1st Annual Neuro-Oncology Symposium

Organised by Pakistan Society of Neuro-Oncology (PASNO)

Friday to Sunday, September 4-6, 2020

Schedule:

(Pakistan Time: GMT +5)

Session One:	Friday	September 4	08:00am – 10:15am
Session Two:	Friday	September 4	05:00pm – 07:15pm
Session Three:	Saturday	September 5	08:00am – 10:00am
Session Four:	Saturday	September 5	05:00pm – 07:30pm
Session Five:	Sunday	September 6	08:00am – 10:15am
Session Six:	Sunday	September 6	05:00pm – 07:15pm
Special Session:	Sunday	September 6	02:00pm – 03:00pm

Endorsed by:

SNO The Society for NeuroOncology

World Federation of Neuro-Oncology Societies

EANO European Association of Neuro-Oncology

SNOSSA Society for Neuro-Oncology Sub-Saharan Africa

Asian Society for Neuro-Oncology ASNO

Pakistan Society of Neurosurgeons

Support and collaboration provided by:

brain tumour foundation of Pakistan

NSIG

SIG Surgery Interest Group

Organised by:

The Aga Khan University

آغا خان یونیورسٹی

PASNO Pakistan Society of Neuro-Oncology

Committee Members

Organising Committee:

- Syed Ather Enam, Karachi, Chair
- Adnan Jabbar, Karachi, Co-Chair
- Sumera Butt, Lahore, Member
- Altaf Ali Laghari, Karachi, Member
- Fatima Mubarak, Karachi, Member
- Kamran Saeed, Karachi, Member
- Saad Bin Anis, Lahore, Member

Scientific Committee:

- Shahzad Shamim, Karachi, Chair
- Naureen Mushtaq, Karachi, Co-Chair
- Asim Hafeez, Karachi, Member
- Irfan Yousuf, Lahore, Member
- Mohammad Nadeem, Islamabad, Member
- Syed Ahmer Hamid, Karachi, Member
- Tanveer ul Haq, Karachi, Member
- Naveed Zaman, Peshawar, Member

Moderators:

- M. Usman Khalid
- Namra Qadeer
- Namrah Aziz
- Fatima Gauhar
- Mishal Gillani
- Rohan Advani
- Rida Mitha
- Imran Qureshi
- Syed Faisal Nadeem
- Saman Hamid
- Safwan Masood

Coordinator:

Shariff Charania

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Symposium is accredited by ACCME credit hours

The Aga Khan University is accredited by the
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The faculty, staff and any individual connected to this activity confirms that this activity do not have any financial relationship with proprietary entities, producing, marketing, re-selling or distributing healthcare goods or services consumed or used on patients.

ACCME ACCREDITED

International Speakers

David Ashley is the recipient of the title Rory David Deutsch Professor of Neuro-Oncology at Duke University's Preston Robert Tisch Brain Tumor Center and is the Director of The Preston Robert Tisch Brain Tumor Centre. He joined Duke University in 2017 as a Professor of Neurosurgery and Director of the pediatric neuro-oncology program in the Department of Neurosurgery. Dr. Ashley's primary research focus is laboratory based investigation of the role of immunotherapy as a novel approach to the treatment of tumors of the central nervous system. Furthermore, Dr. Ashley is also involved in the design and application of a variety of clinical research protocols in the treatment of children with malignant brain tumors.

James Balogun is a consultant neurosurgeon at the University College Hospital, Ibadan, Nigeria. Dr. Balogun completed his basic neurosurgical training at University College Hospital, Ibadan, and then went to Canada to pursue his clinical fellowships in surgical neuro-oncology and skull base surgery at the Toronto Western Hospital, as well as pediatric neurosurgery at the Hospital for Sick Children, Toronto. He then spent time as a research fellow at the University of Pittsburgh Medical Center, USA. His clinical and research expertise lie in the epidemiology, science and surgery of adult and pediatric brain tumors. He is the President of the Society for Neuro-Oncology Sub-Saharan Africa.

Tracy Batchelor is a Professor of Neurology and Neurologist-in-chief at Brigham and Women's Hospital, Boston, MA, USA. He received his medical degree from Emory University School of Medicine and his Master's in Public Health from the Harvard T.H. Chan School of Public Health. He completed his medicine internship, neurology residency and neuro-oncology fellowship at Yale-New Haven Hospital, Massachusetts General Hospital, and Memorial Sloan-Kettering Cancer Center, respectively. Dr. Batchelor's primary field of clinical expertise relates to the therapy of malignancies of the central nervous system and neurologic complications of cancers. His research relates to the understanding of aberrant angiogenesis and signaling in brain cancers. Dr. Batchelor is the principal investigator of the Dana-Farber/Harvard Cancer Center (DF/HCC) SPORE grant, as well as of the K12 neuro-oncology training fellowship for DF/HCC. In addition, Dr. Batchelor holds R01 funding from the National Cancer Institute (NCI) and he currently serves as the co-chair for the NCI Brain Malignancies Steering Committee. He has held and holds numerous leadership positions within the American Academy of Neurology and the Society for Neuro-Oncology.

Mitchel S. Berger is a leading surgical neuro-oncologist of the world. Currently, he is Chair of the Department of Neurological Surgery, and Director of the Brain Tumor Research Centre at the University of California, San Francisco. He completed medical school at the University of Miami and a surgical residency from the UCSF Medical Centre, San Francisco. He went on to do a fellowship in Neuro-oncology from the UCSF Medical Centre and another in Pediatric Neurological Surgery at the Hospital for Sick Children, Toronto. Dr. Berger's clinical interests include the treatment of brain tumors in adults and children and that of brain tumor related epilepsy. His current research interests include identifying molecular markers in gliomas as correlates of tumor progression and prognosis among many others. Dr. Berger is also a leader of translational research and is the Principal Investigator of the UCSF Brain Tumor Research Center's Specialized Program of Research Excellence in neuro-oncology, funded by the National Cancer Institute. During his distinguished career, Dr. Berger has served as President of the American Association of Neurological Surgeons, President of the Society of Neuro-Oncology, President of the North Pacific Society of Neurology, President of the American Academy of Neurological Surgery, and Vice President of the Congress of Neurological Surgeons. He has also been a director of the American Board of Neurological Surgery and a member of the Board of Directors of the American Association of Neurological Surgeons. He is a prolific writer and has received numerous awards across the world.

