# **Federico Giuseppe** Legnani

**Data di nascita:** 12/09/1974 | **Nazionalità:** Italiana | **Genere** Maschile |

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Fondazione IRCCS Istituto Neurologico “C. Besta, Via G. Celoria, 11, 20133, Milano, Italia

Presentazione: Il dott. Legnani è un neurochirurgo formatosi professionalmente presso l’Università di Milano e la Johns Hopkins University di Baltimora negli USA. Dal 2005 lavora presso l'Istituto Besta occupandosi di microchirurgia delle neoplasie cerebrali, biopsia robotica delle lesioni inoperabili e diagnosi e trattamento della patologia della colonna e del midollo spinale, sia tumorale che degenerativa. Dal 2017 è Direttore Medico dell’Unità clinica degli Studi di Fase I e si occupa di una vasta gamma di studi clinici incentrati sulla ricerca di terapie innovative per molti tipi di tumore cerebrale. Dal 2019 ha ricevuto l’incarico di “eccellenza professionale” nella neuro-oncologia chirurgica dei tumori gliali. Dal 2019 ha ricevuto l’abilitazione scientifica nazionale a professore associato in Neurochirurgia Il suo interesse clinico e di ricerca è rivolto alla patologia oncologica dell’encefalo e del rachide, con un particolare riferimento a: - Microchirurgia dei tumori gliali (glioblastoma, astrocitoma anaplastico, astrocitoma di basso grado) lesioni in area eloquente (area motoria e linguaggio), pianificazione pre-opeartoria con RM Funzionale, RM intraoperatoria, Trattografia, intervento in microchirurgia assistita da immagini (neuronavigazione, ecografia intraoperatoria, fluorescenza 5ALA). - Biopsia chirurgica robotica delle lesioni cerebrali inoperabili. - Microchirurgia dei tumori intrinseci del cervelletto (ependimoma, medulloblastoma, astrocitoma pilocitico). - Microchirurgia dei meningiomi dei neurinomi e delle metastasi. - Microchirurgia dei tumori del midollo spinale (ependimoma, meningioma, Schwannoma, astrocitoma) e delle patologie degenerative del rachide lombare e cervicale (ernia discale, stenosi del canale spinale).

## ESPERIENZA LAVORATIVA

01/11/2017 – ATTUALE – Milano, Italia
**NEUROCHIRURGO, DIRETTORE MEDICO DELL'UNITÀ CLINICA DEGLI STUDI DI FASE I –** FONDAZIONE IRCCS ISTITUTO NEUROLOGICO “C. BESTA

Coordinatore degli studi clinici di Fase I (First in Human). Sono studi svolti ad identificare la sicurezza di nuove terapie farmacologiche o chirurgiche nel campo della neurologia e neurochirurgia.

01/07/2009 – ATTUALE – Milano, Italia
**NEUROCHIRURGO, DIRIGENTE MEDICO DI I LIVELLO PRESSO LA DIVISIONE DI NEUROCHIRURGIA ONCOLOGICA E SPINALE –** FONDAZIONE IRCCS ISTITUTO NEUROLOGICO “C. BESTA

19/09/2019 – ATTUALE
**ABILITAZIONE SCIENTIFICA NAZIONALE A PROFESSORE ASSOCIATO IN NEUROCHIRURGIA**

03/09/2019 – ATTUALE – Milano, Italia
**INCARICO DI “ECCELLENZA PROFESSIONALE” NELLA NEURO-ONCOLOGIA CHIRURGICA DEI TUMORI GLIALI. –** FONDAZIONE IRCCS ISTITUTO NEUROLOGICO "C. BESTA"

14/11/2005 – 30/06/2009 – Milano, Italia
**NEUROCHIRURGO CON CONTRATTO DI COLLABORAZIONE COORDINATA E CONTINUATIVA (CO.CO.CO) –** FONDAZIONE IRCCS ISTITUTO NEUROLOGICO “C. BESTA

