

In This Issue...

5

Medical Neuro-oncology
Report

6

2016 CNS Awardees

11

Update from Clinical
Trials Committee

Message from the Chair



Dear Colleagues:

As we discussed together in San Diego this past October, one of the major initiatives of our new Tumor Section strategic plan is to enhance

communication to our members worldwide. We also expect that this outreach will spur growth, promote mentorship and increase the overall professional impact of the Tumor Section for its members. A new social media platform is a large part of that goal. I am happy to report that, thanks to the wonderful efforts of Edjah Kweku-Ebura Nduom, MD, and members of our team, the Tumor Section has fully entered the 21st century! For the first time, we are now live on multiple social media platforms, including Facebook, LinkedIn and Twitter (@NSTumorSection).

Please search for "Tumor Section," join the group/page and help spread the word in your respective institutions. The next and most important step will be to engage members to submit content and solicit feedback while tracking usage patterns. More updates will be coming soon. Within 48 hours of the launch of these social media platforms, over 250 members and potential future tumor section members had already signed up - from places like Brazil, Nigeria, Myanmar, Australia, and nearly everywhere in between. We believe this significant enhancement in our digital connectivity, combined with our brand new website redesign at <http://www.tumorsection.org>, which was launched and updated by Jeffrey W. Weinberg, MD, FAANS, and his team, will dramatically improve our ability to achieve our goals of

mentorship, networking for job opportunities, enhancing academic and research collaborations, streamlining communication and simply making it easier for more students, residents and faculty neurosurgeons to contribute to the life of the Section.

On the fellowship front, we also have more great news to share: two new fellowship awards will be given this academic year thanks to the generosity of many who contributed to the Honor Your Mentor (HYM) initiative and through a new collaboration with B*Cured. In addition to the traditional Tumor Section fellowship funded through the NREF, we launched two new \$50,000 fellowship awards this year: the Andrew Parsa Research Award and the B*Cured - Tumor Section Award: winners of these prestigious fellowships will have the opportunity to give a plenary session talk at one of our national meetings at the conclusion of their research year.

The Tumor Section also remains active in the production of guidelines for the management of brain tumors. New guidelines on the management of nonfunctional pituitary adenomas have recently been released, thanks to an effort led by Manish K. Aghi, MD, PhD, FAANS, and endorsed by the AANS/CNS Joint Guidelines Committee. Next, the Update to the Brain Metastases Guidelines, led by Jeffrey J. Olson, MD, FAANS, will soon be submitted to the Joint Guidelines Committee for review and endorsement. All of our Tumor Section guidelines, including full, free PDFs of all chapters, can be found on our website and at cns.org/guidelines.

The tumor portion of the 2017 AANS Annual Scientific Meeting features a phenomenal lineup of international luminaries in immunotherapy, as well as a session on novel intra- and perioperative surgical management modalities and their impact on quality of life for patients with brain tumors.

Shawn Hervey-Jumper, MD, and Peter Edward Fecci, MD, the Tumor Section scientific program chairs for the AANS 2017 Annual Meeting, assembled a spectacular program, and I look forward to seeing all of you very soon in Los Angeles. In addition, I am delighted to announce that Mitchel S. Berger, MD, FAANS, has agreed to be the featured honored guest at the Tumor Section's Young Neurosurgeons Reception in Los Angeles.

Finally, in what is a time-honored tradition for the Tumor Section, we look forward to celebrating the achievements of the winners of two of our most prestigious awards being given in 2017. First, the Ronald L. Bittner Lecture will be delivered by CNS past-president Russell L. Lonser, MD, FAANS, at the 2017 AANS Annual Scientific Meeting on Monday, April 24, in Los Angeles. Second, a joint committee from the Tumor Section and from SNO considered multiple candidates worthy of lifetime achievement recognition in our specialty to honor the triple aims of clinical excellence, world class academic research and mentorship, as embodied by the late

Abhibit Guha, MD, FAANS; the 2017 Guha Award will be given to former Tumor Section chair, Frederick F. Lang Jr., MD, FAANS, for his many contributions to our field, and he will deliver his address at the CNS annual meeting in Boston in October 2017. Congratulations Russ and Fred!

For the latest details on Tumor Section activities and for information on becoming a member, please visit our website, www.tumorsection.org.



Sincerely,

Steven N. Kalkanis, MD, FAANS
Chair, Section on Tumors

AANS 2017 Update

The 2017 AANS Annual Scientific Meeting will be held in Los Angeles on April 22-26. The scientific program of the Tumor Section will feature the following themes: (1) the impact of perioperative management on quality of life - Session II and (2) the changing landscape surrounding brain tumor immunotherapy-Session III. Monday's Scientific Session will feature the annual Ronald L. Bittner lecture, delivered by Russell R. Lonser, MD, FAANS, followed by open abstract presentations and four award-winning abstracts. Embedded into this year's meeting will be two representatives from the biomedical industry, highlighting the importance of partnership and collaboration.

Given recent evidence highlighting the importance of quality of life concerns as a driving force behind how brain tumor patients make decisions about their care, Tuesday, April 25, (Scientific Session II) will feature a team of internationally recognized speakers addressing this emerging topic. The session will feature an overview of language, motor and neurocognitive functional assessment measures, discussion of the interaction between functional outcomes and health related quality of life, an overview of novel-imaging modalities to assess functional networks, a summary of quality of life endpoints in clinical trial design and examination of its potential socioeconomic value. Our list of speakers will include Terri S. Armstrong, PhD, ANP-BC, FANN, FAANP, from NCI; Richard W. Byrne, MD, FAANS, from Rush University; Edward F.

Chang, MD, FAANS, from University of California, San Francisco; Cameron Piron, MD, from Synaptive Medical and Anthony L. Asher, MD, FAANS, from Carolina Neurosurgery and Spine.

Wednesday, April 26, (Session III) will focus on the changing landscape surrounding immunotherapy for brain tumors. This session will focus on evolving areas of interest with an eye toward the future of therapies and interfaces with neurosurgery and industry. These topics will include "The Developing Field of Immunogenomics," "Emerging Advances in Immunotherapy," "Technological Interfaces: Neurosurgery and Immunotherapy," "The Industry Perspective: Opportunities in Brain Tumor Immunotherapy" and "Immunotherapeutic Challenges: Where are We Now and Where Do We Need to Be?" This session will feature Gavin Peter Dunn, MD, PhD, FAANS, from Washington University of St. Louis; Amy B. Heimberger, MD, FAANS, from MD Anderson Cancer Center; Eric Claude Leuthardt, MD, FAANS, from Washington University in St. Louis; Thomas Davis, MD, from Celldex Therapeutics; and John H. Sampson, MD, PhD, FAANS, from Duke University.

