Stanford



Fiona Baumer

Assistant Professor of Neurology (Pediatric Neurology)

CLINICAL OFFICE (PRIMARY)

- **Child Neurology**

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Bio

BIO

Dr. Fiona Baumer is an Assistant Professor in the Department of Neurology, Division of Child Neurology. She is a graduate of the Stanford Human Biology program and pursued medical training at Harvard Medical School and Boston Children's Hospital. She returned to Stanford for epilepsy fellowship and now serves as an attending in child neurology. Her clinical efforts focus on caring for children with epilepsy and running the TMS Presurgical Mapping Program. She has completed post-doctoral work in the labs of Dr. Robert Fisher and Dr. Amit Etkin, focusing on using transcranial magnetic stimulation paired with electroencephalography (TMS-EEG) to study brain dynamics in children with epilepsy. As a result of this work, she was awarded the K23 Mentored Patient-Oriented Research Career Development Award from the National Institute of Health. She is also a co-PI for a National Consortium of Pediatric TMS Centers funded by the Pediatric Epilepsy Research Foundation.

Dr. Baumer's research focuses on understanding the impact of abnormal brain activity (called spike waves) on brain network connectivity to determine if spike waves contribute to cognitive comorbidities in children with epilepsy. Her research uses high-density EEG and TMS-EEG to study how children with epilepsy process language and to determine the impact of spike waves on this processing. The goal of her research is to determine if non-invasive stimulation techniques like TMS may be a feasible therapy to improve language, learning and cognition in this population.

CLINICAL FOCUS

- Pediatric Epilepsy
- Epilepsy

ACADEMIC APPOINTMENTS

- Assistant Professor-Univ Med Line, Pediatric Neurology
- Assistant Professor-Univ Med Line, Pediatrics
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Wu Tsai Neurosciences Institute

PROFESSIONAL EDUCATION

- Board Certification: Neurology with Special Qualifications in Child Neurology, American Board of Psychiatry and Neurology (2015)
- Residency: Boston Children's Hospital (2015) MA
- Residency: Boston Children's Hospital (2012) MA
- Board Certification: Epilepsy, American Board of Psychiatry and Neurology (2016)
- Fellowship: Lucile Packard Children's Hospital (2016) CA
- Medical Education: Harvard Medical School (2010) MA

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Causes of Disturbed Cognition in Pediatric Epilepsy

CLINICAL TRIALS

- Transcranial Magnetic Stimulation for BECTS, Recruiting

Teaching

STANFORD ADVISEES

Med Scholar Project Advisor

Marie Ferrara, Cristina Garcia

Postdoctoral Faculty Sponsor

Yiming Gan, Imiya Mudiyanselage Karunathilake

Publications

PUBLICATIONS

- **Language Dysfunction Associated with Pathological Brain Connectivity in Children with Epilepsy.** *bioRxiv : the preprint server for biology*
  She, X., Peony, O., Qi, W., Menchaca, M., Nix, K. C., Wu, W., He, Z., Baumer, F. M.
  2026
- **Elevated Connectivity During Language Processing Is Associated With Cognitive Performance in SeLECTS.** *Annals of clinical and translational neurology*
  Qi, W., Lee, K., Nix, K. C., Menchaca, M., Shé, X., Santa Maria, L., Wu, W., He, Z., Baumer, F. M.
  2026
- **Functional connectivity in self-limited epilepsy with centrotemporal spikes increases with epilepsy duration and interictal spike exposure.** *Epilepsia*
  Vasitas, M. E., Menchaca, M. S., Goad, B. S., She, X., Lee-Messer, C., He, Z., Baumer, F. M.
  2026
- **Response: Lenses protecting against photosensitivity violate international driving regulations.** *Epilepsia*
  Fisher, R., Takahashi, Y., Szaflarski, J., Baumer, F. M., Thio, L. L., Parisi, P., French, J., Tolchin, B., Trenite, D. K., Wilkins, A.
  2026
- **TMS timed to interictal epileptiform discharges.** *bioRxiv : the preprint server for biology*
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  2026