04/10/2002 – 15/11/2004 – Baltimore, Maryland, Stati Uniti

**POST-DOCTORAL RESEARCH FELLOW, PRESSO LE DIVISIONI DI NEUROCHIRURGIA ONCOLOGICA E VASCOLARE –** T HE JOHNS HOPKINS UNIVERSITY, SCHOOL OF MEDICINE

01/11/1999 – 11/11/2005 – Milano, Italia
**SPECIALIZZANDO IN NEUROCHIRURGIA –** UNIVERSITÀ DEGLI STUDI DI MILANO

Titolo della tesi. Terapia combinata con un frammento sintetico di endostatina umana e BCNU per il trattamento dei gliomi maligni sperimentali. Voto 70/70

01/01/1998 – 01/07/1998 – Berlino, Germania
**ERASMUS PROJECT SCHOLARSHIP –** VIRCHOW KLINIK, HUMBOLDT UNIVERSITY

## ISTRUZIONE E FORMAZIONE

ATTUALE
**CERTIFICATO DI GOOD CLINICAL PRACTICES (GCP)**

ATTUALE
**CERTIFICATO DI ADVANCE LIFE SUPPORT (ALS)**

ATTUALE
**CERTIFICATO DI BLS-D RETRAINING**

ATTUALE – Milano, Italia
**MEMBRO DELL'ORDINE DEI MEDICI CHIRURGHI E ODONTOIATRI**

ATTUALE
**MEMBRO DELL'EANS: EUROPEAN ASSOCIATION OF NEUROSURGICAL SOCIETIES**

06/04/2017 – 08/04/2017
**CRANIAL BASE SURGERY COURSE "A 360° PERSPECTIVE**

09/12/2011 – 12/12/2011
**5TH ANNUAL COURSE ON SKULL BASE SURGERY, JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE - SURGICAL APPROACHES TO THE SKULL BASE AND OCCIPITOCERVICAL JUNCTION: FROM MICROSURGERY TO ENDOSCOPY.**

12/05/2011 – 14/05/2011
**INTERNATIONAL HANDS-ON DISSECTION COURSE: SURGERY OF CEREBELLO-PONTINE ANGLE TUMORS' (FACULTY: P. MORTINI, A.J. CAPUTY, P.H. ROCHE, M. TATAGIBA)**

01/11/1999 – 31/10/2005 – Milano, Italia
**SPECIALIZZAZIONE IN NEUROCHIRURGIA VOTO 70/70 –** Università degli Studi di Milano

17/05/2001 – 19/05/2001
**CADAVER LAB: SECOND INTENSIVE HANDS –ON DISSECTION COURSE ON SKULL BASE SURGERY: SURGICAL APPROACHES TO THE SELLAR TUMORS" GUEST FACULTY: E.LAWS (CHARLOTTESVILLE USA), R FHALBUSH ( NUERNBERG GERMANY)**

18/05/2000 – 20/05/2000
**CADAVER LAB: INTENSIVE HANDS-ON DISSECTION COURSE ON SKULL BASE SURGERY. SUBTEMPORAL TRANSZYGOMATIC & SUBTEMPORAL INFRATEMPORAL APPROACHES" (FACULTY: L.N. SEKHAR, B. GEORGE)**

01/11/1993 – 21/10/1999 – Milano, Italia
**LAUREA IN MEDICINA E CHIRURGIA, VOTO 110/110 –** Università degli Studi di Milano

15/09/1988 – 17/07/1993 – Milano, Italia
**DIPLOMA DI LICEO CLASSICO –** Liceo Ginnasio G. Berchet

## COMPETENZE LINGUISTICHE

**Lingua madre:** ITALIANO

**Altre lingue:**

| | COMPRENSIONE | | ESPRESSIONE ORALE | | SCRITTURA |
|---|---|---|---|---|---|
| | Ascolto | Lettura | Produzione orale | Interazione orale | |
| **INGLESE** | C2 | C2 | C2 | C2 | C2 |
| **TEDESCO** | B1 | A2 | A2 | A2 | A1 |
| **SPAGNOLO** | B2 | B2 | B1 | B1 | A2 |