Eric Bouffet is a leading pediatric neuro-oncologist in the world and Professor of Pediatrics at the University of Toronto, Canada, Garron Family Chair in Childhood Cancer Research, and Section Head of Neuro-oncology at The Hospital for Sick Children, Toronto. He completed his medical school and training at the University of Lyon after which he moved to the United Kingdom to practice as a consultant pediatric oncologist. He currently practices at the Hospital for Sick Children, Toronto. His research interests include low grade gliomas, medulloblastomas, and malignant pediatric brain tumors. He is a pioneer in developing novel therapeutic approaches to pediatric brain tumors.

Bryan Day is currently the Group Leader at Sid Faithfull Brain Cancer Laboratory (QIMR Berghofer). Dr Day completed his PhD in 2008 from QIMR and has served in numerous top institutes around the world. He also serves as the Director at the Children's Hospital Foundation and as the Professor Adjunct at the School of Biomedical Sciences. Dr Day's various notable achievements includes the definition of therapeutic targets in adult brain cancer, establishment of a brain cancer tissue and culture bank, He has previously served as the Director for the Australian Society for Medical research and is a well-known speaker at leading conferences around the world.

Hugues Duffau is a leading surgical neuro-oncologist in the world. He is Professor and Chairman of the Neurosurgery Department in the Montpellier University Medical Center, France, and Head of the INSERM 1191 Team "Plasticity of the central nervous system, human stem cells and glial tumors" at the Institute of Functional Genomics, University of Montpellier. He is an expert in the awake cognitive neurosurgery of slow-growing brain tumors. For his innovative work in neurosurgery and neurosciences, he was awarded Doctor Honoris Causa several times, and he was the youngest recipient of the prestigious Herbert Olivecrona Award from the Karolinska Institute in Stockholm. His research interests include brain connectomics, neuroplasticity and cognitive neurosurgery. He has written four textbooks and over 435 publications in international journals ranging from neurosurgery to fundamental neurosciences, for a total of more than 23,500 citations and with an h-index of 99. He is a member of Editorial boards of many journals (as Brain and Language, Neurosurgery or Neuro-oncology) and ad-hoc reviewer for around 100 journals including New England Journal of Medicine and Lancet Oncology.

Isabelle Germano is a Professor of Neurosurgery, Neurology, and Oncology at the Icahn School of Medicine and the Director of The Mount Sinai Comprehensive Brain Tumor Program and the Co-Director of the Radiosurgery Program. She has worked in the field of image-guided brain and spine surgery developing new technology for several years. Dr. Germano's expertise includes brain tumors, computer-assisted image-guided neurosurgery, epilepsy surgery and radiosurgery. She is one of the pioneers of computer-assisted image-guided neurosurgery. Dr. Germano was chosen to give the Charles A. Elsberg Lecture, the first woman to receive this honor since the lecture’s establishment 67 years ago. Active in national neurosurgery organizations, Dr. Germano has served as an executive committee member for the Congress of Neurosurgery (CNS), as a member of the Board of Directors for the American Association of Neurological Surgeons (AANS), as an executive committee member of the AANS/CNS Joint Section on Tumors, and as a scientific program member for the AANS, CNS, and the American Epilepsy Society. In 2000, she was awarded as one of the best doctors in the Hall of Fame magazine. She has authored 3 books and over 60 research publications.

Atul Goel is a Professor of Neurosurgery and Head of the Department of Neurosurgery at the King Edward Memorial Hospital, Mumbai, India. He is also working as Chief Neurosurgeon at Tata Memorial Hospital and Cancer Research Institute in Mumbai, India. He graduated from State University of New York Upstate Medical University and has been in practice for around 30 years. Dr Goel served as Editor for many well-known journals and has 583 publications in PubMed indexed journals. He co-authored the books named “Neurosurgery of Complex Tumors and Vascular Lesions” and “Craniovertebral Junction; Diagnosis, Pathology, Surgical Techniques”. Dr Goel was awarded with Mrs Shakuntala Devi Amir Chand Prize and Amrut Mody Unichem Award for his outstanding research. He is an honorary member of Japan Neurosurgical Society, Bangladesh Society of Neurosurgery, Egyptian Society of Neurosurgery and Venezuelan Society of Neurosurgery. He also served as President for Asia-Oceanian Skull Base Surgery Society from 2011-2014.

Ho Shin Gwak is a consultant neurosurgeon at the National Cancer Center, Goyang, Korea. He completed medical school from the Seoul National University, Korea, from where he also later went on to attain an MS and Ph.D. in Neurosurgery. He completed his fellowship in brain tumor and gamma knife radiosurgery from the Seoul National University Hospital, Korea. As a clinical researcher, his areas of interest include radiation biology, cell biology, and mechanisms of chemo-/radio- resistance in cancer cells.

Constantinos G. Hadjipanayas is a Professor of Neurosurgery and Oncological Sciences at the Icahn School of Medicine at Mount Sinai. He serves as Chair of the Department of Neurosurgery at Mount Sinai Union Square/Beth Israel and Director of Neurosurgical Oncology for the Mount Sinai Health System. He is a board-certified neurosurgeon who has devoted his entire career to the treatment of brain tumor patients. He is Director of the Mount Sinai Brain Tumor Nanotechnology Laboratory in the Tisch Cancer Institute where he studies novel therapeutics targeting brain tumors. His PhD graduate training in Biochemistry and Molecular Genetics at the University of Pittsburgh, during his neurosurgery residency, focused on viral gene therapy of brain cancer. Dr. Hadjipanayis has been a tireless brain tumor advocate leading the nonprofit Southeastern Brain Tumor Foundation (SBTF) in the past. He has been the PI of multiple clinical trials and a PI of university-, private foundation-, and NIH-funded grants focused on brain tumors. He was recently awarded an NIH grant to lead the development of magnetic hyperthermia therapy (MHT) for brain tumors in collaboration with Johns Hopkins University. Dr. Hadjipanayis led the development of 5-ALA (Gleolan) and fluorescence-guided surgery (FGS) for malignant brain tumors in the US. In 2011, he was the first in the US to use Gleolan and perform FGS on a brain tumor patient. He led the effort for FDA approval of 5-ALA FGS in June 2017. Most recently, Dr. Hadjipanayis has been leading the development of the first ever voice-controlled, robotic-assisted digital surgical microscope for neurosurgery.

