

About Contouring   15:10 - 15:20
Caroline Chung (UNH Princess Margaret Hospital, Toronto, Canada)

Treatment Planning  15:20 - 15:30
Ian Paddick (National Hospital for Neurology and Neurosurgery, London, United Kingdom)
Jean Régis (Aix Marseille University, Marseille, France)
Scientific Programme

Monday, 16 May 2016

Physics & QA
07:30 - 08:30
Veilingzaal (C)

Early Morning Seminar #3 Gamma Knife Beams and Small Field Dosimetry - Can we do it Better?
Ian Paddick (National Hospital for Neurology and Neurosurgery, London, United Kingdom)
Paula Petti (Washington Hospital Healthcare System, Fremont, United States)

- Current practice of the Leksell Gamma Knife small field dosimetry
  07:30 - 07:40
  Josef Novotny (Na Homolce Hospital, Prague, Czech Republic)

- The implementation and implication of the new small field dosimetry formalism on Gamma Knife dosimetry
  07:40 - 07:50
  Hamza Benmakhlof (Karolinska University Hospital, Stockholm, Sweden)

Vascular Disorders
07:30 - 08:30
Grote Zaal (L)

Early Morning Seminar #2 Panel Debate Cavernous Malformations - Why Does Everyone Remain Confused?
L. Dade Lunsford (University of Pittsburgh, Pittsburgh, United States)
Roberto Martinez-Alvarez (Hospital Ruber Internacional, Madrid, Spain)

GK General
07:30 - 08:30
Administratiezaal (A)

Early Morning Seminar #1 Cost Effectiveness - How does the Data Influence Reimbursement?
Bodo Lippitz (iCera, Hamburg, Germany)
Anna Likhacheva (MD Anderson Cancer Center, Houston, United States)

- Title 1
  07:30 - 07:40
  Stephen Tatter (Wake Forest University Baptist Medical Center, Winston-Salem, United States)

- Title 2
  07:40 - 07:50
  Wim van der Meeren (CZ Health Insurance, Tillburg, Netherlands)

Miscellaneous
08:40 - 08:50
Grote Zaal (L)

Welcome and Opening Remarks
Gus Beute (Gamma Knife Center, St. Elisabeth Ziekenhuis Tilburg, Tilburg, Netherlands)
Patrick Hanssens (St Elisabeth Hospital, Tillburg, Netherlands)
Scientific Programme

GK General
08:50 - 09:10

How has Radiosurgery Changed Neurosurgery and Radiation Oncology?
Patrick Hanssens (St Elisabeth Hospital, Tilburg, Netherlands)
Gus Beute (Gamma Knife Center, St. Elisabeth Ziekenhuis Tilburg, Tilburg, Netherlands)

Title
Minesh Mehta (Miami Cancer Institute, Miami, United States)

Benign Tumors
09:10 - 10:25

Panel Debate: Vestibular Schwannomas
Jeroen Verheul (Gamma Knife Center Tilburg, Tilburg, Netherlands)
Kevin McMullen (Indiana University Health, Indianapolis, United States)

A Quarter Century of Change - the Impact of Gamma Knife Surgery on Neurotology
P. Ashley Wackym (Legacy Good Samaritan, Portland, United States)

The Neurotologist’s Approach
William Slattery (Keck Medical Center or USC, Los Angeles, United States)

How do Patients Decide what to do?
L. Dade Lunsford (University of Pittsburgh, Pittsburgh, United States)

Vascular Disorders
10:45 - 12:05

Parallel General Scientific Session, Vascular Disorders
Hideyuki Kano (University of Pittsburgh, Pittsburgh, United States)
Dong Gyu Kim (Seoul National University College of Medicine, Seoul National University Hospital, Seoul, Korea, Republic of)

Advanced white matter imaging visualization modality for radiosurgery in eloquent brain areas
Giuseppe Kenneth Ricciardi (Verona University Hospital, Verona, Italy)

A retrospective analysis of 356 cerebral cavernous venous malformations (CVM) treated with Gamma Knife. An evidence based dilemma
Stuart Stokes (The National Centre for Stereotactic Radiosurgery, Sheffield, United Kingdom)

Pathological evaluation of radiation-induced vascular lesions: distinct from de novo cavernous hemangiomas?
Jong Hee Chang (Yonsei University Health System, Seoul, Korea, Republic of)

Radiosurgery for arteriovenous malformation and the impact on headaches
Greg Bowden (University of Pittsburgh, Pittsburgh, United States)
Scientific Programme

Complications in brain AVM treatment and apolipoprotein E isoforms
Gus Beute (Gamma Knife Center, St. Elisabeth Ziekenhuis Tilburg, Tilburg, Netherlands)

Venoplasty broadens indications of Gamma Knife radiosurgery in treating DAVF with venous stenosis
Chung Jung Lin (National Yang Ming University, Taipei, Taiwan)

Effects of radiosurgery for symptomatic cavernous malformations in comparison with the real natural history of symptomatic lesions. A multi-institutional retrospective study in Japan
Yoshihisa Kida (General Kamiida-daiichi Hospital, Nagoya, Japan)

Volume-staged Gamma Knife radiosurgery for treatment of large cerebral AVMs
Giorgio Spatola (Ospedale San Raffaele, Milano, Italy)

Benign Tumors
10:45 - 12:05
Grote Zaal (L)

General Scientific Session, Benign Tumors
Motohiro Hayashi (Tokyo Women's Medical University, Tokyo, Japan)
Marc Levivier (Lausanne University Hospital, Lausanne, Switzerland)

Quality of the patient experience during radiosurgery: measurement toward improvement
Douglas Kondziolka (NYU Langone Medical Center, New York, United States)

