



Massimiliano Del Bene

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📍 Lavoro: Fondazione IRCCS Istituto Neurologico "Carlo Besta" Via Celoria 11, 20133 Milano (Italia)

ISTRUZIONE E FORMAZIONE

Medico Chirurgo

Università degli studi di Milano [2007 – 2014]

Paese: Italia | Voto finale: Summa Cum Laude

Tesi: **Ruolo di CLIC1 negli Esosomi del Glioblastoma**

Abilitazione alla professione di medico chirurgo

Ministero dell'Istruzione, Università e Ricerca [2015]

Iscritto all'Ordine Provinciale dei Medici Chirurghi e degli Odontoiatri di Milano

[2014 – Attuale]

Città: Milano | Paese: Italia

Specialista in Neurochirurgia

Università degli studi di Milano, Scuola di specializzazione in Neurochirurgia [2014 – 2020]

Città: Milano | Paese: Italia | Voto finale: Summa Cum Laude

Tesi: **Plasma Extra-Cellular Vesicles in Glioblastoma Patients: Clinical Significance and Perspectives for Liquid Biopsy.**

The European Association of Neurosurgical Societies Training course

European Association of Neurosurgical Societies [2017 – 2021]

Eurospine basic diploma

Eurospine [2020 – 2021]

European Board Examination in Neurological Surgery Part 1

European Association of Neurosurgical Societies [2020 – 2021]

Observership in Skull Base Surgery

Hospices Civils de Lyon (Prof. Emmanuel Jouanneau) [03/2023]

Città: Lyon | Paese: Francia

ESPERIENZA LAVORATIVA

Studente frequentatore

Fondazione I.R.C.C.S. Istituto Neurologico "C. Besta", Dipartimento di Neurochirurgia [2011 – 2015]

Città: Milano | Paese: Italia

Visiting scientist

Istituto Europeo di Oncologia, Dipartimento di Oncologia Sperimentale, Prof. Giuliana Pelicci group [2012 – Attuale]

Città: Milano | Paese: Italia

Medico Specializzando in Neurochirurgia

Università degli Studi di Milano, Scuola di specializzazione in Neurochirurgia [2014 – 2020]

Città: Milano | Paese: Italia

11/2015 – 12/2017 IRCCS Ospedale Maggiore Policlinico di Milano - Milano - Dr Paolo Rampini

01/2018 – 10/2020 Fondazione I.R.C.C.S. Istituto Neurologico "C. Besta", Unità di Neurochirurgia Oncologica – Milano – Prof Francesco DiMeco

12/2018 Observership in skull base surgery at Hôpital Lariboisière. - Paris, France - Prof. Sébastien Froelich.

Medico specialista in Neurochirurgia (Collaborazione Professionale in regime di P.IVA)

Fondazione I.R.C.C.S. Istituto Neurologico "C. Besta", Neurochirurgia Oncologica [02/2021 – 02/2023]

Città: Milano | Paese: Italia

Dirigente Medico Neurochirurgo

Fondazione I.R.C.C.S. Istituto Neurologico "C. Besta", Neurochirurgia Oncologica [02/2023 – Attuale]

Città: Milano | Paese: Italia

PRINCIPALI AREE DI RICERCA

Clinical and translational research

The focuses are surgery and clinical/translational research, even embracing a substantial pre-clinical commitment. Activities are conducted at Fondazione IRCCS Istituto Neurologico Carlo Besta -Prof. F. DiMeco and at Istituto Europeo di Oncologia IRCCS - Prof G. Pelicci thus allowing a prompt translation from the laboratory to the ward and vice versa. The primary areas of research are neuro-oncology and neurosurgery: -Development of innovative technologies for neurosurgery, -Characterisation of the informative power of plasma extracellular vesicles (EVs) in brain tumor patients to develop a reliable liquid biopsy, -Definition of characteristics and clinical implications of tumor immune infiltrate in meningioma.

