

Lebenslauf

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Kontakt

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Staatsangehörigkeit: Mexikanisch, Deutsch

Lebenslauf/Curriculum Vitae

Beruflicher Werdegang und akademische Laufbahn

Seit 2023	Oberarzt Wirbelsäule-Zentrum, Diakonie Klinikum Stuttgart
Seit 2021	Principal investigator/Leitung DFG-Projekt/ Dozent Neurochirurgische Klinik, Universität Oldenburg
02/2022 – 10/2022	Hands-on Spine Fellow in Komplexe WS-Chirurgie Ostschweizer Wirbelsäulenzentrum, St Gallen
2022	Zusatz-Weiterbildung Intensivmedizin Universität Heidelberg/ Universität Oldenburg
2021 - 2023	Oberarzt Verantwortlich für Kopftumoren, Kinder Neurochirurgie und Intensivstation, Universität Oldenburg
2021	Habilitation, Universität Heidelberg
2017 - 2020	Facharztausbildung Neurochirurgie Teil II, Universität Heidelberg
2012 - 2020	Facharztausbildung Neurochirurgie und Physician Scientist Post-doc Program, Universität Heidelberg
2014	Dissertation (Dr. med.) Magna cum laude Doktorvater: Prof. Dr. Sakowitz
2009 - 2012	Wissenschaftlicher Mitarbeiter Neurochirurgische Abteilung, Universität Heidelberg
2009	Deutsche Ärztliche Approbationsprüfung
2007 - 2009	Masterstudium (MSc) in experimentellen und klinischen Neurowissenschaften, Internationaler Elite-Masterstudiengang, Universität Regensburg

Lebenslauf/Curriculum Vitae

Wissenschaftliche Erfolge

- Präsentation ausgewählt als die beste der DGNC Sektion Schädelhirntrauma und Intensivmedizin / 2022
- Preis für die beste Arbeit auf der Konferenz der Medical Image Computing and Computer Assisted Intervention Society, Co-Projekt Leiter China / 2019
- Young Investigator Award der 31. internationalen Konferenz SMIT, Co-Projekt Leiter Germany / 2019
- Reisepreis "BRAIN: International Symposium on Cerebral Blood Flow Metabolism and Function 2017"/ 2017
- Präsentation ausgewählt als die beste Arbeit der DGNC „Sektion: Hirn-druck, Hirndurchblutung, Hydrozephalus“. Intrinsische optische Signaldarstellung während kortikaler Streudepolarisationen im gyrenzephalen Gehirn: Methode, Anwendung und vorläufige Ergebnisse / 2013
- Nationaler Jugendpreis von Mexiko in der Kategorie „Akademische Leistungen“ / 2011
Goldmedaille des Präsidenten für den besten mexikanischen Studenten in allen Bereichen, der jünger als 30 Jahre ist
- Reisepreis „Hirnodeme“ Kongress Tokyo, Japan / 2007
- Reisepreis „Vasospasmus“ Kongress Cincinnati, USA / 2011
- Jugendpreis des Bundesstaates Veracruz von der Regierung von Veracruz, Mexiko / 2009
Bester Student des Bundesstaates Veracruz
- Anerkennung für das herausragende soziale Dienstjahr/ 2007
Nachhilfeunterricht für die besten Studenten der Medizinfakultät
- Anerkennung für akademische Leistungen durch den Rektor Universität Puebla, Mexiko / 2007
- Bester Posterpreis auf internationalem Onkologie-Kongress Monterrey, Mexiko / 2007
- Zweiter Platz im Forschungs- und Innovationswettbewerb Puebla, Mexiko / 2007
- Bester Posterpreis beim internationalen Neurologie-Kongress Monterrey, Mexiko / 2005
- Zweitbeste Note in der Zulassungsprüfung Universität Veracruz, Mexico / 2011

Lebenslauf/Curriculum Vitae

Gegründete Projekte

Sachbeihilfe für PD Dr. E. Santos und Dr. Puig
International Funding CONAHCYT (Mexiko) / 2023 – 2025
100.000 Euro

Stipendien für 6 Doktoranden zur Arbeit im Labor
International Funding / 2021 – 2026
250.000 Euro

DFG Sachbeihilfe für PD Dr. E. Santos und Prof. L. Maier-Hein, (DKFZ) für das Projekt:
“Blocking and modulation of Spreading Depolarisations in a gyrencephalic brain under
high-definition multimodal monitoring including novel multispectral optical and
photoacoustic tissue analysis”
DFG/ 2023 – 2006
750.000 Euro