Gamma Knife radiosurgery for vestibular schwannomas associated with neurofibromatosis type 2 - long-term follow-up results
Yoshiyasu Iwai (Osaka City General Hospital, Osaka, Japan)

Combined approach for the management of large vestibular schwannomas: planned subtotal resection followed by Gamma Knife surgery in a series of 28 consecutive cases
Marc Levivier (Lausanne University Hospital, Lausanne, Switzerland)

LGKRS in cavernous sinus meningiomas: results on 200 patients with at least 10-year-follow up period
Antonio Nicolato (AOUI Verona, Verona, Italy)

Stereotactic radiosurgery (SRS) with Gamma Knife icon: is a Cone-Beam CT (CBCT) useful when using the G-frame?
Sabine Mai (University Medical Center Mannheim, University of Heidelberg, Mannheim, Germany)

Gamma Knife radiosurgery for facial schwannomas: a North American Gamma Knife Consortium multicenter study
Jason Sheehan (University of Virginia, Charlottesville, United States)

Stereotactic radiosurgery for chordoma: clinical analysis of 49 patients
Junzhao Sun (Navy General Hospital, Beijing, China)
Scientific Programme

Risk of cataractogenesis after Gamma Knife radiosurgery: a nationwide population-based case-control study
Cheng-Loong Liang (E-DA Hospital, I-SHOU University School of Medicine, Kaohsiung City, Taiwan)

Functional Disorders
13:05 - 14:45
Berlage Zaal (B)

Parallel General Scientific Session, Functional Disorders
Constantin Tuleasca (Lausanne University Hospital, Lausanne, Switzerland)
Alessandra Gorgulho (HCor Neurosciences, Sao Paulo, Brazil)

Radiosurgery for intractable seizure associated with symptomatic cavernous malformations --- long term follow-up results
Yoshihisa Kida (General Kamiida-daichi Hospital, Nagoya, Japan)

13:05 - 13:15

Trigeminal neuralgia secondary to intracranial lesions: a prospective series of 20 consecutive cases
Constantin Tuleasca (Lausanne University Hospital, Lausanne, Switzerland)

13:15 - 13:25

Gamma Knife radiosurgical capsulotomy for obsessive compulsive disorder
Selcuk Peker (Acibadem University, Istanbul, Turkey)

13:25 - 13:35

The role of DTI (Diffusion Tensor Imaging) pyramidal tractography in Gamma Knife thalamotomy planning
Antonio De Salles (HCor Neurosciences, Sao Paulo, Brazil)

13:35 - 13:45

Volumetric analysis of gamma capsulotomy for refractory OCD: lesion location predicts response
Sameer Sheth (Columbia University, New York, United States)

13:45 - 13:55

Gamma Knife radiosurgery for glossopharyngeal neuralgia: a bicentric Marseille-Lausanne experience of 21 patients
Pierre-Yves Borius (Marseille University Hospital, Marseille, France)

13:55 - 14:05

Early radiosurgery provides superior pain relief for trigeminal neuralgia patients
L. Dade Lunsford (University of Pittsburgh, Pittsburgh, United States)

14:05 - 14:15

Gamma Knife radiosurgery for the treatment of medical resistant OCD
Giorgio Spatola (Ospedale San Raffaele, Milano, Italy)

14:15 - 14:25

Accuracy of the Gamma Knife treatment coordinates and outcomes for essential tremor
Francisco Li (Swedish Radiosurgery Center, Seattle, United States)

14:25 - 14:35

Gammaknife thalamotomy for tremor: MR response variability at one year follow-up in a cohort of 142 consecutive patients
Jean Régis (Aix Marseille University, Marseille, France)

14:35 - 14:45
Malignant Tumors
13:05 - 14:45
Grote Zaal (L)

General Scientific Session, Malignant Tumors

Sieger Leenstra (St Elisabeth Hospital, Tillburg, Netherlands)
Ajay Niranjan (UPMC, Pittsburgh, United States)

Use of artificial neural networks to predict the probability of developing new cerebral metastases after radiosurgery alone
Parisa Azimi (Functional Neurosurgery Research Center of Shohada Tajrish Hospital, Shahid Beheshti University of Medical Sciences, Tehran, Iran, Islamic Republic of)

A multi-institutional prospective observational study of SRS for multiple brain metastases (JLGK0901 study): part 1, long-term results for primary and secondary endpoints
Toru Serizawa (Tsukiji Neurological Clinic, Tokyo, Japan)

A multi-institutional prospective observational study of SRS for multiple brain metastases (JLGK0901 study): part 2, long-term results of irradiation-related complications and neurocognitive function
Masaaki Yamamoto (Katsuta Hospital Mito GammaHouse, Hitachi-naka, Japan)

Dose-volume predictors of visual acuity reduction after SRS for uveal melanoma
Antonella del Vecchio (IRCCS San Raffaele Scientific Institute, Milan, Italy)

Does modern management of malignant extracranial disease prolong survival also in patients with ≥3 brain metastases?
Bengt Karlsson (National University Hospital, Singapore, Singapore)

The impact of lesion number and treatment volume on survival in melanoma brain metastases treated with stereotactic radiosurgery (SRS)
Shelly Bian (University of Southern California, Los Angeles, United States)

Gamma Knife radiosurgery for brain metastases from pulmonary large cell neuroendocrine carcinoma (LCNEC): report of 63 patients meeting the inclusion criteria of the JLGK0901 study
Takuya Kawabe (Kyoto Prefectural University of Medicine, Kyoto, Japan)