We hope that you will be able to join us to hear these invited speakers and the many outstanding abstracts and award winning presentations. We look forward to seeing you in Los Angeles!

Peter Edward Fecci, MD, & Shawn Level Hervey-Jumper, MD

Tumor Education and Meetings

Committee members have been busy developing the scientific program for the 2017 CNS Annual Meeting in Boston. Working with Pamela Stuart Jones, MD, MPH; Adam Michael Robin, MD; and Tumor Section leadership including Steven N. Kalkanis, MD, FAANS; and Manish K. Aghi, MD, PhD, FAANS, a comprehensive and vibrant scientific program has been developed. The Tumor section guidelines initiative will be featured in the general scientific session on Monday, Oct. 9. Also, this year's program features a new clinical trials course directed by Michael A. Vogelbaum, MD, PhD, FAANS.

A dinner seminar on contemporary management of skull base tumors will be offered. Interactive breakout sessions include one on keyhole cranial access and another on brain metastasis. General tumor section sessions will focus on the new World Health Organization (WHO) Classification for Gliomas and another on Guidelines and Contemporary Management of Nonfunctioning

Pituitary Adenomas. More than a dozen tumor-focused practical courses and luncheon seminars will also be offered, including the full-day brain tumor update course. Further information will be available through the CNS Annual Meeting website.

Additionally, a special two-day seminar will be held in advance of the 2017 AANS meeting. The meeting is the Spetzler Symposium and will include presentations on skull base and brain tumor surgery. There is significant representation from the Tumor Section in the scientific program for this auspicious symposium. It will be held April 20-21, in Los Angeles, at the L.A. Convention Center. For more information, please see <http://www.aans.org/Annual/2017/pdfs/Spetzler-Symposium-Exhibitors.pdf>.

Jason Sheehan, MD, PhD

Tumor Section Webinars and Online Education

The Society of Neurological Surgeons (SNS), AANS and CNS are in the process of developing a Neurosurgery Portal. This Portal will allow neurosurgical residents to link their Accreditation Council of Graduate Medical Education (ACGME) Milestones to the SNS Matrix Curriculum. The Tumor Section will be working on linking the best educational resources (high quality journal articles, texts or media) related to brain and skull base tumors to the Matrix and the Milestones.

The CNS is developing an online educational tool, NEXUS, for residents and practicing neurosurgeons based on actual patient cases that will display the presentation, imaging, approach including alternative approaches, anatomy, positioning, incision, actual surgery, postoperative outcomes/imaging, a discussion of learning points of the case and reference links specific to the pathology that is treated surgically. The Tumor Section will provide case content

specific to dural-based, intrinsic, intraventricular, pineal and skull-base tumors.

On behalf of the Tumor Section, a CNS Subspecialty Working Group will be working on developing new tumor-based live courses and online content for webinars. Please provide any ideas for new content to Costas G. Hadjipanayis, MD, PhD, FAANS.

A CNS NeuroOncology Oral Board Webinar will take place on April 17, 2017, from 7:30-9 p.m. EST. The webinar will include tumor cases and complications that involve brain metastases, skull base tumors and gliomas. Participants will be able to ask questions and hear oral board test-taking strategies.

Jason Sheehan, MD, PhD

Costas G. Hadjipanayis, M.D., Ph.D.

Historian Report



The Joint Section on Tumors held a reception gala for the membership on Sept. 23, 2016, at the U.S. Grant Hotel in beautiful San Diego. This event was a packed house, filled with Tumor Section members, fellows and trainees from around the world. This outstanding kick-off event celebrated 31 years of the AANS/CNS Joint Section on Tumors and boasted a power-packed agenda of presentations including:

- Welcoming remarks from Section president, Steven N. Kalkanis, MD, FAANS
- Satellite Symposium overview from meeting co-chairs, Brian Nahed, MD, and Chetan Bettegowda, MD
- History of the Satellite Symposium presentation from Dr D'Ambrosio
- Awards presentations including:
 - Wilson Award recipient Mitchel S. Berger, MD, FAANS (presented by Manish Aghi, MD, PhD, FAANS)
 - Distinguished Service Award recipient Joseph Piepmeier, MD, FAANS (presented by Jennifer Molitero Gunel, MD, FAANS)
 - Andy T. Parsa Mentorship Award recipient Frederick G.. Barker II, MD, FAANS (presented by Charlotte Parsa)
- Closing remarks from Dr. Kalkanis

The 31st Anniversary Tumor Section Satellite Symposium Gala Dinner was a great success as was our most well-attended Tumor Section Satellite Symposium in history. Congratulations to all!

Anthony L. D'Ambrosio, MD, FAANS
Section Historian

International Report Summary

The International Committee had a successful year in 2016. To briefly summarize, the World Federation of Neurosurgical Societies (WFNS) had two annual international neuro-oncology educational meetings with two or three additional courses planned for this coming year. The European Tumor Section experienced significant growth under its new chair, Colin Watts, PhD, achieving membership of over 200 individuals. The WFNS is also actively integrating into the AANS/CNS Tumor Section with collaborative training courses and clinical trials. The Indian Society of Neuro-oncology has rapidly expanded its annual meetings with high attendance and plans to host a live brain tumor surgery workshop in 2017. The Chinese Neurosurgery Society is formalizing an exchange program for its neurosurgeons to observe in the U.S., allowing an open forum for integrated educational opportunities. The Chinese Neurosurgery Society is also planning to publish a journal issue entirely dedicated to international neurosurgery. The Argentinean Neurosurgery Society had a Brain Tumor Awareness Symposium in 2016, with guest speaker Steven N. Kalkanis, MD, FAANS. The symposium will be continued in 2017. The Argentinean Neurosurgery Society has also agreed to support an International Fellowship program for residents to come to the U.S. for three months. This fund will support the resident with the best abstract at its national meeting. The Continental Association of African Neurosurgical Societies (CAANS) held their second congress in Cape Town, July 2016, with excellent attendance. The next congress will be hosted in Nigeria. Finally, the Federation of Latin American Neurosurgeons (FLANC) is very interested in expanding collaborations with the AANS/CNS Tumor Section. Led by Daniel Monte-Serrat Prevedello, MD, this collaboration will be finalized in 2017.

