

CURRICULUM VITAE

Heinz Eric Krestel, MD

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Contact Information:

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Education:

10/1988 - 11/1996 MD, University of Saarland, Technical University Munich, Munich, BY

Career/Academic Appointments:

01/1996 - 12/2010 Resident in Neurology, University Hospital Heidelberg, DE; University Hospital Zurich & Bern University Hospital, CH, Bern, BE, Switzerland
08/1997 - 12/2006 Postdoctoral Fellow, Molecular Neurobiology, Max-Planck Institute for Medical Research DE; Pharmacology, University of Zurich, CH, Zürich, ZH, Switzerland
01/2010 - 11/2011 Fellow in Epileptology, Sleep Medicine, Neurology, Bern University Hospital, CH, Bern, BE, Switzerland
01/2012 - 12/2016 Senior Neurologist, Neurology, Bern University Hospital, Bern, BE, Switzerland
01/2013 - 12/2013 Senior Neurologist, Pediatric Neurology, Bern University Hospital, Bern, BE, Switzerland
01/2017 - 03/2019 Research Physician, BioMedical Research, University of Bern, Bern, BE, Switzerland
03/2017 Lecturer in Neurology, University of Bern, CH, Bern, BE, Switzerland
08/2019 - 08/2021 Visiting Research Scientist, Neurology (Department), Yale School of Medicine, New Haven, CT
02/2022 Lecturer in Neurology, Johann Wolfgang Goethe-University, Frankfurt am Main, DE, Frankfurt, HE, Germany

Board Certification:

2010 AB of Psychiatry & Neurology, Epilepsy
2011 AB of Psychiatry & Neurology, Neurology
2011 AB of Psychiatry & Neurology, Sleep Medicine (Psychiatry & Neurology)

Professional Honors & Recognition:

International/National/Regional

- | | |
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| 1996 | Young investigator award: "Influence of Taprostene, a novel prostacyclin analogue, on postischemic microcirculation and leucocyte-endothelial interaction" |
| 2013 | Poster award, World Congress of Neurology, Vienna: "Insular and caudate lesions release abnormal yawning in stroke patients" |
| 2016 | Press release, Reuters Health Information "Real Spikes Crash Virtual Cars" |
| 2017 | Certificate with Seal of Quality from the European Commission for Research and Innovation Horizon 2020: "New integrated system to automatically record impact of interictal epileptic activity on behavior, reactivity, and consciousness in epilepsy patients" |

Patents:

Issued

1. **Krestel, Heinz**, Andreas von Allmen. 2019. Method for automatic detection of epileptic and atypical epilepsy-like bursts in EEG and for triggering a trigger in real time. Switzerland CH 01003/14, filed July 05, 2016, and issued July 01, 2019.

Grants/Clinical Trials History:

Current Grants

Agency:	European Union's Framework Programme for Research and Innovation Horizon 2020, European Union's Framework Programme for Research and Innovation Horizon2020
I.D.#:	799791
Title:	Digital Reaction Test in Epilepsy (DigRTEpi)
Role:	Principal Investigator
Percent effort:	N/A
Direct costs per year:	\$86,000.00
Total costs for project period:	\$280,000.00
Project period:	4/1/2019

Professional Service:

Journal Service

Editor/Associate Editor

2015 - Present	Associate Editor, Associate editor, Frontiers in Molecular Neuroscience
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Professional Service for Professional Organizations

American Epilepsy Society

2016 - Present Member, American Epilepsy Society

International League against Epilepsy (ILAE)

2016 - Present Member, International League against Epilepsy (ILAE)

Swiss Medical Association (FMH)

2010 - Present Member, Swiss Medical Association (FMH)

Swiss Neurological Society

2010 - Present Member, Swiss Neurological Society

Yale Club New York City

2019 - Present Member, Yale Club New York City

Yale University Service

University Committees

2015 - Present Member, Epi25 Collaborative

Bibliography:

Peer-Reviewed Original Research

1. Bonmann E, Jüttler E, **Krestel HE**, Spranger M. Heparin inhibits induction of nitric oxide synthase by cytokines in rat brain microvascular endothelial cells. *Neurosci Lett* 1998, 253: 95-8. [PMID: 9774158](#), DOI: 10.1016/s0304-3940(98)00613-2.
2. Jerecic J, Single F, Krüth U, **Krestel H**, Kolhekar R, Storck T, Kask K, Higuchi M, Sprengel R, Seeburg PH. Studies on conditional gene expression in the brain. *Ann N Y Acad Sci* 1999, 868: 27-37. [PMID: 10414279](#), DOI: 10.1111/j.1749-6632.1999.tb11271.x.
3. **Krestel HE**, Mayford M, Seeburg PH, Sprengel R. A GFP-equipped bidirectional expression module well suited for monitoring tetracycline-regulated gene expression in mouse. *Nucleic Acids Res* 2001, 29: E39. [PMID: 11266574](#), DOI: 10.1093/nar/29.7.e39.
4. **Krestel HE**, Shimshek DR, Jensen V, Nevian T, Kim J, Geng Y, Bast T, Depaulis A, Schonig K, Schwenk F, Bujard H, Hvalby Ø, Sprengel R, Seeburg PH. A genetic switch for epilepsy in adult mice. *J Neurosci* 2004, 24: 10568-78. [PMID: 15548671](#), DOI: 10.1523/JNEUROSCI.4579-03.2004.
5. **Krestel HE**, Mihaljevic AL, Hoffman DA, Schneider A. Neuronal co-expression of EGFP and beta-galactosidase in mice causes neuropathology and premature death. *Neurobiol Dis* 2004, 17: 310-8. [PMID: 15474368](#), DOI: 10.1016/j.nbd.2004.05.012.
6. Wettschureck N, van der Stelt M, Tsubokawa H, **Krestel H**, Moers A, Petrosino S, Schütz G, Di Marzo V, Offermanns S. Forebrain-specific inactivation of Gq/G11 family G proteins results in age-

- dependent epilepsy and impaired endocannabinoid formation. *Mol Cell Biol* 2006, 26: 5888-94. [PMID: 16847339](#), DOI: 10.1128/MCB.00397-06.
7. Tan HO, Reid CA, Single FN, Davies PJ, Chiu C, Murphy S, Clarke AL, Dibbens L, **Krestel H**, Mulley JC, Jones MV, Seeburg PH, Sakmann B, Berkovic SF, Sprengel R, Petrou S. Reduced cortical inhibition in a mouse model of familial childhood absence epilepsy. *Proc Natl Acad Sci U S A* 2007, 104: 17536-41. [PMID: 17947380](#), DOI: 10.1073/pnas.0708440104.
 8. Jagella C, **Krestel H**. *Swiss archives for neurology and psychiatry*. 2008; 159:247-50; <https://www.swissneuro.ch/download/Content/historisches/Jubilaeumsband.pdf>
 9. **Krestel HE**, Nirkko A, von Allmen A, Liechti C, Wettstein J, Mosbacher A, Mathis J. Spike-triggered reaction-time EEG as a possible assessment tool for driving ability. *Epilepsia* 2011, 52: e126-9. [PMID: 21883181](#), DOI: [10.1111/j.1528-1167.2011.03252.x](#).
 10. **Krestel H**, Mathis J. *Leading Opinions Neurologie & Psychiatrie*. 2012 February; :12-5.