Quality of life and locoregional disease control following fractionated stereotactic body radiation therapy in previously irradiated recurrent head and neck cancer
Isabella Zhang (Hofstra North Shore-LIJ School of Medicine, Lake Success, United States)

Leukoencephalopathy following stereotactic radiosurgery for brain metastases
Daniel Trifiletti (University of Virginia, Charlottesville, United States)

No significant difference in local control and overall survival between adjuvant stereotactic radiosurgery and salvage stereotactic radiosurgery for brain metastases treated by gross total resection and Gamma Knife radiosurgery
Tavish Nanda (Columbia University Medical Center, New York, United States)
Scientific Programme

Ophthalmology
15:05 - 15:45

General Scientific Session, Ophthalmology

Pavel Ivanov (International Institute of Biological Systems, Saint-Petersburg, Russian Federation)
Ian Rennie (Royal Hallamshire Hospital, Sheffield, United Kingdom)

LGKRS for the treatment of uveal melanomas: results and complications on 135 patients followed-up for at least 2 years
Antonio Nicolato (AOUI Verona, Verona, Italy)

Microinvasive tumor endoresection in combination with ocular stereotactic radiosurgery (SRS)
Oleg Sinyavskiy (St.-Petersburg Regional Hospital, St.-Petersburg, Russian Federation)

The early change of protein expression in the rhesus optic nerves injured by a single dose/fractionation stereotactic radiosurgery
Jing Chen (Sichuan University, ChengDu, China)

Gamma Knife surgery for patients with orbital optic nerve gliomas
Yanhe Li (Tianjin Medical University 2nd Hospital, Tianjin, China)

Malignant Tumors
15:45 - 17:05

Panel Debate: Brain Metastases

Minesh Mehta (Miami Cancer Institute, Miami, United States)
Veronica Chiang (Yale University, New Haven, United States)

What are the Outstanding Questions on SRS for Brain Metastases?
Jing Li (MD Anderson Cancer Center, Houston, United States)

Individualized Medicine: Genetic Profiling, Systemic Therapies and SRS
Manmeet Ahluwalia (Cleveland Clinic, Cleveland, United States)

Quality of Life and Cognition in Brain Metastases Management
Bente Skeie (Haukeland University Hospital, Bergen, Norway)

Panelists
Martin Kocher (University of Cologne, Cologne, Germany)
Kevin McMullen (Indiana University Health, Indianapolis, United States)
Stephen Tatter (Wake Forest University Baptist Medical Center, Winston-Salem, United States)
18th International Leksell Gamma Knife Society meeting 2016,
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Scientific Programme

Tuesday, 17 May 2016

GK General
07:30 - 08:30 Grote Zaal (L)

Early Morning Seminar #1 Radiobiology of Radiosurgery
Patrick Hanssens (St Elisabeth Hospital, Tilburg, Netherlands)
Paul Sperduto (University of Minnesota Medical Center, Minneapolis, United States)

**The Theory** 07:30 - 07:40
John Hopewell (University of Oxford, Oxford, United Kingdom)

**The Practice** 07:40 - 07:50
Douglas Kondziolka (NYU Langone Medical Center, New York, United States)

Functional Disorders
07:30 - 08:30 Administratiezaal (A)

Early Morning Seminar #2 Lesioning - Back to the Future
Jean Régis (Aix Marseille University, Marseille, France)
Gus Beute (Gamma Knife Center, St. Elisabeth Ziekenhuis Tilburg, Tilburg, Netherlands)

**Introduction** 07:30 - 07:48
Jean Régis (Aix Marseille University, Marseille, France)

**Pros & cons of various lesioning tools** 07:48 - 08:06
Antonio De Salles (HCor Neurosciences, Sao Paulo, Brazil)

**Pros & cons of RF lesioning vs. DBS** 08:06 - 08:24
Marwan Hariz (National Hospital for Neurology and Neurosurgery, London, United Kingdom)

**Questions and discussion** 08:24 - 08:30

Vascular Disorders
08:40 - 09:40 Grote Zaal (L)

Panel Debate: Arteriovenous Malformations
Hidefumi Jokura (Furukawa Seiryo Hospital, Osaki, Japan)
Enrico Motti (Clinica Villa Maria Cecilia, Cotignola, Italy)

**Genetical and Biological Factors of Rupture** 08:40 - 08:50
Karin Klijn (Radboud University Utrecht, Utrecht, Netherlands)

**What Factors Matter for Obliteration?** 08:50 - 09:00
Jason Sheehan (University of Virginia, Charlottesville, United States)

**ARUBA Study - and now what?** 09:00 - 09:10
Karin Klijn (Radboud University Utrecht, Utrecht, Netherlands)
Scientific Programme

Panelists
Bruce Pollock (Mayo Clinic, Rochester, United States)
L. Dade Lunsford (University of Pittsburgh, Pittsburgh, United States)

Malignant Tumors
10:00 - 11:30
Berlage Zaal (B)

Parallel General Scientific Session, Benign Tumors
Jeroen Verheul (Gamma Knife Center Tilburg, Tilburg, Netherlands)
Yoshiyasu Iwai (Osaka City General Hospital, Osaka, Japan)

Retrospective study of large sporadic vestibular schwannomas (VS) treated with Gamma Knife. Is it worth stretching the boundaries?
Geza Mezey (Royal Hallamshire Hospital, Sheffield, United Kingdom)

Dosimetric comparison of different treatment modalities for stereotactic radiosurgery of meningioma
Thierry Gevaert (UZ Brussel, Brussels, Belgium)

Hearing sub-classification predicts long-term auditory outcomes after radiosurgery for vestibular schwannoma patients with good hearing
L. Dade Lunsford (University of Pittsburgh, Pittsburgh, United States)

