

Stanford



Brian Knutson

Professor of Psychology

Bio

ACADEMIC APPOINTMENTS

- Professor, Psychology
- Member, Bio-X
- Affiliate, Stanford Woods Institute for the Environment
- Member, Wu Tsai Neurosciences Institute

PROGRAM AFFILIATIONS

- Symbolic Systems Program

PROFESSIONAL EDUCATION

- Ph.D., Stanford University , Psychology (1993)

LINKS

- spanlab: <http://stanford.edu/group/spanlab/index.html>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

My primary interest is in the neural basis of emotion. I believe that a certain class of neurotransmitters (the biogenic amines) can powerfully modulate emotional experience at specific brain locations. I have addressed this topic with progressively more intricate methods including self-report, measurement of nonverbal behavior, comparative ethology, psychopharmacology, and functional brain imaging. My long-term goal is to understand the neurochemical and neuroanatomical mechanisms responsible for emotional experience and to explore the implications of these findings for the assessment and treatment of clinical disorders of affect and addiction, as well as economic behavior.

Teaching

COURSES

2018-19

- Affective Neuroscience: PSYCH 254 (Spr)
- Brain and Decision: PSYCH 232 (Spr)
- Neuroforecasting: PSYCH 24N (Win)

2017-18

- Affective Neuroscience: PSYCH 254 (Spr)
- Brain and Decision Making: PSYCH 232 (Spr)
- Neuroforecasting: PSYCH 24N (Win)

2016-17

- Brain and Decision Making: PSYCH 232 (Aut)

2015-16

- Affective Neuroscience: PSYCH 251 (Spr)
- Brain and Decision Making: PSYCH 232 (Spr)
- Predicting aggregate choice: PSYCH 4N (Win)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Elizabeth Blevins, Zeynep Enkavi, Daniel O'Leary, Yochai Shavit

Postdoctoral Faculty Sponsor

Kelly MacNiven

Doctoral Dissertation Advisor (AC)

Lester Tong

Doctoral (Program)

Tiffany Hsu, Lester Tong

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Neurosciences (Phd Program)

Publications

PUBLICATIONS

- **Striatal dopamine deficits predict reductions in striatal functional connectivity in major depression: a concurrent 11C-raclopride positron emission tomography and functional magnetic resonance imaging investigation.** *Translational psychiatry*
Hamilton, J. P., Sacchet, M. D., Hjørnevik, T., Chin, F. T., Shen, B., Kampe, R., Park, J. H., Knutson, B. D., Williams, L. M., Borg, N., Zaharchuk, G., Camacho, M. C., Mackey, et al
2018; 8 (1): 264
- **Neural sensitivity to personal and vicarious reward differentially relates to prosociality and well-being** *SOCIAL COGNITIVE AND AFFECTIVE NEUROSCIENCE*
Morelli, S. A., Knutson, B., Zaki, J.
2018; 13 (8): 831–39
- **Distinct neural circuits support incentivized inhibition.** *NeuroImage*
Leong, J. K., MacNiven, K. H., Samanez-Larkin, G. R., Knutson, B.
2018; 178: 435–44
- **Altered prefrontal correlates of monetary anticipation and outcome in chronic pain.** *Pain*
Martucci, K. T., Borg, N., MacNiven, K. H., Knutson, B., Mackey, S. C.
2018
- **Neuroforecasting Aggregate Choice** *CURRENT DIRECTIONS IN PSYCHOLOGICAL SCIENCE*
Knutson, B., Genevsky, A.
2018; 27 (2): 110–15