Förderung von Prof. Stéphanie P. Lacour für die Evaluation von subduralen Elektroden in
unseren Tiermodellen und die Entwicklung eines Langzeitmodells der Ischämie an Dr.
Edgar Santos
Schweiz / 2020 – 2021
23.000 Euro

Förderung von Prof. Dr. ing. Maier-Hein zur Erprobung der photoakustischen
Tomographie am Schwein bei ausbreitenden Depolarisationen / 2018
5.000 Euro

Fördermittel der Klinik der Neurochirurgie für Tierversuche,
Prof. Dr. A. Unterberg an Dr. Edgar Santos / 2016 – 2019
35.000 Euro

Stipendien

- DAAD-CONACYT Stipendium für Forschungs- und Promotionsstudien | 2011 – 2013
- DAAD-CONACYT Stipendium für ein Masterstudium in Deutschland | 2009 - 2011
- Stipendium der mexikanischen Regierung | 2009 – 2013
- Stipendium vom Staat Veracruz, Mexiko | 2009 – 2012

Sprachen

Spanisch
Deutsch
Englisch

Lebenslauf/Curriculum Vitae

Lehren

- Betreuung von Doktoranden | Bisher 11 Doktoranden und 3 Studenten.
Aktuell: 6 Doktoranden.
- Unterrichten | Uni Oldenburg, Uni Veracruzana, Uni Durango
- Wiss. Verbreitung: <https://www.youtube.com/@Racionaliza-Edgar-Santos>

Ad-Hoc-Reviewer

Critical care
Frontiers Neuroscience
Frontiers Neurology
Neuropharmacology
Neurotherapeutics
Stroke

Kooperationspartner

Prof. Dr.-Ing. Lena Maier-Hein
Leiterin der Abteilung für computergestützte medizinische Interventionen. Deutsches
Krebsforschungszentrum https://www.dkfz.de/en/cami/team/people/Lena_Maier-Hein.html

Prof. Dr. Bading
Neurobiology
University of Heidelberg

Prof. Dr. Jens P. Dreier
Charité, Zentrum für Schlaganfallforschung Berlin
Translation in der Schlaganfallforschung

Prof. Dr. Stéphanie P. Lacour
Labor für weiche bioelektronische Schnittstellen
Campus Biotech - LSBI EPFL Genève, Suisse

Prof. Dr. Cenk Ayata
Neurology
Harvard Medical School

Bücher

- 2014 Chapter: Management of infections in the ICH patients.
SCHWAB, HANLEY & MENDELOW: Critical Care of Stroke. Cam-
bridge University Press, Shaftesbury Road
- 2012 “Planeación del Futuro para el Estudiante de Medicina” 2012.
Main author. ISBN: 978-84-686-1090-0
- 2011 EXARMED. Guide to take the Mexican Residency Examination.
Spanish. Co-Author