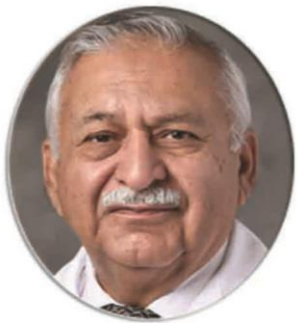
Chas Haynes, JD, is the Executive Director of the Society for Neuro-Oncology, a position he has held since 2006. Mr. Haynes is responsible for the day-to-day operations of SNO, and works with the elected leadership to implement the Society's strategic plan. He has over 25 years of experience in the leadership and operational management of non-profit medical associations, including the Collaborative Ependymoma Research Network, the International Brain Injury Association, and the North American Brain Injury Society. Throughout his career, his primary focus has been in the areas of neuro-oncology and acquired neuro-trauma. He holds a juris doctor degree from the South Texas College of Law.

Rakesh Jalali is a Professor of Radiation Oncology and Senior Neuro-Oncologist as well as the Medical Director at Apollo Proton Cancer Centre, Chennai, India. Dr. Jalali is also a member of the Senior Advisory Council of the Indian Society of Neuro-Oncology (ISNO). He is also the founder of 'Brain Tumor Foundation of India', an internationally recognized charity organization dedicated to the welfare of the patients with brain tumors and their families. Dr. Jalali has over 300 peer reviewed publications with emphasis in the fields of cancer treatment, enhancing quality of life for cancer patients and developing appropriate research models. He was awarded the Best Oncologist Award by Medscape in 2014 and has received the Top Radiation Oncologist Award for 3 consecutive years from 2014 onwards.

Seok-Gu Kang is a Professor of Neurosurgery at Severance Hospital, Yonsei University College of Medicine, Seoul, Korea and the Vice Chair of Scientific Committee, Organizing Committee of the World Federation of Neuro-Oncology Societies (WFNOS) 2021 Seoul. He completed his neurosurgery residency training from St. Mary's Hospital, The Catholic University of Korea College of Medicine, Seoul, Korea. He completed fellowships in Brain Tumor Section and Pediatric Neurosurgery from the Samsung Medical Centre, Sungkyunkwan University School of Medicine, Seoul, Korea from 2003 to 2005. He worked as a Post-doctorate fellow from 2007 to 2009 at the Brain Tumor Centre, M. D. Anderson Cancer Centre, Houston, Texas, USA. His field of interest is Surgical Neuro-Oncology and Translational Research about Glioblastoma (especially in cell of origin in subventricular zone)

Chae-Yong Kim is a Professor and Neurosurgeon at Seoul National University Bundang Hospital, Seoul National University College of Medicine. Brain tumor surgery and research, both basic and focused on neuro-oncology, are his main specialties. Dr Kim is the vice-secretary general of WFNOS 2021 Soeul Meeting and the Chair of the Academic Committee for KBTS (Korean Brain Tumor Society). Dr Kim has more than 150 publications and his various research interests range from Glioblastoma to radiosurgery and novel chemotherapeutic agents.

Zarnie Lwin is an Associate Professor of Medical Oncology at the Royal Brisbane and Women's Hospital and University of Queensland. Zarnie has been past Vice-Chair and Treasurer of the Medical Oncology Group of Australia (MOGA), and a National Executive member. She was Lead Investigator for the 2016 Australian Medical Oncologist Workforce Study. She is the current Co-Chair for the Society of Neuro-Oncology International Outreach Committee, International Scientific Organising Committee member for the 2021 World Federation of Neuro-Oncology Societies Annual Scientific Meeting, Editorial Board Member for the World Federation of Neuro-Oncology Societies Magazine, Deputy Chair of the COGNO International Collaborative Research Committee, and Chair of Co-operative Group of Neuro-Oncology (COGNO) Outreach and Education Committee including the COGNO Outreach Educational Preceptorship Program for Asia-Pacific. She has convened national and international scientific meetings and was Co-founder and Co-Convener of the COGNO Idea Generation Workshop for 4 years. She was the Scientific Program Co-Lead, and Organising Committee Member for the Asian Society of Neuro-Oncology ASM 2016 in Australia which attracted delegates from 20 countries. She has also been invited as a faculty member at international conferences and represents Australia on the Asian Society of Neuro-Oncology Reform Working Group.



Ghaus Malik graduated from King Edward Medical College in Lahore, Pakistan. In 1970 he began his general surgery residency at Henry Ford Hospital in Detroit, Michigan, followed by a neurosurgery residency from 1971 to 1975. He then joined the Henry Ford Medical Group neurosurgery staff in 1975 and became board certified in neurosurgery in 1978. Dr. Malik had a series of outstanding accomplishments at the Henry Ford Health System where he was appointed Chief of the Division of Neurosurgery at Beaumont Hospital and maintained his position as Vice Chief of Neurosurgery at Henry Ford Hospital. He has received numerous awards for his active service and involvement in the community and has trained more than 70 neurosurgeons currently practicing across the world.

Tom Mikkelsen is a world-renowned neurologist specializing in the field of neuro-oncology and precision medicine. Dr. Mikkelsen received his MD from the University of Calgary in Canada, and completed his clinical training in neurology at the Montreal Neurological Institute. Following this he undertook his post-doctoral training in brain tumor cellular and molecular biology initially at the Ludwig Institute for Cancer Research in Montreal and then in La Jolla, California. Since 1992, Dr. Mikkelsen has led the Brain Tumor Program at the Henry Ford Hospital and was responsible for establishing the clinical trials program and laboratory of tumor biology. Along with other scientists, he developed the Hermelin Brain Tumor Centre, a basic and clinical research resource for patients in Michigan and surrounding states. Currently, Dr. Mikkelsen is the President and Scientific Director, Ontario Brain Institute, and Co-Director of the Hermelin Brain Center.