Ricardo J. Komotar, MD, FAANS
University of Miami

Medical Neuro-oncology Report

World Health Organization 2016 Classification of Glioma

The new World Health Organization (WHO) 2016 classification of glioma has significant implications in the management of patients with diffuse glioma, especially for the non-glioblastoma histologies. Traditionally diffuse grade II and III gliomas have been diagnosed morphologically into two basic subtypes: oligodendroglioma and astrocytoma, with a third 'mixed' category of oligoastrocytoma for those cases where morphology showed characteristics of both. The usefulness of this classification was limited due to a major inter- and intra-observer variability and the heterogeneous clinical outcome among similar histologically diagnosed tumors. The WHO 2016 edition of the classification of glioma has radically changed and is now based on molecular characteristics (1).

The new classification of diffuse gliomas is more robust and more informative with respect to predictive and prognostic value than the classical morphological approach, but requires clinicians to familiarize themselves with this new classification system and to rethink their approach to diagnostics and treatment of these tumors. A number of clinical studies have shown the superior prognostic and predictive significance of a molecular glioma classification based primarily on 1p/19q status and mutations in the isocitrate dehydrogenase gene (*IDH*). As a consequence, these two genetic lesions are now at the core of astrocytoma and oligodendroglioma diagnostics. The diagnosis of an oligodendroglioma requires the presence of both 1p/19q co-deletion and mutation (mt) of isocitrate dehydrogenase (*IDH1* or *IDH2*); for astrocytoma, both an *IDHmt* and an *IDH* wild type (wt) variant exist. For those glioma cases in which molecular testing was either not possible or inconclusive, the connotation "Not Otherwise Specified" (NOS) is used. As a consequence of this change, mixed oligoastrocytoma is no longer an entity when this layered approach of integrating molecular/cytogenetic characteristics as well as histology is used.

IDHwt astrocytoma are heterogenous and merit further diagnostic testing and separate clinical decision-making. In particular, *IDHwt* astrocytoma often show mutations in the EGFR and PTEN gene and those that show polysomy of chromosome 7, loss of heterozygosity of chromosome 10q and *TERT* promoter (*TERTp*)

mutations are likely to behave like glioblastoma. For these patients, consideration of a more intensive treatment may be warranted even if categorized as grade II or III. Subsets of *IDHwt* astrocytoma may have other mutations like BRAF or mutations in the histone *H3F3A* and *HIST1H3B* genes that are observed in clinically aggressive midline lesions (pontine, thalamic glioma) of adolescents and young adults. Some of these mutations (e.g., K27M *H3F3A*) are now acknowledged as separate entities and histopathologically are characterized as low- or high-grade tumors.

Conclusions of published series of glioma need to be re-examined, taking into account the new WHO classification. This can be challenging especially if tissue collection was not prospectively mandated as part of the study procedures. Clinical trials need to incorporate this new classification system of glioma for eligibility criteria in order to minimize the confounding effect on clinical outcomes. Several trials in anaplastic glioma have integrated 1p19 status into the eligibility criteria- specifically the CODEL trial of radiation and temozolomide versus radiation versus procarbazine, lomustine and vincristine (PCV) for 1p19 codeleted grade II and III glioma and the CATNON trial of radiation and concurrent versus adjuvant temozolomide for non 1p19q codeleted anaplastic glioma. Interim results of the CATNON trial showed an improved survival for adjuvant temozolomide following radiation therapy and further results regarding the value of concurrent temozolomide with radiation as well as the effect of IDH mutation, are pending.

1. Louis, D. N., Ohgaki, H., Wiestler, O. D., Cavenee, W. K., Burger, P. C., Jouvet, A., ... & Kleihues, P. (2016). WHO classification of tumours of the central nervous system. Revised 4th edition ed. Lyon.

Susan M. Chang, MD

Tumor Section Awards Update - Spring 2017

The Tumor Section Awards Committee continues to actively develop the most robust award program for outstanding research of any of the AANS/CNS joint sections. Each year, the section gives 12 awards plus one named lectureship at the AANS Annual Scientific Meeting and nine awards plus one lectureship every other year at the CNS meeting. Additionally, we offer three awards at our Biennial Tumor Satellite Symposia. Most of the awards are limited to Tumor Section members, providing an additional incentive for membership. The AANS/CNS Section on Tumors would like to thank the award sponsors for helping to encourage submission of the highest quality work in neuro-oncology.

The Tumor Section Satellite Symposium 2016 awardees, the nine CNS 2016 award winners and the Gupta Award lectureship, this year given at SNO, are listed below. Congratulations to each winner!

The section is also looking forward to recognizing the 13 award winners at the 2016 CNS Annual Meeting, as summarized in the table below. Congratulations!

Isabelle M. Germano, MD, FAANS

2016 Biennial Tumor Satellite Symposium Awardees



Distinguished Service Award 2016

Joseph M. Piepmeier, MD, FAANS, was the recipient of the 2016 Distinguished Service Award.

The Distinguished Service Award is given at the discretion of the chair of the AANS/CNS Joint Section on Tumor to a neurosurgeon in recognition for service to the section. The award carries a \$2,500 honorarium.



Charles B. Wilson Award

Mitchel S. Berger, MD, FAANS, was the recipient of the 2016 Charles B. Wilson Award.

The Charles B. Wilson Award is given to a neurosurgeon to award life-time career achievement in neuro-oncology. The award carries a of \$2,500 honorarium.

Dr. Berger receives the 2016 Charles B. Wilson Award from Steven N. Kalkanis, MD, FAANS, chair of the AANS/CNS Joint Section on Tumors at the Tumor Section Satellite Symposium during the Gala Dinner on Sept. 24, 2016.



Frederick G. Barker II, MD, FAANS, receives the First Andy T. Parsa Mentorship Award from Steven N. Kalkanis, MD, FAANS, at the Tumor Section Satellite Symposium during the Gala Dinner on Sept. 24, 2016.

Andy T. Parsa Mentorship Award

Frederick G. Barker II, MD, FAANS, was the recipient of the first Andy T. Parsa Mentorship Award.

The Andy T. Parsa Mentorship Award, proposed by Isabelle M. Germano, MD, FAANS, was established in 2016 to honor Andrew Thomas Parsa, MD, PhD, FAANS, who passed away on April 13, 2015, shortly before he was to become chair of the Tumor Section. Dr. Parsa was a renowned brain tumor neurosurgeon, an innovative researcher and a dedicated mentor. He was an exceptional teacher, both in the operating room as well as in the clinic. He made everyone around him feel like a valuable member of the team. The award carries a \$2,500 honorarium.

2016 Congress of Neurological Surgeons Awardees

American Brain Tumor Association Young Investigator Award

Gavin P. Dunn, MD, FAANS, was the recipient of the American Brain Tumor Association (ABTA) Award at the 2016 CNS Annual Meeting for the work entitled “*Identification of Neoantigen-specific CD8+ T Cells in Two Murine Orthotopic Glioblastoma Models Using Cancer Immunogenomics*,” presented during the Tumor Section I on Monday, Sept. 26, 2016.