- **Reward and loss anticipation in panic disorder: An fMRI study** *PSYCHIATRY RESEARCH-NEUROIMAGING*
Held-Poschardt, D., Sterzer, P., Schlagenhaut, F., Pehrs, C., Wittmann, A., Stoy, M., Haegele, C., Knutson, B., Heinz, A., Stroehle, A.
2018; 271: 111–17
- **Closing the loop on impulsivity via nucleus accumbens delta-band activity in mice and man.** *Proceedings of the National Academy of Sciences of the United States of America*
Wu, H., Miller, K. J., Blumenfeld, Z., Williams, N. R., Ravikumar, V. K., Lee, K. E., Kakusa, B., Sacchet, M. D., Wintermark, M., Christoffel, D. J., Rutt, B. K., Bronte-Stewart, H., Knutson, et al
2018; 115 (1): 192–97
- **Association of Neural Responses to Drug Cues With Subsequent Relapse to Stimulant Use.** *JAMA network open*
MacNiven, K. H., Jensen, E. L., Borg, N., Padula, C. B., Humphreys, K., Knutson, B.
2018; 1 (8): e186466
- **Association of Neural Responses to Drug Cues With Subsequent Relapse to Stimulant Use** *JAMA Netw Open*
MacNiven, K. H., Jensen, E. L., Borg, N., Padula, C. B., Humphreys, K., Knutson, B.
2018
- **Individual differences in skewed financial risk-taking across the adult life span** *COGNITIVE AFFECTIVE & BEHAVIORAL NEUROSCIENCE*
Seaman, K. L., Leong, J. K., Wu, C. C., Knutson, B., Samanez-Larkin, G. R.
2017; 17 (6): 1232–41
- **Neurocultural Evidence That Ideal Affect Match Promotes Giving.** *Social cognitive and affective neuroscience*
Park, B., Blevins, E., Knutson, B., Tsai, J. L.
2017
- **Blunted ventral striatal responses to anticipated rewards foreshadow problematic drug use in novelty-seeking adolescents.** *Nature communications*
Büchel, C., Peters, J., Banaschewski, T., Bokde, A. L., Bromberg, U., Conrod, P. J., Flor, H., Papadopoulos, D., Garavan, H., Gowland, P., Heinz, A., Walter, H., Ittermann, et al
2017; 8: 14140-?
- **Blunted ventral striatal responses to anticipated rewards foreshadow problematic drug use in novelty-seeking adolescents** *NATURE COMMUNICATIONS*
Buechel, C., Peters, J., Banaschewski, T., Bokde, A. L., Bromberg, U., Conrod, P. J., Flor, H., Papadopoulos, D., Garavan, H., Gowland, P., Heinz, A., Walter, H., Ittermann, et al
2017; 8
- **When Brain Beats Behavior: Neuroforecasting Crowdfunding Outcomes.** *The Journal of neuroscience : the official journal of the Society for Neuroscience*
Genevsky, A., Yoon, C., Knutson, B.
2017; 37 (36): 8625–34
- **Brains, environments, and policy responses to addiction.** *Science (New York, N.Y.)*
Humphreys, K., Malenka, R. C., Knutson, B., MacCoun, R. J.
2017; 356 (6344): 1237–38
- **A Genetic Polymorphism of the Human Dopamine Transporter Determines the Impact of Sleep Deprivation on Brain Responses to Rewards and Punishments** *JOURNAL OF COGNITIVE NEUROSCIENCE*
Greer, S. M., Goldstein, A. N., Knutson, B., Walker, M. P.
2016; 28 (6): 803-810
- **Nucleus accumbens D2R cells signal prior outcomes and control risky decision-making.** *Nature*
Zalocusky, K. A., Ramakrishnan, C., Lerner, T. N., Davidson, T. J., Knutson, B., Deisseroth, K.
2016; 531 (7596): 642-646
- **Neural evidence for cultural differences in the valuation of positive facial expressions.** *Social cognitive and affective neuroscience*
Park, B., Tsai, J. L., Chim, L., Blevins, E., Knutson, B.
2016; 11 (2): 243-252
- **White-Matter Tract Connecting Anterior Insula to Nucleus Accumbens Correlates with Reduced Preference for Positively Skewed Gambles** *NEURON*
Leong, J. K., Pestilli, F., Wu, C. C., Samanez-Larkin, G. R., Knutson, B.
2016; 89 (1): 63-69

