

# Dr. Alexander Krannich

Statistician, Data Scientist

✉ [alexander.krannich@biostats.de](mailto:alexander.krannich@biostats.de)

🌐 [www.biostats.de](http://www.biostats.de)



## Education

- **Dr.rer.medic.** (Ph.D.) **Medical Science** (summa cum laude), Charité - Universitätsmedizin Berlin, Germany, "*Isoflurane Sedation on the ICU in Cardiac Arrest Patients Treated with Targeted Temperature Management: An Observational Propensity-Matched Study*"
- **M.Sc. Clinical Trial Management** with focus on Statistics, Beuth University of Applied Sciences and Humboldt Universität zu Berlin, Germany | Harvard Medical School (distance learning), Boston, MA, USA, "*Prediction of Cerebral Performance using Neuron Specific Enolase after Cardiac Arrest: A Multicenter Clinical Study*"
- **B.Sc. Statistics**, Magdeburg University of Applied Sciences, Magdeburg/Germany, "*Analysis and Simulation of Differences between Strata using Kaplan-Meier Estimates and Oncological Study Data*"

## Relevant Job Experience

since 2018 **Statistician and Manager Health Technology Assessment and Outcomes Research**, Pfizer Deutschland GmbH, Berlin, Germany.

- Lead of production and quality control of analysis plans, statistical reports, statistical sections of integrated clinical reports for outcomes research studies and dossiers.
- Quality control of derived datasets, tables, figures and listings.
- Support study planning by contributing to study design considerations, providing and discussing sample size scenarios, support of budget and proposal development.

2016 – 2018 **Senior Biostatistician**, PAREXEL International GmbH, Berlin, Germany.

- Statistical advice to clients and project primary role within the project team.
- Lead of production and quality control of analysis plans, randomization plans, statistical reports, statistical sections of integrated clinical reports and other process supporting documents.
- Production and quality control of derived datasets, tables, figures and listings.
- Supporting role as an independent statistician providing data and analysis for Data Monitoring Committees.
- Support of Business Development, e.g. by contributing to study design considerations in internal and client meetings, providing and discussing sample size scenarios, support of budget and proposal development, attending and preparing bid defense meetings.

- 2012 – 2016 **Biostatistician**, *Charité - Universitätsmedizin Berlin*, Berlin, Germany.
- Work Package Leader Statistics and Data Management for EU FP7 studies.
  - Lead of production and quality control of analysis plans, randomization plans, statistical reports, statistical sections of integrated clinical reports and other process supporting documents.
  - Production and quality control of derived datasets, tables, figures and listings.
  - Training and education of students and professionals.
- 2009 – 2012 **Assistant Biostatistics**, *Charité - Universitätsmedizin Berlin*, Berlin, Germany.  
Assistance in all biostatistics activities.

## Statistical Skills

- Standard Skills Descriptive statistics and common hypothesis tests, general linear models (e.g. ANOVA, ANCOVA), generalized linear models (e.g. Logistic or Poisson regression), analysis of clustered data, survival analysis (e.g. Cox regression or Competing risk regression), diagnostic tests including model validation.
- Special Skills Machine learning (e.g. Keras), analysis of cross over designs, time series analysis, principal components analysis, meta-analysis, non-inferiority and equivalence analysis, adaptive designs, longitudinal, and repeated measures data (e.g. linear mixed models or generalized estimation equations), special non-parametric analysis, meta-analysis.

## Current Academic Appointments

- since 2016 **Guest Scientist**, *Charité - Universitätsmedizin Berlin*, Berlin, Germany.
- since 2016 **Guest Scientist**, *Max Delbrück Center for Molecular Medicine*, Berlin, Germany.
- since 2016 **Statistical Editor**, *Journal of Cachexia, Sarcopenia and Muscle*, Berlin, Germany.
- since 2016 **Statistical Editor**, *JCSM Clinical Reports*, Berlin, Germany.
- since 2016 **Statistical Editor**, *ESC Heart Failure*, Berlin, Germany.