Livelli: A1 e A2: Livello elementare B1 e B2: Livello intermedio C1 e C2: Livello avanzato

## COMPETENZE DIGITALI

Microsoft Office | Sistemi Operativi Windows 9XNT2000XPVistaSeven8Windows 10 Android | Gestione autonoma della posta e-mail | Social Network | Padronanza del Pacchetto Office (Word Excel PowerPoint ecc)

## PUBBLICAZIONI

**Marras C, Mendola C, Legnani FG, DiMeco F., "Immunotherapy and biological modifiers for the treatment of malignant brain tumors". Curr Opin Oncol. 2003 May;15(3):204-8**

**Legnani FG, Pradilla G, Wang PP, Brem H, Olivi A, Di Meco F. Local delivery of antineoplastic agents using biodegradable polymers for the treatment of malignant brain tumors. Expert Rev Neurotherapeutics. 2003; 3:89-102.**

**Pradilla G, Wang PP, Legnani FG, Ogata L, Dietsch GN, Tamargo RJ. Anti-CD11/CD18 monoclonal antibody therapy prevents vasospasm after subarachnoid hemorrhage in rabbits. J Neurosurg. 2004 July; 101(1):88-91.**

**Pradilla G, Wang PP, Legnani FG, Frazier JL, Tamargo RJ. Pharmacokinetics of controlled release polymers in the subarachnoid space after subarachnoid hemorrhage in rabbits. J Neurosurg. 2004 July; 101(1):99-103**

**Pradilla, G., Thai, Q.A., Legnani, F.G., Hsu, W., Kretzer, R.M., Wang, P. P., Tamargo, R. J. Delayed intracranial delivery of a nitric oxide donor from a controlled-release polymer prevents experimental cerebral vasospasm in rabbits. Neurosurgery 2004 December; 55 (6):1393-99.**

**Mantha, A., Legnani, F.G., Bagley, C.A., Gallia, G., Garonzik, I., Pradilla, G., Amundson, E., Tyler, B.M., Brem, H., Gokaslan, Z. A new model of spinal metastasis in rats. J Neurosurg Spine 2005 March; 2 (3): 303-307 Cover Article.**

**Raza SM, Pradilla G, Legnani FG, Thai QA, Olivi A, Brem H. Local delivery of antineoplastic agents for the treatment of malignant brain tumors. Expert Opin Mol Ther, 2005, (5) 4: 477-494**

**Pradilla, G., Thai, Q.A., Legnani, F.G., Clatterbuck, R.E., Gailloud, P., Murphy, K.P.J., Tamargo, R.J. Local delivery of ibuprofen via controlled-release polymers prevents angiographic vasospasm in a monkey model of subarachnoid hemorrhage. Neurosurgery, 2005 July; 57 (1 Suppl):184-90.**

**Mavinkurve, G., Pradilla, G., Legnani, F.G., Bagley, C.A., Brem, H., Jallo, G. A novel intramedullary spinal cord tumor model in rabbits: functional, radiological, and histopathological characterization. J Neurosurg Spine, 2005 August; 3 (2): 142-8**

**Pradilla, G., Legnani, F. G., Petrangolini, G., Francescato, P., Chillemi, F., Tyler, B. M., Brem, H., Olivi, A., DiMeco, F. Local delivery of a novel endostatin fragment for the treatment of experimental gliomas. Neurosurgery, 2005 December; 57 (5) 1032-40.**

**Pappada G, Beghi E, Marina R, Agostoni E, Cesana C, Legnani F, Parolin M, Petri D, Sganzerla EP. Hemodynamic instability after extracranial carotid stenting. Acta Neurochir (Wien). 2006 Jun;148(6):639-45. Epub 2006 Mar 8.**

