Stanford



Matei Banu, MD

Clinical Assistant Professor, Neurosurgery

NIH Biosketch available Online

CLINICAL OFFICE (PRIMARY)

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Bio

BIO

Dr. Matei Banu is a fellowship-trained neurosurgeon at Stanford Health Care. He is also a clinical assistant professor in the Department of Neurosurgery at Stanford University School of Medicine.

Dr. Banu specializes in treating brain, skull base, and pituitary tumors. He also specializes in the management of the buildup of brain fluid (hydrocephalus) and related conditions. He is skilled in minimally invasive techniques, such as microscopic surgery (using microscopes and tiny instruments to repair small structures) and endoscopic techniques (using a thin, flexible tube to take pictures inside the body).

Dr. Banu often collaborates with rhinologists (doctors who diagnose and treat diseases of the nose and sinuses), head and neck surgeons, and otologists (doctors who diagnose and treat ear-related conditions). His goals are ensuring each patient receives comprehensive care and providing precise, compassionate treatment that enhances each patient's quality of life.

His research interests include developing personalized treatment strategies for brain and skull base cancers. Dr. Banu is exploring how aggressive tumors grow, resist treatment, and evade the immune system. Using tumor samples from patients, Dr. Banu and his team are testing novel drugs to create more effective therapies.

Dr. Banu has published his research in several peer-reviewed journals, including Lancet Oncology, Cell, Nature Cell Biology, and Nature Communications. He has also contributed book chapters on topics like pediatric endoscopic skull base surgery and drug delivery for brain tumors. He has shared his findings at numerous national and international meetings in neurosurgery and oncology.

Dr. Banu is a member of the American Association of Neurological Surgeons, the Congress of Neurological Surgeons, the North American Skull Base Society, and the Society for Neuro-Oncology.

CLINICAL FOCUS

- Neurological Surgery

ACADEMIC APPOINTMENTS

- Clinical Assistant Professor, Neurosurgery
- Member, Stanford Cancer Institute
- Member, Wu Tsai Neurosciences Institute

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, North American Skull Base Society (2020 - present)
- Member, Society for Neuro-Oncology (2020 - present)
- Member, Congress of Neurological Surgeons (2012 - present)
- Member, American Association of Neurological Surgeons (2012 - present)

PROFESSIONAL EDUCATION

- Fellowship: Stanford University Dept of Neurosurgery (2025) CA
- Fellowship, Stanford University School of Medicine, Skull Base , CA (2025)
- Fellowship, University of Texas MD Anderson Cancer Center, Surgical Neuro-oncology , TX (2024)
- Neurosurgery Residency, Columbia University Irving Medical Center/ New York Presbyterian Hospital , NY (2023)
- Medical Education, Carol Davila University of Medicine , Bucharest, Romania (2011)

Publications

PUBLICATIONS

- **Topoisomerase I inhibition yields a CD74high/MHChigh human microglial subtype with enhanced Aβ uptake.** *Cell reports*
  Haage, V., Tuddenham, J. F., Comandante-Lou, N., Bautista, A. R., Monzel, A. S., Garcia, F. G., Chiu, R., Fujita, M., Bhattarai, P., White, C. C., Patel, R., Buonfiglioli, A., Idiarte, et al
  2026; 45 (10): 118031

- **Refining the posterior compartment of the cavernous sinus: a detailed reappraisal of surgical anatomy and techniques for invasive pituitary adenoma resection.** *Journal of neurosurgery*
  Xu, Y., Uchida, T., Burgos-Sosa, E., Alvarez, A. S., Rinaldi, M., Nakase, T., Banu, M. A., Agostini, L., Xiao, L., Vigo, V., Nisson, P. L., Menaker, S. A., Cohen-Gadol, et al
  2026: 1-13

- **Pituitary adenomas with subarachnoid invasion: clinical characteristics, radiographic features, surgical management, and outcomes.** *Journal of neurosurgery*
  Lamano, J. B., Banu, M. A., Lee, C. K., Alvarez, A. S., Palejwala, A., Ljubimov, V. A., Asmaro, K. P., Gambatesa, E., Constanzo, F., Hontiveros, B., Rodrigues, A. J., Vigo, V., Fernandez-Miranda, et al
  2026: 1-12