Lebenslauf/Curriculum Vitae

Publikationen

- Depth-Specific Hypoxic Responses to Spreading Depolarizations in Gyrencephalic Swine Cortex Unveiled by Photoacoustic Imaging. **Santos E.**, Juan Manuel Lopez Navarro, Marcos Alejandro Suarez Gutierrez, Niklas Holzwarth, Pablo Albiña Palmarola, Thomas Kirchner, Adrian Hernandez Aguilera, Jose Antonio Fernandez Amador, Farzam Vazifehdan, Johannes Woitzik, Lena Maier Hein, Renan Sanchez Porras, R. **Translational Stroke Research**. 2024 IF: 6.9
- Cerebrovascular pressure reactivity according to long-pressure reactivity index during spreading depolarizations in aneurysmal subarachnoid hemorrhage. Renán Sánchez Porras, Leonardo Ramirez, Martin Seule, Oliver W. Sakowitz, Jens P. Dreier, J. Woitzik, A. Unterberg, **Santos E. Neurocritical Care** 2023 IF: 3.21
- Hypothermia reduces in swine effectively the incidence of Spreading Depolarizations during Middle Cerebral Artery occlusion. Modar Kentar, Leonardo Ramírez, Mildred A. Gutiérrez Herrera, Renán Sánchez-Porras, Niklas Holzwarth, Lena Maier-Hein, Johannes Woitzik, **Santos E. J Cereb Blood Flow Metab.** 2023 IF: 6.9
- Spatial and temporal brain wave changes during infarct induction, infarct progression, and spreading depolarizations in the gyrencephalic brain. Modar Kentar, Roberto Díaz-Peregrino, Carlos Trenado, Renán Sánchez-Porras, Daniel San-Juan, F. Leonardo Ramírez-Cuapio, Niklas Holzwarth, Lena Maier-Hein, Johannes Woitzik and **Santos E. Frontiers Neuroscience**: 2022 IF: 5.1
- Cerebrovascular pressure reactivity according to long-pressure reactivity index during spreading depolarizations in aneurysmal subarachnoid hemorrhage. Renan Sanchez-Porras¹, F. Leonardo Ramírez-Cuapio, Nils Hecht, Martin Seule, Roberto Díaz-Peregrino, Andreas Unterberg, Johannes Woitzik, Jens P. Dreier, Oliver W. Sakowitz, **Santos E. Neurocritical Care**: 2022 IF: 3.21
- Hypothermia reduces in swine effectively the incidence of Spreading Depolarizations during Middle Cerebral Artery occlusion. Modar Kentar, Leonardo Ramírez, Mildred A. Gutiérrez Herrera, Renán Sánchez-Porras, Niklas Holzwarth, Lena Maier-Hein, Johannes Woitzik, **Santos E. J Cereb Blood Flow Metab.** 2022 IF: 6.9
- Eighteen-hour inhibitory effect of s-ketamine on potassium- and ischemia-induced spreading depolarizations in the gyrencephalic swine brain. Sánchez-Porras R, Kentar M, Zerelles R, Geyer M, Trenado C, Hartings JA, Woitzik J, Dreier JP, **Santos E. Neuropharmacology**. 2022 Sep 15;216:109176. doi: 10.1016/j.neuropharm.2022.109176. Epub 2022 Jul IF: 5.2
- Detection of Spreading Depolarizations in a Middle Cerebral Artery Occlusion Model in Swine. Kentar M, Mann M, Sahm F, Olivares-Rivera A, Sanchez-Porras R, Zerelles R, Sakowitz OW, Unterberg A, **Santos E. Acta Neurochirurgica** 2020 Mar;162(3):581-592. IF: 2.8
- The Use of Absorbable Sutures in Neurosurgical Procedures in the Time of COVID-19. **Santos E**, Pailler JI, Beynon C, El Damaty A. **Neurosurgery**. 2020 Aug 1;87(2): E229. IF: 5.3