- **Clinical utility and prospective of TMS-EEG: Updated review from an international expert group.** *Clinical neurophysiology : official journal of the International Federation of Clinical Neurophysiology*
  Ziemann, U., Bai, Y., Baumer, F. M., Beck, M. M., Belardinelli, P., Belvisi, D., Bender, S., Bergmann, T. O., Bortoletto, M., Casarotto, S., Casula, E., Chaves, A. R., de Andrade, et al
  2026: 2111487

- **Elevated thalamic blood flow in self-limited epilepsy with centrotemporal spikes.** *Epilepsy research*
  Iasinovschi, N., Tong, E., Bicknell, L., Baumer, F. M.
  2025; 220: 107716

- **Visually-provoked seizures: Consensus of the Epilepsy Foundation Working Group.** *Epilepsia*
  Fisher, R. S., Wilkins, A., Takahashi, Y., Thio, L. L., Acharya, J., Alkhaldi, M., Baumer, F. M., Beran, R. G., Craiu, D., French, J., Mirza, N., Parisi, P., Solodar, et al
  2025

- **The Lifeline** *LANCET NEUROLOGY*
  Baumer, F.
  2025; 24 (8): 641

- **Rebuilding the Tower of Babel: The Current Landscape and Emerging Opportunities in DEE-SWAS.** *Epilepsy currents*
  Stowe, R. C., Kelley, S. A., Bhatia, S., McLaren, J. R., Rao, L. M., Patel, S. H., Fine, A. L., Baumer, F., Duong, P., Pavuluri, S., Liu, V. B., Phillips, D. J.
  2025: 15357597251344191

- **Frequently asked questions and answers on Visually-Provoked (Photosensitive) epilepsy.** *Epilepsy & behavior reports*
  Kasteleijn-Nolst Trenité, D., Acharya, J., Baumer, F. M., Beran, R., Craiu, D., French, J., Parisi, P., Solodar, J., Szaflarski, J. P., Takahashi, Y., Thio, L. L., Tolchin, B., Wilkins, et al
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- **Repetitive Transcranial Magnetic Stimulation Modulates Brain Connectivity in Children with Self-limited Epilepsy with Centrotemporal Spikes.** *Brain stimulation*
  She, X., Qi, W., Nix, K. C., Menchaca, M., Cline, C. C., Wu, W., He, Z., Baumer, F. M.
  2025

- **American Clinical Neurophysiology Society Technical Standards for Electrical Stimulation With Intracranial Electrodes for Functional Brain Mapping and Seizure Induction.** *Journal of clinical neurophysiology : official publication of the American Electroencephalographic Society*
  Arya, R., Baumer, F. M., Chauvel, P., Frauscher, B., Jayakar, P., Kheder, A., Lega, B., Lesser, R. P., Miller, K. J., Nuwer, M. R., Pedersen, N. P., Ritaccio, A. L., Sabsevitz, et al
  2025

- **Detection of Language Lateralization Using Spectral Analysis of EEG.** *Journal of clinical neurophysiology : official publication of the American Electroencephalographic Society*
  Nix, K. C., Oh, A., Goad, B. S., Wu, W., Lucas, M. V., Baumer, F. M.
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- **Stability of transcranial magnetic stimulation electroencephalogram evoked potentials in pediatric epilepsy.** *Scientific reports*
  She, X., Nix, K. C., Cline, C. C., Qi, W., Tugin, S., He, Z., Baumer, F. M.
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- **Sunflower Syndrome: A Survey of Provider Awareness and Management Preferences.** *Pediatric neurology*
  Baumer, F. M., Julich, K., Friedman, J., Nespeca, M., Thiele, E. A., Bhatia, S., Joshi, C.
  2023; 152: 177-183

- **Repetitive Transcranial Magnetic Stimulation Modulates Brain Connectivity in Children with Self-Limited Epilepsy with Centrotemporal Spikes**
  Baumer, F. M., She, X., Nix, K., Nix, K., Qi, W.
  WILEY.2023: S136-S137

- **Connectivity increases during spikes and spike-free periods in self-limited epilepsy with centrotemporal spikes.** *Clinical neurophysiology : official journal of the International Federation of Clinical Neurophysiology*
  Goad, B. S., Lee-Messer, C., He, Z., Porter, B. E., Baumer, F. M.