Whitney Pope is a Professor of Neuroradiology and Director of Brain Tumor Imaging at the David Geffen School of Medicine at UCLA. He received his Ph.D. from Northwestern University and his MD from the University of Illinois at Chicago. He did his radiology residency and neuroradiology fellowship at UCLA. Dr. Pope has over 120 publications focusing on genomic and physiologic imaging markers of treatment susceptibility and response in glioblastoma, including the first report of non-invasive detection of 2-HG in human glioma patients using MR spectroscopy. He has vast experience in image acquisition interpretation and data analysis for both glioma patients and small animal glioma models. Dr. Pope is a member of the Board of Directors for the Society for Neuro-Oncology, and is an Associate Editor of the journal Neuro-Oncology. He also co-chairs the American Society of Neuroradiology's Genomics Imaging Group.

Ibrahim Qaddoumi is a pediatric hematologist-oncologist at the St. Jude Children's Research Hospital, Memphis. He acquired an MD from Damascus University, Syria and an MS from The Medical University of South Carolina, Charleston. He is currently an Associate Member of the St. Jude faculty and Director of the Global Neuro-Oncology Program at St. Jude. An avid researcher, his research areas include low grade glioma, retinoblastoma, and the applications of telemedicine in oncology.

Jack P. Rock is a Neurosurgery Specialist and from 2002- 2020 has directed the neurosurgical residency program at Henry Ford Hospital in Detroit, Michigan and is the current Interim Chairman of the Department. His primary subspecializations are Neuro-Oncology, Pituitary and Skullbase surgery. In 2004 Dr. Rock also became an active member of the Federation for International Education in Neurosurgery (FIENS), through which Dr. Rock has volunteered in Thailand, Vietnam, Ethiopia and most recently Myanmar providing hands on training and education to neurosurgeons and critical patient care assistance. He has co-edited a text book on low grade gliomas and has also authored and contributed to over 75 publications. He was the president of the Michigan Association of Neurological Surgeons in 2000 and has enjoyed the privilege of being a member of the editorial boards for the Journal of Neuro-oncology and Neurosurgery. He was also selected a "Top Doc" in 2003 -2019 in Detroit's Hour Magazine.

Mark L. Rosenblum, is the Chairman Emeritus of the Department of Neurosurgery and Professor of Neurosurgery in the Henry Ford Health System, where he expanded the department over 22 years from 4 surgeons to 32 neurosurgeons, physicians and scientists, had responsibilities for several hospitals, and developed nationally recognized research and clinical excellence. There he founded and served as a Co-Director of the Hermelin Brain Tumor Center and HFHS Neurosciences Institute. Dr. Mark founded the Michigan Spine Surgery Improvement Collaborative, a statewide quality improvement program with Blue Cross-Blue Shield of Michigan. He also was one of 4 leaders that developed a new novel, patient-focused Henry Ford West Bloomfield Hospital where he served as Vice President of Clinical Programs and Director of its Center for Health Services Transformation. Dr. Rosenblum trained at UCSF from 1973-79 where he helped develop their brain tumor research center, developed the country's first brain tumor bank and performed early studies on cancer stem cells. In 1984 he founded and for its first 7 years chaired the Section on Tumors of the American Association of Neurological Surgeons and Congress of Neurological Surgeons. He has published 7 books, 240 articles and chapters, trained 63 neurosurgeons and raised $45 Million for Neuro-Oncology and Neuroscience.

Mansoor Saleh, received his early education in the Aga Khan School system in East Africa, his medical education at the University of Heidelberg in Germany and conducted his doctoral research at the Max Planck Institute for Medical Research in Heidelberg. He received his training in internal medicine at the Henry Ford Hospital in Detroit, Michigan, and clinical and translational research training in Hematology & Oncology at the University of Alabama Comprehensive Cancer Center in Birmingham, Alabama, where he was tenured Professor of Medicine & Pathology and Director of the First-in-Human Early Drug Development Program. His area of research and clinical focus is “targeted therapy of cancer”. He recently joined the Aga Khan University in Nairobi, Kenya as the Founding Chair, Department of Hematology – Oncology and Founding Director - AKU, N Cancer Center.

Vani Santosh is a Professor of Neuropathology at the National Institute of Mental Health and Neuro Sciences, India. Dr Santosh is an active researcher with more than 200 publications in various international journals, several book chapters, including the WHO 2016 classification of CNS tumors. She also has 3 patents, and many awards to her credit. She has served as the president of the Indian Society of Neuro-oncology.

Jason Sheehan is a Professor of Neurological surgery, at University of Virginia and Neuroscience and a Co-director of the Lars Leksell Gamma Knife Center. He received his BS, MS, PhD and MD from the University of Virginia. His BS is in Chemical Engineering with the highest honors awarded from the School of Engineering. He performed fellowships at Auckland University and the University of Pittsburgh. Having written over 250 peer-reviewed papers, Dr. Sheehan is also the editor-in-chief of the Journal of Neuro-Oncology, the premier journal for neuro-oncology publications and the editor for SANS. He reviews manuscripts for the Journal of Neurosurgery, Neurosurgery, World Neurosurgery, Clinical Neurology and Neurosurgery and Nature Clinical Practice Oncology. Dr. Sheehan has an active laboratory pursuing translational and basic science research on brain tumors and also helps to oversee clinical trials for brain tumor patients. He has received multiple awards, is a member of significant neurology/neurosurgery societies and is a part of various committees in the Congress of Neurological Surgeons (CNS), World Federation of Neurological Societies, International Radiosurgery Association, North American Gamma Knife Research Consortium and Southern Neurosurgical Society.

