



## Christopher Lee-Messer, MD, PhD

- Clinical Associate Professor, Pediatric Neurology
- Clinical Associate Professor (By courtesy), Pediatrics

### CLINICAL OFFICE (PRIMARY)

- **Child Neurology**

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### Bio

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#### CLINICAL FOCUS

- Neurology
- Neurology with Special Qualifications in Child Neurology

#### ACADEMIC APPOINTMENTS

- Clinical Associate Professor, Pediatric Neurology
- Clinical Associate Professor (By courtesy), Pediatrics
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Wu Tsai Neurosciences Institute

#### HONORS AND AWARDS

- Chief Resident, Neurology (2007-2008)
- K12 NSADA Award, NIH/NINDS (2008-2011)
- R. S. Fisher award for Teaching, Stanford Department of Neurology (2008)

#### PROFESSIONAL EDUCATION

- Fellowship: Stanford Neurophysiology Fellowship (2011) CA
- Medical Education: Washington University School Of Medicine (2004) MO
- Board Certification: Neurology with Special Qualifications in Child Neurology, American Osteopathic Board of Neurology and Psychiatry (2009)
- Board Certification: Epilepsy, American Board of Psychiatry and Neurology (2016)
- Internship: University of California at San Francisco School of Medicine (2005) CA
- Residency: Stanford University Medical Center (2009) CA
- Epilepsy Fellowship, Stanford University Medical Center , Pediatric Epilepsy (2011)

#### LINKS

- Get a Second Opinion: <https://stanfordhealthcare.org/second-opinion/overview.html>

## Research & Scholarship

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### CURRENT RESEARCH AND SCHOLARLY INTERESTS

My chief clinical focus is in pediatric epilepsy, especially how epilepsy affects learning and development. For my research, I background in neural development and computational neuroscience towards developing better learning algorithms and applying the latest techniques in machine learning for better diagnosis and treatment of disease.

### Publications

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#### PUBLICATIONS

- **Towards trustworthy seizure onset detection using workflow notes.** *NPJ digital medicine*  
Saab, K., Tang, S., Taha, M., Lee-Messer, C., Re, C., Rubin, D. L.  
2024; 7 (1): 42
- **Editorial: Enlarged perivascular spaces: etiology and significance.** *Frontiers in neuroscience*  
Cavallari, M., Dubost, F., Guttman, C. R., Lee-Messer, C. W.  
2023; 17: 1321691
- **Semi-Supervised Learning for Sparsely-Labeled Sequential Data: Application to Healthcare Video Processing**  
Dubost, F., Hong, E., Tang, S., Bhaskhar, N., Lee-Messer, C., Rubin, D., IEEE  
IEEE COMPUTER SOC.2023: 1890-1899
- **ATCON: Attention Consistency for Vision Models**  
Mirzazadeh, A., Dubost, F., Pike, M., Maniar, K., Zuo, M., Lee-Messer, C., Rubin, D., IEEE  
IEEE COMPUTER SOC.2023: 1880-1889
- **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
- **Editorial: Machine Learning in Neuroimaging.** *Frontiers in neurology*  
Federau, C., Scalzo, F., Lee-Messer, C. W., Zaharchuk, G.  
1800; 12: 778765
- **Cross-Modal Data Programming Enables Rapid Medical Machine Learning.** *Patterns (New York, N.Y.)*  
Dunnmon, J. A., Ratner, A. J., Saab, K., Khandwala, N., Markert, M., Sagreiya, H., Goldman, R., Lee-Messer, C., Lungren, M. P., Rubin, D. L., Re, C.  
2020; 1 (2)
- **Weak supervision as an efficient approach for automated seizure detection in electroencephalography.** *Digital Medicine*  
Saab, K., Dunnmon, J., Ré, C., Rubin, D., Lee-Messer, C.  
2020; 3: 12
- **iEEG-BIDS, extending the Brain Imaging Data Structure specification to human intracranial electrophysiology.** *Scientific data*  
Holdgraf, C., Appelhoff, S., Bickel, S., Bouchard, K., D'Ambrosio, S., David, O., Devinsky, O., Dichter, B., Flinker, A., Foster, B. L., Gorgolewski, K. J., Groen, I., Groppe, et al  
2019; 6 (1): 102
- **Optimal recording duration of ambulatory EEG (aEEG).** *Epilepsy research*  
Kuo, J., Lee-Messer, C., Le, S.  
2018; 149: 9–12
- **Clinical Transcriptome Sequencing Confirms Activation of a Cryptic Splice Site in Suspected **SYNGAP1**-Related Disorder** *MOLECULAR SYNDROMOLOGY*  
Brimble, E., Lee-Messer, C., Nagy, P. L., Propst, J., Ruzhnikov, M. R. Z.  
2018; 9 (6): 295–99