- **Prefrontal cortical regulation of brainwide circuit dynamics and reward-related behavior.** *Science*
Ferenczi, E. A., Zolocusky, K. A., Liston, C., Grosenick, L., Warden, M. R., Amatya, D., Katovich, K., Mehta, H., Patenaude, B., Ramakrishnan, C., Kalanithi, P., Etkin, A., Knutson, et al
2016; 351 (6268)
- **Neural valuation of environmental resources.** *NeuroImage*
Sawe, N., Knutson, B.
2015; 122: 87-95
- **Neural Affective Mechanisms Predict Market-Level Microlending.** *Psychological science*
Genevsky, A., Knutson, B.
2015; 26 (9): 1411-1422
- **Cost Conscious? The Neural and Behavioral Impact of Price Primacy on Decision Making** *JOURNAL OF MARKETING RESEARCH*
Karmarkar, U. R., Shiv, B., Knutson, B.
2015; 52 (4): 467-481
- **Decision making in the ageing brain: changes in affective and motivational circuits** *NATURE REVIEWS NEUROSCIENCE*
Samanez-Larkin, G. R., Knutson, B.
2015; 16 (5): 278-289
- **Probing psychiatric symptoms with the monetary incentive delay task.** *Biological psychiatry*
Knutson, B., Heinz, A.
2015; 77 (5): 418-420
- **Advancing consumer neuroscience** *MARKETING LETTERS*
Smidts, A., Hsu, M., Sanfey, A. G., Boksem, M. A., Ebstein, R. B., Huettel, S. A., Kable, J. W., Karmarkar, U. R., Kitayama, S., Knutson, B., Liberzon, I., Lohrenz, T., Stallen, et al
2014; 25 (3): 257-267
- **Control of nucleus accumbens activity with neurofeedback** *NEUROIMAGE*
Greer, S. M., Trujillo, A. J., Glover, G. H., Knutson, B.
2014; 96: 237-244
- **Inferring affect from fMRI data** *TRENDS IN COGNITIVE SCIENCES*
Knutson, B., Katovich, K., Suri, G.
2014; 18 (8): 422-428
- **Adult age differences in frontostriatal representation of prediction error but not reward outcome** *COGNITIVE AFFECTIVE & BEHAVIORAL NEUROSCIENCE*
Samanez-Larkin, G. R., Worthy, D. A., Mata, R., McClure, S. M., Knutson, B.
2014; 14 (2): 672-682
- **Adult age differences in frontostriatal representation of prediction error but not reward outcome.** *Cognitive, affective & behavioral neuroscience*
Samanez-Larkin, G. R., Worthy, D. A., Mata, R., McClure, S. M., Knutson, B.
2014; 14 (2): 672-682
- **Dissociating Motivation from Reward in Human Striatal Activity** *JOURNAL OF COGNITIVE NEUROSCIENCE*
Miller, E. M., Shankar, M. U., Knutson, B., McClure, S. M.
2014; 26 (5): 1075-1084
- **Affective traits link to reliable neural markers of incentive anticipation.** *NeuroImage*
Wu, C. C., Samanez-Larkin, G. R., Katovich, K., Knutson, B.
2014; 84: 279-289
- **Neural Underpinnings of the Identifiable Victim Effect: Affect Shifts Preferences for Giving** *JOURNAL OF NEUROSCIENCE*
Genevsky, A., Vastfjall, D., Slovic, P., Knutson, B.
2013; 33 (43): 17188-17196
- **Interpretable whole-brain prediction analysis with GraphNet** *NEUROIMAGE*