PRODUZIONE SCIENTIFICA

Journal Publications 1/3

- Prada F, Santuari D, Legnani F, **Del Bene M**, Mattei L, Lodigiani L, et al. Cerebral Venous Return and high altitude cerebral edema (HACE): hypothesis and study protocol. *Veins and Lymphatics*. 2013;2(5):3.
- Prada F, **Del Bene M**, Mattei L, Casali C, Filippini A, Legnani F, et al. Fusion imaging for intra-operative ultrasound-based navigation in neurosurgery. *Journal of ultrasound*. 2014;17(3):243-51.
- Prada F, Mattei L, **Del Bene M**, Aiani L, Saini M, Casali C, et al. Intraoperative cerebral glioma characterization with contrast enhanced ultrasound. *BioMed research international*. 2014;2014.
- Prada F, Vetrano IG, Filippini A, **Del Bene M**, Perin A, Casali C, et al. Intraoperative ultrasound in spinal tumor surgery. *Journal of ultrasound*. 2014;17(3):195-202.
- Prada F, **Del Bene M**, Casali C, Saladino A, Legnani FG, Perin A, et al. Intraoperative navigated angiosonography for skull base tumor surgery. *World neurosurgery*. 2015;84(6):1699-707.
- Prada F, **Del Bene M**, Mattei L, Lodigiani L, DeBeni S, Kolev V, et al. Preoperative magnetic resonance and intraoperative ultrasound fusion imaging for real-time neuronavigation in brain tumor surgery. *Ultraschall in der Medizin-European Journal of Ultrasound*. 2015;36(02):174-86.

- Prada F, **Del Bene M**, Moiraghi A, Casali C, Legnani FG, Saladino A, et al. From grey scale B-mode to elastosonography: multimodal ultrasound imaging in meningioma surgery—pictorial essay and literature review. *BioMed research international*. 2015 May 25.
- Prada F, **Del Bene M**, Saini M, Ferroli P, DiMeco F. Intraoperative cerebral angiosonography with ultrasound contrast agents: how I do it. *Acta neurochirurgica*. 2015;157(6):1025-9.
- Setti M, Osti D, Richichi C, Ortensi B, **Del Bene M**, Fornasari L, et al. Extracellular vesicle-mediated transfer of CLIC1 protein is a novel mechanism for the regulation of glioblastoma growth. *Oncotarget*. 2015;6(31):31413.
- Vetrano IG, Prada F, Nataloni IF, **Del Bene M**, Dimeco F, Valentini LG. Discrete or diffuse intramedullary tumor? Contrast-enhanced intraoperative ultrasound in a case of intramedullary cervicothoracic hemangioblastomas mimicking a diffuse infiltrative glioma: technical note and case report. *Neurosurgical focus*. 2015;39(2):E17.
- **Del Bene M**, Prada F, D'Amico D, DiMeco F. Chronic dorsal subdural haematoma: single aetiology for CNS superficial siderosis and myelopathy. *Acta neurochirurgica*. 2016;158(6):1129-31.
- Filippini A, Prada F, **Del Bene M**, DiMeco F. Intraoperative cerebral ultrasound for third ventricle colloid cyst removal: case report. *Journal of ultrasound*. 2016;19(3):211-5.
- Prada F, **Del Bene M**, DiMeco F. Image guidance in skull base tumor resection: A synergistic approach using intraoperative navigated angiosonography for real-time vessel visualization. *Surgical Neurology International*. 2016;7:82.