**Thai, Q.A., Pradilla, G., Legnani, F.G., Kretzer, R.M., Hsu, W., Tamargo, R.J. Lysis of intraparenchymal hematoma with stereotactically implanted tissue plasminogen activator polymers in a rabbit model. J Neurosurg. 2006 Sep;105(3):424-9**

**Caplan J, Pradilla G, Hdeib A, Tyler BM, Legnani FG, Bagley CA, Brem H, Jallo G. A novel model of intramedullary spinal cord tumors in rats: functional progression and histopathological characterization. Neurosurgery. 2006 Jul;59(1):193-200; discussion 193-200.**

**McGirt MJ, Pradilla G, Legnani FG, Thai QA, Recinos PF, Tamargo RJ, Clatterbuck RE. Systemic administration of simvastatin after the onset of experimental subarachnoid hemorrhage attenuates cerebral vasospasm. Neurosurgery. 2006 May;58(5):945-51; discussion 945-51.**

**Legnani FG, Pradilla G, Thai QA, Fiorindi A, Recinos PF, Tyler BM, Gaini SM, DiMeco F, Brem H, Olivi A. Lactacystin exhibits potent anti-tumor activity in an animal model of malignant glioma when administered via controlled-release polymers. J Neurooncol. 2006 May;77(3):225-32.**

**Brem S, Tyler B, Li K, Pradilla G, Legnani F, Caplan J, Brem H. Local delivery of temozolomide by biodegradable polymers is superior to oral administration in a rodent glioma model. Cancer Chemother Pharmacol. 2007 Jan 26;**

**Gessi M, Legnani FG, Maderna E, Casali C, Solero CL, Pollo B, DiMeco F. Mucinous low-grade adenocarcinoma arising in an intracranial enterogenous cyst: case report. Neurosurgery. 2008 Apr;62(4):972-3;**

**Recinos VR, Bekelis K, Ziegler SG, Vick D, Hertig S, Tyler BM, Li KW, Kosztowski T, Legnani FG, Brem H, Olivi A. Epirubicin exhibits potent anti-tumor activity in an animal model of malignant glioma when administered via controlled-release polymers. J Neurooncol. 2010 Mar;97(1):1-10. Epub 2009 Aug 20. PubMed PMID: 19693439.**

**Jansen T, Tyler B, Mankowski JL, Recinos VR, Pradilla G, Legnani F, Laterra J, Olivi A. FasL gene knock-down therapy enhances the antiglioma immune response. Neuro Oncol. 2010 May;12(5):482-9. Epub 2010 Jan 29. PubMed PMID: 20406899; PubMed Central PMCID: PMC2940616.**

**Tyler B, Fowers KD, Li KW, Recinos VR, Caplan JM, Hdeib A, Grossman R, Basaldella L, Bekelis K, Pradilla G, Legnani F, Brem H. A thermal gel depot for local delivery of paclitaxel to treat experimental brain tumors in rats. J Neurosurg. 2010 Aug;113(2):210-7. PubMed PMID: 20001591.**

**Tyler BM, Hdeib A, Caplan J, Legnani FG, Fowers KD, Brem H, Jallo G, Pradilla G. Delayed onset of paresis in rats with experimental intramedullary spinal cord gliosarcoma following intratumoral administration of the paclitaxel delivery system OncoGel. J Neurosurg Spine. 2012 Jan;16(1):93-101. PubMed PMID: 22208429.**

**Mangraviti A, Casali C, Cordella R, Legnani FG, Mattei L, Prada F, Saladino A, Contarino VE, Perin A, DiMeco F. Practical assessment of preoperative functional mapping techniques: navigated transcranial magnetic stimulation and functionalmagnetic resonance imaging. Neurol Sci. 2013 Sep;34(9):1551-7. doi:10.1007/s10072-012-1283-7. Epub 2012 Dec 25. Erratum in: Neurol Sci. 2014 Mar;35(3):501. Contarino, Valeria Elisa [added]. PubMed PMID: 23266868.**

