

Stefano Colonna, MD

Neurosurgeon and Spine Surgeon

WORK EXPERIENCE

- May 2026 (Current) **Ospedale “Santa Chiara”, ASUIT, Trento (Italy)**
Prof. Silvio Sarubbo
Attending Neurosurgeon, U.O.C. Neurochirurgia
- Oct 2025 – Nov 2025 **Memorial Sloan Kettering Cancer Center, New York (USA)**
Prof. Mark Bilsky, Dr. Cameron Brennan, Dr. Yoshiya Yamada
Observership in Oncological Cranial and Spinal Neurosurgery
- Complex Oncological Cranial and Spinal Neurosurgery
 - Intramedullary and Metastatic Spinal Tumors
 - Metastatic and Primary Intracranial Tumors
 - Advanced Intraoperative Neurophysiological Monitoring
 - Integrated Imaging in Surgical and RT Planning
- Oct 2021 – Jan 2026 **A.O.U. Città della Salute e della Scienza, Torino (ITA)**
Presidi Ospedalieri Molinette – CTO
Prof. Diego Garbossa
Neurosurgery Residency
- Cranial and Spinal Oncology Unit
 - Intramedullary and Metastatic Spinal Surgery
 - Minimally Invasive Spinal Surgery
 - Multidisciplinary Neuro-Oncology Tumor Board
 - Multidisciplinary Sarcoma Tumor Board
 - Multidisciplinary Cerebrovascular Board
- May 2023 – Jan 2026 **Casa di Cura “Città di Bra”, Bra (ITA)**
Dr. Nicola Zullo
Neurosurgery Residency
- Complex Spinal Neurosurgery
 - Endoscope-Assisted Spinal Neurosurgery
- Jan 2021 – Sep 2021 **IRCCS Ospedale Policlinico “San Martino”, Genova (ITA)**
Prof. Gianluigi Zona
Neurosurgery Residency
- Vascular and General Neurosurgery

EDUCATION AND TRAINING

- Jan 2021 – Jan 2026 **Neurosurgery Residency Program**
University of Turin, Turin (ITA)
Certified Neurosurgeon
Thesis on “Clinical and Oncological Outcomes in Spinal Ependimoma: Risk Factors, Surgical Strategies, and Functional Recovery”
Graduated with 70/70 and Thesis Recommended for Publication
- Oct 2013 – Jul 2019 **Doctor of Medicine (MD)**
University “Alma Mater Studiorum” of Bologna, Bologna (ITA)
Doctor of Medicine and Surgery
Graduated with 110/110 cum laude
- Mar 2017 – Apr 2017 **Neurosurgery and Neurology Internship**
Ludwig-Maximilians Universitat, Munich (GER)
Klinikum Grosshadern
LMU Neurosurgery and Neurology Winter School
- Sept 2015 – Jul 2019 **Human Neuroanatomy Cadaver Laboratory**
University “Alma Mater Studiorum” of Bologna, Bologna (ITA)
Department of Biomedical and Neuromotor Sciences
Chief-Tutor and Coordinator
Cadaver Laboratory Dissection Course
Chief-Tutor and Coordinator of Cadaver Lab Neuroanatomy Team
- Jun 2015 – Jul 2015 **Human Anatomy Cadaver Laboratory Fellowship**
New York University (NYU), New York (USA)
Langone Medical Center
Full-Body Cadaver Laboratory Dissection Course
Graduated with A+ and merit
- Nov 2016 – Jan 2017 **Molecular Biology Laboratory Fellowship**
University of Bologna, Bologna (ITA)
Department of Biomedical and Neuromotor Sciences
Laboratory Fellow
Inositide-dependent (PI3K/Akt) Signalling Pathways
- Sep 2005 – Oct 2016 **Master and Professor of Piano**
Musicology and Cultural Heritage Master’s Degree
Master and Professor of Piano and Musicology
National Conservatory “A. Casella”, L’Aquila and “L. Perosi”, Campobasso (ITA)
Graduated with 10/10 cum laude

