

Keiji Tanaka

Current position

Team Leader and Head, Cognitive Brain Mapping Laboratory,
RIKEN Center for Brain Science,
2-1 Hirosawa, Wako-shi, Saitama, 351-01, Japan

Education and Degree

B. Sci Department of Biophysical Engineering, Faculty of Engineering Science, Osaka University, 1973
M. Sci Department of Biophysical Engineering, Faculty of Engineering Science, Osaka University, 1975
Ph. D. Faculty of Medicine, University of Tokyo, 1983 (by dissertation)

Appointments

1975-1989 Researcher, NHK Science and Technical Research Laboratories
1989-1996 Head, Laboratory for Neural Information Processing, Frontier Research Program, RIKEN
1992-1997 Head, Information Science Laboratory, RIKEN
1997-2018 Head, Cognitive Brain Mapping Laboratory, RIKEN Brain Science Institute
2003-2015 Deputy Director, RIKEN Brain Science Institute (2008-2009, Acting Director)
2009-2018 Senior Team Leader, RIKEN Brain Science Institute
2018-present Team Leader and Head, Cognitive Brain Mapping Laboratory, RIKEN Center for Brain Science

Award

1994 Nakaakira-Tsukahara Memorial Prize
1995 The Tenth Alice and Joseph Brooks International Lecture on the Neurosciences, Harvard University
1997 The Third International Conference on Functional Mapping of the Human Brain, Talairach Lecture
2002 Toshihiko-Tokizane Memorial Prize
2007 Neuronal Plasticity Prize (Foundation IPSEN, France)
2008 Science and Technology Prize (Ministry of Education, Culture, Sports, Science and Technology, Japan)

Editorial board

Cognitive Brain Research (1993-2005)
Neuroscience Research (1994-2009: Receiving Editor, 2000-2009; Deputy Editor-in-Chief, 2006-2009)
Neural Networks (1994-2001)
Science (1996-1999)
Visual Neuroscience (1996-1998)
Cerebral Cortex (1996-)
Neuron (1998-2016)
Journal of Neurophysiology (2000-2015)
Neuroscience (Section Editor, 2001-2006)
Neuroimage (2002-2003)
The Journal of Neuroscience (2005-2010)
Progress in Neurobiology (2008-)
Annals of Neurosciences (2009-2016)
Neuroscience Bulletin (2011-)

Academic Society activity

Member of Board, Japan Neuroscience Society (JNS) (2006-2016)
Chairperson of the 30th Annual Meeting, Japan Neuroscience Society (2007)
Vice President, Japan Neuroscience Society (2011-2013)
President, Japan Neuroscience Society (2014-2016)
Vice Chair, Governing Board, International Neuroinformatics Coordinating Facility (INCF) (2009-2015)
Chair, Governing Board, International Neuroinformatics Coordinating Facility (INCF) (2016-)
Chair, Asian-Pacific Regional Committee, International Brain Research Organization (IBRO-APRC) (2013-2018)
Secretary General, International Brain Research Organization (IBRO) (2018-)