Gamma Knife surgery for trigeminal schwannoma: clinical analysis in 52 cases
Junzhao Sun (Navy General Hospital, Beijing, China)

Volumetric changes and clinical outcome for petroclival meningiomas after primary treatment with Gamma Knife radiosurgery
Suan Te Lie (Gamma Knife Center Tilburg, St Elisabeth Hospital, Tilburg, Netherlands)

Gamma Knife radiosurgery for Koos grade 4 vestibular schwannomas
David Mathieu (University of Sherbrooke, Sherbrooke, Canada)

Volumetric and metabolic responses of pituitary adenoma after Gamma Knife surgery
Sarah Lonneville (Université Libre de Bruxelles - Hôpital Erasme, Brussels, Belgium)

Stereotactic radiosurgery for patients with craniopharyngiomas: a multi-institutional retrospective study in Japan (JLGK1303)
Takahiko Tsugawa (Nagoya Kyoritsu Hospital, Nagoya, Japan)

Radiation treatment of vestibular schwannoma and development of secondary intracranial malignancy appears coincidental rather than causative
Michael Link (Mayo Clinic, Rochester, United States)
Scientific Programme

Vascular Disorders
10:00 - 11:30
Grote Zaal (L)

General Scientific Session, Vascular Disorders
Serge Blond (Hôpital Roger Salengro, Lille, France)
Karin Klijn (Radboud University Utrecht, Utrecht, Netherlands)

- **Treatment strategy of cerebral arteriovenous malformation: Gamma Knife surgery combined endovascular surgery**
  Osamu Nagano (Chiba Cerebral and Cardiovascular Center, Chiba, Japan)

- **Comparison of linear accelerator (Linac) and Gamma Knife dosimetric indices in the radiosurgical treatment of cerebral AVM patients**
  Sara Rahnema (Emory University, Atlanta, United States)

- **Gamma knife radiosurgery treatment of in vivo rabbit model aneurysms**
  James Connor (The Pennsylvania State University - College of Medicine, Hershey, United States)

- **Application 2D frameless angiography in planning Gamma Knife radiosurgery for AVMs**
  Alexandra Dalechina (Moscow Gamma Knife Center, Moscow, Russian Federation)

- **Triple magnetic resonance angiography for confirmation of obliteration following Gamma Knife radiosurgery for arterial-venous malformations of the brain**
  Alvaro Rojas-Villabona (National Hospital for Neurology and Neurosurgery, London, United Kingdom)

- **Incidence and management of late radiation-induced complications after arteriovenous malformation radiosurgery**
  Bruce Pollock (Mayo Clinic, Rochester, United States)

- **Orbital tumors treated with Gamma Knife radiosurgery**
  Xiaoyu Wang (West China Hospital, Sichuan University, Chengdu, China)

- **A meta-analysis comparing outcomes in the ARUBA trial to those following Gamma Knife surgery for unruptured untreated AVMs**
  Bengt Karlsson (National University Hospital, Singapore, Singapore)

- **Proposed phase I/II study of expanded 70% isodose volume for AVM radiosurgery**
  Ajay Niranjan (UPMC, Pittsburgh, United States)

Miscellaneous
11:40 - 11:50
Grote Zaal (L)

Pioneers in Radiosurgery Award

- **Introduced by:**
  Dan Leksell (Stockholm, Sweden)
Scientific Programme

Miscellaneous
13:05 - 13:35

**Lars Leksell Lecture**

*What Defines a Pioneer, Innovator and Entrepreneur?*
John Adler (Stanford University Medical Center, Stanford, United States)

**Introduced by:**
Gus Beute (Gamma Knife Center, St. Elisabeth Ziekenhuis Tilburg, Tilburg, Netherlands)

Ophthalmology
13:35 - 14:20

*SRS for Ocular Disorders: State of the Art*
Gabor Nagy (National Institute of Clinical Neurosciences, Budapest, Hungary)
Roman Liscak (Na Homolce Hospital, Prague, Czech Republic)

*Ocular Melanoma and Choroidal Metastases*
Ian Rennie (Royal Hallamshire Hospital, Sheffield, United Kingdom)

*Microinvasive Tumor Endoresection in Combination with Ocular SRS (linked with Plenary abstract 116)*
Oleg Sinyavskiy (St.- Petersburg Regional Hospital, St.- Petersburg, Russian Federation)

Functional Disorders
14:20 - 15:30

*SRS for Obsessive Compulsive Disorder*
Christer Lindquist (Bupa Cromwell Hospital, London, United Kingdom)
Roberto Martinez-Alvarez (Hospital Ruber Internacional, Madrid, Spain)

**Presenter 1**
Todd Isaacson (Shenandoah, United States)

**Presenter 2**
Gerry Radano (Scarsdale, United States)

**Presenter 3**
Steven Rasmussen (Rhode Island Hospital, Providence, United States)

**Presenter 4**
Antonio Carlos Lopes (Instituto de Psiquiatria, Sao Paulo University, Sao Paulo, Brazil)
Parallel General Scientific Session, Malignant Disorders

Jason Sheehan (University of Virginia, Charlottesville, United States)
Matthew Foote (Princess Alexandra Hospital, Brisbane, Australia)

- **Two-staged Gamma Knife radiosurgery for large metastatic brain tumors**
  Kazuyasu Aita (Kyoto Prefectural University of Medicine, Kyoto, Japan)

- **Statistical analysis of radio-induced effects after SRS for uveal melanoma: a mono-institutional analysis**
  Antonella del Vecchio (IRCCS San Raffaele Scientific Institute, Milan, Italy)