- 1. Stand-Alone Porous Titanium Cages for Anterior Cervical Discectomy and Fusion: Clinical Outcomes in a Multicenter Experience**
Panico F, **Colonna S**, Gatto A, Comite LM, Ceroni L, Bavaresco E, Zullo N, Bozzaro M, Petrone S, Ajello M, Marengo N, Garbossa D, Cofano F
Neurosurgical Review. 2026 May. Doi: <https://doi.org/10.1007/s10143-026-04316-8>
- 2. Pseudomeningocele-Related Hydrocephalus After Spinal Tumor Resection Case Report and Systematic Review of Pathophysiology and Treatment Options**
Lo Bue E, Lacatena F, Fochi NP, **Colonna S**, Panico F, Morello A, Cofano F, Garbossa D, Fiumefreddo A
World Neurosurgery. 2026 May. Doi: <https://doi.org/10.1016/j.wneu.2026.125021>
- 3. Investigating Prognostic Factors for Primary Endoscopic Third Ventriculostomy in Adults and Elderly Patients with Non-Communicating Hydrocephalus**
Colonna S, Mai G, Lo Bue E, Morello A, Ceroni L, Penner F, Zenga F, Garbossa D, Cofano F
World Neurosurgery. 2026 Jan. Doi: [10.1016/j.wneu.2026.124878](https://doi.org/10.1016/j.wneu.2026.124878)
- 4. Valve Selection and Long-Term Outcomes in iNPH: A Comparative Study of Programmable Shunt Technologies**
Colonna S, Paracampo C, Garro E, Lo Bue E, Morello A, Ceroni L, Calamo Specchia FM, Garbossa D, Cofano F, Fiumefreddo A
World Neurosurgery. 2026 Jan. Doi: [10.1016/j.wneu.2026.124882](https://doi.org/10.1016/j.wneu.2026.124882)
- 5. Case Report: Cervical Carbon Fiber-Reinforced PEEK Pedicle Screw Fixation With 3D Custom-made Template Guides for Spinal Oncology Surgery**
Cofano F, Marengo N, **Colonna S**, Rizzo F, Lacatena F, Garbossa D
Frontiers in Surgery. 2026 Jan. Doi: [10.3389/fsurg.2025.1725931](https://doi.org/10.3389/fsurg.2025.1725931)
- 6. Analysis of Location-specific Volumetric Cutoffs in Intraparenchymal Hemorrhage: A Case Series of 94 Patients**
Barchi M, Morello A, Leone A, Carbone F, **Colonna S**, Lo Bue E, Bianconi A, Cerrato P, Garbossa D, Cofano F
World Neurosurgery. 2026 Jan. Doi: [10.1016/j.wneu.2025.124697](https://doi.org/10.1016/j.wneu.2025.124697)
- 7. Predictors of Shunt Failure in Adult Post-Hemorrhagic and Tumor-Related Hydrocephalus Treated With Flow-Regulated Programmable Valves**
Colonna S, Garro E, Paracampo C, Lo Bue E, Morello A, Ceroni L, Petrone S, Garbossa D, Cofano F
Neurosurgical Review. 2025 Dec. Doi: [10.1007/s10143-025-04005-y](https://doi.org/10.1007/s10143-025-04005-y)
- 8. A Systematic Review of Intradural Disk Herniation: A Neurosurgeon's Perspective**
Morello A, Lo Bue E, Saaid A, **Colonna S**, Pesaresi A, Bellino F, Ajello M, Fiumefreddo A, Garbossa D, Cofano F
Neurocirugia (Engl Ed). 2025 Nov. Doi: [10.1016/j.neucie.2025.500743](https://doi.org/10.1016/j.neucie.2025.500743)
- 9. Cervical Pedicle Screws: Multicenter Comparison of Freehand, Patient-Specific 3D-Printed Templates, Loop-X Navigation and OARM/CT Navigation Accuracy and Safety**

Morello A*, **Colonna S***, Carbone F, Balagna A, Leone A, Da Rin Vidal T, Ceroni L, Chatelain L, Khalifè M, Von Schilling A, Marengo N, Ajello M, Ferrero E, Guigui P, Spetzger U, Garbossa D, Cofano F
Global Spine Journal. 2025 Aug. Doi: 10.1177/21925682251366645

