CPC journal club archive
(alphabetically ordered according to first author’s last name)
last updated: 04/11/2018

• abrahamyan/silva/daking/carandini/gardner - adaptable history biases in human perceptual decisions - pnas - 2016
• adibi/clifford/arabzadehi - informational basis of sensory adaptation: entropy and single-spike efficiency in rat barrel cortex - j neurosci - 2013
•ahrens/sahani - observers exploit stochastic models of sensory change to help judge the passage of time - current biology - 2011
•alais/leung/vanderBurg - linear summation of repulsive and attractive serial dependencies: orientation and motion dependencies sum in motion perception - j neurosci - 2017
•anderson - probability and the changing shape of response distributions for orientation - j vision - 2014
•anton-erxleben/herrmann/carrasco - independent effects of adaptation and attention on perceived speed - psychological science - 2013
•ashourian/loewenstein - bayesian inference underlies the contraction bias in delayed comparison tasks - plos one - 2011
•bahrami/olsen/latham/roepstorff/rees/frith - optimally interacting minds - science - 2010
•baker/mese - zero-dimensional noise: the best mask you never saw - j vision - 2012
•baker/jara-ettinger/saxe/tenenbaum - rational quantitative attribution of beliefs, desires and percepts in human mentalizing - nat hum behavior -2017
•barascud/pearce/griffiths/friston/chait - brain responses in humans reveal ideal observer-like sensitivity to complex acoustic patterns - pnas - 2016
•barlow/foldiak - adaptation and decorrelation in the cortex - chapter in: the computing neuron - 1989
•barthelme/mamassian - flexible mechanisms underlie the evaluation of visual confidence - pnas - 2010
•bayanov/smith - bayesian and “anti-bayesian” biases in sensory integration for action and perception in the size-weight illusion - j neurophys - 2010
•bays - noise in neural populations accounts for errors in working memory - j neurosci - 2014
•bays/husain - active inhibition and memory promote exploration and search of natural scenes - j vision - 2012
•benucci/saleem/carandini - adaptation maintains population homeostasis in primary visual cortex - nat neurosci - 2013
•bem - feeling the future: experimental evidence for anomalous retroactive influences on cognition and affect - journal of personality and social psychology - in press
•beppu/griffiths - iterated learning and the cultural ratchet - proceedings of the 31st annual conference of the cognitive science society - 2009
• berkes/or ban/lengyel/fiser - spontaneous cortical activity reveals hallmarks of an optimal internal model of the environment - science - 2011
• brinkman/weber/rieke/shear-brown - how do efficient coding strategies depend on origins of noise in neural circuits? - plos comp bio - 2016
• burr/tozzi/morrone - neural mechanisms for timing visual events are spatially selective in real-world coordinates - nature neuroscience - 2007
• chaisanguanthum/lisberger - a neurally efficient implementation of sensory population decoding - j neuroscience - 2011
• chau/kolling/hunt/walton/rushworth - a neural mechanism underlying failure of optimal choice with multiple alternatives - nature neuroscience - 2014
• chikkerur/serre/tana/poggio - what and where: a bayesian inference theory of attention- vision research - 2010
• chopin/mamassian - predictive properties of visual adaptation - current biology - 2012
• cicchini/arrighi/ceccetti/giusti/burr - optimal encoding of interval timing in expert percussionists - j neurosci - 2012
• cicchini/anobile/burr - spontaneous perception of numerosity in humans - nat communications - 2016
• clark/fitzgerald/ales/gohl/silies/norcia/clandinin - flies and humans share a motion estimation strategy that exploits natural scene statistics - nature neuroscience - 2014
• coen-cagli/kohn/schwartz - flexible gating of contextual influences in natural vision - nat neuro - 2015
• cohen/maunsell - attention improves performance primarily by reducing interneuronal correlations - nature neuroscience - 2009
• colombo/series - bayes in the brain – on bayesian modelling in neuroscience - the british journal for the philosophy of science - 2012
• cooper/norcia - perceived depth in natural images reflects encoding of low-level luminance statistics - j neurosci - 2014
• crane - direction specific biases in human visual and vestibular heading perception - plos one - 2012
• curran/enton/harris/hibbard/beattie - adapting to time: duration channels do not mediate human time perception - jov - 2016
• d’acremont/schultz/bossaerts - the human brain encodes event frequencies while forming subjective beliefs - j neurosci - 2013
• drugowitsch/wyart/devauchelle/koechlin - computational precision of mental inference as critical source of human choice suboptimality - neuron - 2016
• dean/harper/mcalpine - neural population coding of sound level adapts to stimulus statistics - nature neurosci - 2005
• dehaene/izard/spelke/pica - log or linear? distinct intuitions of the number scale in western amazonian indigene cultures - science - 2008