- **Gamma Knife, linac photons, or protons? Treatment planning comparison for skull base fractionated stereotactic radiosurgery**
  Jing Li (MD Anderson Cancer Center, Houston, United States)

- **Three-stage Gamma Knife treatment for relatively large metastatic brain tumors**
  Masaaki Yamamoto (Katsuta Hospital Mito GammaHouse, Hitachi-naka, Japan)

- **Modulation of radio-sensitivity in human glioblastoma via cadherin-based cell-cell interaction**
  Christopher Cifarelli (West Virginia University, Morgantown, United States)

Functional Disorders

Antonio De Salles (HCor Neurosciences, Sao Paulo, Brazil)
Jin Woo Chang (Yonsei Severence Hospital, Seoul, Korea, Republic of)

- **Stereotactic radiosurgery for glossopharyngeal neuralgia: an international multicenter study**
  Hideyuki Kano (University of Pittsburgh, Pittsburgh, United States)

- **Gamma Knife thalamotomy for essential tremor and Parkinson’s disease**
  Sebastian Dzierzecki (Centrum Gamma Knife Warsaw, Warsaw, Poland)

- **Gamma Knife posterior hypothalamotomy for refractory aggressiveness**
  Bernardo Perez (Centro Medico Imbanaco, Cali, Colombia)

- **Gamma Knife capsulotomy: analysis of 72 treatments from five centres**
  Ian Paddick (National Hospital for Neurology and Neurosurgery, London, United Kingdom)

- **Safety of STN Gamma Knife radiosurgery for Parkinson’s disease: preliminary results of a prospective study**
  Jean Régis (Aix Marseille University, Marseille, France)

- **The impact of cobalt-60 source age on biologically effective dose in gamma knife thalamotomy**
  Benjamin Kann (Yale University School of Medicine, New Haven, United States)
Wednesday, 18 May 2016

**Early Morning Seminar #2 Radiation Related Oncogenesis**

Veronica Chiang (Yale University, New Haven, United States)
John Hopewell (University of Oxford, Oxford, United Kingdom)

*The Data*
Ian Paddick (National Hospital for Neurology and Neurosurgery, London, United Kingdom)

*The Risk*
Jeremy Rowe (Royal Hallamshire Hospital, Sheffield, United Kingdom)

**Early Morning Seminar #1 Gold Standards Gone Rusty: RCT's in the Era of Big Data**

Martin van den Bent (Erasmus MC Kanker Instituut, Rotterdam, Netherlands)
Minesh Mehta (Miami Cancer Institute, Miami, United States)

*From randomized trials to Registries: How practice makes real progress*
Douglas Kondziolka (NYU Langone Medical Center, New York, United States)

*From clinical trials to real-world evidence: The future is set*
David Jaffray (UHN Princess Margaret Hospital, Toronto, Canada)

*Big Data: Useful facts or foolish fashion?*
Hester Lingsma (Erasmus MC Kanker Instituut, Rotterdam, Netherlands)

**Parallel General Scientific Session, Malignant Tumors**

Masaaki Yamamoto (Katsuta Hospital Mito GammaHouse, Hitachi-naka, Japan)

*Up-front "leading edge" Gamma Knife radiosurgery to tumor migration pathways in 170 patients with glioblastoma multiforme: a novel adjunctive therapy*
Christopher Duma (Hoag Hospital, Newport Beach, United States)

*Complications after stereotactic radiosurgery for brain metastases: Incidences and correlating factors*
Masaaki Yamamoto (Katsuta Hospital Mito GammaHouse, Hitachi-naka, Japan)
Scientific Programme

Indications and efficacy of Gamma Knife stereotactic radiosurgery for recurrent glioblastoma: two decades of institutional experience
Brandon Imber (Northwestern University, Chicago, United States)

Radiographic response of melanoma brain metastases to Gamma Knife varies by type of systemic immune checkpoint inhibitor used
Jack Qian (Yale University School of Medicine, New Haven, United States)

Stereotactic irradiation of optic pathway/hypothalamic gliomas: do we need to fractionate?
Amr El-Shehaby (Gamma Knife Center Cairo-Ain Shams University Faculty of Medicine, Cairo, Egypt)

Demonstration of differential clinical radiosensitivity based upon mutation profile in metastatic melanoma treated with stereotactic radiosurgery
Ranjit Bindra (Yale School of Medicine, United States)

Risk of extracranial secondary cancer after radiosurgery: comparison of Perfexion Gamma Knife, Cyberknife and Novalis
Alison Cameron (Bristol Gamma Knife Centre, Bristol, United Kingdom)

Quality of life of patients with brain metastasis who received either surgery with/without whole brain radiotherapy or Gamma Knife radiosurgery
Xiaoyu Wang (West China Hospital, Sichuan University, Chengdu, China)

“Cure” of intracranial metastases of less than 100 mm³ treated by stereotactic radiosurgery
Amparo Wolf (NYU Langone Medical Centre, New York, United States)

Physics & QA
08:55 - 10:25
Grote Zaal (L)

General Scientific Session Physics & QA

Ian Paddick (National Hospital for Neurology and Neurosurgery, London, United Kingdom)
John Flickinger (University of Pittsburgh, Pittsburgh, United States)

Robotic path finding techniques in stereotactic radiosurgery treatment optimization
Dionne Aleman (University of Toronto, Toronto, Canada)

Frameless targeting of arteriovenous malformations using cerebral vessel tree: evaluation of the vessel tree stability over time
Thierry Gevaert (UZ Brussel, Brussels, Belgium)

Assessment of reproducibility of patient positioning using mask immobilisation on the Leksell Gamma Knife® Icon™
Ruth Smith (University Hospitals Bristol, Bristol, United Kingdom)

