24th Zurich Course
on Diagnostic and Interventional Neuroradiology
August 22 - 27, 2016
University Hospital of Zurich, Switzerland
http://cinr-zurich.ch

Dear colleagues and friends

Based on the success of combining diagnostic and interventional neuroradiology in the past courses, we are pleased to announce the 24th Zurich Course to be held August 22 to 27, 2016 at the Department of Neuroradiology of the University Hospital of Zurich.

Since its inception in 1992, the primary educational goal of the Zurich Course has been to link neuroradiology with fundamental neuroanatomy, neurobiology and clinical manifestations of neurologic disease. Formal lectures, interactive case discussions, video- and hands-on workshops are the educational format.

This year, the diagnostic part of the course will cover selected topics on fundamental and advanced clinical neuroimaging of the brain, including neuroanatomy, neurooncology, neuroimmunology, neuro-vascular disease with emphasis on hemorrhagic and ischemic stroke and neuroradiology of the skull base.

The interventional part of the course will cover almost the entire spectrum of endovascular interventional neuroradiology including acute ischemic stroke, intra- and extracranial atherosclerotic disease, vascular lesions of the head and neck, hypervascular skull base and intracranial tumors, dural arteriovenous fistulae, brain AVMs, spinal cord AVMs and intracranial aneurysms.

The teaching activities of the Course are designed in such a way that they cover all relevant aspects of each topic, from basic considerations to advanced applications and address both the beginner as well as the experienced practitioner in the field. Enrollment is possible in the diagnostic part, the interventional part, or the entire course.

We look forward to welcoming you next August in Zurich.

A. Valavanis 
S. W. Atlas

University Hospital of Zurich 
Stanford University
Program

Monday, August 22, 2016

Course on Diagnostic Neuroradiology

08.00   Registration open

09.00   Welcome address, S. W. Atlas and A. Valavanis

Topic:   Neuroradiology of the insula and neopallium

09.10   The role of the insula in the evolution of the telencephalon and implications for neuroimaging, A. Valavanis

10.00   Neuroimaging anatomy and topography of the insula, T. P. Naidich

10.50   COFFEE BREAK

11.10   The vascularization of the insula, A. Valavanis

11.30   Diagnostic neuroradiology of insular pathology, A. Valavanis

12.00   Neuroimaging analysis of the neopallium, T. P. Naidich

12.45   Discussion

13.00   LUNCH

Topic:   Neuroradiology of brain tumors

14.00   Classification of brain tumors: pathology or genetics? P. Kleihues

14.45   Neuroimaging of brain tumors: fundamentals, S. W. Atlas

15.30   COFFEE BREAK

16.00   On the behavior of gliomas as assessed by neuroimaging, A. Valavanis

16.45   Neuroimaging of pediatric brain tumors, T. P. Naidich

17.30   Brain tumors: cases discussion, S. W. Atlas

18.15   Discussion

18.45   WELCOME RECEPTION

at the Foyer of the Lecture Hall
Tuesday, August 23, 2016

08.00  Registration open

Topic:  Neuroradiology of the cerebral white matter and its diseases

09.00  The architectonics of the cerebral white matter: an introduction, A. Valavanis
09.45  Application of tractography in clinical neuroimaging, S. Kollias
10.30  COFFEE BREAK
11.00  MRI of multiple sclerosis and white matter diseases, S. W. Atlas
11.45  White matter diseases: case discussion, S. W. Atlas
12.30  Discussion
13.00  LUNCH

Topic:  Neuroradiology of cerebrovascular disease

14.00  Stroke imaging: current status, S. W. Atlas
14.45  Neuroimaging of the vessel wall: technique and clinical applications, T. Krings
15.30  COFFEE BREAK
15.50  Intracranial haemorrhage: principles of imaging, S. W. Atlas
16.30  Diagnostic neuroradiology of cavernomas and of developmental venous anomalies, A. Valavanis
17.15  Brain AVMs: what the neuroradiologist needs to report, A. Valavanis
17.45  Intracranial aneurysms: what the neuroradiologist needs to report, T. Krings
18.30  Discussion

