

Stanford



Josef Parvizi, MD, PhD

Professor of Neurology at the Stanford University Medical Center
Neurology & Neurological Sciences

CLINICAL OFFICES

- **Stanford Neuroscience Health Center**

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Bio

BIO

Dr Parvizi completed his medical internship at Mayo Clinic and Neurology Residency at BIDMC Harvard Medical School before joining the UCLA for fellowship training in clinical neurophysiology and epilepsy. He has worked at Stanford University Medical Center since 2007 and specializes in treating patients with uncontrollable seizures. Dr. Parvizi is the principal investigator in the Laboratory of Behavioral and Cognitive Neuroscience whose research activities have been supported by National Institute of Health, National Science Foundation, and private foundations. To find out more about Dr Parvizi's scholarly activities please visit <http://med.stanford.edu/parvizi-lab.html>.

CLINICAL FOCUS

- Neurology
- Uncontrollable Seizures
- electrocorticography
- functional brain mapping

ACADEMIC APPOINTMENTS

- Professor - Med Center Line, Neurology & Neurological Sciences
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Wu Tsai Neurosciences Institute

PROFESSIONAL EDUCATION

- Board Certification: Epilepsy, American Board of Psychiatry and Neurology (2016)
- Residency: Beth Israel Deaconess Medical Center Harvard Medical School (2006) MA
- Fellowship: UCLA (2007) CA
- Board Certification: Neurology, American Board of Psychiatry and Neurology (2008)

- Internship: Mayo Graduate School of Medicine (2003) MN
- Medical Education: University of Oslo Medical School (1995) Norway
- PhD, University of Iowa , Neuroscience (1999)

COMMUNITY AND INTERNATIONAL WORK

- Free Neurology Clinic, Menlo Park - Arbor Clinic (www.arbor.stanford.edu)

LINKS

- Laboratory of Behavioral and Cognitive Neurology: <http://neurology.stanford.edu/labs/parvizilab/>
- Get a Second Opinion: <https://stanfordhealthcare.org/second-opinion/overview.html>

Teaching

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Aaron Kucyi, Su Liu, Pedro Pinheiro-Chagas, Sheela Toprani

Publications

PUBLICATIONS

- **Direct cortical stimulation of human posteromedial cortex.** *Neurology*
Foster, B. L., Parvizi, J.
2017; 88 (7): 685-691
- **Linking Electrical Stimulation of Human Primary Visual Cortex, Size of Affected Cortical Area, Neuronal Responses, and Subjective Experience** *NEURON*
Winawer, J., Parvizi, J.
2016; 92 (6): 1213-1219
- **Mapping human temporal and parietal neuronal population activity and functional coupling during mathematical cognition.** *Proceedings of the National Academy of Sciences of the United States of America*
Daitch, A. L., Foster, B. L., Schrouff, J., Rangarajan, V., Kasikçi, I., Gattas, S., Parvizi, J.
2016
- **Intrinsic and Task-Dependent Coupling of Neuronal Population Activity in Human Parietal Cortex** *NEURON*
Foster, B. L., Rangarajan, V., Shirer, W. R., Parvizi, J.
2015; 86 (2): 578-590
- **The will to persevere induced by electrical stimulation of the human cingulate gyrus.** *Neuron*
Parvizi, J., Rangarajan, V., Shirer, W. R., Desai, N., Greicius, M. D.
2013; 80 (6): 1359-1367
- **A Brain Area for Visual Numerals** *JOURNAL OF NEUROSCIENCE*
Shum, J., Hermes, D., Foster, B. L., Dastjerdi, M., Rangarajan, V., Winawer, J., Miller, K. J., Parvizi, J.
2013; 33 (16): 6709-6715
- **Numerical processing in the human parietal cortex during experimental and natural conditions.** *Nature communications*
Dastjerdi, M., Ozker, M., Foster, B. L., Rangarajan, V., Parvizi, J.
2013; 4: 2528-?
- **Electrical Stimulation of Human Fusiform Face-Selective Regions Distorts Face Perception** *JOURNAL OF NEUROSCIENCE*
Parvizi, J., Jacques, C., Foster, B. L., Withoft, N., Rangarajan, V., Weiner, K. S., Grill-Spector, K.
2012; 32 (43): 14915-14920

