Course Day ONE
November 28th 2016, Monday

07:00 – 07:30  N. Alshafai, Introduction

“Spine Surgery Chapter”

07:30 – 08:00  N. Alshafai, Biomechanics of the spine
08:00 – 08:45  J. Hurlbert, Decompressing the spine – When and How?
08:45 – 09:30  J. Hurlbert, Reconstructing the spine – When and How?
09:30 – 09:45  Coffee Break
09:45 – 10:15  N. Alshafai, Spinal column tumors- A to Z
10:15 – 10:30  N. Thomas, Spinal tumors: Case discussion by the expert
10:30 – 11:30  A. Levi, Spinal column trauma - Classification and surgical management
11:30 – 12:00  J. Hurlbert, Spinal cord injury and beyond
12:00 – 13:00  Lunch Break

“Peripheral Nerve Surgery Chapter”

13:00 – 13:30  R. Spinner, How to do a peripheral nerve clinical examination- illustration
13:30 – 14:15  R. Spinner, Diagnosis and surgical management of Peripheral nerves (Brachial plexus)
14:15 – 14:45  R. Spinner, Diagnosis and surgical management of Peripheral nerves (Upper extremities)
14:45 – 15:00  Anna Jaron, Stretch Exercises
15:00 – 15:30  R. Spinner, Diagnosis and surgical management of Peripheral nerves (Lumbosacral plexus and Lower extremities)
15:30 – 16:30  Peripheral Nerve - Station:
               R. Spinner (Rochester)
               A. Levi (Miami)
               M. Cusimano (Toronto) - Auditor
16:30: Participants will divide into five small groups
(Will rotate attending 4 out of 5 stations)

55 minutes each station
Small Groups
Four cases in each station
Round table Discussions of clinical case scenarios
(Dinner will be served at 18:00)

Spine Imaging and Pathology – Station 1
(All groups will have to attend station 1):
  J. Rossiter (Kingston)
  L. Alshafai (Toronto)
  TBA (TBA) - Auditor

Spine – Station 2:
(All groups will have to attend station 2):
  J. Hurlbert (Calgary)
  J. Schramm (Bonn)
  R. Czepko (Krakow) - Auditor

Spine - Station 3:
(All groups will have to attend station 3):
  A. Levi (Miami)
  F. Roser (Abu Dhabi)

Spine - Station 4:
  N. Thomas (London)
  MC Wallace (Kingston)

Spine - Station 5:
  M. Cusimano (Toronto)
  TBA (TBA)

20:30 Adjourn
Course Day Two:
November 29th 2016, Tuesday

“Skull base & Oncology Surgery Chapter”

07:30 – 08:30 J. Rossiter, Brain tumor pathology
08:30 – 08:40 N. Alshafai, Evaluation of Day 1
08:40 – 09:15 N. Alshafai, Anatomico-radiological approach to the gyri and sulci
09:15 – 09:30 Coffee Break
09:30 – 10:00 M. Cusimano, Neurosurgical principals of radiosurgery
10:00 – 11:30 M. Cusimano, Skull base lesions. Cases and pearls from the frontal sinus to the foramen magnum
11:30 - 12:00 Neuro-oncology cases with expert faculty discussion
Moderator (will audit voting): N. Alshafai
Presenters:
N. Thomas (London) 15:45 – 16:00
F. Roser (Abu Dhabi) 16:00 – 16:15

12:00 – 13:00 Lunch Break

“Functional & Pain Surgery Chapter”

13:00 – 13:30 A. Lozano, Introduction to Surgical anatomy and physiology for the Pain and functional neurosurgeon
13:30 – 14:15 A. Lozano, Surgical management of movement disorders and stereotactic surgery
14:15 – 15:00 A. Lozano, Surgical management of pain and spasticity
15:00 – 15:15 Anna Jaron, Stretch Exercises
15:15 – 16:00 Pain and movement disorders Station:
A. Lozano (Toronto)
J. Schramm (Bonn)
TBA (TBA) - Auditor
16:00 – 16:30 T. Krings, Tumor Mimics
Participants will divide into five small groups
(Will rotate attending 4 out of 5 stations)

55 minutes each station
Small Groups
Four cases in each station
Round table Discussions of clinical case scenarios
(Dinner will be served at 18:00)