Sponsored by the ABTA, the Young Investigator Award is given at the AANS Annual Scientific Meeting and the CNS Annual Meeting to a young faculty member involved in neurooncology research who has demonstrated outstanding potential for future basic science research. The applicant must have been out of training for less than six years. A \$2,000 honorarium accompanies this award.

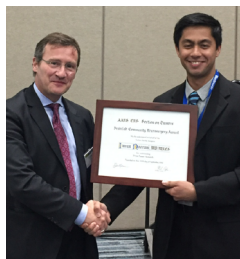


Dr. Dunn receives the ABTA Young Investigator Award during CNS 2016 from Isabelle M. Germano, MD, FAANS, AANS/CNS Tumor Section Awards chair.

BrainLab Neurosurgery Award

Imran Noorani was the recipient of the BrainLab Neurosurgery Award at the 2016 CNS Annual Meeting for his work entitled “*Genome-wide CRISPR/cas9 Knock-out Screens in Human Glioblastoma Identify Genetic Vulnerabilities*,” presented during the Scientific Session I on Monday Sept. 26, 2016.

The Brainlab Neurosurgery Award is presented at the annual meetings of the AANS and CNS. This award is given to a neurosurgeon practicing in a nonacademic or international setting with the best abstract related to central nervous system tumors. Previous Tumor Section chairs, Michael W. McDermott, MD, FAANS, and Ronald E. Warnick, MD, FAANS, were instrumental in securing this award, given through the generosity of Brainlab. The award carries an honorarium of \$1,000.



Imran Noorani receives the BrainLab Neurosurgery at the CNS Annual Meeting 2016 from Ekkehard M. Kasper, MD, PhD, FAANS, co-moderator of Section on Tumor I.

Columbia Softball Pediatric Brain Tumor Award

Jennifer Lauren Quon, MD, was the recipient of the Columbia Softball Pediatric Brain Tumor Award at the 2016 CNS Annual Meeting for her work entitled “*Transnasal Endoscopic Approach for Pediatric Skull Base Tumors: A Case Series*,” presented during the Pediatric Session on Tuesday, Sept. 27, 2016

The Columbia Softball Charity Award is given to the best pediatric tumor abstract submitted by a resident or faculty member who is a member of the on Tumor Section at each AANS/CNS meeting. The section would like to acknowledge previous Section chairs, Jeffrey N. Bruce, MD, FAANS; Frederick G. Barker II, MD, FAANS; and Richard C.E. Anderson, MD, FAANS, for putting together the plan to use a portion of the proceeds from the annual tournament to support this award. The award carries an honorarium of \$1,000.



Dr. Quon receives the Columbia Softball Charity Award at the 2016 CNS Meeting from Ian Y. Lee, MD, FAANS, co-moderator, Section on Tumors II.

Abhijit Guha Award

Michael D. Taylor, MD, PhD, was the recipient of the Abhijit Guha Award 2016 for the work entitled “*Biology of Medulloblastoma dictates behavior in the clinic*” during the SNO Annual Meeting on Friday, Nov. 18, 2016.

The Abhijit Guha Award and lecture are jointly sponsored by the Society of NeuroOncology (SNO) and it is given annually, alternating between the SNO and CNS meetings. The winner is a physician scientist making great strides in the laboratory and clinic.



Dr. Taylor delivers the Abhijit Guha Award Lecture at the SNO Annual Meeting, Nov. 18, 2016.

Integra Foundation Award

Prashant Chittiboina, MD, MPH, was the recipient of the Integra Award at the 2016 CNS Meeting for the presentation entitled: “*HDAC Inhibitor Vorinostat is a Novel, Promising Treatment for Cushing's Disease*,” presented during the Tumor Section II, on Tuesday, September 27, 2016.

The Integra Foundation Award, sponsored by the Integra Foundation, is given at both the AANS and CNS meetings for the best research or clinical paper submitted investigating benign brain, spinal or peripheral nerve tumors. The award carries an honorarium of \$1,000.



Dr. Prashant Chittiboina, MD, MPH, receives the Integra Award at the CNS 2016 from Costas G. Hadjipanayis, MD, PhD, FAANS, co-moderator, Section on Tumor II.

continued on page 8

National Brain Tumor Society Mahaley Clinical Research Award

Pascal Zinn, MD, PhD, was the recipient of the National Brain Tumor Society (NTBS) Award at the 2016 CNS Annual Meeting for the presentation entitled: *"Clinically Applicable and Biologically Validated MRI Radiomic Test Method Predicts Glioblastoma Genomic Landscape and Survival,"* presented during the Tumor Session I, on Monday, September 26, 2016.

The NBTS Mahaley Award is given at each of the AANS and CNS meetings to a neurosurgery resident, fellow or attending physician who submits the best clinical study in neuro-oncology. The award carries a \$1,000 honorarium.



Dr. Pascal O. Zinn was awarded the NBTS Mahaley Award at the CNS 2016 by Dr. Isabelle M. Germano, Tumor Section awards chair.

Stryker Neuro-Oncology Award

Hormuzdiyar H. Dasenbrock, MD, was the recipient of the Stryker Neuro-Oncology at the 2016 AANS Annual Scientific Meeting for the presentation entitled *"Unplanned Reoperation After Craniotomy for Tumor: A National Surgical Quality Improvement Program Analysis"* presented during the Tumor Session I, on Monday, Sept. 26, 2016.

The Stryker Neuro-Oncology Award is given to a high-ranking brain tumor clinical or basic science abstract submitted by a resident or medical student. The award is presented at the CNS and AANS annual meetings and the senior author of the paper must be a member of the AANS/CNS Section on Tumors. The award sponsored through the generosity of Stryker has a \$1,000 award.



Dr. Dasenbrock receives the Stryker Neuro-Oncology Award from Edjah Kweku-Ebura Nduom, MD, co-moderator, Section on Tumor I.

Preuss Award

Dimitris George Placantonakis, MD, PhD, FAANS, was the recipient of the Preuss Award at the CNS 2016 for the work entitled: *"GPR133 Promotes Glioblastoma Growth in Hypoxia"*, presented during the Tumor Session I on Monday, September 26, 2016.

Sponsored by the Preuss Foundation, the Preuss Award is given at each of the AANS and CNS meetings to a young scientist investigating brain tumors, within 10 years of training, who has submitted the best basic science research paper. This award has a \$1,000 honorarium.



