

Date	Day of the Week	Topic	Papers	Presenter	Discussant 1	Discussant 2
January 5, 2023	Thursday	Class Orientation	Introduction to CNS/Bi 247 Cerebral Cortex	Prof. Richard Andersen; Isabelle Rosenthal (TA)	N/A	N/A
January 10, 2023	Tuesday	Somatosensory Cortex	Muret, D., Root, V., Kieliba, P., Clode, D., Makin, T.R., 2022. Beyond body maps: Information content of specific body parts is distributed across the somatosensory homunculus. <i>Cell Reports</i> 38, 110523. https://doi.org/10.1016/j.celrep.2022.110523	(introduction by Isabelle Rosenthal)		
January 12, 2023	Thursday	Neuroprosthetics I: Control	Aflalo, T., Kellis, S., Klaes, C., Lee, B., Shi, Y., Pejisa, K., Shanfield, K., Hayes-Jackson, S., Aisen, M., Heck, C., Liu, C., Andersen, R.A., 2015. Decoding motor imagery from the posterior parietal cortex of a tetraplegic human. <i>Science</i> 348, 906–910.			
January 17, 2023	Tuesday	Neuroprosthetics II: Stimulation	Flesher, S.N., Collinger, J.L., Foldes, S.T., Weiss, J.M., Downey, J.E., Tyler-Kabara, E.C., Bensmaia, S.J., Schwartz, A.B., Boninger, M.L., Gaunt, R.A., 2016. Intracortical microstimulation of human somatosensory cortex. <i>Science Translational Medicine</i> 8, 361ra141. https://doi.org/10.1126/scitranslmed.aaf8083			
January 19, 2023	Thursday	Mixed Selectivity	Zhang, C.Y., Aflalo, T., Revechkis, B., Rosario, E.R., Ouellette, D., Pouratian, N., and Andersen, R.A. (2017). Partially Mixed Selectivity in Human Posterior Parietal Association Cortex. <i>Neuron</i> 95, 697-708.e4.			
January 24, 2023	Tuesday	Semantics I	Huth, A.G., de Heer, W.A., Griffiths, T.L., Theunissen, F.E., Gallant, J.L. (2016). Natural speech reveals the semantic maps that tile human cerebral cortex. <i>Nature</i> 532: 453-458			
January 26, 2023	Thursday	Semantics II	Lambon Ralph, M.A., Jefferies, E., Patterson, K., and Rogers, T.T. (2016). The neural and computational bases of semantic cognition. <i>Nature Reviews Neuroscience</i> 18, 42-55. doi: 10.1038/nrn.2016.150			
January 31, 2023	Tuesday	Language I	Wandelt, S.K., Kellis, S., Bjånes, D.A., Pejisa, K., Lee, B., Liu, C., Andersen, R.A., 2022. Decoding grasp and speech signals from the cortical grasp circuit in a tetraplegic human. <i>Neuron</i> S0896627322002458. https://doi.org/10.1016/j.neuron.2022.03.009	Guest Speaker: Sarah Wandelt		
February 2, 2023	Thursday	Language II	Anumanchipalli, G.K., Chartier, J., Chang, E.F., 2019. Speech synthesis from neural decoding of spoken sentences. <i>Nature</i> 568, 493–498. https://doi.org/10.1038/s41586-019-1119-1			
February 7, 2023	Tuesday	Physical Intuition	Fischer, J., Mikhael, J.G., Tenenbaum, J.B., and Kanwisher, N. (2016). Functional neuroanatomy of intuitive physical inference. <i>PNAS</i> 113(34) E5072-E5081			
February 9, 2023	Thursday	Posture Encoding	Mimica, B., Dunn, B.A., Tombaz, T., Bojja, V.P.T.N.C.S., and Whitlock, J.R. (2018). Efficient cortical coding of 3D posture in freely behaving rats. <i>Science</i> 362, 584–589.			
February 14, 2023	Tuesday	Volition and Awareness	Desmurget, M., Richard, N., Beuriat, P.-A., Szathmari, A., Mottolese, C., Duhamel, J.-R., and Sirigu, A. (2018). Selective Inhibition of Volitional Hand Movements after Stimulation of the Dorsoposterior Parietal Cortex in Humans. <i>Current Biology</i> 28, 3303-3309.e3.			
February 16, 2023	Thursday	Decision Making	Kang, Y.H.R., Petzschner, F.H., Wolpert, D.M., and Shadlen, M.N. (2017). Piercing of consciousness as a threshold-crossing operation. <i>Current Biology</i> 27, 2285-2295.			
February 21, 2023	Tuesday	Spontaneous Behavior	Musall, S., Kaufman, M.T., Juavinett, A.L., Gluf, S., Churchland, A.K., 2019. Single-trial neural dynamics are dominated by richly varied movements. <i>Nat Neurosci</i> 22, 1677–1686. https://doi.org/10.1038/s41593-019-0502-4			
February 23, 2023	Thursday	Object Recognition I	Bao, P., She, L., McGill, M., and Tsao, D. (2020). A map of object space in primate inferotemporal cortex. <i>Nature</i> 583, 103-108.			
February 28, 2023	Tuesday	Object Recognition II	Kar, K., Kubilius, J., Schmidt, K., Issa, E.B., and DiCarlo, J.J. (2019). Evidence that recurrent circuits are critical to the ventral stream's execution of core object recognition behavior. <i>Nature Neuroscience</i> 22, 974-983.			
March 2, 2023	Thursday	Memory	Rutishauser, U., Aflalo, T., Rosario, E.R., Pouratian, N., Andersen, R.A., 2018. Single-Neuron Representation of Memory Strength and Recognition Confidence in Left Human Posterior Parietal Cortex. <i>Neuron</i> 97, 209-220.e3. https://doi.org/10.1016/j.neuron.2017.11.029			
March 7, 2023	Tuesday	Learning	Sakellari, S., Christopoulos, V.N., Aflalo, T., Pejisa, K.W., Rosario, E.R., Ouellette, D., Pouratian, N., Andersen, R.A., 2019. Intrinsic Variable Learning for Brain-Machine Interface Control by Human Anterior Intraparietal Cortex. <i>Neuron</i> 102, 1–12. https://doi.org/10.1016/j.neuron.2019.02.012			
March 9, 2023	Thursday	Motor Representations	Guan, C., Aflalo, T., Zhang, C.Y., Amoruso, E., Rosario, E.R., Andersen, R.A., 2022. Stability of motor representations after paralysis. <i>eLife</i> 63. https://doi.org/10.7554/eLife.74478	Guest Speaker: Charles Guan		