## Past Academic Appointments

- 2012 – 2016 **Appointed Member Section Biostatistics**, *Charité Institutional Review Board*, Berlin, Germany.
- 2011 – 2015 **Lecturer Biostatistics and Epidemiology**, *Charité – Universitätsmedizin Berlin*, Berlin, Germany.
- 2014 – 2015 **Reviewer Statistics**, *PLOS ONE*, San Francisco, USA.
- 2015 **Reviewer Statistics**, *Archives of Gynecology and Obstetrics*, Berlin, Germany.

## Professional Associations

- Member of The International Biometric Society
- Member of The World Association of Medical Editors

## Publications

### 39 peer-reviewed articles including *Nature* and *Genome Research*

- [1] A. E. Albers, R. Grabow, X. Qian, M. D. Jumah, V. M. Hofmann, A. Krannich, and G. Pecher. Efficacy and toxicity of docetaxel combination chemotherapy for advanced squamous cell cancer of the head and neck. *Mol Clin Oncol*, 7(1):151–157, Jul 2017.
- [2] F. Balzer, B. Weiss, O. Kumpf, S. Treskatsch, C. Spies, K. D. Wernecke, A. Krannich, and M. Kastrup. Early deep sedation is associated with decreased in-hospital and two-year follow-up survival. *Crit Care*, 19:197, Apr 2015.
- [3] A. Behrens, A. Kreuzmayr, H. Manner, H. Koop, A. Lorenz, C. Schaefer, M. Plauth, J. U. Jetschmann, C. von Tirpitz, M. Ewald, M. Sackmann, W. Renner, M. Kruger, D. Schwab, W. Hoffmann, O. Engelke, O. Pech, F. Kullmann, S. Pampuch, B. Lenfers, U. Weickert, D. Schilling, S. Boehm, S. Beckebaum, V. Cicinnati, J. F. Erckenbrecht, F. L. Dumoulin, C. Benz, T. Rabenstein, G. Haltern, M. Balsliemke, C. de Mas, G. Kleber, C. Pehl, C. Vogt, R. Kiesslich, W. Fischbach, I. Koop, J. Kuehne, M. Breidert, N. L. Sass, A. May, C. Friedrich, R. Veitt, R. Porschen, M. Ellrichmann, A. Arlt, W. Schmitt, M. Dollhopf, W. Schmidbauer, A. Dignass, V. Schmitz, J. Labenz, G. Kaiser, A. Krannich, N. Barteska, and C. Ell. Acute sedation-associated complications in GI endoscopy (ProSed 2 Study): results from the prospective multicentre electronic registry of sedation-associated complications. *Gut*, Jan 2018.
- [4] N. Beyhoff, S. Brix, I. R. Betz, R. Klopffleisch, A. Foryst-Ludwig, A. Krannich, P. Stawowy, F. Knebel, J. Grune, and U. Kintscher. Application of Speckle-Tracking Echocardiography in an Experimental Model of Isolated Subendocardial Damage. *J Am Soc Echocardiogr*, 30(12):1239–1250, Dec 2017.
- [5] A. Brandl, P. Stolzlechner, S. Eschertzhuber, F. Aigner, S. Weiss, W. Vogel, A. Krannich, S. Neururer, J. Pratschke, I. Graziadei, and R. Ollinger. Inferior graft survival of hepatitis B core positive grafts is not influenced by post-transplant hepatitis B infection in liver recipients—5-year single-center experience. *Transpl. Int.*, 29(4):471–482, Apr 2016.
- [6] A. Brandl, S. Weiss, M. von Winterfeld, A. Krannich, M. Feist, J. Pratschke, W. Raue, and B. Rau. Predictive value of peritoneal cancer index for survival in patients with mucinous peritoneal malignancies treated with cytoreductive surgery and hyperthermic intraperitoneal chemotherapy: a single centre experience. *Int J Hyperthermia*, 34(5):512–517, Aug 2018.
- [7] C. Brandt, A. Thronicke, J. F. Roehmel, A. Krannich, D. Staab, and C. Schwarz. Impact of Long-Term Tiotropium Bromide Therapy on Annual Lung Function Decline in Adult Patients with Cystic Fibrosis. *PLoS ONE*, 11(6):e0158193, 2016.