Wednesday, August 24, 2016

08.00  Registration open

Topic:  Diagnostic Neuroradiology of the skull base
09.00  Neuroradiology of the temporal bone, S. Kollias
09.45  Neuroradiology of the orbit, sella turcica and cavernous sinus, S. W. Atlas
10.30  COFFEE BREAK
11.00  Neuroradiology of the nasopharynx and paranasal sinuses, S. Kollias
11.45  Neuroradiology of pulsatile tinnitus, A. Valavanis
12.30  Discussion
13.00  LUNCH

Course on Interventional Neuroradiology
14.00  Welcome and introduction, A. Valavanis

Topic:  Interventional neuroradiology of the skull base
14.05  Functional vascular anatomy of the skull base, G. Rodesch
14.45  Interventional neuroradiology of paragangliomas of the head and neck, A. Valavanis
15.30  COFFEE BREAK
16.00  Interventional neuroradiology in intractable epistaxis and in nasopharyngeal angiofibromas, A. Valavanis
16.45  Interventional neuroradiology of vascular and neoplastic lesions of the cavernous sinus, A. Valavanis
17.30  Interventional neuroradiology of meningiomas and neurinomas of the skull base, A. Valavanis
18.00  Discussion

18.30  WELCOME RECEPTION
at the Foyer of the Lecture Hall

Thursday, August 25, 2016
08.00  Registration open

08.00  Hands-on Workshop (provided by Stryker Neurovascular)

**Topic:** Intracranial dural AVF's and tumors

09.00  Intracranial dural AVF's: natural history, classification and the role of interventional neuroradiology, **K. terBrugge**

09.45  Venous analysis of intracranial dural AVF's and its impact on treatment, **G. Baltsavias**

10.30  **COFFEE BREAK**

11.00  Video workshop: Embolization of intracranial dural AVF's, **A. Valavanis**

12.00  Embolization of hypervascular intracranial tumors, **A. Valavanis**

12.45  Discussion

13.00  **LUNCH**

**Topic:** Interventional neuroradiology of ischemic stroke

14.00  Cardiocentrism versus encephalocentrism in clinical neuroscience with special reference to acute stroke, **A. Valavanis**

15.00  Endovascular treatment of anterior circulation stroke, **G. Baltsavias**

15.15  Classification of spinal vascular malformations, **T. Krings**

15.40  **COFFEE BREAK**

16.00  Endovascular treatment of posterior circulation stroke, **K. terBrugge**

16.40  Carotid artery stenting: update, **M. Tanaka**

17.00  Carotid stenting without filter devices, **S. Husain**

17.20  Intracranial atherosclerotic disease: current status of interventional neuroradiology, **T. Krings**

18.00  Discussion
Friday, August 26, 2016

08.00  Registration open

**Topic:**  Interventional neuroradiology of brain AVM's

09.00  Brain AVM's: a still enigmatic disease, A. Valavanis

09.30  The angioarchitectonics of brain AVM's, G. Rodesch

10.15  A critical analysis of the ARUBA study, T. Krings

10.40  **COFFEE BREAK**

11.00  Cerebral proliferative angiopathy, A. Valavanis

11.45  Partial targeted embolization of brain AVM's: concept, indications, techniques and results, T. Krings

12.20  Brain AVM's/AVF's in the pediatric population, K. terBrugge

13.00  **LUNCH**

14.00  Curative embolization of brain AVM's with video workshop, A. Valavanis

16.00  **COFFEE BREAK**

**Topic:**  Interventional neuroradiology of spinal AVM's

16.20  Spinal vascular anatomy and classification of spinal AVM's and AVF's, G. Rodesch

17.00  Diagnostic and interventional neuroradiology of spinal dural AVF's, T. Krings

17.45  Diagnostic and interventional neuroradiology of perimedullary AVF's and of intramedullary AVM's, G. Rodesch

18.30  Discussion on brain and spinal AVM's

19.30  **THE ZURICH COURSE DINNER**  
*at the "Zunfthaus zur Meisen"*

Saturday, August 27, 2016

08.00  Registration open
Topic: Interventional neuroradiology of intracranial aneurysms

09.00 Aneurysmal vasculopathy and implications for endovascular treatment, T. Krings

09.30 Cisternal architectonics and its interaction with the aneurysm wall, A. Valavanis

10.15 COFFEE BREAK

10.30 Natural history of unruptured aneurysms: update, K. terBrugge

11.00 Endovascular conception of subarachnoid hemorrhage and the endovascular treatment of acutely ruptured intracranial aneurysms (with video demonstration), A. Valavanis