• demartino/fleming/garrett/dolan - confidence in value-based choice - nature neuroscience - 2014
• demeyer/deGraef/verfaille/wagemans - perceptual grouping of object contours survives saccades - plos one - 2011
• denison/bonawitz/gopnik/griffiths - rational variability in childrens causal inferences: the sampling hypothesis - cognition - 2012
• ding/cuevas/isodykuqian - visual perception as retrospective bayesian decoding from high- to low-level features - pnas - 2017
• drugowitsch/moreno-bote/churchland/shadlen/pouget - the cost of accumulating evidence in perceptual decision making - j neurosci - 2012
• ehinger/hausser/ossandon/konig - humans treat unreliable filled-in percepts as more real than veridical ones - eLife - 2017
• elliott/wing/welchman - moving in time: bayesian causal inference explains movement coordination to auditory beats - proc royal society b - 2014
• fernandes/stevenson/vilares/kording - the generalization of prior uncertainty during reaching - j neuroscience - 2014
• fischer/whitney - serial dependence in visual perception - nat neuroscience - 2014
• fleming/maloney/daw - the irrationality of categorical perception - j neurosci - 2013
• freedman/assad - experience-dependent representation of visual categories in parietal cortex - nature - 2006
• freidin/kacelnik - rational choice, context dependence, and the value of information in european starlings (sturnus vulgaris) - science - 2011
• fritsche/mostert/deLange - opposite effects of recent history on perception and decision - current biology - 2017
• froudarakis/berens/ecker/cotton/sinz/yatsenko/saggau/bethge/tolias - population code in mouse V1 facilitates readout of natural scenes through increased sparseness - nat neuroscience - 2014
• gavornik/bear - learned spatiotemporal sequence recognition and prediction in primary visual cortex - nature neuroscience - 2014
• gepshtein/lesmes/albright - sensory adaptation as optimal resource allocation - pnas - 2013
• gershman/tenenbaum/jakel - discovering hierarchical motion structure - vision research - 2016
• girshick/landy/simoncelli - cardinal rules: visual orientation perception reflects knowledge of environmental statistics - nature neuroscience - 2011
• gold/law/connolly/bennur - relationships between the threshold and slope of psychometric and neurometric functions during perceptual learning: implications for neuronal pooling - j neurophys - 2010
• goris/movshon/simoncelli - partitioning neuronal variability - nature neuroscience - 2014
• graziano/polosecki/shalom/sigman - parsing a perceptual decision into a sequence of moments of thought - frontiers in integrative neuroscience - 2011
• green/benson/kersten/schrater - alterations in choice behavior by manipulations of world model - pnas - 2010
• griffiths/tenenbaum - predicting the future as bayesian inference: people combine prior knowledge with observations when estimating duration and extent - j of experimental psychology: general - 2011
• hanks/mazurek/kiani/hopp/shadlen - elapsed decision time affects the weighting of prior probability in a perceptual decision task - j neuroscience - 2011
• harvey/coen/tank - choice-specific sequences in parietal cortex during a virtual-navigation decision task - nature - 2012
• he/kersten/fang - opposite modulation of high- and low-level visual aftereffects by perceptual grouping - current biol - 2011
• held/cooper/banks - blur and disparity are complementary cues to depth - current biology - 2012
• heron/aaen-stockdale/hotchkins/roach/mcgraw/whitaker - duration channels mediate human time perception - proc. of royal society B - 2011
• hohl/chaisanguanthum/lisberger - sensory population decoding for visually guided movements - neuron - 2013
• houlsby/huszar/ghassemi/wolpert/lengyel - cognitive tomography reveals complex, task-independent mental representations - current biology - 2013
• hsu/griffiths - effects of generative and discriminative learning on use of category variability - pre-print - 2010
• jazayeri/shadlen - temporal context calibrates interval timing - nature neuroscience - 2010
• jepma/wagenmakers/nieuwenhuis - temporal expectation and information processing: a model-based analysis - cognition - 2012
• jonas/kording - could a neuroscientist understand a microprocessor? - biorxiv - 2016
• juni/gureckis/maloney - effective integration of serially presented stochastic cues - journal of vision - 2012
• karklin/lewicki - emergence of complex cell properties by learning to generalize in natural scenes - nature - 2009
• katz/hennig/cormack/huk - a distinct mechanism of temporal integration for motion through depth - j neurosci - 2015
• kemp/bernstein/tenenbaum - a generative theory of similarity - procs of the 27th ann conf of the cogsci society - 2005
• kriegeskorte/simmons/bellgowan/baker - circular analysis in systems neuroscience: the danger of double dipping - nature neuroscience - 2009
• kriegeskorte/mur/ruff/kiani/bodurka/esteky/tanaka/bandettini - matching categorical object representations in inferior temporal cortex of man and monkey - neuron - 2008