- **Neural populations in human posteromedial cortex display opposing responses during memory and numerical processing** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Foster, B. L., Dastjerdi, M., Parvizi, J.
2012; 109 (38): 15514-15519
- **Corticocentric myopia: old bias in new cognitive sciences** *TRENDS IN COGNITIVE SCIENCES*
Parvizi, J.
2009; 13 (8): 354-359
- **Detecting silent seizures by their sound** *Epilepsia*
Parvizi, J., Gururangan, K., Razavi, B., Chafe, C.
2018; 59 (4): 877-884
- **Diagnostic utility of eight-channel EEG for detecting generalized seizures** *Clinical Neurophysiology Practice*
Gururangan, K., Razavi, B., Parvizi, J.
2018; 3
- **Spatiotemporal dynamics of word retrieval in speech production revealed by cortical high-frequency band activity.** *Proceedings of the National Academy of Sciences of the United States of America*
Riès, S. K., Dhillon, R. K., Clarke, A., King-Stephens, D., Laxer, K. D., Weber, P. B., Kuperman, R. A., Auguste, K. I., Brunner, P., Schalk, G., Lin, J. J., Parvizi, J., Crone, et al
2017; 114 (23): E4530-E4538
- **Theta Oscillations Rapidly Convey Odor-Specific Content in Human Piriform Cortex** *NEURON*
Jiang, H., Schuele, S., Rosenow, J., Zelano, C., Parvizi, J., Tao, J. X., Wu, S., Gottfried, J. A.
2017; 94 (1): 207-?
- **Mirroring in the Human Brain: Deciphering the Spatial-Temporal Patterns of the Human Mirror Neuron System.** *Cerebral cortex*
Perry, A., Stiso, J., Chang, E. F., Lin, J. J., Parvizi, J., Knight, R. T.
2017
- **Electrophysiological Responses in the Ventral Temporal Cortex During Reading of Numerals and Calculation** *CEREBRAL CORTEX*
Hermes, D., Rangarajan, V., Foster, B. L., King, J., Kasikci, I., Miller, K. J., Parvizi, J.
2017; 27 (1): 567-575
- **Direct brain recordings reveal hippocampal rhythm underpinnings of language processing** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Piai, V., Anderson, K. L., Lin, J. J., Dewar, C., Parvizi, J., Dronkers, N. F., Knight, R. T.
2016; 113 (40): 11366-11371
- **Utility of electroencephalography: Experience from a U.S. tertiary care medical center.** *Clinical neurophysiology*
Gururangan, K., Razavi, B., Parvizi, J.
2016; 127 (10): 3335-3340
- **Differential Processing of Consonance and Dissonance within the Human Superior Temporal Gyrus** *FRONTIERS IN HUMAN NEUROSCIENCE*
Foo, F., King-Stephens, D., Weber, P., Laxer, K., Parvizi, J., Knight, R. T.
2016; 10
- **Frontal and motor cortex contributions to response inhibition: evidence from electrocorticography** *JOURNAL OF NEUROPHYSIOLOGY*
Fonken, Y. M., Rieger, J. W., Tzvi, E., Crone, N. E., Chang, E., Parvizi, J., Knight, R. T., Kraemer, U. M.
2016; 115 (4): 2224-2236
- **Functional asymmetry between the left and right human fusiform gyrus explored through electrical brain stimulation.** *Neuropsychologia*
Rangarajan, V., Parvizi, J.
2016; 83: 29-36
- **Decoding intracranial EEG data with multiple kernel learning method.** *Journal of neuroscience methods*
Schrouff, J., Mourão-Miranda, J., Phillips, C., Parvizi, J.
2016; 261: 19-28