10. ***Anterior Retroperitoneal L5-S1 Total Disc Replacement: Exoscope-Assisted 2-Dimensional Operative Video***
Saaïd A, **Colonna S**, Marengo N, Cofano F, Garbossa D, Ajello M
Operative Neurosurgery. 2025 Aug. Doi: 10.1227/ons.0000000000001743
11. ***Is Anchored Stand-Alone ALIF Effective and Safe for the Treatment of Low-Grade L5-S1 Isthmic Spondylolisthesis? A Comparative Study with Posterior Lumbar Interbody Fusion***
Ajello M*, **Colonna S***, Saaïd A, Lo Bue E, Morello A, Comite L, Ceroni L, Garbossa D, Cofano F, Marengo N
Global Spine Journal. 2025 May. Doi: 10.1177/21925682251356221
12. ***Exploring Aneurysmal Bone Cysts of the Skull: Insights Form a Review of the Literature and a Case Report***
Panico F, Bradaschia L, Cardellicchio P Cofano F, Lo Bue E, **Colonna S**, Morello A, Bianconi A, Garbossa D, Piatelli G, Pavanello M
Children. 2025 May. Doi: 10.3390/children12060715
13. ***Programmable Gravitational Valves in Idiopathic Normal Pressure Hydrocephalus: Long-Term Outcomes After a 3-Year Follow-Up***
Colonna S, Paracampo C, Garro E, Lo Bue E, Morello A, Pesaresi A, Ceroni L, Petrone S, Garbossa D, Cofano F
Acta Neurochirurgica. 2025 May. Doi: 10.1007/s00701-025-06563-y
14. ***Accuracy and Safety Between Robot-Assisted and Conventional Freehand Fluoroscope-Assisted Placement of Pedicle Screws in Thoracolumbar Spine: Meta-Analysis***
Morello A, **Colonna S**, Lo Bue E, Chiari G, Mai G, Pesaresi A, Garbossa D, Cofano F
Medicina. 2025 Apr. Doi: 10.3390/medicina61040690.
15. ***Impact of surgical timing on chronic subdural hematoma outcomes: novel insights from a multicenter study***
Colonna S, Lo Bue E, Pesaresi A, Dolci L, Gatto A, Ceroni L, Pesce A, Salvati M, Armocida D, Frati A, Santoro A, Mistretta A, Garbossa D, Cofano F
Neurosurgical Review. 2025 Apr. Doi: 10.1007/s10143-025-03502-4.
16. ***Surgical management of cutaneous carcinomas invading the scalp: case series and proposal of therapeutical algorithm***
Lo Bue E, Paracampo C, Dolci L, Portonero I, **Colonna S**, Navissano M, Garbossa D, Massa Micon B
World Neurosurgery. 2025 Apr. Doi: 10.1016/j.wneu.2025.123964
17. ***Minimally invasive lateral retroperitoneal approach for resection of extraforaminal lumbar schwannomas: results after 1-year follow-up***
Ajello M, Lo Bue E, **Colonna S**, Morello A, De Marco R, Panico F, Castaldo M, Palmieri G, Marengo N, Garbossa D, Cofano F
World Neurosurgery. 2025 Apr. Doi: 10.1016/j.wneu.2025.124004

