



Antonio Meola, MD, PhD

Clinical Assistant Professor, Neurosurgery

CLINICAL OFFICES

- **Stanford Neuroscience Health Center**

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Bio

BIO

Antonio Meola M.D. Ph.D graduated Summa cum Laude and Research Honors at the University of Pisa, Italy, in 2008, and completed his residency training in Neurosurgery at the same Institution in July 2015. Dr Meola attended a Ph.D. program at the University of Florence, Italy, where he discussed a doctoral thesis entitled "A New Head-Mounted Display-based Augmented Reality System in Neurosurgical Oncology: a study on phantom".

Since 2/2014 to 1/2015 Dr Meola completed a Research Fellowship in Neurosurgical anatomy at the University of Pittsburgh Medical Center (UPMC), under the Direction of Dr. Juan C. Fernandez-Miranda. The main focus of his research was the surgical neuroanatomy of the white matter tracts of the human brain.

Since 7/2015 to 6/2016 Dr Meola served as Clinical Fellow in Image-Guided Neurosurgery at the Brigham and Women's Hospital, Harvard Medical School, in Boston, MA (Director: Dr. Alexandra J. Golby M.D.). During the fellowship, he focused on the clinical application and integration of advanced imaging techniques, including intraoperative-MRI, intraoperative US, functional MRI, tractography.

Since 7/2016 to 6/2017 Dr Meola completed a Neurosurgical Oncology Fellowship at the Cleveland Clinic in Cleveland, OH, devoting his efforts to minimally-invasive neurosurgical techniques, such as Laser interstitial Thermal Therapy (LITT) and stereotactic radiosurgery (Gamma Knife), as well as to awake neurosurgery.

Starting 7/2017, Dr Meola joined the Department of Neurosurgery at Stanford. Dr. Meola mainly focuses on conventional and innovative treatments for brain and skull base tumors, including both surgery and stereotactic radiosurgery (CyberKnife).

CLINICAL FOCUS

- Neurosurgery
- Brain Tumors
- Radiosurgery

ACADEMIC APPOINTMENTS

- Clinical Assistant Professor, Neurosurgery

HONORS AND AWARDS

- Visiting Professor Guest Speaker, NIH Clinical Center, Bethesda, Washington, DC (10/2016)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Board Certified, European Association of Neurosurgical Societies (EANS) (2018 - present)
- Member, European Association of Neurosurgical Societies (EANS), Radiosurgery Section (2017 - present)
- Member, European Association of Neurosurgical Societies (EANS), Neuro-oncology Section (2017 - present)

PROFESSIONAL EDUCATION

- Board Certification: Neurosurgery, European Association of Neurological Sciences (2018)
- Clinical Fellow, Cleveland Clinic Foundation, Cleveland, OH , Neurosurgical Oncology (2017)
- Clinical Fellow, Brigham and Women's Hospital, Harvard Medical School, Boston, MA , Image-guided Neurosurgery (2016)
- Ph.D., University of Florence, Italy (2016)
- Residency, University of Pisa, Italy , Neurosurgery (2015)
- Research Fellow, University of Pittsburgh (UPMC), Pittsburgh, PA , Neurosurgical Anatomy (2015)
- M.D., University of Pisa, Italy (2008)

LINKS

- Lead DBS software: <http://www.lead-dbs.org>
- Clinical Neuro-Oncology Lab: <http://med.stanford.edu/neurosurgery/research/NeuroOncLab.html>

Publications

PUBLICATIONS

- **Microsurgical resection of foramen magnum meningioma: multi-institutional retrospective case series and proposed surgical risk scoring system.** *Journal of neuro-oncology*
Fatima, N., Shin, J. H., Curry, W. T., Chang, S. D., Meola, A.
2021
- **The Stanford stereotactic radiosurgery experience on 7000 patients over 2 decades (1999-2018): looking far beyond the scalpel.** *Journal of neurosurgery*
Fatima, N., Meola, A., Ding, V. Y., Pollom, E., Soltys, S. G., Chuang, C. F., Shahsavari, N., Hancock, S. L., Gibbs, I. C., Adler, J. R., Chang, S. D.
2021: 1–17
- **ZAP-X: A Novel Radiosurgical Device for the Treatment of Trigeminal Neuralgia** *CUREUS*
Romanelli, P., Chuang, C., Meola, A., Bodduluri, R. M., Adler, J. R.
2020; 12 (5)
- **Stereotactic radiosurgery for head and neck paragangliomas: a systematic review and meta-analysis.** *Neurosurgical review*
Fatima, N., Pollom, E., Soltys, S., Chang, S. D., Meola, A.
2020
- **Stereotactic Radiosurgery for Benign Spinal Tumors.** *Neurosurgery clinics of North America*
Meola, A., Soltys, S., Schmitt, A., Gerszten, P. C., Chang, S. D.
2020; 31 (2): 231–35
- **Tractographic Anatomy of White Matter** *PEDIATRIC EPILEPSY SURGERY: PREOPERATIVE ASSESSMENT AND SURGICAL TREATMENT, 2ND EDITION*
Panesar, S. S., Fernandes-Cabral, D. T., Meola, A., Yeh, F., Nunez, M., Fernandez-Mirand, J. C., Cataltepe, O., Jallo, G.
2020: 228–39
- **Predictors of visual functional outcome following treatment for cavernous sinus meningioma.** *Journal of neurosurgery*
Fatima, N. n., Ding, V. Y., Han, S. S., Chang, S. D., Meola, A. n.
2020: 1–12
- **Local control and toxicity outcomes of stereotactic radiosurgery for spinal metastases of gastrointestinal origin.** *Journal of neurosurgery. Spine*

