



# Gregory Zegarek, MD

Specialist in Neurosurgery, specialized in Spine Surgery (SSNC et SO)

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## Languages

FR,EN,ES

## Work Experience

- since 2025 Private Neurosurgery and Spine Surgery Practice, Rue Georges-Jordil 4, Dr. Philippe Otten, Fribourg
- 2022-2025 Chief of Clinic, Orthopedics and Neurosurgery, HFR, Prof. Gianluca Maestretti, Fribourg.
- 2021-2022 Assistant Physician, Neurosurgery, Valais Hospital, Dr. Jean-Yves Fournier, Sion.
- 2017-2021 Resident Physician, Neurosurgery, University Hospitals of Geneva, Prof. Karl Schaller, Geneva.
- 2016-2017 Elective Internship Year: The University of Chicago, The University of Michigan, Montefiore Einstein Medical Center, New York.

## Education

- 2025 Postgraduate Interdisciplinary Advanced Training Diploma in Spine Surgery (SSNC and SO)
- 2023 Swiss Federal Postgraduate Title of Specialist in Neurosurgery
- 2021 Swiss Federal Medical Diploma (CH)
- 2017 Doctor of Medicine (MD), The University of Chicago Pritzker School of Medicine, Illinois (USA)
- 2012 Bachelor's Degree, Rutgers University, summa cum laude, New Jersey (USA)  
Major Concentration: Molecular Biology and Biochemistry, Philosophy (highest honors)  
Minor Concentration: Chemistry

## Publications

- Schmid, S. L., F. A. Krappel, G. F. Zegarek, W. A. Perrig, and S. S. Panev. "Extreme Lateral Interbody Fusion (XLIF) Including the Segment L5/S1 for Multi-level Lumbar Spondylodesis." *Medicine and Clinical Science* 5, no. 8 (2024).
- Kindris, Florinella, Gregory Zegarek, Ferdinand A. Krappel, Wolfgang N. Perrig, and Samuel L. Schmid. "Spinal Versus General Anesthesia for Lumbar Decompression or Sequestrectomy in Patients Over 75 Years." *Clinical spine surgery* (2023).
- Zegarek, Gregory, Enrico Tessitore, Etienne Chaboudez, Aria Nouri, Karl Schaller, and Renato Gondar. "SORG algorithm to predict 3-and 12-month survival in metastatic spinal disease: a cross-sectional population-based retrospective study." *Acta Neurochirurgica* 164, no. 10 (2022): 2627-2635.

Nouri, Aria, Julien Haemmerli, Alexandre Lavé, Pia Vayssiere, Paul Constanthin, Abdullah Al-Awadhi, Gregory Zegarek et al. "Current state of social media utilization in neurosurgery amongst European Association of Neurosurgical Societies (EANS) member countries." *Acta Neurochirurgica* 164, no. 1 (2022): 15-23.

Boëx, Colette, Cristina Goga, Nadia Bérard, Julien Haemmerli, Gregory Zegarek, Andrea Bartoli, Shahan Momjian, and Karl Schaller. "Introduction of a novel connection clip for the ultrasonic aspirator for subcortical continuous motor mapping." *Brain and Spine* 1 (2021): 100002.

Bernard, Florian, Julien Haemmerli, Gregory Zegarek, Daniel Kiss-Bodolay, Karl Schaller, and Philippe Bijlenga. "Augmented reality-assisted roadmaps during periventricular brain surgery." *Neurosurgical Focus* 51, no. 2 (2021): E4.

Fallegger, Florian, Giuseppe Schiavone, Elvira Pirondini, Fabien B. Wagner, Nicolas Vachicouras, Ludovic Serex, Gregory Zegarek et al. "MRI-Compatible and conformal electrocorticography grids for translational research." *Advanced Science* 8, no. 9 (2021): 2003761.

Meling, Torstein R., Greg Zegarek, and Karl Schaller. "How I do it: retrosigmoid intradural infratentorial petrosectomy." *Acta neurochirurgica* 163, no. 3 (2021): 649-653.

d'Esneval, Mathilde, Gregory Zegarek, Deborah Pugin, Maria Isabel Vargas, Enrico Tessitore, and Serge Vulliemoz. "Giant lumbar pseudomeningocele compression mimicking stroke and seizure." *Neurology: Clinical Practice* 11, no. 5 (2021): e763-e765.

Moiraghi, Alessandro, Gregory Zegarek, Karl Schaller. "State of the Art of Intraoperative Ultrasound in Glioma Surgery." *World Federation of Neurological Societies Newsletter* February 2019.

Zegarek, Gregory, Xerxes D. Arsiwalla, David Dalmazzo, and Paul FMJ Verschure. "Mapping the language connectome in healthy subjects and brain tumor patients." In *International Conference on Artificial Neural Networks*, pp. 83-90. Cham: Springer International Publishing, 2016.

Kwon, Munjin, José R. Fernández, Gregory F. Zegarek, Sean B. Lo, and Bonnie L. Firestein. "BDNF-promoted increases in proximal dendrites occur via CREB-dependent transcriptional regulation of cypin." *Journal of Neuroscience* 31, no. 26 (2011): 9735-9745.