- **Electrophysiological Responses in the Ventral Temporal Cortex During Reading of Numerals and Calculation.** *Cerebral cortex*
Hermes, D., Rangarajan, V., Foster, B. L., King, J., Kasikci, I., Miller, K. J., Parvizi, J.
2015
- **Electrical Stimulation of the Left and Right Human Fusiform Gyrus Causes Different Effects in Conscious Face Perception** *JOURNAL OF NEUROSCIENCE*
Rangarajan, V., Hermes, D., Foster, B. L., Weiner, K. S., Jacques, C., Grill-Spector, K., Parvizi, J.
2014; 34 (38): 12828-12836
- **Dynamic changes in phase-amplitude coupling facilitate spatial attention control in fronto-parietal cortex.** *PLoS biology*
Szczepanski, S. M., Crone, N. E., Kuperman, R. A., Auguste, K. I., Parvizi, J., Knight, R. T.
2014; 12 (8)
- **Decoding memory processing from electro-corticography in human posteromedial cortex** *4th International Workshop on Pattern Recognition in Neuroimaging (PRNI)*
Schrouff, J., Foster, B., Rangarajan, V., Phillips, C., Mourao-Miranda, J., Parvizi, J.
IEEE.2014
- **Quantifying the local tissue volume and composition in individual brains with magnetic resonance imaging** *NATURE MEDICINE*
Mezer, A., Yeatman, J. D., Stikov, N., Kay, K. N., Cho, N., Dougherty, R. F., Perry, M. L., Parvizi, J., Hua, L. H., Butts-Pauly, K., Wandell, B. A.
2013; 19 (12): 1667-1672
- **Proceedings of the Fourth International Workshop on Advances in Electro-corticography** *EPILEPSY & BEHAVIOR*
Ritaccio, A., Brunner, P., Crone, N. E., Gunduz, A., Hirsch, L. J., Kanwisher, N., Litt, B., Miller, K., Moran, D., Parvizi, J., Ramsey, N., Richner, T. J., Tandon, et al
2013; 29 (2): 259-268
- **Human hippocampal increases in low-frequency power during associative prediction violations.** *Neuropsychologia*
Chen, J., Dastjerdi, M., Foster, B. L., LaRocque, K. F., Rauschecker, A. M., Parvizi, J., Wagner, A. D.
2013; 51 (12): 2344-2351
- **Asynchronous Broadband Signals Are the Principal Source of the BOLD Response in Human Visual Cortex** *CURRENT BIOLOGY*
Winawer, J., Kay, K. N., Foster, B. L., Rauschecker, A. M., Parvizi, J., Wandell, B. A.
2013; 23 (13): 1145-1153
- **Human Retrosplenial Cortex Displays Transient Theta Phase Locking with Medial Temporal Cortex Prior to Activation during Autobiographical Memory Retrieval.** *Journal of neuroscience*
Foster, B. L., Kaveh, A., Dastjerdi, M., Miller, K. J., Parvizi, J.
2013; 33 (25): 10439-10446
- **Hand posture classification using electrocorticography signals in the gamma band over human sensorimotor brain areas.** *Journal of neural engineering*
Chestek, C. A., Gilja, V., Blabe, C. H., Foster, B. L., Shenoy, K. V., Parvizi, J., Henderson, J. M.
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- **Hand posture classification using electrocorticography signals in the gamma band over human sensorimotor brain areas** *JOURNAL OF NEURAL ENGINEERING*
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- **Proceedings of the Third International Workshop on Advances in Electro-corticography** *EPILEPSY & BEHAVIOR*
Ritaccio, A., Beauchamp, M., Bosman, C., Brunner, P., Chang, E., Crone, N., Gunduz, A., Gupta, D., Knight, R., Leuthardt, E., Litt, B., Moran, D., Ojemann, et al
2012; 25 (4): 605-613
- **Position sensitivity in the visual word form area** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Rauschecker, A. M., Bowen, R. F., Parvizi, J., Wandell, B. A.
2012; 109 (24): E1568-E1577
- **Resting oscillations and cross-frequency coupling in the human posteromedial cortex** *NEUROIMAGE*
Foster, B. L., Parvizi, J.
2012; 60 (1): 384-391