- **Clival Chordoma With Cavernous Sinus Involvement and Pontine Attachment: Endoscopic Endonasal Approach: A 2-Dimensional Operative Video.** *Operative neurosurgery (Hagerstown, Md.)*
  Burgos-Sosa, E., Xu, Y., Vigo, V., Uchida, T., Patel, Z. M., Banu, M. A., Fernandez-Miranda, J. C.
  2026

- **Emerging roles of ferroptosis in modulating the immune landscape of glial tumours.** *Nature cell biology*
  Argenziano, M. G., Neelakantan, T. V., Sperring, C., Adeuyan, O., Higgins, D. M., Bruce, J. N., Kim, B. Y., Dovas, A., Canoll, P., Lim, M., Stockwell, B. R., Banu, M. A.
  2026

- **SPP1-driven immunometabolic reprogramming of tumor-associated neutrophils in glioblastoma**

Abikenari, M., Choi, J., Medikonda, R., Kim, L., Verma, R., Liu, J., Sjoholm, A., Nageeb, G., Bergsneider, B., Wu, C., Cho, K., Tran, A., Bakalov, et al
AMER ASSOC CANCER RESEARCH.2026

- **Biphasic, time-dependent neutrophil biology in glioblastoma revealed by in vivo survival and flow cytometry with single-cell transcriptomic corroboration**
  Abikenari, M., Choi, J., Liu, J., Sjoholm, A., Nageeb, G., Poe, J., Hwa-Lin Bergsneider, B., Tran, A., Bakalov, D., Medikonda, R., Kim, L., Verma, R., Wu, et al
  AMER ASSOC CANCER RESEARCH.2026

- **Nexus of IDO1/Kynurenine Pathway to T-Cell Exhaustion: Hypoxia-Induced Tryptophan Metabolism in Glioblastoma.** *Metabolites*
  Abikenari, M., Nageeb, G., Ha, J. H., Sjoholm, M. A., Liu, J., Bergsneider, B., Valenzuela, J., Poe, J., Bog Cho, K., Verma, R., Wu, C., Sanker, V., Medikonda, et al
  2026; 16 (3)

- **Endoscopic endonasal surgery for optic nerve sheath and optic canal meningiomas: 2D operative video.** *Neurosurgical focus: Video*
  Burgos-Sosa, E., Xu, Y., Lamano, J., Vigo, V., Banu, M. A., Chang, M., Liu, C., Fernandez-Miranda, J. C.
  2026; 14 (1): V12

- **Frontolateral transfalcine approach to olfactory groove meningioma: rationale for surgical selection. Two-dimensional video.** *Neurosurgical focus: Video*
  Burgos-Sosa, E., Vigo, V., Xu, Y., Hontiveros, B., Reza Arifianto, M., Banu, M. A., Fernandez-Miranda, J. C.
  2026; 14 (1): V4

- **Molecular and biophysical remodeling of the blood-brain barrier in glioblastoma: mechanistic drivers of tumor-neurovascular crosstalk** *FRONTIERS IN PHYSICS*
  Abikenari, M., Sjoholm, M., Liu, J., Nageeb, G., Ha, J. H., Wu, J., Ren, A., Sayadi, J., Lim, J., Cho, K., Verma, R., Medikonda, R., Banu, et al
  2025; 13

- **Glioma-induced alterations in excitatory neurons are reversed by mTOR inhibition** *NEURON*
  Goldberg, A. R., Dovas, A., Torres, D., Pereira, B., Viswanathan, A., Das Sharma, S., Mela, A., Merricks, E. M., Megino-Luque, C., Mcinvale, J. J., Olabarria, M., Shokooh, L., Zhao, et al
  2025; 113 (6): 858-875

- **Recurrent ERBB2 alterations are associated with esophageal adenocarcinoma brain metastases.** *medRxiv : the preprint server for health sciences*
  Lawson, N. M., Ye, L., Cho, C. Y., Zhao, B., Mitchell, T., Martín-Barrio, I., Beernaert, B., Gupta, A., Banu, M., Lissanu, Y., Shaffer, S., Tawbi, H., Li, et al
  2025