Andrew Sloan is a board-certified neurosurgeon, physician-scientist and educator at Universoty Hospitals Cleveland Medical Centre and UH Siedman Cancer Centre. He is also the director of the Brain Tumor and Neuro-Oncology Centre at UH Siedman Centre and the Neurological Institute. He also serves as Professor and Vice-Chair of Neurosurgery at Case Western Reserve University School of Medicine and holds the Peter D. Cristal Endowed Chair in Neurosurgery at UH. After graduating from Yale University with a degree in Biology (magna cum laude) and receiving his MD from Harvard Medical School, Dr. Sloan served his internship in general surgery and neurosurgical residency at UCLA followed by a fellowship in neurosurgical oncology at the M.D. Anderson Cancer Center in Houston. He has been recognized by his peers as one of the “Best Doctors in America” since 2003, and as one of the “Top Surgeons in America” since 2007. In 2014, he was elected President of the Ohio State Neurosurgical Society (OSNS).

Edus Houston Warren is a renowned researcher who contributed to the development of adoptive T-cell therapy, which harnesses the body's immune system to block cancers. He now heads Global Oncology at Fred Hutchinson Cancer Research Center, Seattle, which is dedicated to reducing the burden of cancers worldwide. He oversees the Hutch's relationships in international collaborations such as the UCI-Fred Hutchinson Cancer Centre in Kampala, Uganda. He also leads the China Initiative, a partnership that includes the Chinese Center for Disease Control and Prevention and Henan Cancer Hospital. His efforts are focused on cancers caused by infectious diseases that are preventable or treatable — up to 20 percent of the world's cancers. Dr. Warren's research in Uganda aims to develop new methods for the diagnosis, treatment and prevention of cancers such as HIV-associated non-Hodgkin lymphoma and the childhood cancer Burkitt lymphoma. Dr. Warren also serves as a Professor of Medicine at the University of Washington School of Medicine, and an attending physician at the Seattle Cancer Care Alliance.

Jinsong Wu is Professor and Vice Director of the Glioma Surgery Division, Neurosurgery Department of Huashan Hospital at Fudan University, China. Dr. Wu has been established as an academic leader in Chinese neurosurgery with numerous high-quality contributions to glioma surgery in eloquent parts of the brain. He developed his own novel integrated technical system for multimodal brain mapping strategies and established a Chinese language cortical distribution atlas. He has been a principal investigator of numerous projects and has been awarded distinctions by the Congress of Neurological Surgeons, The Journal of Neuro-oncology, the Shanghai government and the Chinese Neurosurgical Association.

Tseng Tsai Yeo is the Head of Neurosurgery at National University Hospital, Singapore and the medical director of the Singapore Gamma Knife Centre. He obtained his MBBS in 1985 from National University Singapore and underwent post graduate training in Neurosurgery in Melbourne, Australia. Dr. Yeo then underwent further subspecialty training in stereotactic and functional neurosurgery in Toronto, Canada, Seattle, USA and Grenoble, France. He is the recipient of numerous research grants and has published widely in the neurosurgical literature about stereotactic and functional neurosurgery, neuro-oncology, head injury and virtual reality neurosurgery. He recently organized Asia Pacific Low Grade Glioma Network.

Gelareh Zadeh is Professor and Chair of Neurosurgery at University of Toronto, Head of Division of Neurosurgery at Toronto Western Hospital and Senior Scientist at Princess Margaret Research Institute. Dr. Zadeh completed her Royal College Fellowship in Neurosurgery and PhD in molecular biology of brain tumor angiogenesis at the University of Toronto in 2006. After which she was awarded a Cancer Care Ontario Fellowship to complete radiobiology training at University College London during which time she was a consultant neurosurgeon at Queen Square, University College London, UK. In 2008, she returned to the Toronto Western Hospital and University of Toronto as a CIHR Clinician-Scientist and neurosurgeon. Her clinical and research focus is neuro-oncology, with specialization in skull base surgery, vestibular schwannomas and minimally invasive endoscopic approaches to anterior skull base and sellar/parasellar lesions. Notably on September 1st, she stepped into the role of the Dan family chair of neurosurgery at the University of Toronto, becoming the first woman to helm one of the largest neurosurgical programs in the world and the first female neurosurgery chair in Canada.

Zhong-ping Chen is a Professor & Founding Chairman of the Department of Neurosurgery/Neuro-oncology at the Sun Yat-sen University Cancer Center, Guangzhou, China. Dr. Chen is the President of the Chinese Society of Neuro-oncology and Editor-in Chief of the journal "Glioma". Dr. Chen's clinical interests include microsurgery and multimodality treatment for primary and metastatic tumors in the central nervous system, particularly gliomas. Dr. Chen has received many awards including Francis McNaughton Memorial Prize in 1998(Canadian Neurological Society), WHO Prize for Chinese Young Professional in Mental Health & Neuroscience in 1993, and Wang Chong-cheng Academic Award for Chinese Neurosurgeon in 2006. He has published more than 200 peer reviewed papers in leading scientific journals.

National Speakers

Zubair Ahmad is a Professor in the Department of Pathology and Laboratory Medicine at the Aga Khan University Hospital. Dr Ahmad completed his MBBS from the Sindh Medical College, and after his residency in Aga Khan University, pursued a FCPS in Histopathology in Pakistan and FRCPath from the Royal College of Pathologist, UK. He received the Outstanding Teacher Award in 2011 and his research interests lie in CNS and GI Pathology.

Ahmed Alishah is a consultant Neurosurgeon at the Aga Khan University, Karachi. Dr Shah graduated from Dow Medical College and trained as a Neurosurgeon at Guys, Maudsley and Kings College Hospitals in London. Dr. Shah returned to Pakistan in 1986 and established a Neurosurgery Department at Dow medical College, where he served for 18 years. He was also the President of the Pakistan Society of Neurosurgeons and Dean of Neurosurgery of College of Physicians and Surgeons of Pakistan.

Shahab Ansari is an Assistant Professor of Computer Science and Engineering at Ghulam Ishaq Khan Institute of Engineering Sciences and Technology, Pakistan. He acquired Bachelor degree in Electronics from NED University, Pakistan and earned his Master degree in speech enhancement in hearing aids from McMaster University, Canada, in 2005. He completed his PhD in 2017 from Ghulam Ishaq Khan Institute of Engineering Sciences and Technology, Pakistan. Currently, he is supervising various projects in Artificial Intelligence in Medicine (AIM) Lab. Artificial Intelligence in Medicine (AIM) lab has been involved in quality research work in medical diagnostics and treatment using medical imaging and Artificial Intelligence (AI) since 2010. The lab has won a number of grants from Directorate of Science and Technology (DoST), KPK, and HEC, Pakistan. The lab has also been involved in various digital image processing based and hardware-based final year projects for undergraduate students.