Homepage of the laboratory

<http://www.brain.riken.go.jp/labs/cbms/tanaka.html>

Publication list of Keiji Tanaka

Original papers in English

- 1) Udo M, Oda Y, Tanaka K, Horikawa J (1976) Cerebellar control of locomotion: Discharges from Deiter's neurones, EMG and limb movements during local cooling of the cerebellar cortex. *Prog. in Brain Res.* 4: 445-459.
- 2) Toyama K, Kimura M, Tanaka K, Shiida T (1976) Neuronal connections and receptive field organization of area 19 cell of the cat. *Exp. Brain Res. Suppl.* 1: 370-373.
- 3) Kimura M, Tanaka K, Toyama K (1976) Interneuronal connectivity between visual cortical neurones of the cat as studied by cross-correlation analysis of their impulse discharges. *Brain Res.* 118: 329-333.
- 4) Tanaka K, Toyama K (1978) Computer-controlled visual stimulator for electrophysiological experiments. *Vision Res.* 18: 743-745.
- 5) Toyama K, Tanaka K, Kimura M (1978) On-line computer system for vision experiments: control of visual stimuli and analysis of neuronal signals. *Brain Theory Newsletter* 3: 170-172.
- 6) Kimura M, Shiida T, Tanaka K, Toyama K (1980) Three classes of area 19 cortical cells of the cat classified by their neuronal connectivity and photic responsiveness. *Vision Res.* 20: 69-77.
- 7) Toyama K, Kimura M, Tanaka K (1981) Cross-correlation analysis of interneuronal connectivity in cat visual cortex. *J. Neurophysiol.* 46: 191-201.
- 8) Toyama K, Kimura M, Tanaka K (1981) Organization of cat visual cortex as investigated by cross-correlation technique. *J. Neurophysiol.* 46: 202-214.
- 9) Udo M, Kamei H, Matsukawa K, Tanaka K (1982) Interlimb coordination in cat locomotion investigated with perturbation. II. Correlates in neuronal activity of Deiter's cells of decerebrate walking cats. *Exp. Brain Res.* 46: 438-447.
- 10) Tanaka K (1983) Cross-correlation analysis of geniculostriate neuronal relationships in cats. *J. Neurophysiol.* 49: 1303-1318.
- 11) Tanaka K (1983) Distinct X- and Y-streams in the cat visual cortex revealed by bicuculline application. *Brain Res.* 265: 143-147.
- 12) Tanaka K (1985) Organization of geniculate inputs to visual cortical cells in the cat. *Vision Res.* 25: 357-364.
- 13) Tanaka K, Hikosaka K, Saito H, Yukie M, Fukada Y, Iwai E (1986) Analysis of local and wide-field movements in the superior temporal visual areas of the macaque monkey. *J. Neurosci.* 6: 134-144.
- 14) Saito H, Yukie M, Tanaka K, Hikosaka K, Fukada Y, Iwai E (1986) Integration of direction signals of image motion in the superior temporal sulcus of the macaque monkey. *J. Neurosci.* 6: 145-157.
- 15) Tanaka K, Ohzawa I, Ramoa AS, Freeman RD (1987) Receptive field properties of cells in Area 19 of the cat. *Exp. Brain Res.* 65: 549-558.
- 16) Tanaka K, Freeman RD, Ramoa AS (1987) Dark-reared kittens: GABA sensitivity of cells in the visual cortex. *Exp. Brain Res.* 65: 673-675.
- 17) Saito H, Tanaka K, Fukada Y (1988) The analysis of discontinuity in visual contours in area 19 of the cat. *J. Neurosci.* 8: 1131-1143.
- 18) Hikosaka K, Iwai E, Saito H, Tanaka K (1988) Areal extent and function of the polysensory region of the caudal superior temporal sulcus in the macaque monkey. *J. Neurophysiol.* 60: 1615-1637.
- 19) Saito H, Tanaka K, Yasuda M, Isono H, Mikaki M (1989) Directionally selective response of cells in the middle temporal area (MT) of the macaque monkey to the movements of equiluminous opponent color stimuli. *Exp. Brain Res.* 75: 1-14.
- 20) Tanaka K, Saito H (1989) Analysis of motion of the visual field by Direction, Expansion/Contraction and Rotation cells clustered in the dorsal part of the macaque medial superior temporal area. *J. Neurophysiol.* 62: 626-641.
- 21) Tanaka K, Fukada Y, Saito H (1989) Underlying mechanisms of the response specificity of Expansion/Contraction and Rotation cells in the medial superior temporal area of the macaque monkey. *J. Neurophysiol.* 62: 642-656.
- 22) Tanaka K, Saito H, Fukada Y, Moriya M (1991) Coding visual images of objects in the inferotemporal cortex of the macaque monkey. *J. Neurophysiol.* 66: 170-189.
- 23) Sugita Y, Tanaka K (1991) Occlusion-related cue used for analysis of motion in the primate visual cortex. *NeuroReport* 2: 751-754.
- 24) Young MP, Tanaka K, Yamane S (1992) On oscillating neuronal responses in the visual cortex of the monkey. *J. Neurophysiol.* 67: 1464-1474
- 25) Fujita I, Tanaka K, Ito M, Cheng K (1992) Columns for visual features of objects in monkey inferotemporal