Dr. Dimitris Placantonakis receives the Preuss Award at the 2016 CNS Annual Meeting from Dr. Isabelle M. Germano, Tumor Section awards chair

Synthes Skull Base Award

Aurel Hasanbelliu was the recipient of the Synthes Skull Base Award at the 2016 AANS Annual Scientific Meeting for the presentation entitled *"Expanded Anterior Petrosectomy Through the Transcranial Middle Fossa and Extended Endoscopic Transphenoidal-Transclival Approaches: Qualitative and Quantitative Anatomic Analysis,"* presented during the Tumor Session II, on Tuesday, Sept. 27, 2016.

The Synthes Skull Base Award is given to an attending neurosurgeon, resident or fellow in the Tumor Section who submits the best abstract related to skull base surgery. This award is given at the annual meetings of the AANS and CNS. Franco DeMonte, MD, FAANS, chair of the Skull Base Committee, was largely responsible for obtaining this award through a generous contribution from the Synthes Corporation. The award includes a \$1,000 honorarium.



Aurel Hasanbelliu receives the Synthes Skull Base Award at the CNS 2016 from Uzma Samadani, MD, PhD, FAANS, co-moderator, Section on Tumors II.

The Springer Journal of Neuro-Oncology Award

Andrew E. Sloan, MD, FAANS, was the recipient of the Springer Journal of Neuro-Oncology Award at the 2016 AANS Annual Scientific Meeting for the work entitled: *"Phase I Trial of Genetically Modified Hematopoietic Progenitor Cells (HPC) Facilitate Bone Marrow Chemoprotection and Enabling TMZ/O6BG Dose Escalation Resulting in Improved Survival"* presented during the Tumor Session I on Monday, September 26, 2016.

The Springer *Journal of Neuro-Oncology* Award is presented at both the annual AANS and CNS meetings to a highly-ranked abstract in either clinical or basic science as related to neuro-oncology. This award is sponsored by the generosity of Springer. This award carries a \$1,000 honorarium.



Dr. Andrew E Sloan, receives the CNS 2016 Springer JNO Award from Dr Isabelle M. Germano, Tumor Section awards chair.

Congratulations to the 2017 AANS Tumor Section Award Winners. Please join us for their presentations.

Award	Winner	Talk Title	Date	Time	Session
American Brain Tumor Young Investigator Award	A. Wang	Desmoplastic infantile ganglioglioma/astrocytoma	4/24/17	3:20-3:29 p.m.	Scientific Session I: Tumor
Ronald L. Bittner Award	A. Vellimana	Multisector Whole-exome Sequencing of Glioblastoma Reveals Profound Intratumoral Diversity: Implications for Precision Medicine	4/24/17	5:21-5:30 p.m.	Scientific Session I: Tumor
Brainlab Neurosurgery Award	S. Krieg	Plasticity of motor representations in patients with brain lesions: a navigated TMS study	4/25/17	4:21-4:30 p.m.	Scientific Session I: Tumor
Columbia Softball Charity Award	E. Thompson	Angiogenesis plays a critical role in Group 3 medulloblastoma pathogenesis	4/26/17	3:30-3:40 p.m.	Section on Tumors I
Integra Foundation Award	M. Youngblood	Clinical and Molecular Features of Genomic Subgroups in Meningioma	4/26/17	10:34-10:43 a.m.	Plenary III
Leksell Radiosurgery Award	J. Sheehan	Early versus Late Gamma Knife radiosurgery following transsphenoidal surgery for nonfunctioning pituitary macroadenomas: a matched multi-center cohort study	4/25/17	5:21-5:30 p.m.	Section on Tumors I
National Brain Tumor Mahaley Clinical Award	M. Garrett	Olig2 as a novel target for IDH1 mutant tumors	4/24/17	10:43-10:53 a.m.	Plenary I
Preuss Award	J. Figueroa	Detection of wtEGFR Amplification and EGFRvIII Mutation in CSF-Derived Extracellular Vesicles of High-Grade Glioma Patients	4/24/17	2:50-02:59 p.m.	Scientific Session I: Tumor
Brian D. Silber Award	R. Everson	Laser Thermotherapy for Spinal Metastatic Disease provides Comparable Local Control, Reduced Morbidity and Shorter Delay to Systemic Therapy Compared to Open Surgery	4/24/17	2:12-2:17 p.m.	Scientific Session II: Spine
The Springer J Neuroon-cology Award	D. Wang	Seizure outcome after surgical resection of insular glioma	4/25/17	4:01-4:10 p.m.	Section on Tumors I
Stryker Neuro-Oncology Award	A. Jahangiri	Discovery of A Novel Integrin/Tyrosine Kinase Complex That Drives Brain Metastases	4/24/17	2:40-2:49 p.m.	Scientific Session I: Tumor
Synthes Skull Base Award	J. Lee	Folate Receptor Overexpression Can Be Visualized in Real Time During Pituitary Adenoma Endoscopic Transsphenoidal Surgery	4/26/17	3:41-3:50 p.m.	Section on Tumors II

Tumor Section Fellowship Award Update - Spring 2017

The AANS/CNS Joint Section on Tumors takes great pride in supporting and encouraging young investigators to innovate the field of neuro-oncology with bench research. This year, the AANS/CNS Joint Section on Tumors started a new Research Fellowship Award in collaboration with the Neurosurgical Research & Education Foundation (NREF): the Andy T. Parsa Research Fellowship Award. This \$50,000 annual grant is given to the top scoring Research Grant or Young Investigator research proposal on brain tumors that is submitted to the NREF.

The 2017 Andy T. Parsa Research Fellowship Awardee is Darryl Lau, MD, with a research project entitled "The Role of c-Met/ β 1-integrin Complex Formation in the Establishment of Brain Metastases," with sponsorship from Manish K. Aghi, MD, PhD, FAANS. The Andy T. Parsa Research Fellowship Awardee will be presented with a plaque at the 2017 AANS Annual Scientific Meeting and given the possibility to present his/her research during the CNS 2017 Tumor Session.

Additionally, in collaboration with the NREF, the section continues to award a \$40,000 Research Grant or Young Investigator Award grant to a research proposal on brain tumors submitted to the NREF. The 2017 NREF Brain Tumor Research award was given to Jacky Yeung, MD, with the research project entitled "Immunogenetic profiling and targeting novel immune check point regulators in meningiomas," with sponsorship from Lieping Chen, MD, PhD.

Of note, a third Research Fellowship Award of \$50,000 is given each year by B*CURED in collaboration with NREF. The 2017 B*CURED recipient will be Pablo Valdes Quevedo, MD, PhD, with a research project entitled "*Expansion Microscopy for Interrogation of Cancer Mechanisms and Phenotypes in Gliomas*," with sponsorship from Ennio Antonio Chiocca, MD, PhD, FAANS.