Sumera Butt is a Consultant Clinical Oncologist at Shaukat Khanum Memorial Cancer Hospital, Pakistan. She graduated from King Edward Medical University, Lahore in 2003. She then pursued her MRCP in UK which she completed in 2008, followed by her FRCR in Clinical Oncology in 2014. Dr. Sumera Butt is a very proactive Oncologist who likes to raise awareness about medical issues and uses writing as a main medium to do it**.**

Asim Hafeez is a consultant radiation oncologist and Assistant Professor at Aga Khan University Hospital, Karachi. He completed his MBBS in 2006 from Sindh Medical College and then did FCPS in radiotherapy in 2013. Since then he has been a part of neuro-oncology services at AKUH and has multiple publications under his name.

Adnan Jabbar graduated from Dow Medical College, Karachi. Dr. Jabbar, received his PhD in Immunology from Rush University, IL., did residency at Nassau University Medical Center, NY followed by fellowship in Hematology and Medical Oncology from Winship at Emory University, Atlanta, presently working as Associate Professor and Section Head of Medical Oncology at the Aga Khan University Hospital.

Rashid Jooma is a Professor of Neurosurgery, Department of Surgery at the Aga Khan University, Karachi. Dr. Jooma completed his MBBS from Dow Medical College, Karachi, and after his residency in Neurosurgery from Atkinson Morley's Hospital, London, UK, pursued a FRCS in Surgical Neurology from Royal College of Surgeons Edinburgh, UK. Dr. Jooma did Fellowship in Epilepsy Surgery from University of Cincinnati Hospital, USA. He was the former Director-General Health of Pakistan and he is National Co-coordinator of Primary Trauma Care program. Dr. Jooma is actively involved in many Traumatic Brain Injury projects.

Ishaq Khan is currently working as Assistant Professor in the Department of Molecular Biology and Genetics in Khyber Medical University, Peshawar. In 2017, D Ishaq established a "cancer tissue culture facility" and developed a research group (Pakistan Neuro-Oncology Research Group – PK-NORG). Dr. Ishaq's primary area of doctorate research was focused on the characterization of drug resistant cells in primary brain tumors. Dr. Ishaq has 27 research publications to his credit in impact journals.

Tariq Khan is the Dean of Northwest School of Medicine located in Peshawar, Pakistan, and a Professor and Head of the Department of Neurosurgery at Northwest General Hospital & Research Centre. He completed his MBBS from Khyber Medical College in 1978 followed by FRCS at the Royal College of Surgeons, Ireland, in 1986. Dr. Khan is the Chairman of the Neuro-Traumatology Committee of the World Federation of Neurosurgical Societies and is also the Dean of Faculty and Examiner for the Neurosurgery College of Physicians and Surgeons of Pakistan. Previously, Dr. Khan served as President of the Pakistan Society of Neurosurgeons.

Khurram Minhas is the Assistant Professor in the Department of Pathology and Laboratory Medicine, Aga Khan University, Karachi. Dr Minhas did his MBBS from Baqai Medical University, Karachi in 2002 than he did his residency in Aga Khan University, Karachi and he did his FCPS Histopathology in 2010. Dr Minhas has delivered numerous oral and poster presentations in national and international meetings.

Hassan Mohyudin is the Director of Clinical and Translational Imaging Lab and an Assistant Professor at the LUMS School of Science and Engineering. He completed his PhD and MSE in Electrical and Computer Engineering (ECE) and MA in Applied Mathematics and Statistics (AMS) from Johns Hopkins University followed by postdoctoral work in the Department of Radiology and Biomedical Imaging at the Yale School of Medicine. He also worked as a Clinical Research Scientist at Shaukat Khanum Memorial Cancer Hospital and Research Center. His research interest is in Applied Mathematics and Medical Imaging. His work on dynamic cardiac PET imaging won the Bradley-Alavi fellowship and the 2014 SIAM (Society for Industrial and Applied Mathematics) student award. His work on non-invasive biomarker quantification for coronary microcirculation was featured as a news story in Medical Physics followed by a dedicated review article from Stanford. He has published his work in leading scientific journals and presented it at various conferences and universities across the world.

Fatima Mubarak is an Associate Professor with a demonstrated history of working in the hospital & health care industry. Skilled in MRI, Clinical Research, Medical Education, and advance Neuro-imaging. Strong education professional with a MCPS, FCPS and Neuro imaging fellowship of Singapore General Hospital. She is the first International outreach member of American society of Neuro-radiology from Pakistan and member of Asia Oceania Regional Committee and the Quality improvement network of Radiological society of North America.

M. Nouman Mughal is a PhD and an Assistant Professor at the Aga Khan University, Pakistan. Dr. Mughal completed his PhD from the Karolinska Institutet, Stockholm Sweden. During his doctoral studies, he studied the chromatin remodeling capacity of genome maintenance of gamma Herpes-viruses. In 2013, he joined the Department of Pathology, Dow University Health Sciences as an Assistant Professor where he led research at Virology and Vaccinology Research Lab (VVRL) in Dow Research Institute of Biotechnology and Biomedical Sciences (DRIBBS) of Dow University of Health Sciences facility. In February 2019, he joined the Department of Surgery of the Aga Khan University as an Assistant professor.

Naureen Mushtaq is a Consultant Pediatric Neuro-Oncologist and Associate Professor of Pediatric Neuro-Oncology at the Aga Khan University Hospital, Karachi. She completed her medical school from the Sindh Medical College, Karachi, after which she went on to do a Pediatrics residency and Pediatric Oncology fellowship from the Aga Khan University Hospital. She later went on to complete a fellowship in Pediatric Neuro-Oncology from The Hospital for Sick Children, Toronto, Canada. Dr. Mushtaq is the only trained Paediatric Neuro-Oncologist in Pakistan and has used her experience to establish a Paediatric Neuro-Oncology multidisciplinary team at the Aga Khan University Hospital and also help eight other centres in Pakistan develop their own Paediatric Neuro-Oncology capacities using a grant from the Sanofi Espoir Foundation. She is also credited for starting the Paediatric Neuro-Oncology Fellowship Programme at the Aga Khan University Hospital this year. As a researcher, she takes keen interest in brain tumours.