- **Molecular profiling of neuronal extracellular vesicles reveals brain tissue specific signals.** *medRxiv : the preprint server for health sciences*
  Kalia, V., Jackson, G., Dominguez, R. J., Pinto-Pacheco, B., Bloomquist, T., Furnari, J., Banu, M., Volpert, O., Manz, K. E., Walker, D. I., Pennell, K. D., Canoll, P. D., Bruce, et al
  2025

- **Molecular profiling of neuronal extracellular vesicles reveals brain tissue specific signals.** *Exposome*
  Kalia, V., Jackson, G. L., Dominguez, R. J., Pinto-Pacheco, B., Bloomquist, T., Furnari, J., Banu, M., Volpert, O., Manz, K. E., Walker, D. I., Pennell, K. D., Canoll, P. D., Bruce, et al
  2025; 5 (1): osaf007

- **A cell state-specific metabolic vulnerability to GPX4-dependent ferroptosis in glioblastoma** *EMBO JOURNAL*
  Banu, M. A., Dovas, A., Argenziano, M. G., Zhao, W., Sperring, C. P., Cuervo Grajal, H., Liu, Z., Higgins, D. M. O., Amini, M., Pereira, B., Ye, L. F., Mahajan, A., Humala, et al
  2024

- **Multiplexed single-cell lineage tracing of mitotic kinesin inhibitor resistance in glioblastoma** *CELL REPORTS*
  Cheng, Y., Banu, M. A., Zhao, W., Rosenfeld, S. S., Canoll, P., Sims, P. A.
  2024; 43 (5): 114139

- **Single-cell analysis of 5-aminolevulinic acid intraoperative labeling specificity for glioblastoma** *JOURNAL OF NEUROSURGERY*
  Liu, Z., Mela, A., Argenziano, M. G., Banu, M. A., Furnari, J., Kotidis, C., Sperring, C. P., Humala, N., Mahajan, A., Bruce, J. N., Canoll, P., Sims, P. A.
  2024; 140 (4): 968-978

- **A pharmacological toolkit for human microglia identifies Topoisomerase I inhibitors as immunomodulators for Alzheimer's disease.** *bioRxiv : the preprint server for biology*
  Haage, V., Tuddenham, J. F., Comandante-Lou, N., Bautista, A., Monzel, A., Chiu, R., Fujita, M., Garcia, F. G., Bhattarai, P., Patel, R., Buonfiglioli, A., Idiarte, J., Herman, et al
  2024

- **Glioma-Induced Alterations in Excitatory Neurons are Reversed by mTOR Inhibition.** *bioRxiv : the preprint server for biology*
  Goldberg, A. R., Dovas, A., Torres, D., Sharma, S. D., Mela, A., Merricks, E. M., Olabarria, M., Shokooh, L. A., Zhao, H. T., Kotidis, C., Calvaresi, P., Viswanathan, A., Banu, et al
  2024

- **Maximizing Extent of Resection for Noneloquent Glioblastoma: Fluorescent Dye or Intraoperative Magnetic Resonance Imaging?** *JOURNAL OF CLINICAL ONCOLOGY*
  Banu, M. A., McKhann, G. M.
  2023; 41 (36): 5493-+

- **FERROPTOSIS INDUCES IMMUNOGENIC CELL DEATH AND SYNERGIZES WITH CD47 BLOCKADE TO REPROGRAM THE GLIOMA MICROENVIRONMENT**
  Sperring, C., Argenziano, M., Banu, M., Dovas, A., Mela, A., Zhao, W., Furnari, J., Pereira, B., Ager, C., Yeary, M., Shapiro, B., Kotidis, C., Adeyuan, et al
  OXFORD UNIV PRESS INC.2023

- **Multiplexed single-cell lineage tracing of mitotic kinesin inhibitor resistance in glioblastoma.** *bioRxiv : the preprint server for biology*
  Cheng, Y. L., Banu, M. A., Zhao, W., Rosenfeld, S. S., Canoll, P., Sims, P. A.
  2023