12.00 Endovascular considerations in dissecting intracranial aneurysms, G. Rodesch

12.45 Discussion

13.00 LUNCH

14.00 Dissecting aneurysms of the cerebellar arteries: endovascular treatment, S. Husain

14.30 Endovascular treatment of complex intracranial aneurysms, with video workshop, T. Krings and G. Baltsavias

15.30 Discussion and concluding remarks

16.00 END OF THE COURSE

Anton Valavanis, M.D., Course Director
Professor and Chairman
Department of Neuroradiology
Director Clinical Neuroscience Center
University Hospital of Zurich
CH-8091 Zurich, Switzerland

Scott W. Atlas, M.D., Course Director
David and Joan Traitel Senior Fellow
Hoover Institution
Stanford University
Stanford, CA, USA

Thomas P. Naidich, M.D.
Professor of Radiology, Neurosurgery and Pediatrics
Division of Neuroradiology
Mount Sinai Hospital
Icahn School of Medicine at Mount Sinai
New York, NY 10029, USA

Karel terBrugge, M.D., FRCPC
The David Braley and Nancy Gordon Chair in Interventional Neuroradiology
Professor of Radiology and Surgery
Head Division of Neuroradiology
University of Toronto,
Toronto Western Hospital, UHN
Toronto, ON, M5T 2S8, Canada

Timo Krings, M.D., Ph.D., FRCP(C)
The David Braley and Nancy Gordon Chair in Interventional Neuroradiology
Professor Departments of Medical Imaging and Surgery
Chief of Diagnostic and Interventional Neuroradiology at the Toronto Western
Hospital & University Health Network
Director of Neuroradiology
University of Toronto
Toronto, ON, M5T 2S8, Canada

Georges Rodesch, M.D., Ph.D.
Service de Neuroradiologie Diagnostique et Thérapeutique
Hôpital FOCH
FR-92151 Suresnes, France

Paul Kleihues, M.D.
Professor emeritus of Pathology
Institute of Neuropathology
University Hospital of Zurich
CH-8091 Zurich, Switzerland

Michihiro Tanaka, M.D., Ph.D.
Director of Neurosurgery
Kameda Medical Center
Higashi-cho 929, Kamogawa City
Chiba, Japan

Shakir Husain, M.D., DM(Neurology), FINR(Switzerland)
Senior Consultant & Chairman, Neurology
Director Interventional Neurology
Director Stroke Program
Institute of Neurosciences
Saket City Hospital
Saket, New Delhi -110017, India

Gerasimos Baltsavias, M.D.
Senior Consultant in Interventional Neuroradiology
Department of Neuroradiology
University Hospital of Zurich
CH-8091 Zurich, Switzerland

Spyros S. Kollias, M.D.
Professor of Neuroradiology
Chief Neuro-MRI
Department of Neuroradiology
University Hospital of Zurich
CH-8091 Zurich, Switzerland

Technical Assistance
Dr. Manuela Keller
Peter Roth
Ceylan Kurz
Arja Hugentobler

Course Directors
Anton Valavanis, M.D., Professor and Chairman, Department of Neuroradiology, University Hospital of Zurich, Switzerland

Scott W. Atlas, M.D., David and Joan Traitel Senior Fellow, Hoover Institution, Stanford University, CA, USA

Course organization and information
Irene De Bastiani and Lisa Olia
Department of Neuroradiology
University Hospital of Zurich
Frauenklinikstrasse 10
CH - 8091 Zurich
Switzerland
Tel: +41 (0)44 255 56 00 or 56 20
Fax: +41 (0)44 255 45 04
E-Mail: neuroradiologie@usz.ch This e-mail address is being protected from spam bots, you need JavaScript enabled to view it
Internet: www.cinr-zurich.ch

Venue
University Hospital of Zurich, Frauenklinikstrasse 10, 8091 Zurich, Switzerland, Lecture Hall "Grosser Hörsaal" located in the building NORD1, floors C/D.