Salman Shariff is a Professor and Head of Neurosurgery at Liaquat Medical School, Karachi as well as Visiting Professor University of Wisconsin at Madison, US, Kiel University and University of Saarland Germany. After completing his MBBS, he pursued his F.R.C.S. Gen Surgery (England) in Feb 1993 followed by F.R.C.S (Surgical Neurology) in April 1999. Dr Shariff is currently the President of Middle East Spine Society, President Pakistan Society of Neurosurgeons as well as the Treasurer of World Spinal Column Society. He has authored 70+ research articles, and serves as an Editor of both national and International journals. He has played a key role in arranging international conferences in Pakistan from the platform of World Federation of Neurological Surgeons and other societies.

Sameen Siddiqi is currently the Chair, Department of Community Health Sciences, Aga Khan University, Pakistan. After completing his MBBS from Quaid-e-Azam Medical College, Dr Siddiqi did his MPH from University of London, followed by Doctorate of Medicine (DrMed) from University of Heidelberg, Germany and has a fellowship in internal medicine from Pakistan. He has advised the governments of 22 countries in Eastern Mediterranean Region on reforms to strengthen their health systems and has now been appointed as senior adviser to the federal health ministry of Pakistan. Dr Siddiqi has worked in health systems for over three decades and has interest and expertise in health governance and financing, policy analysis, global health and non-communicable disease prevention and control.

Symposium Leadership

Syed Ather Enam is a US Board certified Neurosurgeon and is Professor of Neurosurgery and Chair, Department of Surgery at the Aga Khan University, Karachi, Pakistan. He has Specialist Certification in Neurosurgery from Canada, an FRCS from Canada, an FRCS from Ireland, an FRCS from Glasgow and a Fellowship of American College of Surgeons. He has been awarded several accolades and honors for his work both in USA and in Pakistan, including Physician of the year medallion, Master Surgeon Award, Excellence in Neurosurgery Award and the presidential award, Sitara-e-Imtiaz. Dr. Enam has a strong interest in basic science research with a PhD in Neuroscience from Northwestern University, USA. He is a life member of Sigma Xi, a scientific research honor society, as well as Founding President of Pakistan Society of Basic and Applied Neuroscience (PASBAN), Founding President of Pakistan Society of Neuro-Oncology (PASNO), member of the Executive Committee of AANS-CNS Section of Brain Tumors (USA), and member of the Advisory Board of The Science Bridge. He has been editor of several scientific journals and has delivered numerous lectures across the world on Neurosurgery, Neuro-Oncology and Neuroscience topics. He is currently a PhD supervisor for the Higher Education Commission of Pakistan. He is actively involved in many clinical and basic science research projects and has authored more than 100 manuscripts and articles.

M. Shahzad Shamim is working as an Associate Professor in the Department of Surgery, Aga Khan University Hospital, Karachi. He is a consultant Neurosurgeon and Chief of Services for Neurosurgery, Neurology and Psychiatry where he is also the inaugural Director of Surgical Neuro-Oncology Fellowship Program, inaugural Director of Dean's Clinical Research Fellowship Program and Director of the Internship Program. With more than a hundred peer reviewed publications he is Pakistan's most published and cited neurosurgeon and has delivered numerous oral and poster presentations in national and international meetings. Dr Shamim is a reviewer for more than 20 journals and on the editorial board of five.

Scientific Program

Day 1
Friday, September 4, 2020

Session One
Session Chair: Naureen Mushtaq

Friday, September 4, 2020 | 08:00am – 10:15am (Pakistan Time; GMT +5)			
08:00am – 08:10am	10 mins	Syed Ather Enam, Karachi	Welcome and Introduction
08:10am – 08:40am	30 mins	Eric Bouffet, Canada	Key principles in the management in childhood medulloblastoma
08:40am – 08:55am	15 mins	Ibrahim Qaddoumi, USA	The many faces of precision medicine low grade gliomas
08:55am – 09:15am	20 mins	Naureen Mushtaq, Karachi	Capacity building of pediatric neuro-oncology services across Pakistan
09:15am – 09:30am	15 mins	M. Nouman Mughal, Karachi	Introduction to the molecular basis of epigenetics
09:30am – 09:45am	15 mins	Ho Shin Gwak, Korea	Recent challenge for diagnosis and treatment for leptomeningeal metastasis
09:45am – 10:00am	15 mins	Edus Houston Warren, USA	Primary and secondary lymphoma of the central nervous system
10:00am – 10:15am	15 mins	Q&A	Participants

Session Two
Session Chair: Tariq Khan

Friday, September 4, 2020 | 05:00pm – 07:15pm (Pakistan Time; GMT +5)			
05:00pm – 05:30pm	30 mins	Hugues Duffau, France	Early maximal safe resection for low-grade glioma: a connectional-based surgical approach, over 1100 awake procedures
05:30pm – 05:45pm	15 mins	Jack Rock, USA	Anterior cranial base and Sellar Surgery
05:45pm – 06:15pm	30 mins	Jinsong Wu, China	Dominant side insular glioma surgery
06:15pm – 06:30pm	15 mins	Constantinos Hadjipanayis, USA	Patient outcomes in GBM using a robotic-assisted digital surgical exoscope
06:30pm – 06:45pm	15 mins	Jason Sheehan, USA	Big data studies on SRS for pituitary adenomas
06:45pm – 07:15pm	30 mins	Mitchel S. Berger, USA	Awake glioma surgery: Lessons learned in 35 plus years
07:15pm – 07:30pm	15 mins	Q&A	Participants