• kvam/pleskac/yu/busemeyer - interference effects of choice on confidence: quantum characteristics of evidence accumulation - pnas - 2015
• lake/salakhutdinov/tenenbaum - human-level concept learning through probabilistic program induction - science - 2015
• laquitaine/gardner - a switching observer for human perceptual estimation - neuron - 2017
• lengyel/koblinger/popovic/fiser - on the role of time in perceptual decision making - arXiv - 2015
• lin/okun/carandini/harris - the nature of shared cortical variability - neuron - 2015
• louie/khaw/glimcher - normalization is a general neural mechanism for context-dependent decision making - pnas - 2013
• lyu/simoncelli - nonlinear image representation using divisive normalization - computer vision and pattern recognition - 2008
• ma/navalpakkam/beck/vanDenBerg/pouget - behavior and neural basis of near-optimal visual search - nature neuroscience - 2011
• maloney/mamassian - bayesian decision theory as a model of human visual perception: testing bayesian transfer - visual neuroscience - 2009
• mazyar/vandenBerg/seilheimer/ma - independence is elusive: set size effects on encoding precision in visual search - journal of vision - 2013
• moreno-bote/beck/kanitscheider/pitkow/latham/pouget - information-limiting correlations. nature neuroscience - 2014
• mcdermott/schemitsch/simoncelli - summary statistics in auditory perception - nature neuroscience - 2013
• mulder/wagenmakers/ratcliff/boekel/forstmann - bias in the brain: a diffusion model analysis of prior probability and potential payoff - j neurosci - 2012
• murphy/boonstra/nieuwenhuis - global gain modulation generates time-dependent urgency during perceptual choice in humans - nature communications - 2016
• murray/patel/yee - posterior probability matching and human perceptual decision making - plos comp bio - 2015
• navalpakkam/koch/perona - homo economicus in visual search - journal of vision - 2009
• niehof/tramper/doeller/medendorp - updating of visual orientation in a gravity-based reference frame - jov - 2017
• nikbakht/tafreshiha/zoccolan/diamond - supralinear and supramodal integration of visual and tactile signals in rats: psychophysics and neuronal mechanisms- neuron - 2018
• oaksford/hall - on the source of human irrationality - trends in cog sc - 2016
• okun/steinmetz/cossell/iacaruso/ko/bartho/moore/hofer/mrsic-flogel/carandini/harris - diverse coupling of neurons to populations in sensory cortex - nature - 2015
• ohshiro/angelaki/deAngelis - a normalization model of multisensory integration - nature neuroscience - 2011
• oostwoud wijdenes/marshall/bayes - evidence for optimal integration of visual feature representations across saccades - j neurosci - 2015
• orban/berkes/fiser/lengyel - neural variability and sampling-based probabilistic representations in the visual cortex - neuron - 2016
• orhan/jacobs - probabilistic clustering theory of the organization of visual short-term memory - psych review - 2013
• osborne/lisberger/bialek - a sensory source for motor variation - nature - 2005
• ossmy/moran/pfeffer/tsetsos/usher/donner - timescale of perceptual evidence integration can be adapted to the environment - current biology - 2013
• otto/mamassian - noise and correlations in parallel perceptual decision making - current biology - 2012
• paik/ringach - retinal origin of orientation maps in visual cortex - nature neuroscience - 2011
• parise/ernst - correlation detection as a general mechanism for multisensory integration - nature communications - 2016
• pasquali/timmermans/cleeremans - know thyself: metacognitive networks and measures of consciousness - cognition - 2010
• patterson/wissig/kohn - adaptation disrupts motion integration in the primate dorsal stream - neuron - 2014
• petschner/glassauer - iterative bayesian estimation as an explanation for range and regression effects: a study on human path integration - 2011
• pooresmaeili/poort/roelfsema - simultaneous selection by object-based attention in visual and frontal cortex - pnas - 2014
• prelec/seung/mccoy - a solution to the single-question crowd wisdom problem - nature - 2017
• price/born - adaptation to speed in macaque middle temporal and medial superior temporal areas - j neurosci - 2013
• rajan/harvey/tank - recurrent network models of sequence generation and memory - neuron - 2016
• rhea/rietdyk/haddad - locomotor adaptation versus perceptual adaptation when stepping over an obstacle with a height illusion - plos one - 2010
• rich/gureckis - the value of approaching bad things - proceedings of cogsci - 2014
• rich/wallis - decoding subjective decisions from orbitofrontal cortex - nat neurosci - 2016
• rolfs/dambacher/cavanagh - visual adaptation of the perception of causality - current biology - 2013
• rosenberg/cowan/angelaki - the visual representation of 3d object orientation in parietal cortex - j neurosci - 2013
• rutledge/skandali/dayan/dolan - dopaminergic modulation of decision making and subjective well-being - j neurosci - 2015