**Gaviani P, Corsini E, Salmaggi A, Lamperti E, Botturi A, Erbetta A, Milanesi I, Legnani F, Pollo B, Silvani A. Liposomal cytarabine in neoplastic meningitis from primary brain tumors: a single institutional experience. Neurol Sci. 2013 Dec;34(12):2151-7. doi: 10.1007/s10072-013-1358-0. Epub 2013 Mar 24. PubMed PMID: 23525755.**

**Legnani FG, Saladino A, Casali C, Vetrano IG, Varisco M, Mattei L, Prada F, Perin A, Mangraviti A, Solero CL, DiMeco F. Craniotomy vs. craniectomy for posterior fossa tumors: a prospective study to evaluate complications after surgery. Acta Neurochir (Wien). 2013 Dec;155(12):2281-6. PubMed PMID: 24078114.**

**Prada F, Perin A, Martegani A, Aiani L, Solbiati L, Lamperti M, Casali C, Legnani F, Mattei L, Saladino A, Saini M, DiMeco F. Intraoperative contrast-enhanced ultrasound for brain tumor surgery. Neurosurgery. 2014 May; 74(5):542-52; discussion 552. doi: 10.1227/NEU.0000000000000301. PubMed PMID: 24598809.**

**Prada F, Mattei L, Del Bene M, Aiani L, Saini M, Casali C, Filippini A, Legnani FG, Perin A, Saladino A, Vetrano IG, Solbiati L, Martegani A, DiMeco F. Intraoperative cerebral glioma characterization with contrast enhanced ultrasound. Biomed Res Int. 2014;2014:484261. doi: 10.1155/2014/484261. Epub 2014 Jun 12. PubMed PMID: 25013784; PubMed Central PMCID: PMC4075093.**

**Prada F, Vetrano IG, Filippini A, Del Bene M, Perin A, Casali C, Legnani F, Saini M, DiMeco F. Intraoperative ultrasound in spinal tumor surgery. J Ultrasound. 2014 Jun 7;17(3):195-202. doi: 10.1007/s40477-014-0102-9. eCollection 2014 Sep. PubMed PMID: 25177392; PubMed Central PMCID: PMC4142127.**

**Prada F, Del Bene M, Mattei L, Casali C, Filippini A, Legnani F, Mangraviti A, Saladino A, Perin A, Richetta C, Vetrano I, Moiraghi A, Saini M, DiMeco F. Fusion imaging for intra-operative ultrasound-based navigation in neurosurgery. J Ultrasound. 2014 Jun 24;17(3):243-51. doi: 10.1007/s40477-014-0111-8. eCollection 2014 Sep. PubMed PMID: 25177400; PubMed Central PMCID: PMC4142132.**

**Prada F, Bene MD, Casali C, Saladino A, Legnani FG, Perin A, Moiraghi A, Richetta C, Rampini A, Mattei L, Vetrano IG, Fornaro R, Saini M, Martegani A, DiMeco F. Intraoperative Navigated Angiosonography for Skull Base Tumor Surgery. World Neurosurg. 2015 Dec;84(6):1699-707. doi: 10.1016/j.wneu.2015.07.025. Epub 2015 Jul 17. PubMed PMID: 26193670.**

**Prada F, Del Bene M, Moiraghi A, Casali C, Legnani FG, Saladino A, Perin A, Vetrano IG, Mattei L, Richetta C, Saini M, DiMeco F. From Grey Scale B-Mode to Elastosonography: Multimodal Ultrasound Imaging in Meningioma Surgery-Pictorial Essay and Literature Review. Biomed Res Int. 2015;2015:925729. doi: 10.1155/2015/925729. Epub 2015 May 25. Review. PubMed PMID: 26101779; PubMed**

**Cordella R, Nava S, Prada F, Agnoletti A, Legnani F, Dimeco F. Ultrasound guided mini-invasive tailored approach and intraoperative neurophysiological monitoring. A synergistic strategy for the removal of tumours near the motor cortex. A preliminary experience. J Neurosurg Sci. 2016 Mar 11.**