Assessment of contouring variability using the STAPLE-method and observer sensitivity/specificity parameters
Helena Sandström (Stockholm University and Karolinska Institutet, Stockholm, Sweden)
Scientific Programme

Adaptive fractionated stereotactic radiotherapy using Gamma Knife Icon (a-gkFSRT): phantom studies
Florian Stieler (University Medical Center Mannheim, University of Heidelberg, Mannheim, Germany)

Evaluation of the geometric accuracy of the Leksell Gamma Knife® Icon™
Jonas Johansson (Elekta Instrument AB, Stockholm, Sweden)

To evaluate systematic difference between TMR10 and convolution based algorithm for autosielding in GK perfexion
Yoichi Watanabe (University of Minnesota, Minneapolis, United States)

3D assessment of the effects of high density embolization material on the absorbed dose in the target for Gamma Knife radiosurgery of AVM
Yoichi Watanabe (University of Minnesota, Minneapolis, United States)

Assessment of variety detectors for relative output factors measurement of the Leksell Gamma Knife Perfexion and independent Monte Carlo calculation
Josef Novotny Jr. (Na Homolce Hospital, Prague, Czech Republic)

GK General
10:45 - 10:55
Grote Zaal (L)

International Gamma Knife Research Foundation (IGKRF) - an Update
L. Dade Lunsford (University of Pittsburgh, Pittsburgh, United States)

Malignant Tumors
10:55 - 12:00
Grote Zaal (L)

Panel Debate: Glioblastoma
Paul Sperduto (University of Minnesota Medical Center, Minneapolis, United States)
Marc Levivier (Lausanne University Hospital, Lausanne, Switzerland)

Pathophysiology of Gliomas
10:55 - 11:05
Martin van den Bent (Erasmus MC Kanker Instituut, Rotterdam, Netherlands)

Leading Edge Radiosurgery
11:05 - 11:15
Christopher Duma (Hoag Hospital, Newport Beach, United States)

Emerging Approaches
11:15 - 11:25
Roger Stupp (UniversitätsSpital Zürich, Zurich, Switzerland)
Scientific Programme

GK General
13:00 - 13:40 Grote Zaal (L)

Impact of Leksell Gamma Knife® ICON™ on Clinical Practice
Ian Paddick (National Hospital for Neurology and Neurosurgery, London, United Kingdom)
Dheerendra Prasad (Roswell Park Cancer Institute, Buffalo, United States)

Technical Attributes
13:00 - 13:10
David Jaffray (UHN Princess Margaret Hospital, Toronto, Canada)

Early Clinical Experience
13:10 - 13:20
Jean Régis (Aix Marseille University, Marseille, France)

GK General
13:40 - 14:10 Grote Zaal (L)

Information Guided Radiosurgery
Patrick Hanssens (St Elisabeth Hospital, Tilburg, Netherlands)
Michael Torrens (Hygeia Hospital, Athens, Greece)

Big Data and Leksell Gamma Knife Registry
13:40 - 13:50
Douglas Kondziolka (NYU Langone Medical Center, New York, United States)

ASTRO/AANS National Brain SRS Registry
13:50 - 14:00
Inga Grills (William Beaumont Hospital, Royal Oak, United States)

Imaging
14:10 - 14:30 Grote Zaal (L)

Post Treatment Radiation Effects vs. Tumor Regrowth
Giuseppe Kenneth Ricciardi (Verona University Hospital, Verona, Italy)
Ruth Smith (University Hospitals Bristol, Bristol, United Kingdom)

Title
14:10 - 14:20
Stephen Holmes (Hawaii Advanced Imaging Institute, Honolulu, United States)

Imaging
14:30 - 15:10 Grote Zaal (L)

General Scientific Session, Imaging
Giuseppe Kenneth Ricciardi (Verona University Hospital, Verona, Italy)
Ruth Smith (University Hospitals Bristol, Bristol, United Kingdom)

The evaluation of auditory pathways using DTI in patients treated with Gamma Knife radiosurgery for acoustic neuroma: a preliminary report
Mustafa Aziz Hatiboglu (Bezmialem Vakif University, Istanbul, Turkey)
Scientific Programme

16-year clinical experience of use of PET metabolic imaging for targeting in Gamma Knife surgery
Cecile Renier (ULB - Institut Bordet, Brussels, Belgium)

Stereotactic diffusion tensor tractography for Gamma Knife stereotactic radiosurgery
Cormac Gavin (St Bartholomew's Hospital, London, United Kingdom)

3T MRI in stereotactic localisation: advantages, pitfalls and solutions
Ian Paddick (National Hospital for Neurology and Neurosurgery, London, United Kingdom)

Benign Tumors
15:30 - 17:10
Berlage Zaal (B)

Parallel General Scientific Session, Benign Tumors

Koo van Overbeeke (Maastricht University Hospital Medical Center, Maastricht, Netherlands)

Comparison of hearing outcomes between multisession and single-session Gamma Knife radiosurgery for vestibular schwannomas in patients who retain serviceable hearing: a single-center, case-matched study
Xuqun Tang (Shanghai Gamma Hospital, Gamma Knife Centre of Huashan Hospital, Shanghai, China)

Visual function after Gamma Knife treatment of meningiomas examined in relation to dose/volume analysis of dose to optic pathways
Michael Torrens (Hygeia Hospital, Athens, Greece)

Long-term outcome of Gamma Knife radiosurgery for vestibular schwannomas
Hidefumi Jokura (Furukawa Seiryo Hospital, Osaki, Japan)