- **Long-term outcomes of mesial temporal laser interstitial thermal therapy for drug-resistant epilepsy and subsequent surgery for seizure recurrence: a multi-centre cohort study.** *Journal of neurology, neurosurgery, and psychiatry*
  Youngerman, B. E., Banu, M. A., Khan, F., McKhann, G. M., Schevon, C. A., Jagid, J. R., Cajigas, I., Theodotou, C. B., Ko, A., Buckley, R., Ojemann, J. G., Miller, J. W., Laxton, et al
  2023

- **Re-convolving the compositional landscape of primary and recurrent glioblastoma reveals prognostic and targetable tissue states** *NATURE COMMUNICATIONS*
  Al-Dalahmah, O., Argenziano, M. G. G., Kannan, A., Mahajan, A., Furnari, J., Paryani, F., Boyett, D., Save, A., Humala, N., Khan, F., Li, J., Lu, H., Sun, et al
  2023; 14 (1): 2586

- **Unique Tissue-based Analysis following Convection-Enhanced Delivery of Topotecan Reveals Individualized Mechanisms of Response and Resistance**
  Argenziano, M. G., Spinazzi, E., Banu, M., Upadhyayula, P., Neira, J., Higgins, D., Gill, B., Pereira, B., Boyett, D., Save, A., Sperring, C., Marie, T., Furnari, et al
  AMER ASSOC NEUROLOGICAL SURGEONS.2023

- **Unique Tissue-based Analysis following Convection-Enhanced Delivery of Topotecan Reveals Individualized Mechanisms of Response and Resistance**
  Argenziano, M. G., Spinazzi, E., Banu, M., Upadhyayula, P., Neira, J., Higgins, D., Gill, B., Pereira, B., Boyett, D., Save, A., Sperring, C., Marie, T., Furnari, et al
  AMER ASSOC NEUROLOGICAL SURGEONS.2023

- **Unique Tissue-based Analysis following Convection-Enhanced Delivery of Topotecan Reveals Individualized Mechanisms of Response and Resistance**
  Argenziano, M. G., Spinazzi, E., Banu, M., Upadhyayula, P., Neira, J., Higgins, D., Gill, B., Pereira, B., Boyett, D., Save, A., Sperring, C., Marie, T., Furnari, et al
  AMER ASSOC NEUROLOGICAL SURGEONS.2023

- **Dietary restriction of cysteine and methionine sensitizes gliomas to ferroptosis and induces alterations in energetic metabolism** *NATURE COMMUNICATIONS*
  Upadhyayula, P. S., Higgins, D. M., Mela, A., Banu, M., Dovas, A., Zandkarimi, F., Patel, P., Mahajan, A., Humala, N., Nguyen, T. T. T., Chaudhary, K. R., Liao, L., Argenziano, et al
  2023; 14 (1): 1187

- **A cell state specific metabolic vulnerability to GPX4-dependent ferroptosis in glioblastoma.** *bioRxiv : the preprint server for biology*
  Banu, M. A., Dovas, A., Argenziano, M. G., Zhao, W., Grajal, H. C., Higgins, D. M., Sperring, C. P., Pereira, B., Ye, L. F., Mahajan, A., Humala, N., Furnari, J. L., Upadhyayula, et al
  2023

- **Clear Cell Ovarian Carcinoma With C1 Lateral Mass Metastasis and Pathologic Fracture: A Case Report** *CUREUS JOURNAL OF MEDICAL SCIENCE*
  Sassine, D., Rogerson, D., Banu, M., Reid, P., Clair, C.
  2023; 15 (2): e34766

- **EGFR AND SRC-MEDIATED ACTIVATION OF STAT3 DRIVES RESISTANCE TO MITOTIC INHIBITORS IN GLIOBLASTOMA, AND CAN BE REVERSED WITH FDA-APPROVED DRUGS**
  Kenchappa, R., Dovas, A., Argenziano, M., Meyer, C., Stopfer, L., Banu, M., Pereira, B., Griffith, J., Mohammad, A., Talele, S., Zarco, N., Elmquist, W. F., White, et al
  OXFORD UNIV PRESS INC.2022: 105