- **Optogenetic Stimulation of Neural Grafts Enhances Neurotransmission and Downregulates the Inflammatory Response in Experimental Stroke Model.** *Cell transplantation*  
Daadi, M. M., Klausner, J. Q., Bajar, B., Goshen, I., Lee-Messer, C., Lee, S. Y., Winge, M. C., Ramakrishnan, C., Lo, M., Sun, G., Deisseroth, K., Steinberg, G. K.  
2016; 25 (7): 1371-1380
- **Prolonged neuropsychiatric effects following management of chloroquine intoxication with psychotropic polypharmacy.** *Clinical case reports*  
Maxwell, N. M., Nevin, R. L., Stahl, S., Block, J., Shugarts, S., Wu, A. H., Dominy, S., Solano-Blanco, M. A., Kappelman-Culver, S., Lee-Messer, C., Maldonado, J., Maxwell, A. J.  
2015; 3 (6): 379-387
- **Prolonged neuropsychiatric effects following management of chloroquine intoxication with psychotropic polypharmacy.** *Clinical case reports*  
Maxwell, N. M., Nevin, R. L., Stahl, S., Block, J., Shugarts, S., Wu, A. H., Dominy, S., Solano-Blanco, M. A., Kappelman-Culver, S., Lee-Messer, C., Maldonado, J., Maxwell, A. J.  
2015; 3 (6): 379-387
- **MicroRNA-mediated conversion of human fibroblasts to neurons** *NATURE*  
Yoo, A. S., Sun, A. X., Li, L., Shcheglovitov, A., Portmann, T., Li, Y., Lee-Messer, C., Dolmetsch, R. E., Tsien, R. W., Crabtree, G. R.  
2011; 476 (7359): 228-U123
- **Clinical and Molecular Heterogeneity in Patients with the CbID Inborn Error of Cobalamin Metabolism** *JOURNAL OF PEDIATRICS*  
Miousse, I. R., Watkins, D., Coelho, D., Rupar, T., Crombez, E. A., Vilain, E., Bernstein, J. A., Cowan, T., Lee-Messer, C., Enns, G. M., Fowler, B., Rosenblatt, D. S.  
2009; 154 (4): 551-556
- **Segregation of ON and OFF retinogeniculate connectivity directed by patterned spontaneous activity** *JOURNAL OF NEUROPHYSIOLOGY*  
Lee, C. W., Eglen, S. J., Wong, R. O.  
2002; 88 (5): 2311-2321
- **A nonlinear Hebbian network that learns to detect disparity in random-dot stereograms** *NEURAL COMPUTATION*  
Lee, C. W., Olshausen, B. A.  
1996; 8 (3): 545-566
- **Computerized mappings of the cerebral cortex: A multiresolution flattening method and a surface-based coordinate system** *JOURNAL OF COGNITIVE NEUROSCIENCE*  
Drury, H. A., VANESSEN, D. C., Anderson, C. H., Lee, C. W., COOGAN, T. A., Lewis, J. W.  
1996; 8 (1): 1-28