Stanford

Gayle Deutsch, PhD, ABPP-CN

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CLINICAL OFFICE (PRIMARY)

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Bio

BIO

Dr. Gayle Deutsch is a board-certified, fellowship-trained neuropsychologist with Stanford Health Care.

Dr. Deutsch is the lead neuropsychologist at the Stanford Comprehensive Epilepsy Center. She evaluates thinking and memory in a wide variety of neurological disorders, including conditions that damage brain cells (neurodegenerative disorders), such as Alzheimer's disease. She also works with movement disorders, including Parkinson's disease and essential tremor. In addition, she treats myotonic dystrophy, which causes muscle weakness and wasting, and conditions where the immune system attacks the nervous system (neuroimmunological disorders), such as multiple sclerosis.

Dr. Deutsch collaborates on research projects with Stanford University School of Medicine and the Mormino and Wagner Labs at Stanford University. Her work aims to understand cognitive changes in neurological disorders, particularly neurodegenerative disorders, epilepsy, myotonic dystrophy, and multiple sclerosis. Previously, Dr. Deutsch explored how temporal lobe epilepsy affects memory and how specialists can better understand and evaluate memory changes in people with seizure disorders.

Dr. Deutsch has published her findings in leading peer-reviewed journals, such as Alzheimer's & Dementia, Neurology, Journal of Neuroscience, and Proceedings of the National Academy of Sciences. She has also written book chapters on learning disabilities as part of a pediatric neuropsychology handbook. Given her deep expertise, Dr. Deutsch has lectured on a range of topics in aging, epilepsy, myotonic dystrophy, and learning disabilities.

CLINICAL FOCUS

- Neuropsychology
- Pediatric Clinical Neuropsychology
- Clinical Neuropsychology

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, American Academy of Clinical Neuropsychology (2006 - present)
- Fellow, National Academy of Neuropsychology (2005 - present)
- Member, International Neuropsychological Society (1996 - present)

PROFESSIONAL EDUCATION

- Board Certification: Pediatric Clinical Neuropsychology, American Board of Professional Psychology (2016)
- Board Certification: Clinical Neuropsychology, American Board of Professional Psychology (2006)
- PhD Training: Drexel University College of Medicine (1994) PA
- Fellowship, Graduate Hospital of the University of Pennsylvania , Clinical Neuropsychology (1995)
- Internship, University of Pennsylvania Medical Center , Clinical Neuropsychology (1993)

LINKS

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

Publications

PUBLICATIONS

- **Dissociable structural and molecular pathways of age-related change in sustained attention.** *bioRxiv : the preprint server for biology*
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- **Divergent Electrophysiological Responses in the Human Hippocampus During Verbal Memory Processing.** *bioRxiv : the preprint server for biology*
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  2026

- **Alzheimer's Imaging Consortium.** *Alzheimer's & dementia : the journal of the Alzheimer's Association*
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- **Synergistic effects of APOE ε4 and Alzheimer's pathology on the neural correlates of episodic remembering in cognitively unimpaired older adults.** *bioRxiv : the preprint server for biology*
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  2025

- **Plasma Aβ42/Aβ40 is sensitive to early cerebral amyloid accumulation and predicts risk of cognitive decline across the Alzheimer's disease spectrum.** *Alzheimer's & dementia : the journal of the Alzheimer's Association*
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  2024

- **Prevalence, Demographic, and Clinical Factors Associated With Cognitive Dysfunction in Patients With Neuromyelitis Optica Spectrum Disorder (vol 102, e207965, 2024)** *NEUROLOGY*
  Vlahovic, L., McDonald, J., Hinman, J., Tomczak, A., Lock, C., Palmer, C. A., Cook, L. J., Yeaman, M. R., Burnett, M. K., Deutsch, G. K., Nelson, L. M., Han, M. H., CIRCLES Study Grp
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- **Comprehensive proteomics of CSF, plasma, and urine identify DDC and other biomarkers of early Parkinson's disease.** *Acta neuropathologica*
  Rutledge, J., Lehallier, B., Zarifkar, P., Losada, P. M., Shahid-Besanti, M., Western, D., Gorijala, P., Ryman, S., Yutsis, M., Deutsch, G. K., Mormino, E., Trelle, A., Wagner, et al
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- **Intracranial recordings of the human orbitofrontal cortical activity during self-referential episodic and valenced self-judgments.** *The Journal of neuroscience : the official journal of the Society for Neuroscience*
  Iravani, B., Kaboodvand, N., Stieger, J. R., Liang, E. Y., Lusk, Z., Fransson, P., Deutsch, G. K., Gotlib, I. H., Parvizi, J.
  2024