Language
The official language is English.

Technical exhibition
A technical exhibition will be held in the foyer of the lecture hall on floors C/D. At the exhibition area several vascular models will be available to the participants and exhibitors for demonstration and testing of neuroendovascular devices and materials.

Travel information
By train: From the main railway station take tram N° 10 (Bahnhofplatz) or tram N° 6 (Bahnhofstrasse) to “ETH – UniversitätsSpital”;
By plane: From Zurich Airport by train to Zurich main station in about 10 minutes or by taxi (taxi fare around 60.-- CHF).
By car: It is not recommended to use the car for coming to the course, since parking facilities are hardly available.

Registration fee
Both courses:
For physicians: 1'150.00 CHF
For radiology technicians & nurses: 600.00 CHF
Diagnostic course:
For physicians: 750.00 CHF
For radiology technicians & nurses: 350.00 CHF
Interventional course:
For physicians: 900.00 CHF
For radiology technicians & nurses: 420.00 CHF
Fee includes
All coffee breaks, all lunches, the Welcome Reception on August 22 and/or August 23, 2016 the Course Dinner on August 26, 2016, as well as course materials and the hands-on workshops.
Deadline
Deadline for registration is July 25, 2016.
How to register
1) Fill out the attached registration form (please click here to download the registration form);
2) add a copy of your bank transfer order;
3) forward both documents
   · either by email to neuroradiologie@usz.ch This e-mail address is being protected from spam bots, you need JavaScript enabled to view it;
   · or by fax by dialling ++41 (0)44 255 45 04;
   · or by surface mail to the following address: Department of Neuroradiology, University Hospital of Zurich, Frauenklinikstrasse 10, CH-8091 Zurich, Switzerland.
   Shortly after your registration you will receive either an e-mail or a fax confirming your participation at the Course.
On-site registration
On-site registration at the registration desk located in the foyer of the lecture hall on floor C.
Only cash payment of the fee.
Payment of the registration fee
Checks and Credit Cards are not accepted.
Only bank transfer orders in Swiss Francs addressed as follows:
Bank: Lienhardt & Partner Privatbank Zurich  
Bank address: Postfach, Raemistrasse 23, CH-8024 Zurich, Switzerland  
Bank account number: 16 0.981.400.00  
Bank account entitled: Forschung Neuroradiologie  
SWIFT address: RBABCH 22830  
IBAN address: CH64 0683 0016 0981 4000 0  

Cancellation  
Cancellation must be made by writing before the deadline of July 25, 2016. The amount will be refunded, less 50.00 CHF for administrative expenses, later refund at 50%. Refunds will be made after the Course.

Course Dinner  
The Course Dinner will be held on August 26, 2016 at the "Zunfthauser Meisen". Please reserve by filling out the attached registration form.

CME Accreditation  
European CME Credits (ECMEC) have been applied at the European Accreditation Council for Continuing Medical Education (EACCME).  
The American Medical Association (AMA) will convert CME Credits of the UEMS to AMA PRA Category 1 CreditTM.

For Hotel reservation please contact:  
Zurich Tourism, Hotel reservation, Postfach, CH - 8021 Zurich, Switzerland,  
E-Mail: hotel@zuerich.com  
Fax: +41 (0)44 215 4044, Tel.: +41 (0)44 215 4040,

Contact Us  
Prof. Dr. Anton Valavanis  
Director of the Department of Neuroradiology

University Hospital of Zurich  
Frauenklinikstr. 10  
CH-8091 Zurich  
Switzerland  
+41 44 255 5600  
+41 44 255 4504