Lebenslauf/Curriculum Vitae

Publikationen

- High-flow cannulas will be required with current COVID-19 crisis, not only mechanical ventilators. **Santos E**, Ramírez-Cuapio FL, Remes-Díaz LT, Sánchez-Porras R. **Gac Med Mex** 2020 IF: 0.3
- **Lasting** s-ketamine block of spreading depolarizations in subarachnoid hemorrhage: a retrospective cohort study. **Santos E**, Olivares-Rivera A, Major S, Sánchez-Porras R, Uhlmann L, Kunzmann K, Zerelles R, Kentar M, Kola V, Hernández Aguilera A, Gutierrez Herrera M, Lemale CL, Woitzik J, Hartings JA, Sakowitz OW, Unterberg A, Dreier JP. **Crit Care**. 2019 Dec 30;23(1):427 IF: 19.03
- Screening Spreading Depolarizations during epilepsy surgery. **Santos E**, Dávila-Rodríguez DO, Márquez-Gonzalez Katia, Díaz-Peregrino R, Alonso-Vanegas M, Olivares-Rivera A, San-Juan D. **Acta Neurochir (Wien)**. 2019 May;161(5):911-916. IF: 2.8
- Systematic review of the pharmacological agents that have been tested against spreading depolarizations. Klass A., Sanchez Porras R, **Santos E**. **J Cereb Blood Flow Metab** 2018 Jul; 38(7):1149-1179. IF: 6.9
- Heterogeneous propagation of spreading depolarizations in the lissencephalic and gyrencephalic brain. **Santos E**, Sánchez-Porras R, Sakowitz OW, Dreier JP, Dahlem MA. **J Cereb Blood Flow Metab**. 2017 Jul; 37(7):2639-2643. IF: 6.9
- Medical residency in Germany: an open option for Mexican physicians: **Gac Med Mex** 2017;153(4):514-515. IF: 0.3
- Ketamine modulation of the Hemodynamic Response to Spreading Depolarization in the Gyrencephalic Swine Brain. Sánchez-Porras R*, **Santos E***, Schöll M*, Silos H, Unterberg AW, Sakowitz OW. **J Cereb Blood Flow Metab** 2017 May;37(5):1720-1734. IF: 6.9
- Large Field-of-View Motion-Compensated Intrinsic Optical Signal Imaging for the Characterization of the Hemodynamic Response to Spreading Depolarizations in Large Gyrencephalic Brains. Schöll M*, **Santos E***, Sanchez-Porras R*, Kentar M, Gramer M, Silos H, Zheng Z, Gang Y, Strong AJ, Graf R, Unterberg A, Sakowitz OW, Dickhaus H. **J Cereb Blood Flow Metab** 2017 May; 37(5):1706-1719. IF: 6.9
- Incidence, hemodynamic and electrical characteristics of spreading depolarization in a swine model are affected by local but not by intravenous application of magnesium. **Santos E**, León F, Silos H, Sanchez-Porras R, Shuttleworth CW, Unterberg A, Sakowitz OW. **J Cereb Blood Flow Metab**. 2016 Dec;36(12):2051-2057. IF: 6.9
- Radial, spiral and reverberating waves of spreading depolarization occur in gyrencephalic brain. **Santos E***, Schöll M*, Sánchez-Porras R*, Dahlem MA, Unterberg A, Dickhaus H, Sakowitz OW. **Neuroimage**. 2014 Oct 1; 99:244-55. IF: 7.4
- The Effect of Ketamine on Optical and Electrical Characteristics of Spreading Depolarizations in Gyrencephalic Swine Cortex. Sánchez-Porras R*, **Santos E***, Schöll M*, Stock C, Zheng Z, Unterberg A, Sakowitz O. **Neuropharmacology**. 2014 Sep; 84:52-61. IF: 5.2

Lebenslauf/Curriculum Vitae

Publikationen

- Cortical spreading depression dynamics can be studied using intrinsic optical signal imaging in gyrencephalic animal cortex. **Santos E**, Schöll M, Sanchez-Porras R, Kentar M, Orakcioglu B, Unterberg A, Dickhaus H, Sakowitz OW. **Acta Neurochir Suppl** 2013; 118:93-7. IF: 2.8
- Clusters of spreading depolarizations are associated with disturbed cerebral metabolism in patients with aneurysmal subarachnoid hemorrhage. Sakowitz OW*, **Santos E***, Nagel A, Krajewski KL, Hertle DN, Vajkoczy P, Dreier JP, Unterberg AW, Sarrafzadeh AS. **Stroke** 2013 Jan;44(1):220-3. IF: 10.1
- Pressure reactivity index correlates with metabolic dysfunction in a porcine model of intracerebral hemorrhage. **Santos E**, Orakcioglu B, Kentar MM, Diedler J, Uozumi Y, Schöll M, Unterberg A, Sakowitz OW. **Acta Neurochir Suppl** 2012; 114:363-7. IF: 2.8
- Spreading depolarizations in a case of migraine-related stroke. **Santos E***, Sánchez-Porras R*, Dohmen C, Hertle D, Unterberg AW, Sakowitz OW. **Cephalalgia** 2012 Apr;32(5):433-6. IF: 6.2
- Low-frequency sampling for PRx calculation does not reduce prognostication and produces similar CPPopt in intracerebral haemorrhage patients. **Santos E**, Diedler J, Sykora M, Orakcioglu B, Kentar M, Czosnyka M, Unterberg A, Sakowitz OW. **Acta Neurochir (Wien)**. 2011 Nov; 153(11):2189-95. doi: 10.1007/s00701-011-1148-5. Epub 2011 Sep 11. IF: 2.8
- 'Long' pressure reactivity index (L-PRx) as a measure of autoregulation correlates with outcome in traumatic brain injury patients. Sánchez-Porras R*, **Santos E***, Czosnyka M, Zheng Z, Unterberg AW, Sakowitz OW. **Acta Neurochir (Wien)**. 2012 Sep; 154(9):1575-81. IF: 2.8
- Cortical spreading depolarization: A new pathophysiological mechanism in neurological diseases. Sánchez-Porras R, Robles-Cabrera A, **Santos E**. **Med Clin (Barc)** 2014 May 20; 142(10):457-62. IF: 3.2
- Prevalence and risk factors of Helicobacter pylori infection in three populations of children in Puebla, Mexico. Calva-Rodríguez R, Luna-Alcántara JJ, Lagunes-Yannelli B, Rivera-Domínguez ME, Calva-Cerqueira D, **Santos-Marcial E**. **Rev Gastroenterol Mex** 2006 Oct-Dec;71(4):440-5.