## Handouts Presentations

### Communications

- Zegarek G, Simonin A, Nuno Castro Fernandes G, Ziogas I, Fournier JY. Volumetric lumbar hernia analysis in endoscopic spine surgery: MRI-based prediction correlation with measured sequester size: *A Technical Note*. Swiss Society for Spinal Surgery Congress. August 2022. Geneva, Switzerland.
- Zegarek G, Catalano Chiuvé S, Isidor N, Wolff A, Burkhard P, Krack P, Schaller K, Momjian S, Corniola M. *Effectiveness and reliability of hypnosis in Stereotaxy : A preliminary case-series*. Sektionstagung Stereotaxie und Radiochirurgie der DGNC - Ihre Abstracteinreichung 2018. Berlin, Germany.

### Posters

- Zegarek G, Fournier JY, Simonin A. *Microsurgical dissection of a dorsal arachnoid web with D-wave intra-operative neuromonitoring: Technical note*. Swiss Federation of Clinical Neuro-Societies 2022. Basel, Switzerland.
- Simonin A, Troxler S, Iselin S, Papdimitriou K, Al Taha K, Chaboudez E, Weman L, Zegarek G, Huscher K, Fournier JY. Reducing the learning curve of interlaminar full-endoscopic discectomy: Mushroom model-simulation training. Swiss Society for Spinal Surgery Congress. Geneva, Switzerland.
- Simonin A, Zegarek G, Fournier JY. Endoscopic interbody fusion with multidirectional expandible cage and navigated percutaneous fixation for L4-5 spondylolisthesis : technical note. Swiss Society for Spinal Surgery Congress. Geneva, Switzerland.
- Zegarek G, Tessitore E, Nouri A, Schaller K, Gondar R. *SORG algorithm to predict 3- and 12-month survival in metastatic spinal disease: A Cross-Sectional Population-Based Retrospective Study*. EuroSpine 2021. Vienna, Austria.
- Zegarek G, Tessitore E, Nouri A, Schaller K, Gondar R. *SORG algorithm to predict 3- and 12-month survival in metastatic spinal disease: A Cross-Sectional Population-Based Retrospective Study*. EANS Congress 2021. Hamburg, Germany.
- Zegarek G, Constanthin P, Fallegger F, Schiavone G, Vachicouras N, Serex L, Lacour S, Van Roost D, Schaller K. *Advancing Soft Subdural Electrodes*. eEANS 2020: Beyond Borders Virtual Congress.
- Zegarek G, May A, Constanthin P, Fallegger F, Vachicouras N, Schiavone G, Serex L, Bourely J, Vargas M, Lacour S, Van Roost D, Schaller K. *Novel soft subdural electrodes versus standard clinical arrays: a comparative pilot cadaver study*. EANS Congress 2019. Dublin, Ireland.
- Dalmazzo D, Arsiwalla X, Zucca R, Zegarek G, Verschure P. *Developing BrainX3: Defining, filtering and visualizing temporal activity in human brain network dynamics using an interactive application*, Universitat Pompeu Fabra. 2016. Barcelona, Spain.
- Zegarek G, Dalmazzo D, Brandi S, Grechuta K, Arsiwalla X, Verschure P. *Mapping the Aphasia Connectome with BrainX3: Connectomic Predictions of TMS-Defined Eloquent Cortex*, Neuroscience R&D Technologies Conference 2015. Barcelona, Spain.
- Zegarek G, Dalmazzo D, Brandi S, Grechuta K, Arsiwalla X, Verschure P. *Mapping the Aphasia Connectome: Connectomic Predictions of TMS-Defined Eloquent Cortex*, Fourth DCEXS Symposium—Innovative in silico strategies in biomedical research. 2015. Barcelona, Spain.
- Brandi S, Dalmazzo D, Mediano P, van Wijngaarden J, Zegarek G. *Modeling Temporal Lobe Epilepsy in the BrainX3*, Universitat Pompeu Fabra. Barcelona, Spain.
- Zegarek G, Keedy S. *Top-Down Attentional Control in Schizophrenia Patients*, University of Chicago. 2013. Chicago, IL.
- Zegarek G, Kwon M, Firestein B. *BDNF-promoted increases in proximal dendrites occurs via CREB-dependent transcriptional regulation of cypin*, Rutgers University. 2012. Piscataway, NJ.
- Zegarek G, Kwon M, Firestein B. *BDNF-promoted increases in proximal dendrites occurs via CREB-dependent transcriptional regulation of cypin*, Rutgers University. 2012. Piscataway, NJ.
- Zegarek G, Kwon M, Fernández JR, Firestein B. *The Effect of Global BDNF Treatment on the Dendritic Arbor*, Rutgers University. 2010. New Brunswick, NJ, USA
- Zegarek G, Kwon M, Firestein B. *The Role of CPE and NOS1AP in Neuronal Development*, Rutgers University. 2009. New Brunswick, NJ, USA.

## Accreditation

[Clinique Générale Ste-Anne](#)

## Specialties

[Neurosurgery](#)

[Spinal surgery](#)

[Slipped disc in the cervical spine - cervical disc herniation](#)

[Herniated disc in the lumbar spine](#)

[Herniated disc in the thoracic spine](#)

[Cervical spondylotic myelopathy](#)

[Osteoporosis - fractures in the spine](#)

[Scoliosis and kyphosis - curvature of the spine](#)

[Spinal stenosis - narrowing of the spinal canal](#)

[Spinal tumours and metastases on the spinal column](#)

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