We strongly encourage Tumor Section members to apply to the NREF for 2017! Applications will be available on Sept. 1, 2017, with a submission deadline of Nov. 1, 2017.

[Click](#) for more information.

Membership Report

Below are the Tumor Section Membership Statistics as of February 2017:

Class Code	Subclass Code	Status	# of Members
ASSOCIATE	15D	\$0	71
ADJUNCT	60D	\$37.50	23
ACTIVE	01S	\$150	533
INTERNATIONAL	40S	\$150	60
INTERNATIONAL, Developing Country	40SD	\$75	7
HONORARY	45S	\$0	20
Medical Students	15M	\$0	15
Resident/Fellow	50R	\$0	1,780

The Membership Committee is happy to report an increase with regards to the number of resident/fellow members and medical students, which is important for the continued development of the Section.

Jennifer Moliterno Gunel, MD, FAANS

Update from the Clinical Trials Committee

The Clinical Trials Committee would like to make our colleagues aware of opportunities to participate in multicenter, prospective clinical trials sponsored by the National Cancer Institute (NCI)-funded groups: NRG Oncology, Alliance and the American Brain Tumor Consortium (ABTC). Additionally, the committee has developed an educational offering that will debut at the 2017 CNS meeting, entitled “Clinical Trials in NeuroOncology: A Practical Primer.”

NRG Oncology Update:

The NRG Oncology cooperative group is one of two NCI-funded cancer clinical cooperative groups with a special focus on clinical trials for brain cancers. As a historical reminder, in 2014, the three legacy groups [consisting of the National Surgical Adjuvant Breast and Bowel Project (NSABP), the Radiation Therapy Oncology Group (RTOG) and the Gynecologic Oncology Group (GOG)] were unified into the combined group now known as “NRG Oncology.”

NRG has several currently accruing and soon to open clinical trials that will be of interest to neurosurgeons. NRG-BN003 is a prospective phase III trial that randomizes patients with newly diagnosed WHO grade II (atypical) meningiomas that have been subjected to a Simpson grade 1–3 resection to observation vs. adjuvant fractionated radiotherapy. This study follows on the heels of RTOG 0539, which was one of the first cooperative group trials to be completed in meningiomas and showed that use of radiotherapy in this group of patients was associated with a clear improvement in PFS, compared to historical control and that this benefit may have translated into an OS benefit as well. NRG-BN003, which is expected to launch in March 2017, is chaired by Leland Rogers, MD, and Michael A. Vogelbaum, MD, PhD, FAANS.

NRG-CC001, led by Paul Brown, MD, and Vinai Gondi, MD, aims to accrue 510 patients to determine whether hippocampal avoidance whole brain radiotherapy (HA-WBRT) in patients receiving the memory-sparing drug, memantine, increases time to neurocognitive failure at months two, four, six and 12 as measured by neurocognitive decline on a battery of tests: the Hopkins Verbal Learning Test-Revised (HVLTR) for Total Recall, Delayed Recall and Delayed Recognition, Controlled Oral Word Association (COWA) and the Trail Making Test (TMT) Parts A and B. Trial eligibility will be patients with brain metastases who may have had prior therapy for brain metastasis, including radiosurgery and surgical resection. Therefore, neurosurgeons are anticipated to be critical drivers of patient enrollment in this trial, through the identification of patients who can meet enrollment criteria. Patients must have completed prior therapy by at least 14 days prior to registration for surgical resection and seven days for radiosurgery.

The next NRG Oncology scientific meeting will be July 14 in Philadelphia. For further details regarding NRG Oncology Trials, please contact Dr. Cahill at cahill@mg.harvard.edu

Alliance Update:

The AANS/CNS Tumor Section has implemented a collaboration with the Alliance for Clinical Trials in Oncology to facilitate cooperative efforts between neurosurgeons, neuro-oncologists and radiation oncologists at the national level in an effort to more efficiently support neuro-oncology clinical trials. Each issue of the Tumor Section Newsletter will highlight a clinical trial that is being sponsored by the Alliance or presented at one of the semi-annual meetings that may be of interest to neurosurgeons. Additional information regarding the Alliance is available on the website allianceforclinicaltrialsinoncology.org.

The clinical trial highlighted in this report involves patients with newly-diagnosed glioblastoma and is entitled:

- A Study of ABT-414 in Subjects With Newly Diagnosed Glioblastoma (GBM) With Epidermal Growth Factor Receptor (EGFR) Amplification

ABT-414 is an investigational monoclonal antibody drug conjugate targeting EGFR previously evaluated in a phase 1 trial for glioblastoma in which 6-month PFS was 30 percent. This phase 2b/3 clinical trial will enroll patients with newly diagnosed glioblastoma or gliosarcoma. Tumors must have confirmed EGFR amplification. Patients who meet this and other eligibility criteria will be randomized to one of two treatment arms:

- Experimental arm: patients receive ABT-414, radiation and temozolomide; ABT-414 is given on day one of weeks one, three and five along with standard radiation and temozolomide, as well as days one and 15 of each subsequent adjuvant temozolomide cycle.
- Placebo arm: Patients receive placebo, radiation and temozolomide. Placebo is given per the same schedule as the ABT-414 in the experimental arm.

Primary objectives:

- Progression-free survival for phase 2b
- Overall survival for phase 3

This trial is open and recruiting at 194 centers in the U.S. and internationally. Estimated enrollment in the trial is 720 and estimated completion date is April 2020.

The spring Alliance for Clinical Trials in Oncology meeting is May 13, 2017, in Chicago. For details regarding the meeting, please contact Dr. Elder at brad.elder@osumc.edu.

continued on page 12

ABTC Update:

ONGOING TRIALS

A). Newly Diagnosed High Grade Glioma

1. ABTC 1775: A Phase I Study of MK-1775 with Radiation and Temozolomide in Patients with Newly Diagnosed Glioblastoma and Evaluation of Intratumoral Drug Distribution in Patients with Recurrent Glioblastoma.

2. IL-7 (ABTC1403): A Study on the Effect of IL-7 (CYT107) CD4 Counts in Patients with High Grade Gliomas and Severe Treatment-Related CD4 Lymphopenia after Concurrent Radiation and Temozolomide.

B. Recurrent Glioma

1. MLN0128 (ABTC1301): A Pilot Study of MLN0128 in Preoperative Recurrent Glioblastoma (GBM) Patient

2. Lapatinib (ABTC1302): A Drug Distribution and Pharmacodynamic Study of Pulsatile Lapatinib in Surgically Accessible EGFR-Amplified Recurrent High-Grade Glioma Patients.