Brain tumors Imaging and pathology – differentials to working diagnosis - Station 1:
(All groups will have to attend station 1):
   J. Rossiter (Kingston)
   T. Krings (Toronto)
   D. Schul (Munich) - Auditor

Skull-base - Station 2:
(All groups will have to attend station 2):
   M. Cusimano (Toronto)
   A. Lozano (Toronto)
   F. Signorelli (Lyon) - Auditor

Pituitary disorders – Station 3:
(All groups will have to attend station 3):
   A. Grotenhuis (Neijmegan)
   W.T. Couldwell (Utah)

Neuro-oncology - Station 4:
   N. Thomas (London)
   J. Schramm (Bonn)

Neuro-oncology – Station 5:
   F. Roser (Abu Dhabi)
   MC Wallace (Kingston)

20:30 Adjourn
Course Day Three:
November 30th 2016, Wednesday

“Cerebrovascular & Endovascular Chapter”

07:30 – 08:30  T. Krings, Surgical anatomy and physiology “The Arterial & Venous System”

08:30 – 09:00  MC Wallace, Rapping it up, Surgical anatomy and physiology “The Arterial & Venous System”

09:00 – 09:20  T. Krings Surgical and endovascular management of Stroke

09:20 – 09:30  MC Wallace, Rapping it up, Surgical and endovascular management of Stroke

09:30 – 09:45  Coffee Break

09:45 – 11:00  M. Javadpour, M.C. Wallace & T. Krings, Intra-cerebral Hemorrhage, pearls of brain vascular malformation, Surgical and Endovascular management

11:00 – 11:15  N. Alshafai, Evaluation of Day 2

11:15 – 12:00  The Wallace – Cusímano Honorary Lectureship:
W.T. Couldwell, Surgical approaches to deep brain lesions

12:00 – 13:00  Lunch Break

13:00 – 14:30  L. Regli, M.C. Wallace & T. Krings, Pearls in the management of Aneurysms and Sub arachnoid hemorrhage

14:30 – 14:45  Anna Jaron, Stretch Exercises

14:45 – 15:15  M.C. Wallace, Cavernous malformation

15:15 – 15:45  L. Regli, vascular Bypass surgery (Why, When and how)

15:45 – 16:15  Cerebrovascular cases with expert faculty discussion
Moderator (will audit voting): N. Alshafai
Presenters:
R. Kirollos       15:45 – 16:00
M. Javadpour      16:00 – 16:15

16:30:  Participants will divide into five small groups
(Will rotate attending 4 out of 5 stations)

55 minutes each station
Small Groups
Four cases in each station
Round table Discussions of clinical case scenarios
(Dinner will be served at 18:00)

Endovascular and Interventional Neuroradiology - Station 1:
(All groups will have to attend station 1):
  T. Krings (Toronto)
  F. Signorelli (Lyon)
  M. Wiedmann (Oslo) - Auditor

Deep Cranial lesions - Station 2:
(All groups will have to attend station 2):
  W.T. Couldwell (Utah)
  A. Grotenhuis (Nijmegen)
  N. Thomas (London) - Auditor

Cerebrovascular - Station 3:
(All groups will have to attend station 3):
  MC Wallace (Kingston)
  J. Schramm (Bonn)

Cerebrovascular – Station 4:
  L. Regli (Zurich)
  M. Cusimano (Toronto)

Cerebrovascular - Station 5:
  M. Javadpour (Dublin)
  R. Kirollos (Cambridge)

20:30 Adjourn

21:00 – 24:00 “Networking Reception”
Meet your colleagues and faculty from all-around the world in a relaxed atmosphere. “Complimentary event”
Course Day Four:
December 1st 2016, Thursday

“Epilepsy Surgery Chapter”

07:30 – 08:00  T. Krings, Imaging in epilepsy
08:00 – 08:15  J. Rossiter, Pathology in epilepsy
08:15 – 08:45  J. Schramm, Drug resistant epilepsy: Evaluation
08:45 – 09:00  Coffee Break
09:00 – 10:00  J. Schramm, Drug resistant epilepsy: Surgical management

“Miscellaneous Chapter”

10:00 - 10:45  A. Grotenhuis, Surgical management of ventricular lesions (open and endoscopic)