- Sandhu, N. n., Benson, K. R., Kumar, K. A., Eyben, R. V., Chang, D. T., Gibbs, I. C., Hancock, S. L., Meola, A. n., Chang, S. D., Li, G. n., Hayden-Gephart, M. n., Soltys, S. G., Pollom, et al
2020: 1–8
- **ZAP-X: A Novel Radiosurgical Device for the Treatment of Trigeminal Neuralgia.** *Cureus*
Romanelli, P. n., Chuang, C. n., Meola, A. n., Bodduluri, R. M., Adler, J. R.
2020; 12 (5): e8324
 - **Commentary: Peritumoral Edema/Tumor Volume Ratio: A Strong Survival Predictor for Posterior Fossa Metastases** *NEUROSURGERY*
Chow, K. H., Meola, A., Chang, S. D.
2019; 85 (1): E18–E19
 - **Stereotactic radiosurgery in large intracranial meningiomas: a systematic review.** *World neurosurgery*
Fatima, N., Meola, A., Pollom, E., Chaudhary, N., Soltys, S., Chang, S.
2019
 - **Efficacy and toxicity of particle radiotherapy in WHO grade II and grade III meningiomas: a systematic review.** *Neurosurgical focus*
Wu, A., Jin, M. C., Meola, A., Wong, H., Chang, S. D.
2019; 46 (6): E12
 - **Magnetic Particle Imaging in Neurosurgery** *WORLD NEUROSURGERY*
Meola, A., Rao, J., Chaudhary, N., Song, G., Zheng, X., Chang, S. D.
2019; 125: 261–70
 - **In Reply: Commentary: Peritumoral Edema/Tumor Volume Ratio: A Strong Survival Predictor for Posterior Fossa Metastases** *NEUROSURGERY*
Meola, A., Chow, K. H., Chang, S. D.
2019; 84 (3): E232
 - **"Magnetic Particle Imaging (MPI) in Neurosurgery".** *World neurosurgery*
Meola, A., Rao, J., Chaudhary, N., Song, G., Zheng, X., Chang, S. D.
2019
 - **In Reply: Commentary: Peritumoral Edema to Tumor Volume Ratio: A Strong Survival Predictor for Posterior Fossa Metastases.** *Neurosurgery*
Meola, A., Chow, K. K., Chang, S. D.
2019
 - **Stereotactic Radiosurgery for Large Benign Intracranial Tumors.** *World neurosurgery*
Fatima, N. n., Meola, A. n., Pollom, E. n., Chang, S. D., Soltys, S. n.
2019
 - **Automatic Removal of False Connections in Diffusion MRI Tractography Using Topology-Informed Pruning (TIP)** *NEUROTHERAPEUTICS*
Yeh, F., Panesar, S., Barrios, J., Fernandes, D., Abhinav, K., Meola, A., Fernandez-Miranda, J. C.
2019; 16 (1): 52–58
 - **Stereotactic radiosurgery versus stereotactic radiotherapy in the management of intracranial meningiomas: a systematic review and meta-analysis.** *Neurosurgical focus*
Fatima, N. n., Meola, A. n., Pollom, E. L., Soltys, S. G., Chang, S. D.
2019; 46 (6): E2
 - **Bilateral Vestibular Schwannomas in Neurofibromatosis Type 2.** *The New England journal of medicine*
Meola, A., Chang, S. D.
2018; 379 (15): 1463
 - **Bilateral Vestibular Schwannomas in Neurofibromatosis Type 2** *NEW ENGLAND JOURNAL OF MEDICINE*
Meola, A., Chang, S. D.
2018; 379 (15): 1463
 - **Automatic Removal of False Connections in Diffusion MRI Tractography Using Topology-Informed Pruning (TIP).** *Neurotherapeutics : the journal of the American Society for Experimental NeuroTherapeutics*
Yeh, F., Panesar, S., Barrios, J., Fernandes, D., Abhinav, K., Meola, A., Fernandez-Miranda, J. C.
2018