18. ***Enabling technology with minimally invasive strategies: robot-assisted cortical bone trajectory screw fixation in lateral transpsoas interbody fusion***
Marengo N, Pecoraro F, Lo Bue E, **Colonna S**, Panico F, Morello A, Ajello M, Zenga F, Garbossa D, Cofano F
World Neurosurgery. 2025 Mar. Doi: 10.1016/j.wneu.2025.123890.
19. ***Cervical pedicle screw placement with patient-specific 3D-printed guides: accuracy and safety in a clinical experience.***
Marengo N*, **Colonna S***, Saaïd A, Allevi M, Ajello M, Mahieu G, Garbossa D, Cofano F
Eur Spine J. 2025 Feb. Doi: 10.1007/s00586-025-08679-2.
20. ***Prognostic factors in Idiopathic Normal Pressure Hydrocephalus patients after Ventriculo-Peritoneal Shunt: results from a Single-Institution Observational Cohort Study with long term follow-up.***
Bianconi A, **Colonna S**, Minardi M, Di Perna G, Ceroni L, Nico E, Garbossa D, Borgarello S, Cofano F
World Neurosurg. 2024 Jul;187:e1089-e1096. Doi: 10.1016/j.wneu.2024.05.060.
21. ***Ventriculoatrial shunt remains a safe surgical alternative for hydrocephalus: a systematic review and meta-analysis.***
Lo Bue E, Morello A, Bellomo J, Bradaschia L, Lacatena F, **Colonna S**, Fiumefreddo A, Stieglitz L, Regli L, Lanotte MM, Garbossa D, Cofano F.
Scientific Reports, Springer Nature. 2024 Feb. doi: 10.21203/rs.3.rs-3976904/v1
22. ***How reliable is fluorescence-guided surgery in low-grade gliomas? A systematic review concerning different fluorophores***
Bianconi A, Bonada M, Zeppa P, **Colonna S**, Tartara F, Melcarne A, Garbossa D, Cofano F.
Cancers (Basel). 2023 Aug 16;15(16):4130. doi: 10.3390/cancers15164130. PMID: 37627158
23. ***Update on the role of S100B in traumatic brain injury in pediatric population: a meta-analysis***
Morello A, Schiavetti I, Lo Bue E, Portonero I, **Colonna S**, Gatto A, Pavanello M, Lanotte MM, Garbossa D, Cofano F.
Childs Nerv Syst. 2024 Nov;40(11):3745-3756. doi: 10.1007/s00381-024-06565-8. Epub 2024 Aug 23.
24. ***Radiofrequency ablation in vertebral body metastasis with and without percutaneous cement augmentation: a systematic review addressing the need for spine stability evaluation.***
Colonna S, Bianconi A, Cofano F, Prior A, Di Perna G, Palmieri G, Zona G, Garbossa D, Fiaschi P.
Diagnostics (Basel). 2023 Mar 18;13(6):1164. doi: 10.3390/diagnostics13061164. PMID: 36980472

ACTIVE RESEARCH PROJECTS

- **Clinical and Oncological Outcomes of Spinal Intramedullary Tumors**
Research Project in Oncology and Neurosurgery
Principal Investigator: Dr. S. Colonna
Collaboration: IRCCS Humanitas Research Hospital, Milano, Dr. C. Brembilla
- **SMART-Spine Surgical Multimodal AI for Real-Time Targeting in Spinal Tumor**
Research Project in Neurosurgery, Neuroimaging, and AI Innovation
Principal Investigator: Dr. S. Colonna
Collaboration: Politecnico di Torino International University, Torino, Prof. G. Olmo
- **Multicenter Observational Study Evaluating the Effectiveness of Hinged Decompressive Craniotomy**
Multicenter Observational Study
Principal Investigator: Dr. L. Berra
Collaboration: University “La Sapienza” of Rome, Prof. A. Santoro
- **Optimizing Intraoperative Ultrasound in Spinal Oncology: Clinical and Imaging Advantages of Carbon Fiber Instrumentation**
Single-Center Observational Study
Principal Investigator: Dr. Fabio Cofano, Dr. Stefano Colonna
Collaboration: ICOTEC Company
- **RELAPSE-2: Registry for Evaluation of Lumbar Arthrodesis Sagittal Alignment**
Multicenter Observational Prospective Cross-Sectional Case-Control Study
Principal Investigator: Dr. F. Tartara
Trial ID: NCT05448092
- **Biomechanical Characterization of Human Vertebral Metastases**
Multicenter Observational Study
Principal Investigator: Dr. F. Costa
Collaboration: Politecnico di Milano International University, Prof. T. Villa
- **Interbody Fusion After Multi-Level ACDF: A Multicenter European Core-Lab Study on the Impact of Cage Material, Construct Stability, and Clinical Outcomes**
Multicenter Observational Study
Principal Investigators: Dr. S. Colonna, Dr. N. Marengo
Collaboration: IRCCS Humanitas Research Hospital Milano (Italy), Städtisches Klinikum Karlsruhe (Germany), Hôpital européen Georges-Pompidou Paris (France), Paracelsus Medical University Salzburg (Austria), Antwerp Spine Center (Belgium)
- **Durability and Clinical Performance of CFR-PEEK Compared With Titanium Instrumentation in Metastatic Spine Disease**
Single-center Retrospective Study
Principal Investigator: Dr. S. Colonna, Dr. F. Cofano
- **Impact of 3D Template-Guided Cervical Pedicle Screws on the Extent of Posterior Cervical Fusion: Results of a Surgeon Survey**
Multicenter Survey Study