- [8] C. C. Friedrich, Y. Lin, A. Krannich, Y. Wu, J. P. Vacanti, and C. M. Neville. Enhancing engineered vascular networks in vitro and in vivo: The effects of IGF1 on vascular development and durability. *Cell Prolif.*, 51(1), Feb 2018.
- [9] P. Hansen, J. Hecht, D. M. Ibrahim, A. Krannich, M. Truss, and P. N. Robinson. Saturation analysis of ChIP-seq data for reproducible identification of binding peaks. *Genome Res.*, 25(9):1391–1400, Sep 2015.
- [10] O. Hunsicker, C. Fotopoulou, K. Pietzner, M. Koch, A. Krannich, J. Sehouli, C. Spies, and A. Feldheiser. Hemodynamic Consequences of Malignant Ascites in Epithelial Ovarian Cancer Surgery\*: A Prospective Substudy of a Randomized Controlled Trial. *Medicine (Baltimore)*, 94(49):e2108, Dec 2015.
- [11] O. Hunsicker, S. Heinig, J. J. Dathe, A. Krannich, C. Spies, and A. Feldheiser. Comparison of bedside assessed arm and leg fluid filtration determined by venous congestion plethysmography in perioperative cancer patients: An observational study investigating agreement. *Medicine (Baltimore)*, 96(9):e6066, Mar 2017.
- [12] O. Hunsicker, K. Hessler, A. Krannich, W. Boemke, I. Braicu, J. Sehouli, O. Meyer, A. Pruss, C. Spies, and A. Feldheiser. Duration of storage influences the hemoglobin rising effect of red blood cells in patients undergoing major abdominal surgery. *Transfusion*, Apr 2018.
- [13] O. Hunsicker, A. Krannich, C. Spies, and A. Feldheiser. Association of Sodium Homeostasis with Blood Transfusions During Liver Transplantation. *Anesth. Analg.*, 122(3):916–917, Mar 2016.
- [14] F. Klein, D. Jacob, M. Bahra, U. Pelzer, G. Puhl, A. Krannich, A. Andreou, S. Gul, and O. Guckelberger. Prognostic factors for long-term survival in patients with ampullary carcinoma: the results of a 15-year observation period after pancreaticoduodenectomy. *HPB Surg*, 2014:970234, 2014.
- [15] F. Kork, F. Balzer, A. Krannich, M. H. Bernardi, H. K. Eltzhig, J. Jankowski, and C. Spies. Back-calculating baseline creatinine overestimates prevalence of acute kidney injury with poor sensitivity. *Acta Physiol (Oxf)*, 219(3):613–624, Mar 2017.
- [16] F. Kork, F. Balzer, A. Krannich, B. Weiss, K. D. Wernecke, and C. Spies. Association of comorbidities with postoperative in-hospital mortality: a retrospective cohort study. *Medicine (Baltimore)*, 94(8):e576, Feb 2015.
- [17] H. Krampe, A. L. Salz, L. F. Kerper, A. Krannich, T. Schnell, K. D. Wernecke, and C. D. Spies. Readiness to change and therapy outcomes of an innovative psychotherapy program for surgical patients: results from a randomized controlled trial. *BMC Psychiatry*, 17(1):417, 12 2017.
- [18] A. Krannich, C. Leithner, M. Engels, J. Nee, V. Petzinka, T. Schroder, A. Jorres, J. Kruse, and C. Storm. Isoflurane Sedation on the ICU in Cardiac Arrest Patients Treated With Targeted Temperature Management: An Observational Propensity-Matched Study. *Crit. Care Med.*, 45(4):e384–e390, Apr 2017.