- **Population-averaged atlas of the macroscale human structural connectome and its network topology** *NEUROIMAGE*
Yeh, F., Panesar, S., Fernandes, D., Meola, A., Yoshino, M., Fernandez-Miranda, J. C., Vettel, J. M., Verstynen, T.
2018; 178: 57–68
- **Commentary: Peritumoral Edema/Tumor Volume Ratio: A Strong Survival Predictor for Posterior Fossa Metastases.** *Neurosurgery*
Chow, K. K., Meola, A., Chang, S. D.
2018
- **Letter: Navigation-Linked Heads-Up Display in Intracranial Surgery: Early Experience.** *Operative neurosurgery (Hagerstown, Md.)*
Meola, A., Chang, S. D.
2018; 14 (6): E71–E72
- **Letter: Navigation-Linked Heads-Up Display in Intracranial Surgery: Early Experience** *OPERATIVE NEUROSURGERY*
Meola, A., Chang, S. D.
2018; 14 (6): E71–E72
- **Population-averaged atlas of the macroscale human structural connectome and its network topology.** *NeuroImage*
Yeh, F., Panesar, S., Fernandes, D., Meola, A., Yoshino, M., Fernandez-Miranda, J. C., Vettel, J. M., Verstynen, T.
2018; 178: 57–68
- **Gold Nanoparticles for Brain tumor imaging: a Systematic Review** *FRONTIERS IN NEUROLOGY*
Meola, A., Rao, J., Chaudhary, N., Sharma, M., Chang, S. D.
2018; 9: 328
- **Stereotactic radiosurgery for jugular foramen schwannomas: an international multicenter study.** *Journal of neurosurgery*
Kano, H. n., Meola, A. n., Yang, H. C., Guo, W. Y., Martínez-Alvarez, R. n., Martínez-Moreno, N. n., Urgosik, D. n., Liscak, R. n., Cohen-Inbar, O. n., Sheehan, J. n., Lee, J. Y., Abbassy, M. n., Barnett, et al
2018; 129 (4): 928–36
- **Long-Term Outcome Following Stereotactic Radiosurgery for Glomus Jugulare Tumors: A Single Institution Experience of 20 Years.** *Neurosurgery*
Sharma, M. n., Meola, A. n., Bellamkonda, S. n., Jia, X. n., Montgomery, J. n., Chao, S. T., Suh, J. H., Angelov, L. n., Barnett, G. H.
2018; 83 (5): 1007–14
- **Correlation Between the Residual Tumor Volume, Extent of Tumor Resection, and O6-Methylguanine DNA Methyltransferase Status in Patients with Glioblastoma.** *World neurosurgery*
Sharma, M. n., Bellamkonda, S. n., Mohapatra, S. n., Meola, A. n., Jia, X. n., Mohammadi, A. n., Angelov, L. n., Barnett, G. H., Vogelbaum, M. n., Ahluwalia, M. S.
2018; 116: e147–e161
- **Stereotactic Radiosurgery for Intracranial Ependymomas: An International Multicenter Study.** *Neurosurgery*
Kano, H. n., Su, Y. H., Wu, H. M., Simonova, G. n., Liscak, R. n., Cohen-Inbar, O. n., Sheehan, J. P., Meola, A. n., Sharma, M. n., Barnett, G. H., Mathieu, D. n., Vasas, L. T., Kaufmann, et al
2018
- **Image Registration to Compensate for EPI Distortion in Patients with Brain Tumors: An Evaluation of Tract-Specific Effects.** *Journal of neuroimaging : official journal of the American Society of Neuroimaging*
Albi, A. n., Meola, A. n., Zhang, F. n., Kahali, P. n., Rigolo, L. n., Tax, C. M., Ciris, P. A., Essayed, W. I., Unadkat, P. n., Norton, I. n., Rathi, Y. n., Olubiyi, O. n., Golby, et al
2018; 28 (2): 173–82
- **A new head-mounted display-based augmented reality system in neurosurgical oncology: a study on phantom.** *Computer assisted surgery (Abingdon, England)*
Cutolo, F. n., Meola, A. n., Carbone, M. n., Sinceri, S. n., Cagnazzo, F. n., Denaro, E. n., Esposito, N. n., Ferrari, M. n., Ferrari, V. n.
2017; 22 (1): 39–53
- **Magnetic Resonance Thermometry and Laser Interstitial Thermal Therapy for Brain Tumors.** *Neurosurgery clinics of North America*
Silva, D. n., Sharma, M. n., Juthani, R. n., Meola, A. n., Barnett, G. H.
2017; 28 (4): 525–33
- **Augmented reality in neurosurgery: a systematic review.** *Neurosurgical review*
Meola, A. n., Cutolo, F. n., Carbone, M. n., Cagnazzo, F. n., Ferrari, M. n., Ferrari, V. n.