• saxe/bhand/mudur/suresh/ng - unsupervised learning models of primary cortical receptive fields and receptive field plasticity - NIPS - 2011
• sato/koerding - how much to trust the senses: likelihood learning - j vision - 2014
• schindel/rowlands/arnold - the oddball effect: perceived duration and predictive coding - journal of vision - 2011
• schoups/vogels/qian/orban - practising orientation identification improves orientation coding in V1 neurons - nature - 2001
• schwarzkopf/song/rees - the surface area of human V1 predicts the subjective experience of object size - nature neuroscience - 2011
• shen/ma - a detailed comparison of optimality and simplicity in perceptual decision making - psychological review - 2016
• shenhav/botvinick/cohen - the expected value of control: an integrative theory of anterior cingulate cortex function - neuron - 2013
• sherwin/sajda - musical experts recruit action-related neural structures in harmonic anomaly detection: evidence for embodied cognition in expertise - brain and cognition - 2013
• simkin/roychowdhury - stochastic modeling of a serial killer - arXiv - 2012
• simmons/nelson/simonsohn - false-positive psychology: undisclosed flexibility in data collection and analysis allows presenting anything as significant - psychological science - 2011
• simoncini/perrinet/montagnini/mamassian/masson - more is not always better: adaptive gain control explains dissociation between perception and action - nature neurosci - 2012
• sims/jacobs/knill - an ideal observer model of visual short-term memory predicts human capacity precision tradeoffs - cog neurosci - 2011
• spitzer/waschke/summerfield - selective overweighting of larger magnitudes during noisy numerical comparison - nature human behaviour - 2017
• sprague/cooper/tosic/banks - stereopsis is adaptive for the natural environment - science advances - 2015
• soltani/wang - synaptic computation underlying probabilistic inference - nature neuroscience - 2010
• sreenivasan/fiete - grid cells generate an analog error-correcting code for singularly precise neural computation - nature neuroscience - 2010
• stachenfeld/botvinick/gershman - the hippocampus as a predictive map - nat neurosci - 2017
• steiner/redish - behavioral and neurophysiological correlates of regret in rat decision-making on a neuroeconomic task - nat neurosci - 2014
• stilp/rogers/kluender - rapid efficient coding of correlated complex acoustic properties - PNAS - 2010
• suchov/pelli - learning to detect and combine the features of an object - PNAS - 2012
• sun/oreilly/bhattacharyya/smith/liu/want - latent structure in random sequences drives neural learning toward a rational bias - pnas - 2015
• sussillo/abbott - generating coherent patterns of activity from chaotic neural networks - neuron - 2014
• tsetsos/moran/moreland/chater/usher/summerfield - economic irrationality is optimal during noisy decision making - pnas - 2016
• unsworth/robison - pupillary correlates of lapses of sustained attention - cogn affect behav neurosci - 2016
• vilares/howard/fernandes/gottfried/kording - differential representations of prior and likelihood uncertainty in the human brain - current biology - 2012
• vintch/gardner - cortical correlates of human motion perception biases - j neurosci - 2014
• vuong/friedman/read - the relative weight of shape and non-rigid motion cues in object perception: a model of the parameters underlying dynamic object discrimination - j of vision - 2012
- ward/herbert-read/sumpter/krause - fast and accurate decisions through collective vigilance in fish shoals - PNAS - 2011
- webb/ledgeway/mcgraw - relating spatial and temporal orientation pooling to population decoding solutions in human vision - vision research - 2010
- wei/prentice/balasubramanian - a principle of economy predicts the functional architecture of grid cells - elife - 2015
- wilson/nassar/gold - a mixture of delta-rules approximation to bayesian inference in change-point problems - pLoS computational biology - 2013
- wozny/beierholm/shams - probability matching as a computational strategy used in perception - plos comp biology - 2010
- wu/miyamoto/castro/ölvéczy/smith - temporal structure of motor variability is dynamically regulated and predicts motor learning ability - nature neuroscience - 2014
- yan/rasch/chen/xiang/huang/wu/li - perceptual training continuously refines neuronal population codes in primary visual cortex - nat neurosci - 2014
- yang/shadlen - probabilistic reasoning by neurons - nature - 2007
- yang/lengyel/wolpert - active sensing in the categorization of visual patterns - elife - 2016
- yi/merfeld - a quantitative confidence signal detection model: fitting psychometric functions - j neurophys - 2016
- zylberberg/ouellette/sigman/roelfsema - decision making during the psychological refractory period - current biology - 2012
- zhang/kwon/tadin - illusory movement of stationary stimuli in visual periphery: evidence for a strong centrifugal prior - j neurosci - 2013