- [19] C. Langelotz, C. Mueller-Rau, S. Terziyski, B. Rau, A. Krannich, P. Gastmeier, and C. Geffers. Gender-Specific Differences in Surgical Site Infections: An Analysis of 438,050 Surgical Procedures from the German National Nosocomial Infections Surveillance System. *Viszeralmedizin*, 30(2):114–117, Apr 2014.
- [20] K. Lerchl, N. Rakova, A. Dahlmann, M. Rauh, U. Goller, M. Basner, D. F. Dinges, L. Beck, A. Agureev, I. Larina, V. Baranov, B. Morukov, K. U. Eckardt, G. Vassilieva, P. Wabel, J. Vienken, K. Kirsch, B. Johannes, A. Krannich, F. C. Luft, and J. Titze. Agreement between 24-hour salt ingestion and sodium excretion in a controlled environment. *Hypertension*, 66(4):850–857, Oct 2015.
- [21] A. Mahler, J. Steiniger, M. Bock, L. Klug, N. Parreidt, M. Lorenz, B. F. Zimmermann, A. Krannich, F. Paul, and M. Boschmann. Metabolic response to epigallocatechin-3-gallate in relapsing-remitting multiple sclerosis: a randomized clinical trial. *Am. J. Clin. Nutr.*, 101(3):487–495, Mar 2015.
- [22] A. Maier, N. Deigendesch, K. Muller, J. H. Weishaupt, A. Krannich, R. Rohle, F. Meissner, K. Molawi, C. Munch, T. Holm, R. Meyer, T. Meyer, and A. Zychlinsky. Interleukin-1 Antagonist Anakinra in Amyotrophic Lateral Sclerosis—A Pilot Study. *PLoS ONE*, 10(10):e0139684, 2015.
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- [24] C. Schwarz, C. Brandt, E. Antweiler, A. Krannich, D. Staab, S. Schmitt-Grohe, R. Fischer, D. Hartl, A. Thronicke, and K. Tintelnot. Prospective multicenter German study on pulmonary colonization with *Scedosporium* /*Lomentospora* species in cystic fibrosis: Epidemiology and new association factors. *PLoS ONE*, 12(2):e0171485, 2017.
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- [26] H. Stockmann, A. Krannich, T. Schroeder, and C. Storm. Therapeutic temperature management after cardiac arrest and the risk of bleeding: systematic review and meta-analysis. *Resuscitation*, 85(11):1494–1503, Nov 2014.
- [27] C. Storm, A. Krannich, T. Schachtner, M. Engels, R. Schindler, A. Kahl, and N. M. Otto. Impact of acute kidney injury on neurological outcome and long-term survival after cardiac arrest - A 10 year observational follow up. *J Crit Care*, 47:254–259, Jul 2018.
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oxygen saturation after cardiac arrest in 60 patients—a prospective outcome study. *Resuscitation*, 85(8):1037–1041, Aug 2014.

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- [32] S. Tafelski, L. F. Kerper, A. L. Salz, C. Spies, E. Reuter, I. Nachtigall, M. Schafer, A. Krannich, and H. Krampe. Prospective clinical observational study evaluating gender-associated differences of preoperative pain intensity. *Medicine (Baltimore)*, 95(27):e4077, Jul 2016.
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- [35] A. Thronicke, N. Heger, E. Antweiler, A. Krannich, J. Roehmel, C. Brandt, D. Staab, K. Tintelnot, and C. Schwarz. Allergic bronchopulmonary aspergillosis is associated with pet ownership in cystic fibrosis. *Pediatr Allergy Immunol*, 27(6):597–603, 09 2016.
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- [37] G. Winterer, G. Androsova, O. Bender, D. Boraschi, F. Borchers, T. B. Dschietzig, I. Feinkohl, P. Fletcher, J. Gallinat, D. Hadzidiakos, J. D. Haynes, F. Heppner, S. Hetzer, J. Hendrikse, B. Ittermann, I. M. J. Kant, A. Kraft, A. Krannich, R. Krause, S. Kuhn, G. Lachmann, S. J. T. van Montfort, A. Muller, P. Nurnberg, K. Ofosu, M. Pietsch, T. Pischon, J. Preller, E. Renzulli, K. Scheurer, R. Schneider, A. J. C. Slooter, C. Spies, E. Stamatakis, H. D. Volk, S. Weber, A. Wolf, F. Yurek, and N. Zacharias. Personalized risk prediction of postoperative cognitive impairment - rationale for the EU-funded BioCog project. *Eur. Psychiatry*, 50:34–39, Apr 2018.
- [38] J. Wolke, D. A. Herrmann, A. Krannich, and M. Scheibel. Influence of Bony Defects on Preoperative Shoulder Function in Recurrent Anteroinferior Shoulder Instability. *Am J Sports Med*, 44(5):1131–1136, 05 2016.
- [39] K. Wylon, G. Drozdenko, A. Krannich, G. Heine, S. Dolle, and M. Worm. Pharmacokinetic Evaluation of a Single Intramuscular High Dose versus an Oral Long-Term Supplementation of Cholecalciferol. *PLoS ONE*, 12(1):e0169620, 2017.