Co-Autorenschaft

- Spreading depolarisation and angiographic spasm are separate mediators of delayed infarcts. Horst, Viktor; Kola, Vasilis; Lemale, Coline; Major, Sebastian; Winkler, Maren; Hecht, Nils; **Santos, Edgar**; Platz, Johannes; Sakowitz, Oliver; Vatter, Hartmut; Dohmen, Christian; Scheel, Michael; Vajkoczy, Peter; Hartings, Jed; Woitzik, Johannes; Martus, Peter; Dreier, Jens. **Brain Communications**. 2022 IF: 4
- Spreading depolarizations in ischaemia after subarachnoid haemorrhage, a diagnostic phase III study. Dreier JP, Winkler MKL, Major S, Horst V, Lublinsky S, Kola V, Lemale CL, Kang EJ, Maslarova A, Salur I, Lückl J, Platz J, Jorks D, Oliveira-Ferreira AI, Schoknecht K, Reiffurth C, Milakara D, Wiesenthal D, Hecht N, Dengler NF, Liotta A, Wolf S, Kowoll CM, Schulte AP, **Santos E**, Güresir E, Unterberg AW, Sarrafzadeh A, Sakowitz OW, Vatter H, Reiner M, Brinker G, Dohmen C, Shelef I, Bohner G, Scheel M, Vajkoczy P, Hartings JA, Friedman A, Martus P, Woitzik J. **Brain**. 2022 May 24;145(4):1264-1284. doi: 10.1093/brain/awab457. IF:15.2

Lebenslauf/Curriculum Vitae

- Learned spectral decoloring enables photoacoustic oximetry. Gröhl J, Kirchner T, Adler TJ, Hacker L, Holzwarth N, Hernández-Aguilera A, Herrera MA, **Santos E**, Bohndiek SE, Maier-Hein L. *Sci Rep.* 2021 Mar 22;11(1):6565. doi: 10.1038/s41598-021-83405-8. IF: 4.9
- Palacios Cruz M, **Santos E**, Velázquez Cervantes MA, León Juárez M. COVID-19, a worldwide public health emergency. *Rev Clin Esp* 2020 Mar 20; S0014-2565(20)30092-8. IF: 3.0
- Early focal brain injury after subarachnoid hemorrhage correlates with spreading depolarizations. Eriksen N, Rostrup E, Fabricius M, Scheel M, Major S, Winkler M, Bohner G, **Santos E**, Sakowitz OW, Kola V, Reiffurth C, Hartings JA, Vajkoczy P, Woitzik J, Martus P, Lauritzen M, Pakkenberg B, Dreier JP *Neurology* 2019 Jan 22;92(4): e326-e341. IF: 9.9
- Live monitoring of hemodynamic changes with multispectral image analysis. Ayala LA, Wirkert SJ, Gröhl J, A Herrera M, Hernández Aguilera A, Vemuri A, **Santos E**, Maier-Hein L. OR 2.0 Context-Aware Operating Theaters and Machine Learning in Clinical Neuroimaging 2019, **Proceedings**
- Kirchner, T, Gröhl, J, A Herrera A; Adler, T; Hernández-Aguilera, A; **Santos, E.**; Maier-Hein, L. Photoacoustics Can Image Spreading Depolarization Deep in Gyrencephalic Brain. *Sci. Rep.* 2019, 9 (1). IF: 4.9
- Early Blood-Brain Barrier Dysfunction Predicts Neurological Outcome Following Aneurysmal Subarachnoid Hemorrhage. Lublinsky S, Major S, Kola V, Horst V, Santos E, Platz J, Sakowitz O, Scheel M, Dohmen C, Graf R, Vatter H, Wolf S, Vajkoczy P, Shelef I, Woitzik J, Martus P, Dreier JP, Friedman A. *EbioMedicine.* 2019 May; 43:460-472. IF: 11.2
- Variation in monitoring and treatment polices for intracranial hypertension in traumatic brain injury: A survery in 66 neurotrama centers participation in the CENTER-TBI Study *Crit Care* 2017 Sep 6;21(1):233. IF: 19.3
- Letter to the Editor: Cortical Spreading Depression. San-Juan D, Jaramillo-Gonzalez A, Diaz-Peregrino R, Olivares-Rivera A, **Santos E.** *J Neurosurg* 2016. IF: 4.1
- Use of GABAergic sedatives after subarachnoid hemorrhage is associated with worse outcome—preliminary findings. Hertle D N., Beynon C, Neumann JO, **Santos E**, Sánchez-Porrás R, Unterberg AW, Sakowitz OW. *J Clin Anesth.* 2016 Dec; 35:118-122. IF: 6
- The continuum of spreading depolarizations in acute cortical lesion development: Examining Leão's legacy. Hartings JA, Shuttleworth CW, Kirov SA, Ayata C, Hinzman JM, Foreman B, Andrew RD, Boutelle MG, Brennan KC, Carlson AP, Dahlem MA, Drenckhahn C, Dohmen C, Fabricius M, Farkas E, Feuerstein D, Graf R, Helbok R, Lauritzen M, Major S, Oliveira-Ferreira AI, Richter F, Rosenthal ES, Sakowitz OW, Sánchez-Porrás R, **Santos E**, Schöll M, Strong AJ, Urbach A, Westover MB, Winkler MK, Witte OW, Woitzik J, Dreier JP. *J Cereb Blood Flow Metab* 2016 Jun 21. IF: 6.9