cortex. *Nature* 360: 343-346

- 26) Tanaka K, Sugita Y, Moriya M, Saito H (1993) Analysis of object motion in the ventral part of the medial superior temporal area (MST) of the macaque visual cortex. *J. Neurophysiol.* 69: 128-142.
- 27) Saleem KS, Tanaka K, Rockland KS (1993) Specific and columnar projection from area TEO to TE in the macaque inferotemporal cortex. *Cerebral Cortex* 3: 454-464.
- 28) Kobatake E, Tanaka K (1994) Neuronal selectivities to complex object-features in the ventral visual pathway of the macaque cerebral cortex. *J. Neurophysiol.* 71: 856-867.
- 29) Kondo H, Hashikawa T, Tanaka K, Jones EG (1994) Neurochemical gradient along the monkey occipito-temporal pathway. *NeuroReport* 5: 613-616.
- 30) Cheng K, Hasegawa T, Saleem KS, Tanaka K. (1994) Comparison of neuronal selectivity for stimulus speed, length, and contrast in the prestriate visual cortical areas V4 and MT of the macaque monkey. *J. Neurophysiol.* 71: 2269-2280.
- 31) Rockland KS, Saleem KS, Tanaka K. (1994) Divergent feedback connections from areas V4 and TEO in the macaque. *Visual Neurosci.* 11: 579-600.
- 32) Ito M, Fujita I, Tamura H, Tanaka K (1994) Processing of contrast polarity of visual images in inferotemporal cortex of the macaque monkey. *Cereb. Cortex* 5: 499-508.
- 33) Ito M, Tamura H, Fujita I, Tanaka K (1995) Size and position invariance of neuronal responses in monkey inferotemporal cortex. *J. Neurophysiol.* 73: 218-226.
- 34) Cheng K, Fujita H, Kanno I, Miura S, Tanaka K (1995) Human cortical regions activated by large-field motion stimulation: a H215O PET study. *J. Neurophysiol.* 74: 413-427.
- 35) Wang G, Tanaka K, Tanifuji M (1996) Optical imaging of functional organization in the monkey inferotemporal cortex. *Science* 272: 1665-1668.
- 36) Saleem KS, Tanaka K (1996) Divergent projections from the anterior inferotemporal area TE to the perirhinal and entorhinal cortices in the macaque monkey. *J. Neurosci.* 16: 4757-4775.
- 37) Cheng K, Saleem KS, Tanaka K (1997) Organization of corticostriatal and corticoamygdalar projections arising from the anterior inferotemporal area TE of the macaque monkey: A Phaseolus vulgaris Leucoagglutinin study. *J. Neurosci.* 15: 7902-7925.
- 38) Sugihara T, Edelman S, Tanaka K (1998) Representation of objective similarity among three-dimensional shapes in the monkey. *Biol. Cybern.* 78: 1-7.
- 39) Kobatake E, Wang G, Tanaka K (1998) Effects of shape-discrimination training on the selectivity of inferotemporal cells in adult monkeys. *J. Neurophysiol.* 80: 324-330.
- 40) Wang G, Tanifuji M, Tanaka K (1998) Functional architecture in monkey inferotemporal cortex revealed by in vivo optical imaging. *Neurosci. Res.* 32: 33-46.
- 41) Kondo H, Tanaka K, Hashikawa T, Jones EG (1999) Neurochemical gradient along monkey sensory cortical pathways: calbindin immunoreactive pyramidal neurons in layers II and III. *Eur. J. Neurosci.* 11: 4197-4203.
- 42) Suzuki W, Saleem KS, Tanaka K (2000) Divergent backward projections from area TE of the macaque inferotemporal cortex. *J. Comp. Neurol.* 422: 206-228.
- 43) Saleem KS, Suzuki W, Tanaka K, Hashikawa T (2000) Connections between anterior inferotemporal cortex and superior temporal sulcus regions in the macaque monkey. *J. Neurosci.* 20: 5083-5101.
- 44) Tamura, H, Tanaka K (2001) Visual response properties of cells in the ventral and dorsal parts of the macaque inferotemporal cortex. *Cerebral Cortex* 11: 384-399.
- 45) Cheng K, Waggoner RA, Tanaka K (2001) Human ocular dominance columns as revealed by high-field functional magnetic resonance imaging. *Neuron* 32: 359-374.
- 46) Mansouri FA, Tanaka K (2002) Behavioral evidence for working memory of sensory dimension in macaque monkeys. *Behav. Brain Res.* 136: 415-426.
- 47) Moradi F, Liu LC, Cheng K, Waggoner RA, Tanaka K, Ioannides AA (2003) Consistent and precise localization of brain activity in human primary visual cortex. *Neuroimage* 18: 595-609.
- 48) Matsumoto K, Suzuki W, Tanaka K (2003) Neuronal correlates of goal-based motor selection in the prefrontal cortex. *Science* 301: 229-232.
- 49) Gardner JL, Sun P, Waggoner RA, Ueno K, Tanaka K, Cheng K (2005) Contrast adaptation and representation in human early visual cortex. *Neuron* 47: 607-620.
- 50) Kiani R, Esteky H, Tanaka K (2005) Differences in onset latency of macaque inferotemporal neural responses to primate and non-primate faces. *J. Neurophysiol.* 94: 1587-1596.
- 51) Wang G, Obama S, Yamashita W, Sugihara T, Tanaka K (2005) Prior experience of rotation is not required for recognizing objects seen from different angles. *Nature Neurosci.* 8: 1568-1575.
- 52) Mansouri FA, Matsumoto K, Tanaka K (2006) Prefrontal cell activities related to monkeys' success and failure in adapting to rule changes in a Wisconsin Card Sorting Test (WCST) analog. *J. Neurosci.* 26: 2745-2756.
- 53) Mogami T, Tanaka K (2006) Reward association affects neuronal responses to visual stimuli in macaque temporal and perirhinal cortices. *J. Neurosci.* 26: 6761-6770.
- 54) Suzuki W, Matsumoto K, Tanaka K (2006) Neuronal responses to object images in the macaque