- **Chronic convection-enhanced delivery of topotecan for patients with recurrent glioblastoma: a first-in-patient, single-centre, single-arm, phase 1b trial** *LANCET ONCOLOGY*
  Spinazzi, E. F., GArgenziano, M., Upadhyayula, P. S., Banu, M. A., Neira, J. A., Higgins, D. M. O., Wu, P. B., Pereira, B., Mahajan, A., Humala, N., Al-Dalahmah, O., Zhao, W., Save, et al
  2022; 23 (11): 1409-1418

- **Dissecting the treatment-naive ecosystem of human melanoma brain metastasis** *CELL*
  Biermann, J., Melms, J. C., Amin, A., Wang, Y., Caprio, L. A., Karz, A., Tagore, S., Barrera, I., Ibarra-Arellano, M. A., Andreatta, M., Fullerton, B. T., Gretarsson, K. H., Sahu, et al
  2022; 185 (14): 2591-+

- **Activation of STAT3 through combined SRC and EGFR signaling drives resistance to a mitotic kinesin inhibitor in glioblastoma** *CELL REPORTS*
  Kenchappa, R. S., Dovas, A., Argenziano, M. G., Meyer, C. T., Stopfer, L. E., Banu, M. A., Pereira, B., Griffith, J., Mohammad, A., Talele, S., Haddock, A., Zarco, N., Elmquist, et al
  2022; 39 (12): 110991

- **Thoracic low grade glial neoplasm with concurrent H3 K27M and PTPN11 mutations** *ACTA NEUROPATHOLOGICA COMMUNICATIONS*
  Argenziano, M. G., Furnari, J. L., Miller, M. L., Sun, Y., Banu, M. A., Neira, J. A., Snuderl, M., Bruce, J. N., Welch, M., McCormick, P., Canoll, P.
  2022; 10 (1): 64

- **Protein kinase CI, and SRC signaling define reciprocally related subgroups of glioblastoma with distinct therapeutic vulnerabilities** *CELL REPORTS*
  Kenchappa, R. S., Liu, Y., Argenziano, M. G., Banu, M. A., Mladek, A. C., West, R., Luu, A., Quinones-Hinojosa, A., Hambardzumyan, D., Justilien, V., Leitges, M., Sarkaria, J. N., Sims, et al
  2021; 37 (8): 110054

- **METABOLIC VULNERABILITY TO GPX4 INHIBITION AND FERROPTOSIS OF QUIESCENT ASTROCYTE-LIKE GLIOMA CELL POPULATIONS**
  Banu, M., Dovas, A., Argenziano, M., Zhao, W., Higgins, D., Upadhyayula, P., Mahajan, A., Humala, N., Nguyen, T., Zandkarimi, F., Siegelin, M. D., Brent, S., Sims, et al
  OXFORD UNIV PRESS INC.2021: 212-213

- **INDUCTION OF FERROPTOSIS PROMOTES IMMUNOGENIC CELL DEATH AND ACTIVATION OF THE IMMUNE MICROENVIRONMENT IN GLIOMA**
  Argenziano, M., Banu, M., Dovas, A., Zhao, W., Furnari, J., Higgins, D., Upadhyayula, P., Mahajan, A., Humala, N., Sims, P., Bruce, J. N., Canoll, P.
  OXFORD UNIV PRESS INC.2021: 210

- **Analysis of COVID-19 Brain Autopsies Reveals That Neuroinflammation is Not Caused by Direct SARS-CoV-2 Infection of the CNS**
  Thakur, K. T., Miller, E. H., Glendinning, M. D., Al-Dalahmah, O., Banu, M. A., Boehme, A. K., Boubour, A. L., Bruce, S. S., Chong, A. M., Claassen, J., Faust, P. L., Hargus, G., Hickman, et al
  WILEY.2021: S128

- **Synchronous supratentorial and infratentorial oligodendrogliomas with incongruous IDH1 mutations, a case report** *ACTA NEUROPATHOLOGICA COMMUNICATIONS*
  Agopyan-Miu, A. W., Banu, M. A., Miller, M. L., Troy, C., Hargus, G., Canoll, P., Wang, T. J. C., Feldstein, N., Haggiagi, A., McKhann, G. I.

