Degree Programs in Comprehensive Human Sciences

<Master's Program in Neuroscience>

Field of Research	Faculty	Detailed Description of Research Field
Neuroscience	AYABE Saho	・Human olfactory perception/cognition and odor hedonics ・Haptic space perception/cognition and perceptual learning ・Perception/cognition of facial expressions
	YAMADA Kazuo	・Behavioral neuroscience on neural mechanisms of learning, memory, and forgetting using rodents ・Behavioral neuroscience on rodents' models of post-traumatic stress disorder (PTSD) and drug dependence
	TAKAHASHI Aki	・Neuroscience, behavior genetics, and neuroimmunological approaches to study biological mechanism of animal behavior including emotion and social behaviors (especially aggressive behavior) using animal model
	YAMANAKA Katsuo	・Psychosocial approaches for dementia care ・Psychological assessments for dementia care ・Social attitudes to persons living with dementia
	OKAZAKI Shinji	・Psychophysiological study of attention in children with intellectual and developmental disabilities ・Developmental neuropsychological study of assessment and intervention for the person with developmental disabilities
	SAMBAI Ami	・Processing of reading, writing and language and its development ・Study of cognitive mechanisms of developmental dyslexia and SLI ・Clinical study of developmental dyslexia and SLI
	ARAI Tetsuaki	・Early diagnosis of demenita using biomarkers ・Clinical study of dementia prevention ・Clinicopathological, biochemical and neuroimaging study of dementia ・Clinical study of presenile dementia
	OTA Miho	・Relationship between the aphasia and the regional brain function in dementia revealed by magnetic resonance imaging ・Psychiatric disease-related brain change revealed by magnetic resonance imaging
	MATSUMOTO Masayuki	・Neurophysiological researches to understand neural mechanisms underlying conscious/unconscious decision-making in nonhuman primates ・Neurophysiological and optogenetic researches to understand neural mechanisms underlying economic decision-making in nonhuman primates
	YAMADA Hiroshi	・Using primate model for human cognitive function, neural mechanisms for economic decision makings are examined ・Examination of neural circuitry underlying economic decision makings ・Examining how the motivation and willingness to act are emerged in the brain

	KOGANEZAWA Tadachika	・Study on the neural regulation of the cardiovascular system ・Study on the neural regulation of the respiratory system ・Study on the neural regulation based cardiovascular and respiratory diseases
	SAKURAI Takeshi	・Elucidation of physiological roles of novel neuropeptides ・Deciphering the neuronal mechanisms that regulate sleep/wakefulness states ・Revealing neuronal pathways that regulate social behavior and social distance ・Analyzing the neuronal mechanisms that control regulated hypometabolism
	HIRANO Arisa	・Molecular biology and neuroscience on oscillatory mechanism of the circadian clock in mice ・Neural network involved in regulation of circadian rhythms (sleep/wake, endocrine, body temperature) in mice ・Molecular mechanism of non-visual photo-reception in mouse retina
	TAKEI Yosuke	・Analysis of molecular pathology of schizophrenia and autism spectrum disorder ・Analysis of mechanism of intracellular transport in neurons
	MASUDA Tomoyuki	・Elucidation of the molecular mechanism of neurogenesis ・Functional analyses of axonal guidance molecules ・Functional analyses of novel candidate genes involved in axonal guidance ・Basic research for the treatment of neurodegenerative diseases
	SASAKI Tetsuya	・Functional cortical area formation and development ・Primate-specific neural circuit formation and the involvement in pathophysiology of psychiatric disorders
	ABE Takashi	・Neurobehavioral consequences of sleep loss ・Understanding the psychological functions of sleep ・Developing novel methods for measuring sleep and alertness
	SAKAGUCHI Masanori	・Mechanisms of diseases caused by sleep and memory disfunction ・Functional significance of hippocampal activity for memory consolidation during sleep ・Elucidation of the mechanisms of adult-neurogenesis in memory consolidation
	LAZARUS Michael	・Understanding the control of sleep and wake by motivation ・Sleep circuits as potential therapeutic targets for insomnia ・Link between REM sleep loss and the desire for junk food
	OISHI Yo	・Short-sleeper mice to elucidate sleep function and mechanisms ・Generation of sleepwalking-like state to elucidate the neural mechanisms
	HONJOH Sakiko	・Synaptic plasticity and sleep ・Neural circuits underlying NREM sleep specific brain activity
	NAKATA Mariko	・Neuroendocrine basis of social and emotional behavior ・Establishment and investigation of neural basis of animal model for group behavior in mice ・Neural basis of side effects induced by psychiatric medication

	KUNIMATSU Jun	・The effect of respiration on cognitive function ・The neural mechnisms for social behavior in primates ・Role of the cerebellum in higher motor control
	SAKURAI Katsuyasu	・Understanding neural mechanisms underlying desire sleep ・Understanding neural mechanisms underlying psychiatric disorders

[Cooperative Graduate School]

Field of Research	Faculty	Detailed Description of Research Field
Neuroscience (Cooperative Graduate School)	IWAKI Sunao (AIST)	・Quantitative evaluation of subjective experience using non-invasive neuroimaging techniques ・Development of multimodal neuroimaging to visualize and model neural networks in the human brain
	TAKEDA Yuji (AIST)	・Research on characteristics of human visual attention and memory ・Development of psychophysiological indices of cognitive states
	TAKASHIMA Ichiro (AIST)	・Functional architecture of the cortex ・Neural mechanisms of functional recovery
	MIO Kazuhiro (AIST)	・Molecular biology of the macromolecular complexes essential for maintaining and functioning of neuronal cells ・Structural biology of the signal transduction molecules in the cell and in the nucleus

(AIST) National Institute of Advanced Industrial Science and Technology

November 2021