1p36 loss is associated with regrowth of WHO grade I meningiomas after Gamma Knife radiosurgery
Vincent Bulthuis (Maastricht UMC, Maastricht, Netherlands)

Differences in fractional anisotropy predict responsiveness of meningiomas to Gamma Knife radiosurgery
Herwin Speckter (CEDIMAT, Santo Domingo, Dominican Republic)

Acute effect after Gamma Knife surgery for vestibular schwannomas - a prospective series of 35 consecutive cases
Constantin Tuleasca (Lausanne University Hospital, Lausanne, Switzerland)

Gamma-Knife radiosurgery for grade II meningioma
Charles Valery (APHP, Paris, France)

Pretreatment growth rate as a predictor of tumor control following Gamma Knife radiosurgery for sporadic vestibular schwannoma
Michael Link (Mayo Clinic, Rochester, United States)

Long-term follow-up results of Gamma Knife radiosurgery for pituitary tumors touching/compressing the optic apparatus
Masaaki Yamamoto (Katsuta Hospital Mito GammaHouse, Hitachi-naka, Japan)
Tumor control rate in a large series of 543 patients treated by Gamma Knife radiosurgery for a pituitary adenoma
Pietro Mortini (San Raffaele, Milano, Italy)

Malignant Tumors
15:30 - 17:10
Grote Zaal (L)

General Scientific Session, Malignant Disorders
Bengt Karlsson (National University Hospital, Singapore, Singapore)
Christina Tsien (Washington University in St. Louis, St. Louis, United States)

Thymoquinone enhances the effectiveness of Gamma Knife in melanoma cell line in vitro through inducing apoptosis
Mustafa Aziz Hatiboglu (Bezmialem Vakif University, Istanbul, Turkey)

Follow-up results of brain metastasis patients undergoing repeat Gamma Knife radiosurgery
Takao Koiso (Katsuta Hospital Mito GammaHouse, Hitachinaka, Japan)

Internal dose escalation increases local control in NSCLC brain metastases
Christopher Abraham (Washington University in St. Louis, St. Louis, United States)

Increasing avoidance of whole brain radiation therapy for brain metastases in favor of stereotactic radiosurgery in patients referred to an experienced Gamma Knife center
Edward Monaco III (University of Pittsburgh Medical Center, Pittsburgh, United States)

Cost-effectiveness of stereotactic radiosurgery versus whole brain radiation therapy for up to 10 brain metastases
Nataniel Lester-Coll (Yale University School of Medicine, New Haven, United States)

Combining on-demand Gamma Knife with new therapies in melanoma: a 168 patients retrospective study
Jean Régis (Aix Marseille University, Marseille, France)

Survival but not brain metastasis response relates to lung cancer mutation status after radiosurgery
Joshua Silverman (New York University Langone Medical Center, New York, United States)

Stereotactic cyst aspiration followed by Gamma Knife radiosurgery on the same day for large cystic brain metastases
Zjiwar H A Sadik (St. Elisabeth Hospital Tilburg, Tilburg, Netherlands)

Impact of deferring radiotherapy in patients with EGFR-mutant lung adenocarcinoma who develop brain metastases
Veronica Chiang (Yale University, New Haven, United States)

Combined intracranial and extracranial stereotactic radiotherapy for oligometastatic non-small cell lung carcinoma (NSCLC)
Michael Roach (Washington University in St. Louis, Saint Louis, United States)
Thursday, 19 May 2016

Early Morning Seminar #1 LINAC Radiosurgery Capabilities: Myth versus Reality

Lilyana Angelov (Cleveland Clinic, Cleveland, United States)
Thierry Gevaert (UZ Brussel, Brussels, Belgium)

- Normal Tissue Dose and its Dependence on Radiosurgery Platform
  Penny K Sneed (University of California San Francisco, San Francisco, United States)
  07:30 - 07:40

- Workflow Considerations
  David Schlesinger (University of Virginia, Charlottesville, United States)
  07:40 - 07:50

- Clinical Considerations
  Michelle Alsonso-Basanta (University of Pennsylvania, Philadelphia, United States)
  07:50 - 08:00

Early Morning Seminar #2 Targeted Drugs and Radiation - Are There Interactions?

Martin van den Bent (Erasmus MC Kanker Instituut, Rotterdam, Netherlands)
Arjun Sahgal (Odette Cancer Center, Toronto, Canada)

- Systemic Therapies & Stereotactic Radiosurgery
  Manmeet Ahluwalia (Cleveland Clinic, Cleveland, United States)
  07:30 - 07:40

- Title TBD
  Roger Stupp (UniversitätsSpital Zürich, Zurich, Switzerland)
  07:40 - 07:50

- The Abscopal Effect: Radiation-Induced Immune Enhancement
  Paul Sperduto (University of Minnesota Medical Center, Minneapolis, United States)
  07:50 - 08:00

Panel Debate: Fractionation

Jonathan Knisely (Hofstra North Shore-LIJ School of Medicine, Manhasset, United States)
David Andrews (Jefferson Hospital of Neuroscience, Philadelphia, United States)

- AVM's
  Penny K Sneed (University of California San Francisco, San Francisco, United States)
  08:40 - 08:50

- Benign Tumors
  Stephanie Combs (Technische Universität München, Munich, Germany)
  08:50 - 09:00
Scientific Programme

**Brain Metastases**
09:00 - 09:10
Arjun Sahgal (Odette Cancer Center, Toronto, Canada)

**Panelists**
09:10 - 09:20
Patrick Hanssens (St Elisabeth Hospital, Tillburg, Netherlands)
Piero Picozzi (Humanitas Research Hospital, Milano, Italy)