Principal Investigator: Dr. S. Colonna

Collaboration: Humanitas “Gradenigo” Hospital (Turin), Casa di Cura “Clinica Città di Bra” (Bra), Ospedale “Mazzini” Teramo (Teramo), Ospedale “Riuniti” di Foggia (Foggia), IRCCS Humanitas Research Hospital (Milano)

- **Optimizing Treatment Strategies for Aggressive Vertebral Hemangiomas: Combined Endovascular and Surgical Approaches and Long-Term Outcomes**
Single-center Retrospective Study
Principal Investigator: Dr. S. Colonna
- **Optimizing In-Hospital Care for Non-Urgent Chronic Subdural Hematoma: Development of a Multidisciplinary Diagnostic and Therapeutic Pathway**
Single-center Retrospective-Pro prospective Study
Principal Investigator: Dr. S. Colonna
Collaboration: Intensive Care Unit, CTO Hospital (Torino)

CONFERENCES, COURSES, SEMINARS

- **AO Spine – Hospital-Based Seminar**
13 March 2026, Turin (Italy)
“Giunzione cranio-cervicale: strategie, controversie e complicanze”
- **Società Italiana di Neurochirurgia (SINch) Congress 2025**
25 September 2025, Brescia (Italy)
Oral presentation:
 - Oral presentation: *Artroplastica L5-S1 per via anteriore: operative video con tecnica in esoscopia-3D ad alta risoluzione nel trattamento della discopatia degenerativa con recidiva di ernia lombare*
 - Oral presentation: *Approcci antero-laterali al rachide lombo-sacrale come opzione di trattamento per le recidive complesse di ernie discali: esperienza di un singolo centro*
 - Oral presentation: *Tecniche mininvasive nel trattamento chirurgico delle recidive di ernia discale lombare: studio comparativo tra MIS-TLIF con viti percutanee e Open-TLIF con viti CBT*
- **European Association of Neurosurgical Societies (EANS) Congress 2025**
5-9 October 2025, Vienna (Austria)
 - Oral presentation: *Comparing Programmable Flow-Regulated and Gravitational Valves in iNPH Treatment: Results After a 3-Year Follow-Up*
 - Oral presentation: *Transpedicular Approach for Circumferential Decompression and Separation Surgery as a Safe and Effective Way to Maximize Spinal Metastases Surgical Treatment: A Multicentric Study*
- **AO Spine – Hospital-Based Seminar**
13 June 2025, Turin (Italy)
“Metastasi spinali: stato dell’arte nell’era della Precision Medicine”