- inferotemporal cortex at different stimulus discrimination levels. *J. Neurosci.* 26: 10524-10535.
- 55) Matsumoto M, Matsumoto K, Tanaka K (2007) Effects of novelty on activity of lateral and medial prefrontal neurons. *Neurosci. Res.* 57: 268-276.
- 56) Lehky SR, Tanaka K (2007) Enhancement of object representations in primate perirhinal cortex during a visual working memory task. *J. Neurophysiol.* 97: 1298-1310.
- 57) Matsumoto M, Matsumoto K, Abe H, Tanaka K (2007) Medial Prefrontal Cell Activity Signaling Prediction Errors of Action Values. *Nature Neurosci.* 10: 647-656.
- 58) Kiani R, Esteky H, Mirpour K, Tanaka K (2007) Object Category Structure in Response Patterns of Neuronal Population in Monkey Inferior Temporal Cortex. *J. Neurophysiol.* 97: 4296-4309.
- 59) Sun P, Ueno K, Waggoner RA, Gardner JL, Tanaka K, Cheng K (2007) A temporal frequency-dependent functional architecture in human V1 revealed by high-resolution fMRI. *Nature Neurosci.* 10, 1404-1406.
- 60) Mansouri FA, Buckley MJ, Tanaka K (2007) Mnemonic function of lateral prefrontal cortex in conflict-induced behavioral adjustment. *Science* 318: 987-990.
- 61) Kriefeskorte N, Mur M, Ruff DA, Kiani R, Bodurka J, Esteky H, Tanaka K, Bandettini PA (2008) Matching categorical object representations in inferior temporal cortex of man and monkey. *Neuron* 60: 1126-1141.
- 62) Costagli M, Waggoner RA, Ueno K, Tanaka K, Cheng K (2009) Correction of 3D rigid body motion in fMRI time series by independent estimation of rotational and translational effects in k-space. *NeuroImage* 45: 749-757.
- 63) Buckley MJ, Mansouri FA, Hoda H, Mahboubi M, Browning PFG, Kwok SC, Phillips A, Tanaka K (2009) Dissociable components of rule-guided behavior depend on distinct medial and prefrontal regions. *Science* 325: 52-58.
- 64) Yamashita W, Wang G, Tanaka K (2010) View-invariant object recognition ability develops after discrimination, not mere exposure, at several viewing angles. *Eur. J. Neurosci.* 31: 327-335
- 65) Tajima S, Watanabe M, Imai C, Ueno K, Asamizuya T, Sun P, Tanaka K, Cheng K (2010) Opposing effects of contextual surround in human early visual cortex revealed by fMRI with continuously modulated visual stimuli. *J. Neurosci.* 30: 3264-3270.
- 66) Suzuki W, Tanaka K (2011) Development of monotonic neuronal tuning in the monkey inferotemporal cortex through long-term learning of fine shape discrimination. *Eur. J. Neurosci.* 33: 748-757.
- 67) Wan X, Nakatani H, Ueno K, Asamizuya T, Cheng K, Tanaka K (2011) The neural basis of intuitive best next-move generation in board game experts. *Science* 331: 341-346.
- 68) Lehky SR, Kiani R, Esteky H, Tanaka K (2011) Statistics of visual responses in primate inferotemporal cortex to object stimuli. *J. Neurophysiol.* 106: 1097-1117.