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- Grosenick, L., Klingenberg, B., Katovich, K., Knutson, B., Taylor, J. E.
2013; 72: 304-321
- **Neural Sensitivity to Absolute and Relative Anticipated Reward in Adolescents** *PLOS ONE*
Vaidya, J. G., Knutson, B., O'Leary, D. S., Block, R. I., Magnotta, V.
2013; 8 (3)
 - **Spatial smoothing systematically biases the localization of reward-related brain activity** *NEUROIMAGE*
Sacchet, M. D., Knutson, B.
2013; 66: 270-277
 - **Serotonergic Genotypes, Neuroticism, and Financial Choices** *PLOS ONE*
Kuhnen, C. M., Samanez-Larkin, G. R., Knutson, B.
2013; 8 (1)
 - **SPATIAL SMOOTHING AND THE FUNCTIONAL LOCALIZATION OF NUCLEUS ACCUMBENS ACTIVITY** *20th Annual Meeting of the Cognitive-Neuroscience-Society*
Sacchet, M., Knutson, B.
MIT PRESS.2013: 231–232
 - **BRAIN TO BANK: NEURAL PREDICTORS OF FINANCIAL RISK TAKING** *20th Annual Meeting of the Cognitive-Neuroscience-Society*
Wu, C., Knutson, B.
MIT PRESS.2013: 265–265
 - **Hyporeactivity of ventral striatum towards incentive stimuli in unmedicated depressed patients normalizes after treatment with escitalopram** *JOURNAL OF PSYCHOPHARMACOLOGY*
Stoy, M., Schlagenhaut, F., Sterzer, P., Bempohl, F., Haegele, C., Suchotzki, K., Schmack, K., Wrase, J., Ricken, R., Knutson, B., Adli, M., Bauer, M., Heinz, et al
2012; 26 (5): 677-688
 - **Frontostriatal White Matter Integrity Mediates Adult Age Differences in Probabilistic Reward Learning** *JOURNAL OF NEUROSCIENCE*
Samanez-Larkin, G. R., Levens, S. M., Perry, L. M., Dougherty, R. F., Knutson, B.
2012; 32 (15): 5333-5337
 - **Interactivity and Reward-Related Neural Activation during a Serious Videogame** *PLOS ONE*
Cole, S. W., Yoo, D. J., Knutson, B.
2012; 7 (3)
 - **Toward an affective neuroscience account of financial risk taking.** *Frontiers in neuroscience*
Wu, C. C., Sacchet, M. D., Knutson, B.
2012; 6: 159-?
 - **Ventral striatal activation during reward processing in subjects with ultra-high risk for schizophrenia.** *Neuropsychobiology*
Juckel, G., Friedel, E., Koslowski, M., Witthaus, H., Ozgürdal, S., Gudlowski, Y., Knutson, B., Wrase, J., Brüne, M., Heinz, A., Schlagenhaut, F.
2012; 66 (1): 50-56
 - **Ventral Striatal Activation during Reward Processing in Subjects with Ultra-High Risk for Schizophrenia** *NEUROPSYCHOBIOLOGY*
Juckel, G., Friedel, E., Koslowski, M., Witthaus, H., Oezgüerdal, S., Gudlowski, Y., Knutson, B., Wrase, J., Bruene, M., Heinz, A., Schlagenhaut, F.
2012; 66 (1): 50-56
 - **Toward an affective neuroscience account of financial risk taking** *FRONTIERS IN NEUROSCIENCE*
Wu, C. C., Sacchet, M. D., Knutson, B.
2012; 6
 - **Spatial smoothing systematically biases the localization of reward-related brain activity.** *NeuroImage*
Sacchet, M. D., Knutson, B.
2012; 66C: 270–77
 - **Gain and Loss Learning Differentially Contribute to Life Financial Outcomes** *PLOS ONE*
Knutson, B., Samanez-Larkin, G. R., Kuhnen, C. M.
2011; 6 (9)