2022

- **Association of Time to Clinical Remission With Sustained Resolution in Children With New-Onset Infantile Spasms.** *Neurology*
  Yuskaitis, C. J., Mytinger, J. R., Baumer, F. M., Zhang, B., Liu, S., Samanta, D., Hussain, S. A., Yozawitz, E. G., Keator, C. G., Joshi, C., Singh, R. K., Bhatia, S., Bhalla, et al
  2022

- **Inequities in therapy for infantile spasms: a call to action.** *Annals of neurology*
  Baumer, F. M., Mytinger, J. R., Neville, K., Briscoe Abath, C., Gutierrez, C. A., Numis, A. L., Harini, C., He, Z., Hussain, S. A., Berg, A. T., Chu, C. J., Gaillard, W. D., Loddenkemper, et al
  2022

- **Visually sensitive seizures: An updated review by the Epilepsy Foundation.** *Epilepsia*
  Fisher, R. S., Acharya, J. N., Baumer, F. M., French, J. A., Parisi, P., Solodar, J. H., Szaflarski, J. P., Thio, L. L., Tolchin, B., Wilkins, A. J., Kasteleijn-Nolst Trenite, D.
  2022

- **Treatment Practices and Outcomes in Continuous Spike and Wave During Slow Wave Sleep (CSWS): A Multicenter Collaboration.** *The Journal of pediatrics*
  Baumer, F. M., McNamara, N. A., Fine, A. L., Pestana-Knight, E. n., Shellhaas, R. A., He, Z. n., Arndt, D. H., Gaillard, W. D., Kelley, S. A., Nagan, M. n., Ostendorf, A. P., Singhal, N. S., Speltz, et al
  2021

- **Mapping causal circuit dynamics in stroke using simultaneous electroencephalography and transcranial magnetic stimulation.** *BMC neurology*
  Rolle, C. E., Baumer, F. M., Jordan, J. T., Berry, K., Garcia, M., Monusko, K., Trivedi, H., Wu, W., Toll, R., Buckwalter, M. S., Lansberg, M., Etkin, A.
  2021; 21 (1): 280

- **Repetitive Transcranial Magnetic Stimulation to Assess Cortical Plasticity & Suppress Spikes in Pediatric Epilepsy**
  Baumer, F.
  WILEY.2020: S133

- **Lacosamide-Induced Dyskinesia in Children With Intractable Epilepsy.** *Journal of child neurology*
  Madani, N., O'Malley, J. A., Porter, B. E., Baumer, F. M.
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- **Management of Infantile Spasms During the COVID-19 Pandemic.** *Journal of child neurology*
  Grinspan, Z. M., Mytinger, J. R., Baumer, F. M., Ciliberto, M. A., Cohen, B. H., Dlugos, D. J., Harini, C. n., Hussain, S. A., Joshi, S. M., Keator, C. G., Knupp, K. G., McGoldrick, P. E., Nickels, et al
  2020: 883073820933739

- **Crisis Standard of Care: Management of Infantile Spasms during COVID-19.** *Annals of neurology*
  Grinspan, Z. M., Mytinger, J. R., Baumer, F. M., Ciliberto, M. A., Cohen, B. H., Dlugos, D. J., Harini, C. n., Hussain, S. A., Joshi, S. M., Keator, C. G., Knupp, K. G., McGoldrick, P. E., Nickels, et al
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- **Emerging Applications of Noninvasive Brain Stimulation.** *Journal of clinical neurophysiology : official publication of the American Electroencephalographic Society*
  Baumer, F. M., Rotenberg, A. n.
  2020; 37 (2): 89