“Pediatric Neurosurgery Chapter”

10:55 – 11:15  J. Rossiter, Pediatric specific Neuropathology
11:15 – 12:00  P. Dirks, The surgical management of Pediatric Brain tumors
12:00 – 13:00  Lunch Break
13:00 – 13:15  P. Dirks, Pineal region mass approach
13:15 – 13:45  P. Steinbok, Pediatric Hydrocephalus
13:45 – 14:15  A. Grotenhuis, Surgical management of Intra-cranial cysts
14:15 – 14:45  P. Steinbok, Cranio-facial congenital Disorders
14:45 – 15:00  Anna Jaron, Stretch Exercises
15:00 – 16:00  P. Steinbok, Chiari-malformation & Spinal Dysraphism
16:00 – 16:30  Pediatric cases with expert faculty discussion
Moderator (will audit voting): N. Alshafai
Presenters:
D. Venne (Abu Dhabi)  16:00 – 16:15
V. Fernandez (Alicante) 16:15 – 16:30

16:30: Participants will divide into five small groups (Will rotate attending 4 out of 5 stations)

55 minutes each station
Small Groups
Four cases in each station
Round table Discussions of clinical case scenarios
(Dinner will be served at 18:00)

Pediatrics pathology-radiology correlation - Station 1:
(All groups will have to attend station 1):
  L. Alshafai (Toronto)
  J. Rossiter (Kingston)
  V. Fernandez (Alicante) - Auditor

Epilepsy (Pediatrics & adults) - Station 2:
(All groups will have to attend station 2):
  J. Schramm (Bonn)
  R. Kirollos (Cambridge)
  P. Gonzalez (Alicante) - Auditor

Neuro-endoscopy – Station 3:
(All groups will have to attend station 3):
  A. Grotenhuis (Neijmegen)
  M. Cusimano (Toronto)

Pediatrics - Station 4:
  P. Dirks (Toronto)
  D. Venne (Abu Dhabi)

Pediatrics - Station 5:
  P. Steinbok (Vancouver)
  M. De Praeter (Antwerp)

20:30 Adjourn
Course Day Five: December 2\textsuperscript{nd} 2016, Friday

“Head injury and Neuro critical care Chapter”

07:30 – 08:00 J. Rossiter, Neuropathology in head injury
08:00 – 08:45 TBA, The management of traumatic brain injury I
08:45 – 09:00 G. Hawrlyk, Case presentation
09:00 – 09:15 Coffee Break
09:15 – 10:00 G. Hawrlyk, The management of traumatic brain injury II
10:00 – 11:00 Brain Trauma - Station:
MC Wallace (Kingston)
G. Hawrlyk (Utah)
TBA (TBA) – Auditor

“Miscellaneous Chapter”

11:00 – 11:30 P. Gonzalez, Brain White-matter anatomy for the oncolgic and functional neurosurgeon
11:30 – 12:00 F. Sala, Intra-operative Neuro-monitoring (Cranial & Spinal)
12:00 – 13:00 Lunch Break

“Neuro-oncology Chapter”

13:00 – 13:30 M. Sabel, Brain metastasis
13:30 – 13:45 M. Sabel, Brain mapping and awake craniotomy
13:45 – 14:00 N. Alshafai, Evaluation of Day 4 & Trauma/Critical care chapter
14:00 – 15:00 M. Sabel, The management of Gliomas
15:00 – 15:15 Anna Jaron, Stretch Exercises
15:00 – 16:00 Oncology Station:
M. Sabel (Dusseldorf)
M. Cusimano (Toronto)
P. Dirks (Toronto) - Auditor
“Miscellaneous Chapter”

16:00 – 16:45  J Lazarou, Neurology for the neurosurgeons

16:45 – 17:45  General Neurosurgery Station:
               J. Lazarou (Toronto)
               G. Hawrlyk (Utah)
               MC Wallace (Kingston) - Auditor

17:45 – 18:30  N. Alshafai,
               Feedback distribution to all participants for their performance during the week

18:30 – 19:00  Break
               Certificates will be distributed
               “Dinner will be served”

19:00 – 21:00  The CCN Review Challenge
               “Mandatory attendance”

21:00  Adjourn, End of Course

21:30 - Open  End of the course party
              (Complimentary shuttles will transport to the city center)