Lebenslauf/Curriculum Vitae

- Recording, analysis, and interpretation of spreading depolarizations in neurointensive care: Review and recommendations of the COSBID research group. Dreier JP, Fabricius M, Ayata C, Sakowitz OW, William Shuttleworth C, Dohmen C, Graf R, Vajkoczy P, Helbok R, Suzuki M, Schiefecker AJ, Major S, Winkler MK, Kang EJ, Milakara D, Oliveira-Ferreira AI, Reiffurth C, Revankar GS, Sugimoto K, Dengler NF, Hecht N, Foreman B, Feyen B, Kondziella D, Friberg CK, Piilgaard H, Rosenthal ES, Westover MB, Maslarova A, **Santos E**, Hertle D, Sánchez-Porrás R, Jewell SL, Balança B, Platz J, Hinzman JM, Lückl J, Schoknecht K, Schöll M, Drenckhahn C, Feuerstein D, Eriksen N, Horst V, Bretz JS, Jahnke P, Scheel M, Bohner G, Rostrup E, Pakkenberg B, Heinemann U, Claassen J, Carlson AP, Kowoll CM, Lublinsky S, Chassidim Y, Shelef I, Friedman A, Brinker G, Reiner M, Kirov SA, Andrew RD, Farkas E, Güresir E, Vatter H, Chung LS, Brennan KC, Lieutaud T, Marinesco S, Maas AI, Sahuquillo J, Dahlem MA, Richter F, Herreras O, Boutelle MG, Okonkwo DO, Bullock MR, Witte OW, Martus P, van den Maagdenberg AM, Ferrari MD, Dijkhuizen RM, Shutter LA, Andaluz N, Schulte AP, MacVicar B, Watanabe T, Woitzik J, Lauritzen M, Strong AJ, Hartings JA. **J Cereb Blood Flow Metab** 2016 Jun 17 IF: 6.9
- Changes in electrocorticographic beta frequency components precede spreading depolarization in patients with acute brain injury. Hertle DN, Heer M, **Santos E**, Schöll M, Kowoll CM, Dohmen C, Diedler J, Veltkamp R, Graf R, Unterberg AW, Sakowitz OW. **Clin Neurophysiol** 2016 Jul; 127(7):2661-7. IF : 3.6
- Evaluation of a New Brain Tissue Probe for Intracranial Pressure, Temperature, and Cerebral Blood Flow Monitoring in Patients with Aneurysmal Subarachnoid Hemorrhage. Seule M, Sikorski C, Sakowitz O, von Campe G, **Santos E**, Orakcioglu B, Unterberg A, Keller E. **Neurocrit Care** 2016 Jun 1. IF : 3.5
- Outcome, Pressure Reactivity and Optimal Cerebral Perfusion Pressure Calculation in Traumatic Brain Injury: A Comparison of Two Variants. Lang EW, Kasprovicz M, Smielewski P, **Santos E**, Pickard J, Czosnyka M. **Acta Neurochir Suppl** 2016;122:221-3. IF: 2.8
- Short pressure reactivity index versus long pressure reactivity index in the management of traumatic brain injury. Lang EW, Kasprovicz M, Smielewski P, **Santos E**, Pickard J, Czosnyka M. **J Neurosurg** 2015 Mar;122(3):588-94. IF: 4.1
- Minute-by-minute monitoring of autoregulation. Sanchez-Porrás R, **Santos E**, Silos H, Sakowitz OW. **Journal of Neurosurgery**. 2014 Nov;121(5):1289-90. IF: 4.1
- Optimal cerebral perfusion pressure in patients with intracerebral hemorrhage: an observational case series. Diedler J, **Santos E**, Poli S, Sykora M. **Crit Care** 2014 Mar 25;18(2): R51. IF: 19.3
- Cerebral Glucose Metabolism and Sedation in Brain-injured Patients: A Microdialysis Study. Hertle DN, **Santos E**, Hagenston AM, Jungk C, Haux D, Unterberg AW, Sakowitz OW. **J Neurosurg Anesthesiol** 2015 Jul;27(3):187-93. IF: 3.2
- Short versus Long-PRx in the Management of Traumatic Brain Injury. Lang E W, Kasprovicz M, Smielewski P, **Santos E**, Pickard J, Czosnyka M **J Neurosurg** 2015 Mar;122(3):588-94. IF 4.1
- Decompressive craniectomy in patients with aneurysmal subarachnoid hemorrhage -A single-center matched-pair analysis- Uozumi Y, Sakowitz O, Orakcioglu B, **Santos E**, Ken-tar M, Haux D, Unterberg A. **Cerebrovasc Dis**. 2014;37(2):109-15. IF: 3.1