- **The Influence of Affect on Beliefs, Preferences, and Financial Decisions** *JOURNAL OF FINANCIAL AND QUANTITATIVE ANALYSIS*
Kuhnen, C. M., Knutson, B.
2011; 46 (3): 605-626
- **Reward processing in male adults with childhood ADHD-a comparison between drug-naive and methylphenidate-treated subjects** *PSYCHOPHARMACOLOGY*
Stoy, M., Schlagenhaut, F., Schlochtermeyer, L., Wrase, J., Knutson, B., Lehmkuhl, U., Huss, M., Heinz, A., Stroehle, A.
2011; 215 (3): 467-481
- **Expected value information improves financial risk taking across the adult life span** *SOCIAL COGNITIVE AND AFFECTIVE NEUROSCIENCE*
Samanez-Larkin, G. R., Wagner, A. D., Knutson, B.
2011; 6 (2): 207-217
- **The Affective Impact of Financial Skewness on Neural Activity and Choice** *PLOS ONE*
Wu, C. C., Bossaerts, P., Knutson, B.
2011; 6 (2)
- **REINFORCEMENT LEARNING AND AGE-RELATED CHANGES IN RELATIVE CODING IN MESOLIMBIC BRAIN REGIONS**
Samanez-Larkin, G. R., Worthy, D. A., McClure, S. M., Knutson, B.
OXFORD UNIV PRESS INC.2010: 10-10
- **When Giving Is Good: Ventromedial Prefrontal Cortex Activation for Others' Intentions** *NEURON*
Cooper, J. C., Kreps, T. A., Wiebe, T., Pirkel, T., Knutson, B.
2010; 67 (3): 511-521
- **Variability in Nucleus Accumbens Activity Mediates Age-Related Suboptimal Financial Risk Taking** *JOURNAL OF NEUROSCIENCE*
Samanez-Larkin, G. R., Kuhnen, C. M., Yoo, D. J., Knutson, B.
2010; 30 (4): 1426-1434
- **The Reward Circuit: Linking Primate Anatomy and Human Imaging** *NEUROPSYCHOPHARMACOLOGY*
Haber, S. N., Knutson, B.
2010; 35 (1): 4-26
- **Available alternative incentives modulate anticipatory nucleus accumbens activation** *SOCIAL COGNITIVE AND AFFECTIVE NEUROSCIENCE*
Cooper, J. C., Hollon, N. G., Wimmer, G. E., Knutson, B.
2009; 4 (4): 409-416
- **Ventral Striatal Activation During Reward Anticipation Correlates with Impulsivity in Alcoholics** *BIOLOGICAL PSYCHIATRY*
Beck, A., Schlagenhaut, F., Wuestenberg, T., Hein, J., Kienast, T., Kahnt, T., Schmack, K., Haegele, C., Knutson, B., Heinz, A., Wrase, J.
2009; 66 (8): 734-742
- **Correction. "Affect dynamics, affective forecasting, and aging".** *Emotion*
Nielsen, L., Knutson, B., Carstensen, L. L.
2009; 9 (5): ii-?
- **Reward Processing After Catecholamine Depletion in Unmedicated, Remitted Subjects with Major Depressive Disorder** *BIOLOGICAL PSYCHIATRY*
Hasler, G., Luckenbaugh, D. A., Snow, J., Meyers, N., Waldeck, T., Geraci, M., Roiser, J., Knutson, B., Charney, D. S., Drevets, W. C.
2009; 66 (3): 201-205
- **Don't stop thinking about tomorrow: Individual differences in future self-continuity account for saving** *JUDGMENT AND DECISION MAKING*
Ersner-Hershfield, H., Garton, M. T., Ballard, K., Samanez-Larkin, G. R., Knutson, B.
2009; 4 (4): 280-286
- **Dissociable neural representations of future reward magnitude and delay during temporal discounting** *NEUROIMAGE*
Ballard, K., Knutson, B.
2009; 45 (1): 143-150
- **Saving for the future self: Neural measures of future self-continuity predict temporal discounting** *SOCIAL COGNITIVE AND AFFECTIVE NEUROSCIENCE*
Ersner-Hershfield, H., Wimmer, G. E., Knutson, B.