**Benign Tumors**
10:00 - 11:10
Berlage Zaal (B)

**Parallel General Session Benign Tumors**
Roman Liscak (Na Homolce Hospital, Prague, Czech Republic)
Daniel Devriendt (Institut Jules Bordet, Brussels, Belgium)

- Functional outcomes of surgical resection of vestibular schwannomas after failed gamma knife radiosurgery
  Yoshiyasu Iwai (Osaka City General Hospital, Osaka, Japan)

- Measures of optic nerve dose associated with visual field abnormalities after Gamma Knife surgery for pituitary adenomas
  Theodor Vesagas (Philippine Gamma Knife Center, San Juan, Philippines)

- Gamma Knife surgery for patients with jugular foramen schwannomas: a multi-institutional retrospective study in Japan (JLGK1302)
  Toshinori Hasegawa (Komaki City Hospital, Komaki, Japan)

- Repeat Gamma Knife surgery for vestibular schwannomas
  Nicolas Massager (Université Libre de Bruxelles - Hôpital Erasme, Brussels, Belgium)

- Stereotactic radiosurgery for vestibular schwannomas: the average of 10 year post-treatment follow-up results of 183 patients
  Shinya Watanabe (Katsuta Hospital Mito GammaHouse, Hitachi-naka, Japan)

- The significance of dosimetry in the treatment of meningiomas by radiosurgery
  Michael Torrens (Hygeia Hospital, Athens, Greece)

- Fractionated Gamma Knife® Icon™ treatment for pituitary adenoma abutting the optic apparatus results in a significantly lower dose to organs at risk compared to conformal radiotherapy/VMAT
  Alison Cameron (Bristol Gamma Knife Centre, Bristol, United Kingdom)

**Physics & QA**
10:00 - 11:10
Grote Zaal (L)

**General Scientific Session, Physics & QA**
Josef Novotny (Na Homolce Hospital, Prague, Czech Republic)
Hyun-Tai Chung (Seoul National University College of Medicine, Seoul, Korea, Republic of)
**Scientific Programme**

**Use of an innovative patient-specific plan verification methodology towards highlighting treatment effectiveness in gamma knife SRS treatments**  
Pantelis Karaiskos (University of Athens, Athens, Greece)

**Commissioning and end-to-end testing of the Leksell Gamma Knife® Icon™**  
Lucy Winch (Bristol Haematology and Oncology Centre, Bristol, United Kingdom)

**γTools: a modular multifunction phantom for quality assurance in Gamma Knife treatments**  
Silvia Calusi (University of Florence, Florence, Italy)

**AAPM TG178: towards the recommendation of a standard dosimetry protocol for Gamma Knife stereotactic radiosurgery**  
Paula Petti (Washington Hospital Healthcare System, Fremont, United States)

**Dosimetric comparison of stereotactic radiosurgery for multiple brain metastasis between with GammaPlan and with Automatic Brain Metastasis Planning Element**  
Yoshimasa Mori (Aichi Medical University, Nagakute, Japan)

**Dosimetric effects of Onyx embolization on Gamma Knife AVM dose distributions**  
David Schlesinger (University of Virginia, Charlottesville, United States)

**Perfexion sector alignment tests using panoramic films**  
Monique van Prooijen (Princess Margaret Cancer Centre, Toronto, Canada)

**GK General**  
11:20 - 12:20  
Grote Zaal (L)

**Clinical Trials Updates**

Nicolas Massager (Université Libre de Bruxelles - Hôpital Erasme, Brussels, Belgium)  
Li Pan (Shanghai Gamma Hospital, Shanghai, China)

**IGKRF**  
Ajay Niranjan (UPMC, Pittsburgh, United States)  
11:20 - 11:30

**ROSE**  
Nicholas Barbaro (Indiana University Health, Indianapolis, United States)  
11:30 - 11:40

**JLGKS**  
Toru Serizawa (Tsukiji Neurological Clinic, Tokyo, Japan)  
11:40 - 11:50

**STN Lesioning for Tremor**  
Jean Régis (Aix Marseille University, Marseille, France)  
11:50 - 12:00

**Aneurysms**  
James Connor (The Pennsylvania State University - College of Medicine, Hershey, United States)  
12:00 - 12:10

**Essential Tremor**  
Sandra Vermeulen (Swedish Cancer Institute, Seattle, United States)  
12:10 - 12:20

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**Scientific Programme**

**GK General**
13:20 - 14:40
Grote Zaal (L)

**Future Studies: What Questions Need to be Addressed?**

Alison Cameron (Bristol Gamma Knife Centre, Bristol, United Kingdom)
Michael Schulder (Northshore LJI, Manhasset, United States)

- **Brain Metastases**
  Bodo Lippitz (iCera, Hamburg, Germany)
  13:20 - 13:30

- **Vestibular Schwannomas**
  Jeroen Verheul (Gamma Knife Center Tilburg, Tilburg, Netherlands)
  13:30 - 13:40

- **Trigeminal Neuralgia**
  Joanna Zakrzewska (University College London Hospitals, London, United Kingdom)
  13:40 - 13:50

- **Pituitary Tumors**
  Alessandra Gorgulho (HCor Neurosciences, Sao Paulo, Brazil)
  13:50 - 14:00

- **AVM's**
  Bruce Pollock (Mayo Clinic, Rochester, United States)
  14:00 - 14:10

**Miscellaneous**
14:40 - 15:10
Grote Zaal (L)

**Key Meeting Takeaways and Concluding Remarks**

Gus Beute (Gamma Knife Center, St. Elisabeth Ziekenhuis Tilburg, Tilburg, Netherlands)
Patrick Hanssens (St Elisabeth Hospital, Tilburg, Netherlands)