Day 2
Saturday, September 5, 2020

Session Three
Session Chair: M. Shahzad Shamim

Saturday, September 5, 2020 | 08:00am – 10:00am (Pakistan Time; GMT +5)			
08:00am – 08:30am	30 mins	Whitney Pope, USA	Glioma imaging
08:30am – 08:40am	10 mins	Shahab Ansari, Islamabad	Neuro-oncology and AI
08:40am – 08:50am	10 mins	Hassan Mohyuddin, Lahore	Radiomics & radio-genomics in neuro-oncology
08:50am – 09:05am	15 mins	Atul Goel, India	Surgery on giant pituitary tumors
09:10am – 10:00am	Multidisciplinary Neuro-Oncology Tumor Board Moderator: M. Shahzad Shamim and Naureen Mushtaq Panelists: Dr. Ghaus Malik, Mansoor Saleh, Rakesh Jalali, Whitney Pope, Tom Mikkelsen, Vani Santosh, Eric Bouffet, Adnan Jabbar, Asim Hafeez, Fatima Mubarak, Khurram Minhas, Rashid Jooma, Ahmed Ali Shah, Zubair Ahmed		

Saturday, September 5, 2020

Session Four: Inauguration of PASNO

Saturday, September 5, 2020 | 05:00pm – 07:30pm (Pakistan Time; GMT +5)			
05:00pm – 05:05pm	05 mins	Syed Ather Enam, Karachi	Introduction of 1ANOS & PASNO
05:05pm – 05:15pm	10 mins	Address by President Firoz Rasul, Aga Khan University	
05:15pm – 05:45pm	30 mins	Keynote Lecture: Mark L. Rosenblum, USA	History and future of brain tumor Therapy: A 50 year personal experience
05:45pm – 05:50pm	05 mins	Messages in support of PASNO across the world	
05:50pm – 06:00pm	10 mins	Isabelle Germano, USA	AANS /CNS Tumor Section
06:00pm – 06:10pm	10 mins	Chas Haynes, USA	Society of Neuro-Oncology (North America)
06:10pm – 06:20pm	10 mins	Interview with Dr. Ghaus Malik: Relevance of PASNO	
06:20pm – 06:30pm	10 mins	Zarnie Lwin, Australia	Asian Society of Neuro-Oncology
06:30pm – 06:40pm	10 mins	Yasser Latif Hamdani	Patient perspective
06:40pm – 06:50pm	10 mins	Komal Syed	Caregiver perspective
06:50pm – 07:00pm	10 mins	Pakistan Brain Tumor Epidemiology - Commentary by Sameen Siddiqui	
07:00pm – 07:25pm	25 mins	Panel Discussion: Role of Neuro-Oncology Societies in LMIC <u>Panelist:</u> Tariq Khan — Global Neurosurgery - WFNS Rakesh Jalali — Indian Society of Neuro-Oncology James Balogun — Society of Neuro-Oncology of Sub-Saharan Africa Chen Zhongping — Chinese Society of Neuro-Oncology Gelareh Zadeh — Networking of neuro-oncology societies	
07:25pm – 07:30pm	05 mins	Closing remarks by Dean Adil Haider, Aga Khan University	

<u>Day 3</u>
Sunday, September 6, 2020

Session Five
Session Chair: Salman Shariff

Sunday, September 6, 2020 | 08:00am – 10:15am (Pakistan Time; GMT +5)			
08:00am – 08:30am	30 mins	Tom Mikkelsen, USA	Cancer genome atlas and data science in neuro-oncology
08:30am – 08:45am	15 mins	Vani Santosh, India	Glioma classification updates- WHO 2016 and beyond
08:45am – 09:00am	15 mins	Rakesh Jalali, India	Molecular markers in clinical practice for common brain tumors
09:00am – 09:15am	15 mins	Bryan Day, Australia	EphA3 a functional targetable receptor for the treatment of brain cancer
09:15am – 09:30am	15 mins	Chae-Yong Kim, Korea	Clinical trials for high grade gliomas: the basis and starting point for a multidisciplinary team approach
09:30am – 09:45am	15 mins	Chen Zhong-ping, China	Precision medicine for glioma patient in China: SYSUCC experience
09:45am – 10:00am	15 mins	Ishaq Khan, Peshawar	Association of ABCG2 and ABCB5 expressions in Primary brain tumors with chemotherapeutic sensitivity
10:00am – 10:15am	15 mins	Q&A	Participants

Special Session
Session Chair: M. Nouman Mughal

Sunday, September 6, 2020 | 02:00pm – 03:00pm (Pakistan Time; GMT +5)			
02:00pm – 02:30pm	30 mins	Syed Ather Enam, Karachi	Neuro-oncology in Pakistan
02:30pm – 03:00pm	30 mins	Panel Discussion: Evolving contributions of academia	

Session Six
Session Chair: Adnan Jabbar

Sunday, September 6, 2020 | 05:00pm – 07:15pm (Pakistan Time; GMT +5)			
05:00pm – 05:30pm	30 mins	Tracy Batchelor, USA	Precision neuro-oncology – targeted therapies for brain tumors
05:30pm – 05:45pm	15 mins	Gelareh Zadeh, Canada	Clinical impact of integrating methylation into management of brain tumors
05:45pm – 06:00pm	15 mins	Seok-Gu Kang, Korea	A translation niche with glioblastoma origin cells: from mouse to human subventricular zone
06:00pm – 06:15pm	15 mins	David Ashley, USA	Brain immunology and immunotherapy in brain tumors
06:15pm – 06:30pm	15 mins	Tseng Tsai Yeo, Singapore	Mixed reality (augmented plus virtual reality) in neuro-oncology: use of microsoft hololens 2 in brain tumor surgery
06:30pm – 06:45pm	15 mins	Andrew Sloan, USA	A phase I study Genetically engineered stem cells targeting MGMT in newly diagnosed, MGMT unmethylated glioblastoma: evidence of survival benefit
06:45pm – 07:00pm	15 mins	Mansoor Saleh, Kenya	When a headache is more than just an ache - the oncologic approach and management of a brain mass
07:00pm – 07:15pm	15 mins	Q&A	Participants

07:15 – 07:30	15 mins	Shahzad Shamim, Karachi	Closing remarks

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