- 69) Watanabe M, Cheng K, Murayama Y, Ueno K, Asamizuya T, Tanaka K, Logothetis N (2011) Attention but not awareness modulates the BOLD signal in the human V1 during binocular suppression. *Science* 334: 829-831.
- 70) Wan X, Takano D, Asamizuya T, Suzuki C, Ueno K, Cheng K, Ito T, Tanaka K (2012) Developing intuition: neural correlates of cognitive-skill learning in caudate nucleus. *J. Neurosci.* 32: 17492-17501.
- 71) Sun P, Gardner JL, Costagli M, Ueno K, Waggoner RA, Tanaka K, Cheng K (2013) Demonstration of tuning to stimulus orientation in human visual cortex: a high-resolution fMRI study with a novel continuous and periodic stimulation paradigm. *Cerebral Cortex* 23: 1618-1629
- 72) Costagli M, Ueno K, Sun P, Gardner JL, Wan X, Ricciardi E, Pietrini P, Tanaka K, Cheng K (2014) Functional signalers of changes in visual stimuli: cortical responses to increments and decrements in motion coherence. *Cerebral Cortex* 24: 110-118
- 73) Kuwabara M, Mansouri FA, Buckley MJ, Tanaka K (2014) Cognitive control functions of anterior cingulate cortex in macaque monkeys performing a Wisconsin Card Sorting Test analog. *J. Neurosci.* 34: 7531-7547.
- 74) Mansouri FA, Buckley MJ, Tanaka K (2014) The essential role of primate orbitofrontal cortex in conflict-induced executive control adjustment. *J. Neurosci.* 34: 11016-11031.
- 75) Lehky SR, Roozbeh K, Esteky H, Tanaka K (2014) Dimensionality of object representations in monkey inferotemporal cortex. *Neural Computation* 26: 2135-2162.
- 76) Okamura J, Yamaguchi R, Honda K, Wang G, Tanaka K (2014) Neural substrates of view-invariant object recognition developed without experiencing rotations of the objects. *J. Neurosci.* 34: 15048-15059.
- 77) Eradath MK, Mogami T, Wang G, Tanaka K (2015) Time context of cue-outcome associations represented by neurons in perirhinal cortex. *J. Neurosci.* 35: 4350-4365.
- 78) Eradath MK, Abe H, Matsumoto M, Matsumoto K, Tanaka K, Ichinohe N (2015). Anatomical inputs to the dorsal bank of the anterior cingulate sulcus in the macaque monkey. *Front. Neuroanat.* 9.30.
- 79) Wan X, Cheng K, Tanaka K (2015) Neural Encoding of Opposing Strategy Values in Anterior and Posterior Cingulate Cortex. *Nature Neurosci.* 18: 752-759.
- 80) Mansouri FA, Buckley MJ, Mahboubi M, Tanaka K (2015) Behavioral consequences of selective damage to frontal pole and posterior cingulate cortices. *Proc. Natl. Acad. Sci. U. S. A.* 112: E3940-E3949.
- 81) Kuriki I, Sun P, Ueno K, Tanaka K, Cheng K (2015) Hue selectivity in human visual cortex revealed by functional magnetic resonance imaging. *Cereb. Cortex* 25: 4869-4884.
- 82) Wan X, Cheng K, Tanaka K (2016) The neural system of postdecision evaluation in rostral frontal cortex