- **Learning Spectral Fractional Anisotropy and Mean Diffusivity Features as Neuroimaging Biomarkers for Tracking White Matter Integrity Changes in Myotonic Dystrophy Type 1 Patients using Deep Convolutional Neural Networks.** *Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual International Conference*
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- **Long-Term Cognitive and Neuropsychiatric Outcomes in Adults Who Have Received Chimeric Antigen Receptor T-Cell (CAR-T) Therapy for Aggressive Lymphoma at Stanford - a Pilot Feasibility Study**
  Scott, B. J., Murray, T., Deutsch, G. K., Lahijani, S., Frank, M. J., Monje, M.
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- **Brief assessment of cognitive function in myotonic dystrophy: multicenter longitudinal study using computer-assisted evaluation.** *Muscle & nerve*
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- **Association of CSF Biomarkers with Hippocampal-dependent Memory in Preclinical Alzheimer Disease.** *Neurology*
  Trelle, A. N., Carr, V. A., Wilson, E. N., Swarovski, M. S., Hunt, M. P., Toueg, T. N., Tran, T. T., Channappa, D. n., Corso, N. K., Thieu, M. K., Jayakumar, M. n., Nadiadwala, A. n., Guo, et al
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  Kamali, T., Parker, D., Day, J. W., Sampson, J., Deutsch, G. K., Wozniak, J. R.
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- **Safety of Plasma Infusions in Parkinson's Disease.** *Movement disorders : official journal of the Movement Disorder Society*
  Parker, J. E., Martinez, A. n., Deutsch, G. K., Prabhakar, V. n., Lising, M. n., Kapphahn, K. I., Anidi, C. M., Neuville, R. n., Coburn, M. n., Shah, N. n., Bronte-Stewart, H. M.
  2020

- **Hippocampal and cortical mechanisms at retrieval explain variability in episodic remembering in older adults.** *eLife*
  Trelle, A. N., Carr, V. A., Guerin, S. A., Thieu, M. K., Jayakumar, M. n., Guo, W. n., Nadiadwala, A. n., Corso, N. K., Hunt, M. P., Litovsky, C. P., Tanner, N. J., Deutsch, G. K., Bernstein, et al
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- **Tau PET imaging with 18F-PI-2620 in aging and neurodegenerative diseases.** *European journal of nuclear medicine and molecular imaging*
  Mormino, E. C., Toueg, T. N., Azevedo, C. n., Castillo, J. B., Guo, W. n., Nadiadwala, A. n., Corso, N. K., Hall, J. N., Fan, A. n., Trelle, A. N., Harrison, M. B., Hunt, M. P., Sha, et al
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- **Repetitive transcranial magnetic stimulation directed to a seizure focus localized by high-density EEG: A case report.** *Epilepsy & behavior case reports*
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  Yutsis, M. M., Rosen, A., Deutsch, G. K.
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- **Safety, Tolerability, and Feasibility of Young Plasma Infusion in the Plasma for Alzheimer Symptom Amelioration Study: A Randomized Clinical Trial.** *JAMA neurology*
  Sha, S. J., Deutsch, G. K., Tian, L. n., Richardson, K. n., Coburn, M. n., Gaudioso, J. L., Marcal, T. n., Solomon, E. n., Boumis, A. n., Bet, A. n., Mennes, M. n., van Oort, E. n., Beckmann, et al
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- **Accuracy statistics in predicting Independent Activities of Daily Living (IADL) capacity with comprehensive and brief neuropsychological test batteries.** *Applied neuropsychology. Adult*
  Karzmark, P. n., Deutsch, G. K.
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- **Influenza-associated global amnesia and hippocampal imaging abnormality.** *Neurocase*
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- **Shared vulnerability of two synaptically-connected medial temporal lobe areas to age and cognitive decline: a seven tesla magnetic resonance imaging study.** *journal of neuroscience*
  Kerchner, G. A., Bernstein, J. D., Fenesy, M. C., Deutsch, G. K., Saranathan, M., Zeineh, M. M., Rutt, B. K.
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- **Comparison of the Frontal Systems Behavior Scale and Neuropsychological Tests of Executive Functioning in Predicting Instrumental Activities of Daily Living** *APPLIED NEUROPSYCHOLOGY*
  Karzmark, P., Llanes, S., Tan, S., Deutsch, G., Zeifert, P.
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- **Anatomical Properties of the Arcuate Fasciculus Predict Phonological and Reading Skills in Children** *JOURNAL OF COGNITIVE NEUROSCIENCE*
  Yeatman, J. D., Dougherty, R. F., Rykhlevskaia, E., Sherbondy, A. J., Deutsch, G. K., Wandell, B. A., Ben-Shachar, M.
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- **The Development of Cortical Sensitivity to Visual Word Forms** *JOURNAL OF COGNITIVE NEUROSCIENCE*
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- **Learning Disabilities** *Handbook of Medical Neuropsychology*
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- **Frontoparietal white matter diffusion properties predict mental arithmetic skills in children** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
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  Ben-Shachar, M., Dougherty, R. F., Deutsch, G. K., Wandell, B. A.
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- **Disrupted neural responses to phonological and orthographic processing in dyslexic children: an fMRI study** *NEUROREPORT*
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