- **Cortical Excitability, Synaptic Plasticity, and Cognition in Benign Epilepsy With Centrotemporal Spikes: A Pilot TMS-EMG-EEG Study.** *Journal of clinical neurophysiology : official publication of the American Electroencephalographic Society*
  Baumer, F. M., Pfeifer, K. n., Fogarty, A. n., Pena-Solorzano, D. n., Rolle, C. E., Wallace, J. L., Rotenberg, A. n., Fisher, R. S.
  2020; 37 (2): 170–80

- **Growing identification of genetic aetiologies for neonatal-onset epilepsies: lessons from the Neonatal Seizure Registry.** *Acta paediatrica (Oslo, Norway : 1992)*
  Sandoval Karamian, A. G., Baumer, F. M.
  2018

- **Clinical and electrographic features of sunflower syndrome.** *Epilepsy research*
  Baumer, F. M., Porter, B. E.
  2018; 142: 58–63
- **Refractory focal epilepsy in a paediatric patient with primary familial brain calcification.** *Seizure*
  Knowles, J. K., Santoro, J. D., Porter, B. E., Baumer, F. M.
  2018; 56: 50–52
- **Language Dysfunction in Pediatric Epilepsy.** *The Journal of pediatrics*
  Baumer, F. M., Cardon, A. L., Porter, B. E.
  2018; 194: 13–21
- **Systemic Manifestations in Pyridox(am)ine Phosphate Oxidase (PNPO) Deficiency** *Pediatric Neurology*
  Guerriero, R. M., Patel, A. A., Walsh, B., Baumer, F. M., Shah, A. S., Peters, J. M., Rodan, L. H., Agrawal, P. B., Pearl, P. L., Takeoka, M.
  2017
- **Corpus Callosum White Matter Diffusivity Reflects Cumulative Neurological Comorbidity in Tuberous Sclerosis Complex.** *Cerebral Cortex*
  Baumer, F. M., Peters, J. M., Clancy, S., Prohl, A. K., Prabhu, S. P., Scherrer, B., Jansen, F. E., Braun, K. P., Sahin, M., Stamm, A., Warfield, S. K.
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- **Quinidine-associated skin discoloration in KCNT1-associated pediatric epilepsy.** *Neurology*
  Baumer, F. M., Sheehan, M. n.
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- **Diagnosis of adenylosuccinate lyase deficiency by metabolomic profiling in plasma reveals a phenotypic spectrum.** *Molecular genetics and metabolism reports*
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- **A 10-Month-Old With Intermittent Hypotonia and Paralysis** *PEDIATRICS*
  Beinvogl, B. C., Rosman, N. P., Baumer, F. M., Rodan, L. H., Forster, C. S., Kwon, A. H., Berry, G. T.
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- **Fatal Central Nervous System Disease Following First Infliximab Infusion in a Child With Inflammatory Bowel Disease** *PEDIATRIC NEUROLOGY*
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  Baumer, F. M., Peters, J. M., El Achkar, C. M., Pearl, P. L.
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- **Neuromyelitis Optica in an Adolescent After Bone Marrow Transplantation** *PEDIATRIC NEUROLOGY*
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  2015; 52 (1): 119-124
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  Schneider, M. M., Berman, J. I., Baumer, F. M., Glass, H. C., Jeng, S., Jeremy, R. J., Esch, M., Biran, V., Barkovich, A. J., Studholme, C., Xu, D., Glenn, O. A.
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- **Fast 3D H-1 MRSI of the Corticospinal Tract in Pediatric Brain** *JOURNAL OF MAGNETIC RESONANCE IMAGING*
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- **A pilot study of antidepressant-induced mania in pediatric bipolar disorder: Characteristics, risk factors, and the serotonin transporter gene** *Conference on Pediatric Bipolar Disorder*
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  ELSEVIER SCIENCE INC.2006: 1005–12

- **A pilot study of antidepressant-induced mania in pediatric bipolar disorder: Characteristics, risk factors, and the serotonin transporter gene.** *Biological Psychiatry*
  Baumer, F. M., Howe, M., Gallelli, K., Simeonova, D. I., Hallmayer, J., Chang, K. D.
  2006; 60 (9): 1005-12

- **Mercaptoacetate induces feeding through central opioid-mediated mechanisms in rats** *BRAIN RESEARCH*
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