during problem-solving tasks. *eNeuro* 3: e0188-16.2016 1-24.

Review articles and views in English

- 1) Toyama K, Tanaka K (1984) Visual cortical functions studied by cross-correlation analysis. In: *Dynamic aspects of neocortical function*. (eds.) Edelman, G. M., Gall, W. E. and Cowan, W. M., John Wiley & Sons, New York.
- 2) Tanaka K, Saito H, Fukada Y, Moriya M (1990) Integration of form, texture and color information in the inferotemporal cortex of the macaque monkey. In: *Vision, Temporal Lobe, and Memory*, (eds.) Iwai E, Mishkin M, Elsevier. pp. 101-109.
- 3) Sugita Y, Tanaka K, Saito H (1990) Analysis of object motion in the macaque MST area. In: *Vision, Temporal Lobe, and Memory*, (eds) Iwai, E. and Mishkin, M., Elsevier. pp. 341-346
- 4) Tanaka K (1992) Inferotemporal cortex and higher visual functions. *Current Op. in Neurobiol.* 2: 502-505.
- 5) Tanaka K, Fujita I, Kobatake E, Cheng K, Ito M (1993) Serial processing of visual object-features in the posterior and anterior parts of the inferotemporal cortex. In: *Brain mechanisms of perception and memory: from neuron to behavior*, (eds.) Ono, T., Squire, L. R., Raichle, R. E., Perrett, D., Fukuda, M., Oxford University Press, pp. 34-46.
- 6) Tanaka K (1993) Neuronal mechanisms of object recognition. *Science* 262: 685-688.
- 7) Tanaka K (1993) Column structure of inferotemporal cortex: “visual alphabet” of “differential amplifiers”? *Proc. of International Conference on Neural Networks, Nagoya*, Vol. 2, pp. 1095-1099.
- 8) Tanaka K (1996) Inferotemporal cortex and object vision. *Ann. Rev. Neurosci.* 19: 109-139.
- 9) Tanaka K (1996) A continuous map of higher-level visual features of objects in monkey inferotemporal cortex. In: *Coincidence Detection in the Nervous System*, (eds.) Konnerth, A., Tsien, R.Y., Mikoshiba, K., and Altman, J., *Human Frontier Science Program*, pp. 143-151
- 10) Tanaka K (1996) Optical imaging of columns in the inferotemporal cortex. In: *Perception, Memory and Emotion: Frontiers in Neuroscience*, (ed.) Ono, T., Elsevier.
- 11) Tanaka K (1996) Representation of visual features of objects in the inferotemporal cortex. *Neural Networks*. 9: 1-17.
- 12) Tanaka K (1996) Inferotemporal cortex and object recognition. In: *Vision and Movement: Mechanisms in the Cerebral Cortex*, (eds.) Cminiti, R., Hoffman, K-P., Lacquaniti, F., and Altman, J., *Human Science Frontier Program*, pp. 126-133.
- 13) Tanaka K (1997) Inferotemporal cortex and object recognition. In: *Neural Network Models of Cognition: Biobehavioral Foundations*, (ed.) Donahoe, J. W., Elsevier, pp. 160-184.