Lebenslauf/Curriculum Vitae

- The role of spreading depolarization in subarachnoid hemorrhage. Sánchez-Porrás R, Zheng Z, **Santos E**, Schöll M, Unterberg AW, Sakowitz OW. **Eur J Neurol** 2013 Aug; 20(8):1121-7. IF: 6
- Cerebral glucose and spreading depolarization in patients with aneurysmal subarachnoid hemorrhage. Sarrafzadeh A, **Santos E**, Wiesenthal D, Martus P, Vajkoczy P, Oehmchen M, Unterberg A, Dreier JP, Sakowitz O. **Acta Neurochir Suppl** 2013;115:143-7. IF: 2.8
- Delayed cerebral ischemia after subarachnoid hemorrhage: from vascular spasm to cortical spreading depolarizations Zheng Z, Sanchez-Porrás R, **Santos E**, Unterberg AW, Sakowitz OW. **Curr Neurovasc Res** 2012 Nov;9(4):310-9. IF: 2
- Comparison of Laser Speckle Flowmetry and Intrinsic Optical Signal Imaging in Gyrencephalic Swine Brain during Cortical Spreading Depolarisations. Schöll M, Gramer M, **Santos E**, Kentar M, Sánchez-Porrás R, Zheng Z, Sakowitz O, Graf R, Dickhaus H. **Biomed Tech (Berlin)** 2012 Aug 24. IF : 0.5
- Evidence of spreading depolarizations in a porcine cortical intracerebral hemorrhage model. Orakcioglu B, Uozumi Y, Kentar MM, **Santos E**, Unterberg A, Sakowitz OW. **Acta Neurochir Suppl** 2012; 114:369-72. IF: 2.8
- Multiparametric characterisation of the perihemorrhagic zone in a porcine model of lobar ICH. Orakcioglu B, Kentar M, Uozumi Y, **Santos E**, Schiebel P, Unterberg A, Sakowitz OW. **Acta Neurochir Suppl** 2011; 111:19-23. IF: 2.8
- Cerebral microdialysis in acutely brain-injured patients with spreading depolarizations. Krajewski KL, Orakcioglu B, Haux D, Hertle DN, **Santos E**, Kiening KL, Unterberg AW, Sakowitz OW. **Acta Neurochir Suppl** 2011;110(Pt 1):125-30. IF: 2.8
- Neuromonitoring: Neues und Bewährtes. Staykov, **Santos E**, Sakowitz OW. *Intensivmedizin und Notfallmedizin*. 2010.
- Biomarkers for Traumatic Brain Injury: Data Standards and Statistical Considerations. **Journal of Neurotrauma**. 2020 IF: 5.2
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