 11. **Krestel H**, Raffle S, von Lehe M, Jagella C, Moskau-Hartmann S, Becker A, Elger CE, Seeburg PH, Nirkko A. Differences between RNA and DNA due to RNA editing in temporal lobe epilepsy. *Neurobiol Dis* 2013, 56: 66-73. [PMID: 23607937](#), DOI: 10.1016/j.nbd.2013.04.006.
 12. **Krestel H**, Bassetti C, Jagella C. *Journal of Neurolinguistics*. 2013; 26(5):581-9. DOI: 10.1016/j.jneuroling.2013.03.004
 13. **Krestel H**. *Swiss archives of neurology and psychiatry*. 2013; 164:262-5. URL: https://boris.unibe.ch/53837/1/Krestel_LanguageBrain.pdf
 14. **Krestel H**, Annoni JM, Jagella C. White matter in aphasia: a historical review of the Dejerines' studies. *Brain And Language* 2013, 127: 526-32. [PMID: 23895939](#), DOI: [10.1016/j.bandl.2013.05.019](#).
 15. Hauf M, **Krestel H**, Cavelti A, Biedermann AP, Schroth G, Mattle HP. Spinal Spot Sign. *Neurologist* 2015, 20: 104-5. [PMID: 26671742](#), DOI: 10.1097/NRL.0000000000000062.
 16. Kurmann R, Weisstanner C, Kardas P, Hirsch HH, Wiest R, Lämmle B, Furrer H, Du Pasquier R, Bassetti CL, Sturzenegger M, **Krestel H**. Progressive multifocal leukoencephalopathy in common variable immunodeficiency: mitigated course under mirtazapine and mefloquine. *J Neurovirol* 2015, 21: 694-701. [PMID: 25916731](#), DOI: 10.1007/s13365-015-0340-4.
 17. Winkelmann A, You X, Grünwald N, Häussler U, **Krestel H**, Haas CA, Schwarz G, Chen W, Meier JC. Identification of a new genomic hot spot of evolutionary diversification of protein function. *PLoS One* 2015, 10: e0125413. [PMID: 25955356](#), DOI: 10.1371/journal.pone.0125413.
 18. **Krestel H**, Weisstanner C, Hess CW, Bassetti CL, Nirkko A, Wiest R. Insular and caudate lesions release abnormal yawning in stroke patients. *Brain Struct Funct* 2015, 220: 803-12. [PMID: 24337237](#), DOI: 10.1007/s00429-013-0684-6.
 19. Meier JC, Kankowski S, **Krestel H**, Hetsch F. RNA Editing-Systemic Relevance and Clue to Disease Mechanisms? *Front Mol Neurosci* 2016, 9: 124. [PMID: 27932948](#), DOI: 10.3389/fnmol.2016.00124.
 20. Verma RK, Abela E, Schindler K, **Krestel H**, Springer E, Huber A, Weisstanner C, Hauf M, Gralla J, Wiest R. Focal and Generalized Patterns of Cerebral Cortical Veins Due to Non-Convulsive Status Epilepticus or Prolonged Seizure Episode after Convulsive Status Epilepticus - A MRI Study Using Susceptibility Weighted Imaging. *PLoS One* 2016, 11: e0160495. [PMID: 27486662](#), DOI: 10.1371/journal.pone.0160495.
 21. Nirkko AC, Bernasconi C, von Allmen A, Liechti C, Mathis J, **Krestel H**. Virtual car accidents of epilepsy patients, interictal epileptic activity, and medication. *Epilepsia* 2016, 57: 832-40. [PMID: 27043034](#), DOI: 10.1111/epi.13361.