- 14) Tanaka K (1997) Mechanisms of visual object recognition: monkey and human studies. *Curr. Opin. in Neurobiol.* 7: 523-529.
- 15) Tanaka K (1997) Columnar organization in the inferotemporal cortex. In: *Cerebral Cortex, Vol. 12, Extrastriate Cortex in Primates*, (eds.) Kaas, J. H., Rockland, K., and Peters, A., Plenum, pp. 469-498.
- 16) Tanaka K (1998) Representation of visual motion in the extrastriate visual cortex. In: *Higher-level Motion Processing-Computational, neurophysiological and psychophysical perspectives*, (ed.) Watanabe, T., The MIT Press, pp. 295-314.
- 17) Tanaka K (2000) Mechanisms of visual object recognition studied in monkeys. *Spatial Vision* 13: 147-163.
- 18) Tanaka K (2000) Curvature in depth for object representation. *Neuron* 20: 195-196.
- 19) Tanaka K (2001) Late responses and perceptual awareness. *Nature Neurosci.* 4: 225-226.
- 20) Tanaka K (2001) *Temporal lobe*. *International Encyclopedia of the Social and Behavioral Sciences*, (eds.) Thompson R, McClellan JL, Pergamon, pp. 15595-15599.
- 21) Tanaka K (2002) *Neuronal representation of object images and effects of learning*. In: *Perceptual Learning*, (ed.) Fahle M, The MIT Press, pp. 67-82.
- 22) Tanaka K (2003) Columns for complex visual object features in the inferotemporal cortex: clustering of cells with similar but slightly different stimulus selectivities. *Cereb. Cortex* 13: 90-99
- 23) Tanaka K (2003) Inferotemporal response properties. In: *The Visual Neurosciences*, (eds.) Chalupa LM, Werner JS, The MIT Press, pp. 1151-1164.
- 24) Matsumoto K, Tanaka K (2004) Conflict and Cognitive Control. *Science* 303: 969-970.
- 25) Matsumoto K, Tanaka K (2004) The role of the medial prefrontal cortex in achieving goals. *Curr. Opin. in Neurobiol.* 14: 178-185.
- 26) Mansouri FA, Tanaka K, Buckley MJ (2009) Conflict-induced behavioural adjustment: a clue to the executive functions of prefrontal cortex. *Nature Reviews Neurosci.* 10: 141-152.
- 27) Tanaka K, Matsumoto K, Mansouri FA, Buckley MJ (2012) Functional division among monkey prefrontal areas in goal-directed behaviour. *Principles of frontal lobe function, second edition*, (ed.) Stuss DT, Oxford Univ.Press, pp.228-248
- 28) Lehky SR, Tanaka K (2016) Neural representation for object recognition in inferotemporal cortex. *Curr.*

Opinion Neurobiol. 37: 23-35.

29) Tanaka K, Buckley M, Mansouri F (2017) Functional division among prefrontal cortical areas in an analog of Wisconsin Card Sorting Test. *Prefrontal cortex as an executive, emotional and social brain*, (ed.) Watanabe M, Springer, pp.17-38.

There are many review articles in Japanese.