Equal contribution

Journal Publications 2/3

- #Prada F, #**Del Bene M**, Fornaro R, Vetrano IG, Martegani A, Aiani L, et al. Identification of residual tumor with intraoperative contrast-enhanced ultrasound during glioblastoma resection. *Neurosurgical focus*. 2016;40(3):E7.
- Prada F, **Del Bene M**, DiMeco F. Identification of residual glioma using ultrasound miniprobe Response. *Neurosurgical focus*. 2016;41(4).
- Prada F, Pipolo C, **Del Bene M**, Maccari A, Saibene AM. Narrow band imaging in giant pituitary adenoma surgery. *Acta neurochirurgica*. 2016;158(8):1621-3.
- Richichi C, Osti D, **Del Bene M**, Fornasari L, Patanè M, Pollo B, et al. Tumor-initiating cell frequency is relevant for glioblastoma aggressiveness. *Oncotarget*. 2016;7(44):71491.
- Prada F, **Del Bene M**, Faragò G, DiMeco F. Spinal Dural Arteriovenous Fistula: Is There a Role for Intraoperative Contrast-Enhanced Ultrasound? *World neurosurgery*. 2017;100:712. e15-. e18.
- Prada F, Vitale V, **Del Bene M**, Boffano C, Sconfienza LM, Pinzi V, et al. Contrast-enhanced MR Imaging versus Contrast-enhanced US: A Comparison in Glioblastoma Surgery by Using Intraoperative Fusion Imaging. *Radiology*. 2017;285(1):242-9.
- Richichi C, Fornasari L, Melloni GE, Brescia P, Patanè M, **Del Bene M**, et al. Mutations targeting the coagulation pathway are enriched in brain metastases. *Scientific Reports*. 2017;7(1):6573.
- Di Cristofori A, **Del Bene M**, Locatelli M, Boggio F, Ercoli G, Ferrero S, et al. Meningioma and bone hyperostosis: expression of bone stimulating factors and review of the literature. *World Neurosurgery*. 2018.
- Prada F, **Del Bene M**, Mauri G, Lamperti M, Vailati D, Richetta C, et al. Dynamic assessment of venous anatomy and function in neurosurgery with real-time intraoperative multimodal ultrasound. *Neurosurgical focus*. 2018;45(1):E6.
- Prada F, Kalani M Y S, Yagmurlu K, Norat P, **Del Bene M**, DiMeco F, Kassell N F. Applications of Focused Ultrasound in Cerebrovascular Diseases and Brain Tumours. *Neurotherapeutics*. 2018 Nov 7.
- #Prada F, #**Del Bene M**, Rampini A, Mattei L, Casali C, Vetrano IG, Gennari AG, Sdao S, Saini M, Sconfienza LM, DiMeco F. Intraoperative Strain Elastosonography in Brain Tumor Surgery. *Operative Neurosurgery (Hagerstown)*. 2018 Nov 28.

- **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. *Frontiers in Oncology*, 2018 Dec 03.
- #Osti D., #**Del Bene M.**, #Rappa G., Beznusenko G., Richichi C., Matafora V., Fornasari L., Bongetta D., Gaetani P., DiMeco F., Lorico A., Pelicci G. Clinical Significance of Extracellular Vesicles in Plasma from Glioblastoma Patients. *Clinical Cancer Research*. 2019 Jan.

Equal contribution

Journal Publications 3/3

- de Laurentis C, **Del Bene M**, Fociani P, Tonello C, Pollo B, DiMeco F. 5-ALA Fluorescence in Case of Brain Abscess by Aggregatibacter Mimicking Glioblastoma. *World Neurosurg*. 2019 May.
- Prada F, Gennari AG, **Del Bene M**, Bono BC, Quaia E, D'Incerti L, Villani F, Didato G, Tringali G, DiMeco F. Intraoperative ultrasonography (ioUS) characteristics of focal cortical dysplasia (FCD) type II b. *Seizure*. 2019 Jul.
- Prada F, Vetrano IG, **Del Bene M**, Mauri G, Sconfienza LM, DiMeco F. Letter to the Editor Regarding "The Diagnostic Properties of Intraoperative Ultrasound in Glioma Surgery and Factors Associated with Gross Total Tumor Resection". *World Neurosurg*. 2019 May
- Gribaudi GL, Pirola E, Borsa S, **Del Bene M**, Sgardello S, Caroli M. Multiple vertebral metastases from brain glioblastoma: An insidious complication. *Interdisciplinary Neurosurgery*. 2020 March 19.
- Casali C, **Del Bene M**, Messina G, Legnani F, DiMeco F. Robot assisted laser-interstitial thermal therapy with iSYS1 and Visualase: how I do it. *Acta Neurochir (Wien)*. 2021 Jun 19.
- #**Del Bene M**, #Osti D, Faletti S, Beznusenko G V, DiMeco F, Pelicci G. Extracellular vesicles: the key for precision medicine in glioblastoma. *Neuro-oncology*. 2021 Sep 28.
- **Del Bene M**, DiMeco F, Unsgård G. Intraoperative Ultrasound in Brain Tumor Surgery: State-Of-The-Art and Future Perspectives. *Frontiers in Oncology*, 4523
- #**Del Bene M**, #Raspagliesi L, Carone G, Gaviani P, Silvani A, Solbiati L, Prada F, DiMeco F. Cranial sonolucent prosthesis: a window of opportunity for neuro-oncology (and neuro-surgery). *Journal of Neuro-Oncology*, 1-12
- Prada F, Ciocca R, Corradino N, Gionso M, Raspagliesi L, Vetrano I G, Doniselli F, **Del Bene M**, DiMeco F. Multiparametric Intraoperative Ultrasound in Oncological Neurosurgery: A Pictorial Essay. *Front Neurosci*. 2022 Apr 19
- #**Del Bene M**, #Carone G, Porto E, Barbotti A, Messina G, Tringali G, Rossi D, Lanteri P, Togni R, Demichelis G, Aquino D, Doniselli FM, DiMeco F, Casali C. Neurophysiology-Guided Laser Interstitial Thermal Therapy: A Synergistic Approach For Motor Function Preservation. Technical Note. *World Neurosurgery*. 2022/10/3
- M Gionso, L Raspagliesi, L Yuan, **M Del Bene**, N Corradino, R Ciocca, E Porto, A D'Ammando, G Durando, F Di Meco, F Prada. Focused Ultrasound for Brain Diseases: A Review of Current Applications and Future Perspectives. *IRBM*, 100790 - 2023/6/1