3. TRC102 (ABTC1402): A Phase II Study of TRC102 in Combination with Temozolomide for Recurrent Glioblastoma.

4. Checkpoint Inhibitors (ABTC1501): A Phase I Trial of Anti-LAG-3 or Anti-CD137 Alone and in Combination with Anti-PD-1 in Patients with Recurrent GBM.

For more information, please contact Dr. Sloan at

Andrew.Sloan@UHhospitals.org

Clinical Trials Course:

The Tumor Section, in collaboration with the CNS, will be offering a clinical trials course at the 2017 CNS Annual Meeting in Boston. Faculty will include recognized leaders in clinical research from neurosurgery, medical oncology, neuro-oncology and the Food & Drug Administration (FDA). The half-day course is intended for neurosurgical oncologists with a wide variety of experience in clinical research and will include various aspects of clinical trial design, statistics and regulation, as well as pearls from neurosurgeons who have experienced the ups and downs of clinical research. Look for more information about the course on the 2017 CNS Annual Meeting and the Tumor Section websites, or feel free to contact Dr. Vogelbaum at vogelbm@ccf.org

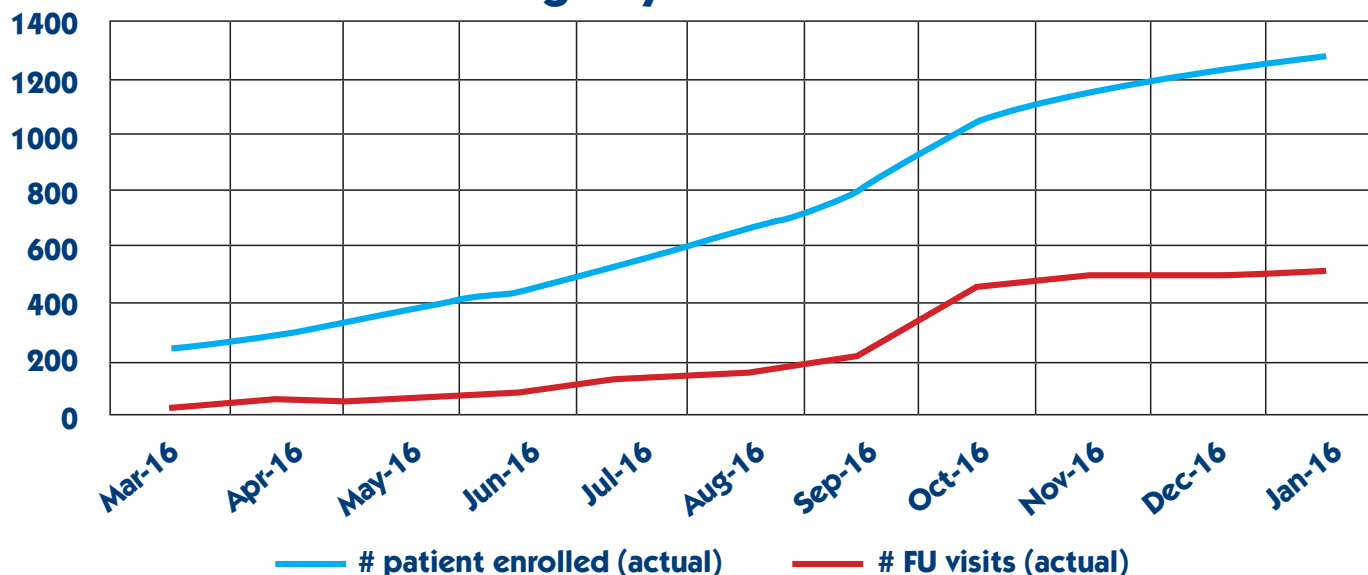
Stereotactic Radiosurgery Update

Radiosurgical Registry Update

The AANS and the American Society for Radiation Oncology (ASTRO) Stereotactic Radiosurgery (SRS) Registry has expanded to include 28 initiated sites and of which 16 have already accrued.

Thus far, 1,214 patients had been accrued to the SRS registry as of December 2016. Of these, more than 493 patients have detailed follow up information after SRS. The single most frequent indication for radiosurgery in the registry is brain metastasis. Exponential patient accrual is projected.

SRS Registry Patient Accrual



Radiosurgical Education and Meetings

The AANS and ASTRO, under the auspices of the NREF, will host a senior resident course in SRS at the University of Pittsburgh. The 2.5-day course will be held June 9-11, 2017, in Pittsburgh. Dr. Sheehan and Daniel Y. Suh, MD, PhD, FAANS, will direct the course and L. Dade Lunsford, MD, FAANS, is the local host for the program. Interested residents and program directors should contact Joni Shulman at jls@aan.org the AANS office to request a spot for the course. Calls for nominations have been sent to residency program directors.

Upcoming radiosurgical scientific meetings include the following:

1. International Stereotactic Radiosurgery Society (ISRS) Congress to be held May 28-June 1, 2017. The meeting is in Montreux, Switzerland. Further information is available at <http://isrs2017.mycongressonline.net/>.
2. Radiosurgical Society Annual Meeting, Nov. 2-4, 2017, in Las Vegas. Additional details are available at <https://www.regonline.com/builder/site/Default.aspx?EventID=1851725>.

3. Leksell Gamma Knife Society Meeting, March 4-8, 2018, in Dubai. Further information is available at <http://www.lgks2018.com/app/attendee/default.asp?PageId=53201&MenuItemId=46319&ProjectId=8523>.

For those interested in SRS webinars, the ISRS has a series of SRS-focused webinars that are available for free. Further information and registration for webinars can be found at <http://www.isrsy.org/en/courses/webinars/>.

Finally, a multidisciplinary CNS Tumor Symposium with the AANS, ASTRO, ASCO and SNO is being sponsored in February or March 2018. The meeting is tentatively slated to be held in Ft. Lauderdale, Fla. For those interested in participating, please contact me directly at <mailto:jsheehan@virginia.edu>.

Jason P. Sheehan, MD, PhD, FAANS
jsheehan@virginia.edu

North American Skull Base Society Update

Once again, since the last newsletter, there has been a lot of activity regarding skull base tumor surgery. At the time of this writing, the 27th annual meeting of the North American Skull Base Society (NASBS) is one week away. The current president of the NASBS, Jacques J. Morcos, MD, FAANS, co-chair of Neurosurgery at the University of Miami, has put together an exciting program. The meeting venue is the Roosevelt Hotel in New Orleans. This year, it kicks off with the pre-meeting practical dissection course at the state-of-the-art laboratory at Louisiana State University (LSU) New Orleans, March 1-2. Daniel Nuss, MD, chair of Otorhinolaryngology, Head and Neck Surgery at LSU New Orleans, has arranged for a comprehensive, practical dissection experience for residents, fellows and practicing skull base surgeons. The course will encompass the depth and breadth of both open and endoscopic skull base surgery.