22. Breit S, Keserü B, Nyffeler T, Sturzenegger M, **Krestel H**. Posterior fossa syndrome with a large inflammatory ponto-mesencephalic lesion. *Brain And Cognition* 2017, 111: 107-111. [PMID: 27842285](#), [DOI: 10.1016/j.bandc.2016.09.013](#).
23. **Krestel H**, Bassetti CL, Walusinski O. Yawning-Its anatomy, chemistry, role, and pathological considerations. *Progress In Neurobiology* 2018, 161: 61-78. [PMID: 29197651](#), [DOI: 10.1016/j.pneurobio.2017.11.003](#).
24. **Krestel H**, Meier JC. RNA Editing and Retrotransposons in Neurology. *Frontiers In Molecular Neuroscience* 2018, 11: 163. [PMID: 29875629](#), [PMCID: PMC5974252](#), [DOI: 10.3389/fnmol.2018.00163](#).
25. Leu C, Stevelink R, Smith AW, Goleva SB, Kanai M, Ferguson L, Campbell C, Kamatani Y, Okada Y, Sisodiya SM, Cavalleri GL, Koeleman BPC, Lerche H, Jehi L, Davis LK, Najm IM, Palotie A, Daly MJ, Busch RM, Epi25 Consortium., Lal D. Polygenic burden in focal and generalized epilepsies. *Brain* 2019, 142: 3473-3481. [PMID: 31608925](#), DOI: 10.1093/brain/awz292.
26. Epi25 Collaborative. Electronic address: s.berkovic@unimelb.edu.au., Epi25 Collaborative.. Ultra-Rare Genetic Variation in the Epilepsies: A Whole-Exome Sequencing Study of 17,606 Individuals. *Am J Hum Genet* 2019, 105: 267-282. [PMID: 31327507](#), DOI: 10.1016/j.ajhg.2019.05.020.
27. Antwi P, Atac E, Ryu JH, Arencibia CA, Tomatsu S, Saleem N, Wu J, Crowley MJ, Banz B, Vaca FE, **Krestel H**, Blumenfeld H. Driving status of patients with generalized spike-wave on EEG but no clinical seizures. *Epilepsy & Behavior : E&B* 2019, 92: 5-13. [PMID: 30580109](#), [PMCID: PMC6433503](#), [DOI: 10.1016/j.yebeh.2018.11.031](#).
28. Niestroj LM, Perez-Palma E, Howrigan DP, Zhou Y, Cheng F, Saarentaus E, Nürnberg P, Stevelink R, Daly MJ, Palotie A, Lal D, Epi25 Collaborative.. Epilepsy subtype-specific copy number burden observed in a genome-wide study of 17 458 subjects. *Brain* 2020, 143: 2106-2118. [PMID: 32568404](#), DOI: 10.1093/brain/awaa171.
29. Cohen E, Antwi P, Banz BC, Vincent P, Saha R, Arencibia CA, Ryu JH, Atac E, Saleem N, Tomatsu S, Swift K, Hu C, **Krestel H**, Farooque P, Levy S, Wu J, Crowley M, Vaca FE, Blumenfeld H. Realistic driving simulation during generalized epileptiform discharges to identify electroencephalographic features related to motor vehicle safety: Feasibility and pilot study. *Epilepsia* 2020, 61: 19-28. [PMID: 31646628](#), [PMCID: PMC7424790](#), [DOI: 10.1111/epi.16356](#).
30. Panos LD, Brunel C, Berezowska S, Engisch R, Kollar A, Bassetti C, Sturzenegger M, **Krestel H**. Early and delayed neurological manifestations of cardiac myxomas. *Clinical Neurology And Neurosurgery* 2020, 190: 105673. [PMID: 31945622](#), [DOI: 10.1016/j.clineuro.2020.105673](#).
31. Markhus R, Henning O, Molteberg E, Hećimović H, Ujvari A, Hirsch E, Rheims S, Surges R, Malmgren K, Rüegg S, Gil-Nagel A, Roivainen R, Picard F, Steinhoff B, Marusic P, Mostacci B, Kimiskidis VK, Mindruta I, Jagella C, Mameniškienė R, Schulze-Bonhage A, Rosenow F, Kelemen A, Fabo D, Walker MC, Seeck M, Kraemer G, Arsene OT, **Krestel H**, Lossius M. EEG in fitness to drive evaluations in people with epilepsy - Considerable variations across Europe. *Seizure* 2020, 79: 56-60. [PMID: 32416569](#), [DOI: 10.1016/j.seizure.2020.04.013](#).
32. Epi25 Collaborative. Electronic address: jm4279@cumc.columbia.edu., Epi25 Collaborative.. Sub-genic intolerance, ClinVar, and the epilepsies: A whole-exome sequencing study of 29,165 individuals. *Am J Hum Genet* 2021, 108: 2024. [PMID: 34626584](#), DOI: 10.1016/j.ajhg.2021.08.008.
33. Stevelink R, Luykx JJ, Lin BD, Leu C, Lal D, Smith AW, Schijven D, Carpay JA, Rademaker K, Rodrigues Baldez RA, Devinsky O, Braun KPJ, Jansen FE, Smit DJA, Koeleman BPC, International League Against Epilepsy Consortium on Complex Epilepsies., Epi25 Collaborative.. Shared genetic basis

between genetic generalized epilepsy and background electroencephalographic oscillations. *Epilepsia* 2021, 62: 1518-1527. [PMID: 34002374](#), DOI: 10.1111/epi.16922.

34. Kumar A, Martin R, Chen W, Bauerschmidt A, Youngblood MW, Cunningham C, Si Y, Ezeani C, Kratochvil Z, Bronen J, Thomson J, Riordan K, Yoo JY, Shirka R, Manganas L, **Krestel H**, Hirsch LJ, Blumenfeld H. Simulated driving in the epilepsy monitoring unit: Effects of seizure type, consciousness, and motor impairment. *Epilepsia* 2022, 63: e30-e34. [PMID: 34816425](#), DOI: [10.1111/epi.17136](#).