2021; 9 (1): 160

- **Endoscopic endonasal approach for suprasellar meningiomas: introduction of a new scoring system to predict extent of resection and assist in case selection with long-term outcome data** *JOURNAL OF NEUROSURGERY*
  Youngerman, B. E., Banu, M. A., Gerges, M. M., Odigie, E., Tabaee, A., Kacker, A., Anand, V. K., Schwartz, T. H.
  2021; 135 (1): 113-125

- **Right occipital transtentorial approach for a pineal malignant germ cell tumor.** *Neurosurgical focus: Video*
  Gill, B. J., Higgins, D. M., Banu, M. A., Argenziano, M. G., Feldstein, N. A., Bruce, J. N.
  2021; 5 (1): V3

- **Rationale and Clinical Implications of Fluorescein-Guided Supramarginal Resection in Newly Diagnosed High-Grade Glioma** *FRONTIERS IN ONCOLOGY*
  Wang, L. M., Banu, M. A., Canoll, P., Bruce, J. N.
  2021; 11: 666734

- **Deconvolution of cell type-specific drug responses in human tumor tissue with single-cell RNA-seq** *GENOME MEDICINE*
  Zhao, W., Dovas, A., Spinazzi, E., Levitin, H., Banu, M., Upadhyayula, P., Sudhakar, T., Marie, T., Otten, M. L., Sisti, M. B., Bruce, J. N., Canoll, P., Sims, et al
  2021; 13 (1): 82

- **COVID-19 neuropathology at Columbia University Irving Medical Center/New York Presbyterian Hospital** *BRAIN*
  Thakur, K. T., Miller, E., Glendinning, M. D., Al-Dalahmah, O., Banu, M. A., Boehme, A. K., Boubour, A. L., Bruce, S. S., Chong, A. M., Claassen, J., Faust, P. L., Hargus, G., Hickman, et al
  2021; 144: 2696-2708

- **PHASE IB CLINICAL TRIAL OF CHRONIC CONVECTIONENHANCED DELIVERY OF TOPOTECAN FOR RECURRENT GLIOBLASTOMA**
  Bruce, J., Spinazzi, E., Lassman, A., Iwamoto, F., Welch, M., Banu, M., Argenziano, M., Upadhyayula, P., Agar, N. Y. R., Humala, N., Marie, T., Pereira, B., Sudhakar, et al
  OXFORD UNIV PRESS INC.2020: 48

- **Validation of an effective implantable pump-infusion system for chronic convection-enhanced delivery of intracerebral topotecan in a large animal model** *JOURNAL OF NEUROSURGERY*
  D'Amico, R. S., Neira, J. A., Yun, J., Alexiades, N. G., Banu, M., Englander, Z. K., Kennedy, B. C., Ung, T. H., Rothrock, R. J., Romanov, A., Guo, X., Zhao, B., Sonabend, et al
  2020; 133 (3): 614-623

- **Ex vivo multi-electrode analysis reveals spatiotemporal dynamics of ictal behavior at the infiltrated margin of glioma** *NEUROBIOLOGY OF DISEASE*
  Gill, B. J. A., Wu, X., Khan, F. A., Sosunov, A. A., Liou, J., Dovas, A., Eissa, T. L., Banu, M. A., Bateman, L. M., McKhann, G. M., Canoll, P., Schevon, C.
  2020; 134: 104676

- **Endonasal endoscopic transsphenoidal resection of intrinsic third ventricular craniopharyngioma: surgical results** *JOURNAL OF NEUROSURGERY*
  Forbes, J. A., Ordonez-Rubiano, E. G., Tomasiewicz, H. C., Banu, M. A., Younus, I., Dobri, G. A., Phillips, C., Kacker, A., Cisse, B., Anand, V. K., Schwartz, T. H.
  2019; 131 (4): 1152-1162

- **The Wishbone: A Cranial Midline Localizing Device** *WORLD NEUROSURGERY*
  Zanaty, M., Banu, M., Flouty, O., Grady, S., Holland, M. T., Isaacs, A., Kung, D., Limbrick, D. D., McKhann, G., Nagahama, Y., Zipfel, G. J., Howard, M. A.
  2019; 128: 600-+