The scientific sessions of the NASBS annual meeting opens March 3 and wraps up on March 5. The program is extremely diverse and comprehensive, addressing all aspects of the diagnosis and management of skull base tumors. There are speakers from 33 countries, 250 invited speakers and moderators, close to 187 oral abstracts (traditional and rapid fire) and 165 posters. Registration has surpassed 700 individuals, which is a record number of participants for the NASBS, and clearly places the NASBS as an international leader in skull base surgery. Honored guests this year include H. Alan Crockard, MB, BCh, DSc, FRCP, FDSRCS, IFAANS; Roberto C. Heros, MD, FAANS(L); and Fred Gentili, MD, MSc, FRCSC, FAANS. Most notably, this year's meeting has dedicated sessions to the memory of Al Rhoton Jr., MD, FAANS. Several generations of past "Rhoton fellows" will speak and bring his legacy into focus for everyone in attendance. Undoubtedly, this year's meeting will be another record-setting, exciting event with more than one hundred new members applying to add their names to the NASBS rolls.

Similarly, the upcoming 2017 AANS Annual Scientific Meeting, April 22–26 in Los Angeles, offers numerous all-day and half-day Practical Clinics, Breakfast Seminars, Dinner Symposia, abstracts and awards related to skull base tumor surgery.

We look forward to seeing everyone in Los Angeles!

Michael J. Link, MD, FAANS, Rochester, Minn.

Daniel Monte-Serrat Prevedello, MD, Columbus, Ohio.

Washington Committee Update

AANS and CNS Release 2017 Legislative and Regulatory Agenda

On Feb. 14, 2017, the AANS and CNS released their 2017 legislative and regulatory agenda, which includes action items such as improving the health care delivery system, abolishing the Independent Payment Advisory Board (IPAB), expanding support for graduate medical education, alleviating the medical liability crisis and restructuring Medicare's quality improvement programs. Read the full legislative and regulatory agenda at <http://bit.ly/2kGMABr>

Brian Nahed, MD, MSc

AANS/CNS Section on Tumors Executive Committee Update

Chair 2016 - 2018: Steven Kalkanis

Secretary-Treasurer: Manish Aghi Past Chair;

Nominating: Fred Barker Advisory Board

Fred Lang

Gene Barnett

Mitchel Berger

Jeff Bruce

Roberta Glick

Jim Markert

Mark Rosenblum

James Rutka

Raymond Sawaya

Michael McDermott

Peter Black

William Couldwell

Ron Warnick

Ennio Chiocca

Awards : Isabelle Germano

Bylaws: Jason Heth

Clinical Trials - Chair: Michael

Vogelbaum

Clinical Trials - ABTC: Andy Sloan

Clinical Trials - Alliance: Brad Elder

Clinical Trials - NRG: Dan Cahill

Communications/IT/Website - Chair:

Jeff Weinberg

Communications/IT/Website - Social

Media: Edjah Nduom

Communications/IT/Website

Adam Sonabend

Pierpaolo Peruzzi

Dimitris Placantonakis

Development - Co-Chair

Will Curry

Allen Waziri

Development

Orin Bloch

Chris Farrell

Ian Dunn

Michael Lim

Brian Nahed

Nader Sanai

Isaac Yang

Education - Scientific Program Chair:

Jason Sheehan

Education - Continuing/Practice

Assessment Chair: Costas

Hadjipanayis

Guidelines - Chair

Jeff Olson

Brian Nahed

Guidelines

Timothy Ryken

Ian Dunn

Gavin Dunn

Gabriel Zada

History: Tony D'Ambrosio

Immunotherapy: Ian Parney

International - Chair: Rick Komotar

International - Vice Chair (Europe):

Ekkehard Kasper

International- Vice Chair (Asia): Clark Chen

International - WFNS Liaison: Gelareh Zadeh

International - Advisor: Isabelle

Germano

International - EANS

Zvi Ram

Colin Watts

International - Argentina: Alejandra

Rabadan

International - Australia: Charlie Teo

International - Central America: Jose

Valerio

International - India: Atul Goel

International - Pakistan (South Asia

liaison): S. Ather Enam

International - Italy: Francesco

Dimeco

International - Germany: Manfred

Westphal

International - England: S George

Amandouras

International - Japan: Fumio

Yamaguchi

International - Nigeria (Africa

Liaison): Okezie Obasi Kanu

International - Switzerland: Dominik

Cordier

International - Turkey: Ugur Ture

International - AANS Ambassador for

AASNS: Clark Chen

International - AANS Ambassador for

CAANS: Brian Nahed

International - AANS Ambassador for

EANS: Michael McDermott

International - AANS Ambassador for

EANS: Fred Barker

International - AANS Ambassador for

FLANC: Danny Prevedello

Journal of Neuro-oncology (Editor):

Linda Liau

MATRIX and CAST: Ennio Chiocca

Medical Neuro-Oncology: Susan Chang

Membership - Chair: Jen Moliterno

Gunel

Membership - Vice Chair: Edjah

Nduom

Member Services and Outreach -

Chair: Randy Jensen

Member Services - Mentor/Job Match:

Gavin Dunn

Member Services- East Coast

Membership Director: Edjah Nduom

Member Services-Midwest

Membership Director: Brad Elder

Member Services-West Coast

Membership Director: Gabriel

Zada

Newsletter- Editor: Ian Lee

Newsletter - Assistant Editor: Pamela Jones

NeuroPoint Alliance/Outcomes - Co-Chair

Mark Linskey

Brad Elder

NeuroPoint Alliance/Outcomes:

Timothy Smith

Pediatrics: Paul Klimo

Prize Stewardship - Chair: Andy Sloan

Prize Stewardship

Orin Bloch

Tony D'Ambrosio

Program Chair - CNS 2016

Ian Lee

Ekkehard Kasper

Program Chair - Satellite 2016

Chetan Bettegowda

Brian Nahed

Program Chair - AANS 2017

Peter Fecci

Shawn Hervey-Jumper

Program Chair - CNS 2017

Pamela Jones

Adam Robin

Program Chair - AANS 2018

Wajd Al-Hallou

Rohan Ramakrishna

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SANS: Viviane Tabar

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Simulation & Technology: Aaron

Cohen-Gadol

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Danny Prevedello

SNO Liaison:

Gelareh Zadeh

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