Equal contribution

Book Chapters

- Prada F, **Del Bene M**, DiMeco F. Contrast-Enhanced Ultrasound (CEUS) in Neurosurgery. Intraoperative Ultrasound (IOUS) in Neurosurgery: Springer International Publishing; 2016. p. 159-69.
- Prada F, **Del Bene M**, Moiraghi A, DiMeco F. Echographic Brain Semeiology and Topographic Anatomy According to Surgical Approaches. Intraoperative Ultrasound (IOUS) in Neurosurgery: Springer; 2016. p. 29-39.
- Munzone E, Casali C, **Del Bene M**, DiMeco F. Treatment of Central Nervous System Involvement. Breast Cancer: Springer; 2017. p. 763-7.
- Casali C, **Del Bene M**, Dimeco F. Falcine meningiomas. Handbook of Clinical Neurology, Vol. 170, Meningiomas, Part II. Elsevier B.V. 2020

- Bloch O, DiMeco F, **Del Bene M**, Hakim F, Gomez D, Lesniak M S. Language area metastatic brain cancer. Intrinsic and Skull Base Tumors 1st Edition. Elsevier. ISBN 9780323696425.
- Alverne Freitas de Albuquerque L, DiMeco F, **Del Bene M**, Meyer F B, Wharen R E. Multiple accessible metastatic brain tumors. Intrinsic and Skull Base Tumors 1st Edition. Elsevier. ISBN 9780323696425.
- DiMeco F, **Del Bene M**, Komotar R J, Prevedello D M, Nakatomi H. Olfactory groove meningioma. Intrinsic and Skull Base Tumors 1st Edition. Elsevier. ISBN 9780323696425.
- **Del Bene M**, Eleopra R, Prada F, DiMeco F. Neuroradiology: Focused Ultrasound in Neurosurgery. Neuroscience for Neurosurgeons, 382. 2023.

Tesi

Tesi di laurea in Medicina e Chirurgia:

Ruolo di CLIC1 negli Esosomi del Glioblastoma

Relatore: Prof. Lorenzo Bello. Correlatore: Prof. Giuliana Pelicci

Tesi di specializzazione di Neurochirurgia:

Plasma Extra-Cellular Vesicles in Glioblastoma Patients: Clinical Significance and Perspectives for Liquid Biopsy

Relatore: Prof. Francesco DiMeco. Correlatore: Prof. Giuliana Pelicci.

Autorizzo il trattamento dei miei dati personali presenti nel CV ai sensi dell'art. 13 d. lgs. 30 giugno 2003 n. 196 - "Codice in materia di protezione dei dati personali" e dell'art. 13 GDPR 679/16 - "Regolamento europeo sulla protezione dei dati personali".