**Saladino A, Lamperti M, Mangraviti A, Legnani FG, Prada FU, Casali C, Caputi L, Borrelli P, DiMeco F. The semisitting position: analysis of the risks and surgical outcomes in a contemporary series of 425 adult patients undergoing cranial surgery. J Neurosurg. 2016 Dec 16:1-10.**

**Mattei L, Prada F, Legnani FG, Perin A, Olivi A, DiMeco F. Neurosurgical tools to extend tumor resection in hemispheric low-grade gliomas: conventional and contrast enhanced ultrasonography. Childs Nerv Syst. 2016 Oct;32(10):1907-14.**

**Binda E, Visioli A, Giani F, Trivieri N, Palumbo O, Restelli S, Dezi F, Mazza T, Fusilli C, Legnani F, Carella M, Di Meco F, Duggal R, Vescovi AL. Wnt5a Drives an Invasive Phenotype in Human Glioblastoma Stem-like Cells. Cancer Res. 2017 Feb**

**Franzini A, Legnani F, Beretta E, Prada F, DiMeco F, Visintini S, Franzini A. Piezoelectric Surgery for Dorsal Spine: A technical note. World Neurosurg. 2018 Mar 9. pii: S1878-8750(18)30496-0. doi: 10.1016/j.wneu.2018.03.026. [Epub ahead of print] PubMed PMID: 29530686.**

**Perin A, Galbiati TF, Gambatesa E, Ayadi R, Orena EF, Cuomo V, Riker NI, Falsitta LV, Schembari S, Rizzo S; European Neurosurgery Simulation Study Group (ENSSG), Luciano C, Cappabianca P, Meling TR, Schaller K, DiMeco F. Filling the gap between the OR and virtual simulation: a European study on a basic neurosurgical procedure. Acta Neurochir (Wien). 2018 Nov;160(11):2087-2097. doi: 10.1007/s00701-018-3676-8. Epub 2018 Oct 1. PubMed PMID: 30276545.**

**Del Bene M, Perin A, Casali C, Legnani F, Saladino A, Mattei L, Vetrano IG, Saini M, DiMeco F, Prada F. Advanced Ultrasound Imaging in Glioma Surgery: Beyond Gray-Scale B-mode. Front Oncol. 2018 Dec 3;8:576. doi: 10.3389/fonc.2018.00576. eCollection 2018. PubMed PMID: 30560090; PubMed Central PMCID: PMC6287020.**

**Perin A, Galbiati TF, Casali C, Legnani FG, Mattei L, Prada FU, Saini M, Saladino A, Riker N, DiMeco F. Brain Tectal Tumors: A Flexible Approach. Oper Neurosurg (Hagerstown). 2018 Jun 5. doi: 10.1093/ons/opy114. [Epub ahead of print] PubMed PMID: 29873789.**

**Minchev G, Kronreif G, Ptacek W, Dorfer C, Micko A, Maschke S, Legnani FG, Widhalm G, Knosp E, Wolfsberger S. A novel robot-guided minimally invasive technique for brain tumor biopsies. J Neurosurg. 2019 Jan 18:1-9. doi: 10.3171/2018.8.JNS182096. [Epub ahead of print] PubMed PMID: 30660122.**

**Legnani FG, Franzini A, Mattei L, Saladino A, Casali C, Prada F, Perin A, Cojazzi V, Saini M, Kronreif G, Wolfsberger S, DiMeco F. Image-Guided Biopsy of Intracranial Lesions with a Small Robotic Device (iSYS1): A Prospective, Exploratory Pilot Study. Oper Neurosurg (Hagerstown). 2019 Oct 1;17(4):403-412. doi: 10.1093/ons/opy411. PubMed PMID: 30690491.**

**Mantha A, Legnani FG, and Gokaslan ZL. Occipitocervical Fixation (Synthes). In Surgical Techniques in Spinal Instrumentation, published by Thieme Medical Publishers.**