2009; 4 (1): 85-92

- **Don't stop thinking about tomorrow: Individual differences in future self-continuity account for saving.** *Judgment and decision making*
Ersner-Hershfield, H., Garton, M. T., Ballard, K., Samanez-Larkin, G. R., Knutson, B.
2009; 4 (4): 280-86
- **Anticipatory affect: neural correlates and consequences for choice** *PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY B-BIOLOGICAL SCIENCES*
Knutson, B., Greer, S. M.
2008; 363 (1511): 3771-3786
- **Interpretable Classifiers for fMRI Improve Prediction of Purchases** *IEEE TRANSACTIONS ON NEURAL SYSTEMS AND REHABILITATION ENGINEERING*
Grosenick, L., Greer, S., Knutson, B.
2008; 16 (6): 539-548
- **Incentive-elicited striatal activation in adolescent children of alcoholics** *ADDICTION*
Bjork, J. M., Knutson, B., Hommer, D. W.
2008; 103 (8): 1308-1319
- **Neural antecedents of the endowment effect** *NEURON*
Knutson, B., Wimmer, G. E., Rick, S., Hollon, N. G., Prelec, D., Loewenstein, G.
2008; 58 (5): 814-822
- **Affect dynamics, affective forecasting, and aging** *EMOTION*
Nielsen, L., Knutson, B., Carstensen, L. L.
2008; 8 (3): 318-330
- **Individual differences in insular sensitivity during loss anticipation predict avoidance learning** *PSYCHOLOGICAL SCIENCE*
Samanez-Larkin, G. R., Hollon, N. G., Carstensen, L. L., Knutson, B.
2008; 19 (4): 320-323
- **Neural responses to monetary incentives in major depression** *BIOLOGICAL PSYCHIATRY*
Knutson, B., Bhanji, J. P., Cooney, R. E., Atlas, L. Y., Gotlib, I. H.
2008; 63 (7): 686-692
- **Nucleus accumbens activation mediates the influence of reward cues on financial risk taking** *NEUROREPORT*
Knutson, B., Wimmer, G. E., Kuhnen, C. M., Winkielman, P.
2008; 19 (5): 509-513
- **Reward system activation in schizophrenic patients switched from typical neuroleptics to olanzapine** *PSYCHOPHARMACOLOGY*
Schlagenhauf, F., Juckel, G., Koslowski, M., Kahnt, T., Knutson, B., Dembler, T., Kienast, T., Gallinat, J., Wrase, J., Heinz, A.
2008; 196 (4): 673-684
- **Reward anticipation and outcomes in adult males with attention-deficit/hyperactivity disorder** *NEUROIMAGE*
Stroehle, A., Stoy, M., Wrase, J., Schwarzer, S., Schlagenhauf, F., Huss, M., Hein, J., Nedderhut, A., Neumann, B., Gregor, A., Juckel, G., Knutson, B., Lehmkuhl, et al
2008; 39 (3): 966-972
- **Valence and salience contribute to nucleus accumbens activation** *NEUROIMAGE*
Cooper, J. C., Knutson, B.
2008; 39 (1): 538-547
- **Neural antecedents of financial decisions** *JOURNAL OF NEUROSCIENCE*
Knutson, B., Bossaerts, P.
2007; 27 (31): 8174-8177
- **Different neural systems adjust motor behavior in response to reward and punishment** *NEUROIMAGE*
Wrase, J., Kahnt, T., Schlagenhauf, F., Beck, A., Cohen, M. X., Knutson, B., Heinz, A.
2007; 36 (4): 1253-1262
- **Anticipation of monetary gain but not loss in healthy older adults** *NATURE NEUROSCIENCE*