- **Endoscopic endonasal resection of epidermoid cysts involving the ventral cranial base** *JOURNAL OF NEUROSURGERY*
  Forbes, J. A., Banu, M., Lehner, K., Ottenhausen, M., La Corte, E., Alalade, A. F., Ordonez-Rubiano, E. G., Greenfield, J. P., Anand, V. K., Schwartz, T. H.
  2019; 130 (5): 1599-1608

- **Cerebral Vasospasm after Open Fenestration of an Arachnoid Cyst in a 4-Year-Old Boy: Case Report and Review of the Literature** *PEDIATRIC NEUROSURGERY*
  Shao, B., Banu, M. A., Carroll, J. J., Meyers, P. M., Lavine, S. D., Feldstein, N. A., Anderson, R. C. E.

2019; 54 (2): 132-138

- **Notch is a master regulator of mesenchymal transformation and therapeutic resistance in glioma**
  Banu, M. A., Dovas, A., Cuervo, H., Pereira, B., Mahajan, A., Ding, H., Bansal, M., Pampou, S., Karan, C., Califano, A., Sims, P. A., Kitajewski, J., Bruce, et al
  AMER ASSOC CANCER RESEARCH.2018

- **Growth and alignment of the pediatric subaxial cervical spine following rigid instrumentation and fusion: a multicenter study of the Pediatric Craniocervical Society** *JOURNAL OF NEUROSURGERY-PEDIATRICS*
  Goldstein, H. E., Neira, J. A., Banu, M., Aldana, P. R., Braga, B. P., Brockmeyer, D. L., DiLuna, M. L., Fulkerson, D. H., Hankinson, T. C., Jea, A. H., Lew, S. M., Limbrick, D. D., Martin, et al
  2018; 22 (1): 81-88

- **Decision-making algorithm for minimally invasive approaches to anterior skull base meningiomas** *NEUROSURGICAL FOCUS*
  Ottenhausen, M., Rumalla, K., Alalade, A. F., Nair, P., La Corte, E., Younus, I., Forbes, J. A., Ben Nsir, A., Banu, M. A., Tsiouris, A., Schwartz, T. H.
  2018; 44 (4): E7

- **Order in Chaos: Understanding Intratumoral Heterogeneity in Gliomas by Tracking Tumor Cell Fate** *NEUROSURGERY*
  Banu, M. A., McKhann, G. M.
  2018; 82 (1): N4-N6

- **Efficacy and outcomes of facial nerve-sparing treatment approach to cerebellopontine angle meningiomas** *JOURNAL OF NEUROSURGERY*
  D'Amico, R. S., Banu, M. A., Petridis, P., Bercow, A. S., Malone, H., Praver, M., Wang, T. J. C., Isaacson, S. R., Sisti, M. B.
  2017; 127 (6): 1231-1241

- **Induction of synthetic lethality in IDH1-mutated gliomas through inhibition of Bcl-xL** *NATURE COMMUNICATIONS*
  Karpel-Massler, G., Ishida, C., Bianchetti, E., Zhang, Y., Shu, C., Tsujiuchi, T., Banu, M. A., Garcia, F., Roth, K. A., Bruce, J. N., Canoll, P., Siegelin, M. D.
  2017; 8: 1067

- **FTY720/fingolimod, an oral S1PR modulator, mitigates radiation induced cognitive deficits** *NEUROSCIENCE LETTERS*
  Stessin, A. M., Banu, M. A., Clausi, M., Berry, N., Boockvar, J. A., Ryu, S.
  2017; 658: 1-5

- **Inhibition of Mitochondrial Matrix Chaperones and Antiapoptotic Bcl-2 Family Proteins Empower Antitumor Therapeutic Responses** *CANCER RESEARCH*
  Karpel-Massler, G., Ishida, C., Bianchetti, E., Shu, C., Perez-Lorenzo, R., Horst, B., Banu, M., Roth, K. A., Bruce, J. N., Canoll, P., Altieri, D. C., Siegelin, M. D.
  2017; 77 (13): 3513-3526

- **Vincent du Vigneaud: following the sulfur trail to the discovery of the hormones of the posterior pituitary gland at Cornell Medical College** *JOURNAL OF NEUROSURGERY*
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