**Mantha A, Legnani FG, and Gokaslan ZL. Lumbosacral Fixation (Synthes). In Surgical Techniques in Spinal Instrumentation, published by Thieme Medical Publishers.**

## COMPETENZE DI GESTIONE E DIRETTIVE

**Competenze gestionali**

- gestione sala operatoria
- gestione team di ricerca clinica

## COMPETENZE COMUNICATIVE E INTERPERSONALI.

**Competenze comunicative**

- partecipazioni a meeting e congressi in qualità di relatore
- partecipazioni a advisory boards
- comunicazione medico/paziente
- comunicazione con team sala operatoria
- comunicazione con team laboratorio

## EDITORIAL BOARDS

2014 – ATTUALE
**Ad hoc reviewer Neurosurgery**

2014 – ATTUALE
**Ad hoc reviewer World Neurosurgery**

2013 – ATTUALE
**Ad hoc reviewer Tumori Journal**

2016 – ATTUALE
**Ad hoc reviewer Journal of Neuro-oncology**

01/03/2020 – ATTUALE
**Ad hoc reviewer Frontiers Oncology**

## COMPETENZE PROFESSIONALI

### Casistica chirurgica

Ha eseguito circa 1300 interventi da primo operatore: 80% chirurgia cerebrale elettiva, principalmente tumorale, 20% chirurgia spinale degenerativa e tumorale
Ha eseguito circa 3000 interventi come secondo operatore.

### Awards, Honors, Grant

2004 Recipient of the ***Harvey Cushing Hunterian Award*** Given to the Johns Hopkins Resident/Fellow with highest achievement in Neurosurgical Research.

2004 Co-recipient of the ***Agustus McCravey Award*** of the Southern Neurosurgical Society for the study "Lysis of intraparenchymal hematoma with stereotactically implanted tPA polymers in a rabbit model".

2004 Co-recipient of the ***Galbraith Award*** of the Joint AANS/CNS Cerebrovascular Section for the study "Simvastatin attenuates experimental cerebral vasospasm and ameliorates serum markers of neuronal and endothelial injury in patients after subarachnoid hemorrhage: A dose-response effect dependent on endothelial nitric oxide synthase".

2004 – 2007 Grant NIH RFA R21-R33 (2004): "Enhancement of Brain Tumor Immunotherapy by Fas-L RNAi" (Principal Investigator: Prof. Alessandro Olivi). Role in the project: grant writer and fellow.

2008-2011 Oncologic Ordinary Project, Italian Ministry of Health (2008): "Role of Brain Mapping in the surgical treatment of low grade gliomas". (Principal Investigator: Prof. G. Broggi; Scientific Coordinators: Dr. F. DiMeco, Prof. SM Gaini). Role in the project: grant writer and fellow.

2014-present ERC Consolidator Grant (2014): "Very fast Imaging by Broadband coherent RAmanVIBRA" in collaboration with Politecnico di Milano, Physics Department. (Principal Investigator: Prof. D. Polli) Role in the project: scientific collaboration in the clinical phase.

2016-present Principal Investigator in the project: "Application of the iSYS1® Miniature Guidance Device for Stereotactic Neurosurgical Interventions: A Prospective, Exploratory Pilot Study".

### Insegnamento

Master teacher faculty. Cadaveric spinal course: Thoracic and lumbar posterior Piezosurgery approaches for spinal disease, ICLO (Teaching and Research Center) Verona, 20 Gennaio 2019.

Teacher faculty. Intraoperative Neurophisiological Monitoring (IOM) course in Neurosurgery: IOM in spinal surgery, Milano, 14-16 Marzo 2019

Meeting chairman and teacher faculty. Medtronic Surgical and Synergy Symposium. Hands on session: Biopsy navigated robotic procedures, Spalato 7-8 Novembre 2019

Master teacher faculty. Cadaveric spinal course: Anterior and posterior approaches to the cervical spine for tumoral and degenerative spine disease with the Piezosurgery technique. ICLO (Teaching and Research Center) Verona, 16 Gennaio 2020.