- **Clover Orthopedics**
26 March 2025, Turin (Italy)
Tutor of the hand-on course “Neurosurgical Skills: posterior approaches to dorsal spine”
- **Clover Orthopedics**
12 February 2025, Turin (Italy)
Tutor of the hand-on course “Neurosurgical Skills: posterior approaches to lumbar spine”
- **European Association of Neurosurgical Societies (EANS) Congress 2024**
13-17 October 2024, Sofia (Bulgaria)
 - Oral presentation: *Cervical pedicle screw placement with patient-specific 3D-printed guides: accuracy and safety in a clinical experience*
 - E-poster oral presentation: *Minimally invasive techniques in the surgical treatment of lumbar degenerative disease: a comparative study between percutaneous MIS-TLIF and Open-TLIF with cortical bone trajectory (CBT) screws*
 - E-poster oral presentation: *Is stand-alone alif effective and safe for the treatment of low grade l5-s1 isthmic spondylolisthesis? A comparative study with posterior and transforaminal lumbar interbody fusion*
 - E-poster oral presentation: *Timing of surgery and neurological outcomes in non-urgent newly diagnosed chronic subdural hematoma patients: a multicenter study*
- **Società Italiana Chirurgia Vertebrale (SICV&GIS) Congress 2024**
9-11 May 2024, Rome (Italy)
Oral presentation: *Accuratezza E Sicurezza Del Posizionamento Di Viti Peduncolari Cervicali Con Sistema Di Mascherine Guida 3D Customizzate*
- **Nuvasive, Globus Medical**
25-26 January 2024, Turin (Italy)
Live Surgery Course: Maximum Access Surgery (MAS) in Posterior Lumbar Interbody Fusion (PLIF) with cortical bone trajectory screws (CBT)
- **Spineart Italia Academy**
22-23 October 2023, Turin (Italy)
Italian Spine Summit (ISS) – Spineart Italia
- **European Association of Neurosurgical Societies (EANS) Congress 2023**
24-28 September 2023, Barcelona (Spain)
 - Oral presentation: *A Decisional Algorithm for the Surgical Treatment of Kyphotic Degenerative Cervical Myelopathy*
 - E-poster oral presentation: *Comparative Study between Stand-Alone Anterior Lumbar Interbody Fusion (ALIF), ALIF With Posterior Percutaneous Instrumentation and Posterior Lumbar Interbody Fusion (PLIF) in Low-Grade L5-S1 Isthmic Spondylolisthesis*
 - E-poster oral presentation: *Case of Pseudomeningocele-related hydrocephalus after spinal tumor resection: Pathophysiology and Treatment Options*
 - E-poster oral presentation: *The Cervico-Thoracic Junction Fractures in Patients With Ankylosing Spondylitis And Diffuse Idiopathic Spine Hyperostosis*

- **Società Italiana Chirurgia Vertebrale (SICV&GIS) Congress 2023**
25-27 May 2023, Turin (Italy)
 - Oral presentation: *Le fratture della giunzione cervico-toracica nei pazienti con spondilite anchilosante*
 - Oral presentation: *Algoritmo Decisionale Relativo Al Trattamento Chirurgico In Pazienti Con Mielopatia Cervicale Degenerativa Con Curvatura Cervicale In Cifosi*
 - Oral presentation: *Studio Comparativo Tra ALIF Stand-Alone, ALIF Con Stabilizzazione Posteriore Per Via Percutanea e PLIF Nelle Spondilolistesi Di Basso Grado L5-S1 Secondarie A Lisi Istmica*
- **Hydrocephalus Expert Training – New Shunt Generation mBlue, mBlue Plus and ICP measurements with mSCIO**
25-27 October 2022, Potsdam (Germany)
Training Course and workshop for safe application of Aesculap Miethke Shunt Systems
- **European Association of Neurosurgical Societies (EANS) Congress 2022**
15-20 October 2022, Belgrade (Serbia)
E-poster oral presentation: *Prognostic factors in Idiopathic Normal Pressure Hydrocephalus patients after Ventriculo-Peritoneal Shunt: results from a Single-Institution Observational Cohort Study with long term follow-up*
- **UpSurgeOn**
19-20 September 2022, Milan (Italy)
Hands-on course – Microsuture techniques: vascular anastomoses and watertight sutures

MEMBERSHIPS

- European Association of Neurosurgical Societies (EANS)
- Società Italiana di Neurochirurgia (SINCH)
- Cervical Spine Research Society – Europe (CSRS)

AWARDS

- **National Ministry of Education, Universities and Research (MIUR): grant for student merit**
University of Bologna, 2013 – 2019

Trento, 02/06/2026