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- Samanez-Larkin, G. R., Gibbs, S. E., Khanna, K., Nielsen, L., Carstensen, L. L., Knutson, B.
2007; 10 (6): 787-791
- **Affective influence on judgments and decisions: Moving towards core mechanisms** *REVIEW OF GENERAL PSYCHOLOGY*
Winkielman, P., Knutson, B., Paulus, M., Trujillo, J. L.
2007; 11 (2): 179-192
 - **Linking nucleus accumbens dopamine and blood oxygenation** *PSYCHOPHARMACOLOGY*
Knutson, B., Gibbs, S. E.
2007; 191 (3): 813-822
 - **Dysfunction of reward processing correlates with alcohol craving in detoxified alcoholics** *NEUROIMAGE*
Wrase, J., Schlagenhauf, F., Kienast, T., Wuestenberg, T., Bermanpohl, F., Kahnt, T., Beek, A., Stroehle, A., Juckel, G., Knutson, B., Heinz, A.
2007; 35 (2): 787-794
 - **Ventral striatal hyporesponsiveness during reward anticipation in attention-deficit/hyperactivity disorder** *BIOLOGICAL PSYCHIATRY*
Scheres, A., Milham, M. P., Knutson, B., Castellanos, F. X.
2007; 61 (5): 720-724
 - **Neural predictors of purchases** *NEURON*
Knutson, B., Rick, S., Wimmer, G. E., Prelec, D., Loewenstein, G.
2007; 53 (1): 147-156
 - **Splitting the difference - How does the brain code reward episodes?** *Conference on Reward and Decision-Making in Corticobasal Ganglia Networks*
Knutson, B., Wimmer, G. E.
BLACKWELL PUBLISHING.2007: 54-69
 - **The lure of the unknown** *NEURON*
Knutson, B., Cooper, J. C.
2006; 51 (3): 280-282
 - **Dysfunction of ventral striatal reward prediction in schizophrenic patients treated with typical, not atypical, neuroleptics** *PSYCHOPHARMACOLOGY*
Juckel, G., Schlagenhauf, F., Koslowski, M., Filonov, D., Wuestenberg, T., Villringer, A., Knutson, B., Kienast, T., Gallinat, J., Wrase, J., Heinz, A.
2006; 187 (2): 222-228
 - **Reward-motivated learning: Mesolimbic activation precedes memory formation** *NEURON*
Adcock, R. A., Thangavel, A., Whitfield-Gabrieli, S., Knutson, B., Gabrieli, J. D.
2006; 50 (3): 507-517
 - **Cultural variation in affect valuation** *JOURNAL OF PERSONALITY AND SOCIAL PSYCHOLOGY*
Tsai, J. L., Knutson, B., Fung, H. H.
2006; 90 (2): 288-307
 - **Dysfunction of ventral striatal reward prediction in schizophrenia** *NEUROIMAGE*
Juckel, G., Schlagenhauf, F., Koslowski, M., Wustenberg, T., Villringer, A., Knutson, B., Wrase, J., Heinz, A.
2006; 29 (2): 409-416
 - **The neural basis of financial risk taking** *NEURON*
Kuhnen, C. M., Knutson, B.
2005; 47 (5): 763-770
 - **Functional magnetic resonance imaging of reward prediction** *CURRENT OPINION IN NEUROLOGY*
Knutson, B., Cooper, J. C.
2005; 18 (4): 411-417
 - **Neurally reconstructing expected utility** *GAMES AND ECONOMIC BEHAVIOR*
Knutson, B., Peterson, R.
2005; 52 (2): 305-315
 - **Distributed neural representation of expected value** *JOURNAL OF NEUROSCIENCE*
Knutson, B., Taylor, J., Kaufman, M., Peterson, R., Glover, G.

2005; 25 (19): 4806-4812

- **Remembrance of rewards past** *NEURON*
Knutson, B., Adcock, R. A.
2005; 45 (3): 331-332
- **Sweet revenge?** *SCIENCE*
Knutson, B.
2004; 305 (5688): 1246-1247
- **Amphetamine modulates human incentive processing** *NEURON*
Knutson, B., Bjork, J. M., Fong, G. W., Hommer, D., Mattay, V. S., Weinberger, D. R.
2004; 43 (2): 261-269
- **Voxel-based homogeneity probability maps of gray matter in groups: assessing the reliability of functional effects** *NEUROIMAGE*
Momenan, R., Rawlings, R., Fong, G., Knutson, B., Hommer, D.
2004; 21 (3): 965-972
- **Incentive-elicited brain activation in adolescents: Similarities and differences from young adults** *JOURNAL OF NEUROSCIENCE*
Bjork, J. M., Knutson, B., Fong, G. W., Caggiano, D. M., Bennett, S. M., Hommer, D. W.
2004; 24 (8): 1793-1802
- **Facial EMG discriminates gain and loss anticipation and outcome in a monetary incentive delay task** *44th Annual Meeting of the Society-for-Psychophysiological-Research*
NIELSEN, L., Knutson, B., Kaufman, M., Weinstein, L., Carstensen, L. L.
WILEY-BLACKWELL.2004: S80-S80
- **A region of mesial prefrontal cortex tracks monetarily rewarding outcomes: characterization with rapid event-related fMRI** *NEUROIMAGE*
Knutson, B., Fong, G. W., Bennett, S. M., Adams, C. M., Hommer, D.
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