2017; 40 (4): 537–48

- **Stereotactic radiosurgery for intracranial hemangiopericytomas: a multicenter study.** *Journal of neurosurgery*
Cohen-Inbar, O. n., Lee, C. C., Mousavi, S. H., Kano, H. n., Mathieu, D. n., Meola, A. n., Nakaji, P. n., Honea, N. n., Johnson, M. n., Abbassy, M. n., Mohammadi, A. M., Silva, D. n., Yang, et al
2017; 126 (3): 744–54
- **Impact of cervicothoracic region stereotactic spine radiosurgery on adjacent organs at risk.** *Neurosurgical focus*
Sharma, M. n., Bennett, E. E., Rahmathulla, G. n., Chao, S. T., Koech, H. K., Gregory, S. N., Emch, T. n., Magnelli, A. n., Meola, A. n., Suh, J. H., Angelov, L. n.
2017; 42 (1): E14
- **Automated white matter fiber tract identification in patients with brain tumors.** *NeuroImage. Clinical*
O'Donnell, L. J., Suter, Y. n., Rigolo, L. n., Kahali, P. n., Zhang, F. n., Norton, I. n., Albi, A. n., Olubiyi, O. n., Meola, A. n., Essayed, W. I., Unadkat, P. n., Ciris, P. A., Wells, et al
2017; 13: 138–53
- **Human Connectome-Based Tractographic Atlas of the Brainstem Connections and Surgical Approaches** *NEUROSURGERY*
Meola, A., Yeh, F., Fellows-Mayle, W., Weed, J., Fernandez-Miranda, J. C.
2016; 79 (3): 437–54
- **The nondecussating pathway of the dentatorubrothalamic tract in humans: human connectome-based tractographic study and microdissection validation** *JOURNAL OF NEUROSURGERY*
Meola, A., Comert, A., Yeh, F., Sivakanthan, S., Fernandez-Miranda, J. C.
2016; 124 (5): 1406–12
- **Teaching NeuroImages: Stroke mimicking thalamotomy: Cessation of tremor following ventrolateral thalamic ischemia.** *Neurology*
Horn, A. n., Kipp, L. n., Meola, A. n., Kühn, A. A., Leithner, C. n.
2016; 87 (17): e208–e209
- **Letter to the Editor.** *Brain injury*
Meola, A. n.
2016; 30 (13-14): 1515–16
- **The Controversial Existence of the Human Superior Fronto-Occipital Fasciculus: Connectome-Based Tractographic Study With Microdissection Validation** *HUMAN BRAIN MAPPING*
Meola, A., Comert, A., Yeh, F., Stefanescu, L., Fernandez-Miranda, J. C.
2015; 36 (12): 4964–71
- **Peduncles Without Cerebellum: The Cerebellar Agenesis** *EUROPEAN NEUROLOGY*
Meola, A., Fernandez-Miranda, J. C.
2015; 74 (3-4): 162
- **Hydrocephalus following bilateral dumbbell-shaped c2 spinal neurofibromas resection and postoperative cervical pseudomeningocele in a patient with neurofibromatosis type 1: a case report.** *Evidence-based spine-care journal*
Montemurro, N. n., Cocciaro, A. n., Meola, A. n., Lutzemberger, L. n., Vannozzi, R. n.
2014; 5 (2): 136–38
- **Management and outcome of high-grade multicentric gliomas: a contemporary single-institution series and review of the literature.** *Acta neurochirurgica*
di Russo, P. n., Perrini, P. n., Pasqualetti, F. n., Meola, A. n., Vannozzi, R. n.
2013; 155 (12): 2245–51
- **Primary dumbbell-shaped lymphoma of the thoracic spine: a case report.** *Case reports in neurological medicine*
Meola, A. n., Perrini, P. n., Montemurro, N. n., di Russo, P. n., Tiezzi, G. n.
2012; 2012: 647682