- **Functional MRI of sleep spindles and K-complexes** *CLINICAL NEUROPHYSIOLOGY*
Caporro, M., Haneef, Z., Yeh, H. J., Lenartowicz, A., Buttinelli, C., Parvizi, J., Stern, J. M.
2012; 123 (2): 303-309
- **Disinhibition: More than a misnomer** *SOCIAL NEUROSCIENCE*
Parvizi, J.
2012; 7 (3): 311-316
- **Proceedings of the Second International Workshop on Advances in Electrocorticography** *EPILEPSY & BEHAVIOR*
Ritaccio, A., Boatman-Reich, D., Brunner, P., Cervenka, M. C., Cole, A. J., Crone, N., Duckrow, R., Korzeniewska, A., Litt, B., Miller, K. J., Moran, D. W., Parvizi, J., Viventi, et al
2011; 22 (4): 641-650
- **Problem of signal contamination in interhemispheric dual-sided subdural electrodes** *EPILEPSIA*
Nune, G., Winawer, J., Rauschecker, A. M., Dastjerdi, M., Foster, B. L., Wandell, B., Parvizi, J.
2011; 52 (11): E176-E180
- **Gelastic epilepsy and hypothalamic hamartomas: neuroanatomical analysis of brain lesions in 100 patients** *BRAIN*
Parvizi, J., Le, S., Foster, B. L., Bourgeois, B., Riviello, J. J., Prenger, E., Saper, C., Kerrigan, J. F.
2011; 134: 2960-2968
- **Illusions of Visual Motion Elicited by Electrical Stimulation of Human MT Complex** *PLOS ONE*
Rauschecker, A. M., Dastjerdi, M., Weiner, K. S., Witthoft, N., Chen, J., Selimbeyoglu, A., Parvizi, J.
2011; 6 (7)
- **Functional imaging of sleep vertex sharp transients** *CLINICAL NEUROPHYSIOLOGY*
Stern, J. M., Caporro, M., Haneef, Z., Yeh, H. J., Buttinelli, C., Lenartowicz, A., Mumford, J. A., Parvizi, J., Poldrack, R. A.
2011; 122 (7): 1382-1386
- **Automatisms: Bridging clinical neurology with criminal law** *EPILEPSY & BEHAVIOR*
Rolnick, J., Parvizi, J.
2011; 20 (3): 423-427
- **Differential electrophysiological response during rest, self-referential, and non-self-referential tasks in human posteromedial cortex** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Dastjerdi, M., Foster, B. L., Nasrullah, S., Rauschecker, A. M., Dougherty, R. F., Townsend, J. D., Chang, C., Greicius, M. D., Menon, V., Kennedy, D. P., Parvizi, J.
2011; 108 (7): 3023-3028
- **Disinhibition: More than a misnomer.** *Social neuroscience*
Parvizi, J.
2011
- **Shifts in gamma phase-amplitude coupling frequency from theta to alpha over posterior cortex during visual tasks** *FRONTIERS IN HUMAN NEUROSCIENCE*
Voytek, B., Canolty, R. T., Shestyuk, A., Crone, N. E., Parvizi, J., Knight, R. T.
2010; 4
- **Electrical stimulation of the human brain: perceptual and behavioral phenomena reported in the old and new literature** *FRONTIERS IN HUMAN NEUROSCIENCE*
Selimbeyoglu, A., Parvizi, J.
2010; 4
- **Thalamic projections to the posteromedial cortex in the macaque** *JOURNAL OF COMPARATIVE NEUROLOGY*
Buckwalter, J. A., Parvizi, J., Morecraft, R. J., Van Hoesen, G. W.
2008; 507 (5): 1709-1733
- **Neural connections of the posteromedial cortex in the macaque** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Parvizi, J., Van Hoesen, G. W., Buckwalter, J., Damasio, A.

2006; 103 (5): 1563-1568

- **Differential distribution of calbindin D28K and parvalbumin among functionally distinctive sets of structures in the macaque brainstem** *JOURNAL OF COMPARATIVE NEUROLOGY*
Parvizi, J., DAMASIO, A. R.
2003; 462 (2): 153-167
- **Neuroanatomical correlates of brainstem coma** *BRAIN*
Parvizi, J., DAMASIO, A. R.
2003; 126: 1524-1536
- **Pathological laughter and crying - A link to cerebellum** *BRAIN*
Parvizi, J., Anderson, S. W., Martin, C. O., Damasio, H., DAMASIO, A. R.
2001; 124: 1708-1719
- **Consciousness and the brainstem** *COGNITION*
Parvizi, J., Damasio, A.
2001; 79 (1-2): 135-159
- **The selective vulnerability of brainstem nuclei to Alzheimer's disease** *ANNALS OF NEUROLOGY*
Parvizi, J., Van Hoesen, G. W., Damasio, A.
2001; 49 (1): 53-66
- **Subcortical and cortical brain activity during the feeling of self-generated emotions** *NATURE NEUROSCIENCE*
DAMASIO, A. R., Grabowski, T. J., Bechara, A., Damasio, H., Ponto, L. L., Parvizi, J., Hichwa, R. D.
2000; 3 (10): 1049-1056
- **Selective pathological changes of the periaqueductal gray matter in Alzheimer's disease** *ANNALS OF NEUROLOGY*
Parvizi, J., Van Hoesen, G. W., Damasio, A.
2000; 48 (3): 344-353
- **Orbitofrontal cortex pathology in Alzheimer's disease** *CEREBRAL CORTEX*
Van Hoesen, G. W., Parvizi, J., Chu, C. C.
2000; 10 (3): 243-251